Please do not add or delete any rows or columns from the pilot profile tabs

Descriptions of the 25 pilot profiles are here:

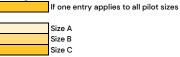
List of 25 pilot details (project name and brief description)

Each tab is color coded base on the list of innovative resources as follows:

RNG/Biogas pilots
Green Hydrogen / Ammonia Pilots
Carbon Capture Pilots
District Energy Pilots
Strategic Electrification Pilots
Energy Efficiency Pilots

In each profile tab, required inputs are bolded, and have input cells in marigold:

Note that not all pilots must provide multiple sizes, but that there must be at least one input to represent the pilot at a given size for any bolded (required) input categories.



Each tab in this workbook represents a single pilot concept that was evaluated individually to estimate cost, emissions reductions, qualitative considerations and other factors. For the final NGIA innovation plan, some pilot concepts were combined to create the final "full" pilot described in other filing documents. A key that clarifies the full pilot (letters) that incorporates each selected pilot concept (numbers) contained in this workbook is shown below.

Final Pilot Letter	Name of Full Pilot	Shortlist Pilot Concept #	Shortlist Pilot Concept Name
А	RNG Produced from Hennepin County Organic Waste	1	RNG Proposal - Anaerobic Digestion of Organic Materials
В	RNG Produced from Ramsey & Washington Counties Organic Waste	2	RNG Proposal - Anaerobic Digestion of East Metro Food Waste
		3	RNG Archetype - Wastewater Resource Recovery Facility
С	Renewable Natural Gas Request for Proposal ("RFP")	4	RNG Archetype - Dairy Manure
C	Purchase	5	RNG Archetype - Food Waste
		6	RNG Archetype - Landfill Gas
D	Green Hydrogen Blending into Natural Gas Distribution System	7	Green Hydrogen Blending into Natural Gas Distribution System
E	Industrial or Large Commercial Hydrogen and Carbon	8	Green Hydrogen Archetype for Industrial or Large Commercial Facility
E	Capture Incentives	11	Carbon Capture Archetype for Industrial or Large Commercial Facility
F	Industrial Methane and Refrigerant Leak Reduction	9	Industrial Methane and Refrigerant Leak Reduction Program
G	Urban Tree Carbon Offsets	10	Urban Tree Carbon Offset Program
Н	Carbon Capture Rebates for Commercial Buildings	13	Carbon Capture Rebates for Commercial Buildings
I	New Networked Geothermal Systems	14	New Networked Geothermal Systems Pilot
J	Decarbonizing Existing District Energy Systems	15	Decarbonizing Existing District Energy Systems
К	New District Energy System	16	New District Energy System
L	Industrial Electrification Incentives	17	Industrial Electrification Incentive Program
М	Commercial Hybrid Heating	18	Commercial hybrid heating pilot
N	Residential Deep Energy Retrofits and Electric Air Source Heat Pumps	19	Residential deep energy retrofit + electric ASHP pilot (with gas backup)
0	Small/Medium Business GHG Audit	20	Small/medium business GHG audit pilot
Р	Residential Gas Heat Pumps	21	Residential Gas Heat Pump
Q	Gas Heat Pumps for Commercial Buildings	22	Gas Heat Pump for Commercial Buildings
R	Industrial and Large Commercial GHG Audit	25	Industrial and Large Commercial GHG Audit Pilot

Pilots	#	Pilot Name (Click in the Pilot Name to go into its	Brief Description (Note - for the most up to date descriptions of pilots, please see the main NGIA filing, as some of these may not have been updated with latest descriptions)
RNG/Biogas Pilots		specific profile)	
-		RNG Proposal - Anaerobic Digestion of	CenterPoint Energy proposes to buy renewable natural gas ("RNG"), including both the commodity and environmental attributes, from Hennepin County's anaerobic digestion ("AD")
CNP01	1	Organic Materials	facility, which is currently under development.  CenterPoint Energy proposes to buy RNG, including both the commodity and environmental attributes, from Ramsey and Washington Counties' anaerobic digestion facility under
CNPO2	2	RNG Proposal - Anaerobic Digestion of East Metro Food Waste	development.
CNP03	3	RNG Archetype - Wastewater Resource Recovery Facility	For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purchase RNG – including the commodity and environmental attributes – from multiple RNG producers that have developed RNG projects using a variety of feedstocks. CNP may also support RNG project development by directly investing in the biogas upgrading equipment (required to produce pipeline-quality RNG) for a limited number of RNG projects, to reduce developers' required capital. We have developed an estimate of expected carbon intensity for each type of feedstock to inform our analysis of potential GHG reductions from a portfolio of RNG purchases.
CNPO4	4	RNG Archetype - Dairy Manure	For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purchase RNG – including the commodity and environmental attributes – from multiple RNG producers that have developed RNG projects using a variety of feedstocks. CNP may also support RNG project development by directly investing in the biogas upgrading equipment (required to produce pipeline-quality RNG) for a limited number of RNG projects, to reduce developers' required capital. We have developed an estimate of expected carbon intensity for each type of feedstock to inform our analysis of potential GHG reductions from a portfolio of RNG purchases.
CNPO5	5	RNG Archetype – Food Waste	For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purchase RNG – including the commodity and environmental attributes – from multiple RNG producers that have developed RNG projects using a variety of feedstocks. CNP may also support RNG project development by directly investing in the biogas upgrading equipment (required to produce pipeline-quality RNG) for a limited number of RNG projects, to reduce developers' required capital. We have developed an estimate of expected carbon intensity for each type of feedstock to inform our analysis of potential GHG reductions from a portfolio of RNG purchases.
CNPO6	6	RNG Archetype - Landfill Gas	For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purchase RNG – including the commodity and environmental attributes – from multiple RNG producers that have developed RNG projects using a variety of feedstocks. CNP may also support RNG project development by directly investing in the biogas upgrading equipment (required to produce pipeline-quality RNG) for a limited number of RNG projects, to reduce developers' required capital. We have developed an estimate of expected carbon intensity for each type of feedstock to inform our analysis of potential GHG reductions from a portfolio of RNG purchases.
Green Hydrogen / Ai	nmonia	Pilots	
CNP07	7	Green Hydrogen Blending into Natural Gas	CenterPoint Energy proposes to own and operate a 1 megawatt ("MW") green hydrogen plant at an existing Company facility in Mankato, Minnesota.
ON 07		<u>Distribution System</u>	CenterPoint Energy would offer incentives covering a portion (100%, up to a max of \$1.5 million) of the equipment and installation costs of green hydrogen production systems
CNP08	8	Green Hydrogen Archetype for Industrial or Large Commercial Facility	Center rolls. Liet gy would often internitives covering a portion (roll ox, up or a max or as a minimum) or the equipment and installant incosts of green invalinger injoined production systems (celectrolyzers) for on-site use by industrial or large commercial customers, displacing natural gas use by these facilities. These systems would be installed onsite for 1-3 customers, who would own and operate the systems. CenterPoint has not yet identified specific customers for the projects, so a 5 MW 'archetype' was chosen to assess to the pilot for the time being, considering that a number of existing customers should be large enough for that size of electrolyzer (some could be higher).
Carbon Capture Pilo	ts		
CNPO9	9	Industrial Methane and Refrigerant Leak Reduction Program	CenterPoint Energy will hire a third-party vendor to conduct surveys of participating industrial and large commercial facilities for methane and refrigerant leaks behind the customer gas meter. After leaks are identified, CenterPoint Energy will offer incentives to partially offset the cost of leak repair. Participating customers will also receive follow up surveys every two years during the term of the Plan to test how well the impacts of the leaks survey on reducing methane datages are sustained.
CNP10	10	Urban Tree Carbon Offset Program	Accal non-profit Green Minneapolis, which is working in part or tweets any or necessary or neces
CNP11	11	Carbon Capture Archetype for Industrial or Large Commercial Facility	CNP would offer incentives covering a portion of the equipment and installation cost of capture carbon systems for industrial or large commercial customers. These systems would be installed directly onsite for 1-3 customers.
CNP13	13	Carbon Capture Rebates for Commercial Buildings	CenterPoint Energy proposes to provide rebates to commercial customers that install CarbinX carbon capture systems manufactured by the Canadian company CleanO2.
District Energy Pilots	5	<del></del>	
CNP14	14	New Networked Geothermal Systems Pilot	CenterPoint Energy proposes to develop a new networked geothermal system to provide building heat and cooling for a neighborhood currently served by the Company. This involves installation of a new 'distributed' geothermal system where individual customers would have a heat pump accessing a common water loop (instead of their own geothermal wells or air source heat pumps). The pilot begins with a feasibility study, planning and modeling, and site selection, prior to design and construction.
CNP15	15	Decarbonizing Existing District Energy Systems	CenterPoint Energy proposes a two-part pilot to help existing district energy systems that currently use geologic gas, to identify opportunities to reduce the lifecycle GHG impact of their systems. First, CenterPoint Energy proposes to support customers who hire expert engineering firms, or similar, to complete feasibility studies to identify decarbonization opportunities. Second, CenterPoint Energy would support customers in implementing GHG reduction projects.
CNP16	16	New District Energy System	CenterPoint Energy proposes a two-part pilot to help current natural gas customers considering developing district energy systems. First, CenterPoint Energy proposes to support customers who hire expert engineering firms, or similar, to complete feasibility studies for new district energy systems. Second, CenterPoint Energy would support customers in developing new district energy systems
Strategic Electrificat	ion Pilo	ts	
CNP17	17	Industrial Electrification Incentive Program	CenterPoint Energy proposes to provide support for industrial customers to electrify low-to-medium heat processes using heat pump technologies.
CNP18	18	Commercial hybrid heating pilot	CenterPoint Energy proposes to provide support for commercial buildings interested in replacing existing Heating, Ventilation, and Air Conditioning ("HVAC") systems with hybrid system using electric heat pumps and gas backup.
		Residential deep energy retrofit + electric	CenterPoint Energy proposes a three-phase pilot program to test a combination of deep energy retrofits and air-source electric heat pumps with gas back-up in a variety of residential
CNP19	19	ASHP pilot (with gas backup)	building types.
Energy Efficiency Pil	ots		
CNP20	20	Small/medium business GHG audit pilot	CenterPoint Energy proposes to expand its existing Natural Gas Energy Analysis ("NGEA") CIP offering to include identification of non-CIP GHG reducing opportunities for small and medium businesses.
CNP21	21	Residential Gas Heat Pump	CenterPoint Energy proposes to fund the deployment and testing of 'combi' space and water heating gas heat pump systems in Minnesota homes to evaluate the technology's performance.
CNP22	22	Gas Heat Pump for Commercial Buildings	CenterPoint Energy proposes to fund the deployment and testing of engine-driven and/or absorption gas heat pump systems in Minnesota commercial buildings, to evaluate the technologies' performance.
CNP24	24	Solar Thermal Heating for C&I	This pilot would offer incentives for customers who install transpired solar air systems, which help facilities that have large make-up air loads reduce their energy consumption. The pilot would offer commercial and industrial customers an incentive to partially offset the cost to install the solar wall. This assumes that the projects in question, which have relatively high upfront costs, would not be cost-effective enough to qualify for any CIP incentives (if any projects did qualify for CIP they would be directed to that program instead of NGIA). Support for initial feasibility study is also included.
CNP25	25	Industrial and Large Commercial GHG Audit Pilot	CenterPoint Energy proposes to expand its existing Process Efficiency and Commercial Efficiency CIP offering to include identification of non-CIP GHG reducing opportunities for industrial and large commercial customers.

N/Z		Click here to go back to the list of all pilo	<u>ts</u>				NGIA Pilot Profiles Workbook
جاد اCF	CNPO1 - RNG Proposal - Anaerobic Digestion of Organic Materials						
	Pilot Project Code:	CNP01					
	Pilot Project Name:	RNG Proposal - Anaerobic Digestion of					
		Organic Materials					
	Customer Class/ Sector: Low-Income Community Benefit?	C&I & Res					
	Target Area:	Territory-wide	_				
	Primary Innovative Resource Category:	Renewable Natural Gas (RNG)	Select primary Innovation	n Category. Others can	be listed here:		
	, v			· ,			
DESCRIPTION	<u>Pilot Description:</u> CenterPoint Energy proposes to buy renewable natural gas ("RNG"), inc	cluding both the commodity and environmen	atal attributes, from Hennepin	n County's anaerobic c	digestion ("AD") facility,	which is currer	ontly under development.
	Overview of Program/ Implementation Approach:						
	This project is expected to be operational in 2026.  The terms of the RNG purchase contract would be determined at a later	. data. all 6 is this assessed base and ast					
	Environmental attributes would be retired on behalf of CenterPoint Ener		nates for the purpose of this	s analysis.			
	Other Comments / Information:						
	Assumes offtake from developer or other entity, not capital investment	from CNP.					
(EY PILOT-SPECI	FIC INPUTS:						
	Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
	Calendar Year Participating Units, Size A	202	4 2025	2026 8,288	2027	2028	Dekatherms of gas purchased as offtake in single year. Incremental units added, annual (not cumulative).
	Participating Units, Size B			41,440			
	Participating Units, Size C			82,880			Note, this represents the annual RNG (Dth/year) that will be purchased through a multi-year agreement (project life defined below) starting in this year.
	Calculations & Other Explanation:	Units above are to annual dekatherms of 2026 is the RFI respondent's updated targets.		for the year supply co	ntract starts)		
		Year 1	Year 2	Year 3	Year 4	Year 5	Size A (10% of Dth of RNG generated, from Hennepin County's response to our Data Request)
NUMBER OF	Cumulative RNG Supply (Dth/year), Size		=	8,288	8,288	8,288	8288
PARTICIPANTS	Cumulative RNG Supply (Dth/year), Size		=	41,440	41,440	41,440	
	Cumulative RNG Supply (Dth/year), Size	c -	=	82,880	82,880	82,880	41440 Size C (100% of Dth of RNG generated, from Hennepin County's response to our Data Request) 82880
	Assumed Number of GHG Verifications Required, Size A	A:	0 0	1	1	1	1
	Assumed Number of GHG Verifications Required, Size I	3:	0 0	1	1	1	1
	Assumed Number of GHG Verifications Required, Size 0	D:	0 0	1	1	1	
						Jpdated estim	mate of MMBTU of RNG to be generated, from Hennepin County: 82879.6 MMBtu/yr
	Annual Total Utility Incremental Cost, Size A	Year 1	Year 2	Year 3 \$ 205,969 \$	Year 4	Year 5	USD (Nominal) Cost Unit: 7 total cost per year  These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the U
	Annual Total Utility Incremental Cost, Size B	\$ -	\$ 10,094	\$ 842,256 \$	851,634		total cost per year Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
	Annual Total Utility Incremental Cost, Size C	\$ -	\$ 10,094	\$ 1,637,616 \$	1,657,560		incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments r
			V			v	
	Fixed O&M Cost, Size A	Year 1	Year 2	Year 3 \$ 205,969 \$	Year 4 206,894	Year 5	USD (Nominal) Cost Unit:  7 total cost per year Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade
	Fixed O&M Cost, Size B	\$ -	\$ 10,094	\$ 842,256 \$	851,634		total cost per year Incentives, and Workforce Development of Market Transformation Cost
	Fixed O&M Cost, Size C	\$ -	\$ 10,094 \$		1,657,560		total cost per year
		V	V 2	V 2	V 4	V 5	UCD (Namical) Cash laite
	Total Project Delivery, Size A	Year 1	Year 2 \$ 10,094 \$	Year 3 \$ 205,969 \$	Year 4 206,894		USD (Nominal) Cost Unit: 7 per year Total internal and external project delivery
	Total Project Delivery, Size B		\$ 10,094	\$ 842,256 \$	851,634	861,967	per year
	Total Project Delivery, Size C	\$ -	\$ 10,094	\$ 1,637,616 \$	1,657,560	1,677,905	per year
		Year 1	Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:
	Internal Project Delivery, Size A Internal Project Delivery, Size B		\$ 10,094 S \$ 10,094 S		10,709		per year CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Internal Project Delivery, Size B Internal Project Delivery, Size C		\$ 10,094 S \$ 10,094 S		10,709 \$ 10,709 \$		per year  per year
			. 10,004		10,700		
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
	External Project Delivery, Size A		\$ - 5		196,185 \$		7 per year External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	External Project Delivery, Size B External Project Delivery, Size C		\$ - S	·		1,666,875	per year
	External region Delivery, dize o	_	ΙΨ - Ι	ψ 1,027,213 Φ	1,040,002	1,000,070	po. 700.

No.   Total									
Material Production   Column			Vaar 1	Vear 2	Vaar 3	Vear 4	Veer 5	USD (Nominal) Cost Unit:	
Marting of The Principal Control (1985)   1		Advertising and Promotions. Size A	\$						These costs are sub-set of the Utility "Fixed O&M Cost" category above.
No.   1			\$		- \$ -	\$ -	\$ -		•
Marcacia of Lame of Process (Carlo Section 1985)   Section 1985		Advertising and Promotions, Size C	\$	- \$	- \$ -	\$ -	\$ -	per year	
Marchel   General Printing   Company   Compa			V1	V2	V2	V 4	V F	USD (Naminal) Coat Unit	
Machanian   Sample		Allocation of General Portfolio Costs Size A	Year I	Year 2	Year 3	Year 4	Year 5		Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
Part									
No. 14   19   19   19   19   19   19   19		Allocation of General Portfolio Costs, Size C							
No. 14   19   19   19   19   19   19   19			V •	Y	V 0	V 4	V	1100 (11 1) 0 11 11	
The control product of the Park   P		Trade Ally Incentives Size A	t ear i						If applicable include here the appual amount of trade ally incentives (e.g. midstream program)
Notice   Production   Product		Trade Ally Incentives, Size B	\$						
Ministry   Control   Con		Trade Ally Incentives, Size C	\$	- \$	- \$ -	\$ -	\$ -	per year	
Ministry   Control   Con									
Model		Warkforce Development or Market Transformation Cost, Size A	Year 1						These costs are sub-set of the Utility "Fived O&M Cost" category above
No.   Process			\$	·		*	-		
No.			\$		- \$ -	\$ -	\$ -		
No.		·		·					
Fig.			V •	Y	V 0	V 4	V	1100 (11 1) 0 11 11	
Toping   T	COSTS	Total utility capital investment. Size A	Year 1						This tracks expectations for when this pilot would require capital investments from the utility, if applicable This will not directly
Provide programment for Capital Projects, Size A   1			\$			•	T		feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
Extend declarate black place (1996)   Extend declarate p			\$		- \$ -	\$	\$ -		requirement resulting from these capital investments (shown below).
Extend declarate black place (1996)   Extend declarate p									
Part		Fat Assure Bourse Paradisassant for Control Projects City	Year 1						For conital projects the incompated cost impact on the NGIA budget in the appeal covering a service of factors of the service
Control Records Registrated for Copyring Projects. Size   1   1   1   1   1   1   1   1   1			*						capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
Total   Property   Companies			\$						
Total   September   Processing Projects, Size A						•	•	pa. / a	well as the utility's return on investment
Ct.   Total Revieware Regularment for Cupital Projects, Size A   S					t				
Ext   Total Sevence Requirement for Capacital Projects, Size A   2   2   2   2   2   2   2   2   2			Total	Unit:					The total revenue requirement is calculated from the magnitude £ timing of total conital investment continued above based as
Sat Total Servenue Regularment for Cignish Projects. Size 0   \$		Est. Total Revenue Requirement for Capital Projects, Size A	\$	- per year					expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
Carl Carl Revenue Requirement for Capital Projects, Size A   S				p.: /					reference, it's not used to calculate any of the NGIA evaluation criteria.
Part		Est. Total Revenue Requirement for Capital Projects, Size B	\$	- per year					
Part		Est Total Revenue Requirement for Capital Braineta Size C	¢	per year					
Procedures Sign A   S		Est. Total Revenue Requirement for Capital Projects, Size C	Ψ	- per year					
Proceditions 10: 8   1			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Procession   Pro			\$		- \$ -	\$ -	\$ -		
			\$	- \$	- \$ -	\$ -	\$ -		cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
Secondary Secondary   Second		Incentives, Size C	\$	-   \$	- 5 -	5 -	\$ -	per year	customer disent hold equinment numership Incentives will be used in the Participant Cost tests for the NGIA evaluation
Incomitive per Participant, Size B			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Property Performance					-				Incentives per participant is a function of total incentives paid directly to customers.
Value   Valu					•				
No.   Contract Purchase Cost   S   2400		Incentives per Participant, Size C	#DIV/0!	#DIV/0!	\$ -	#DIV/O!	#DIV/O!	per participant per year	
No.   Contract Purchase Cost   S   2400		Calculations & Other Explanation:							
Geologic Gas Cost   S   18.5   S   S   S   S   S   S   S   S   S		·						<u></u>	
Incremental Fuel Cost - Average over Contract Life (assed on contract start year): \$ 18.59 \$ 18.87 \$ 19.48 \$ 19.40 \$ 19.57 \$ 19.62 \$ 19.64 per Dth Assumes incremental cost, since RNG offtake contracts will reduce the volumes of get incremental Fuel Cost - Average over Contract Life (assed on contract start year): \$ 19.38 \$ 19.49 \$ 19.57 \$ 19.62 \$ 19.64 per Dth Assumes incremental Cost from year 5 is unchanged for remaining years of supply contract.  ### AFETS RTC Op-going Registration Costs:  ### AFETS RTC Uptron Registration Co									
Incremental Fuel Cost - Average over Contract Life (based on contract start year): \$ 19.8 \$ 19.4 \$ 19.57 \$ 19.62 \$ 19.64 \$ pr Dh Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.									Design and the CNID and the improvemental and the control of the c
Contract start year): \$   19.38 \$   19.49 \$   19.57 \$   19.62 \$   19.64 \$   per Dh   Assumes incremental Cost from year 5 is unchanged for remaining years of supply contract.    Signature   Signat				10.09 \$ 10.	6/ \$ 19.14	\$ 19.40	ъ 19.0-	4 per bin	basing costs to CNP on the incremental cost, since kind offtake contracts will reduce the volumes of ge
M-RETS RTC On-going Registration Costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront				19.38 \$ 19.	49 \$ 19.57	\$ 19.62	\$ 19.6	4 per Dth	Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.
M-RETS RTC On-going Registration Costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront									
M-RETS RTC On-going Registration Costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront  Escalation rate in gas commodity costs: \$1,500 One time upfront				\$/Dth for all Dth					
M-RETS RTC Upfront Registration Costs: \$1,500 One time upfront    Escalation rate in gas commodity costs:   -5.250%   -5.250%   -5.250%   -5.250%   -5.250%		M-RETS RTC On-going Registration Cos	its:						
Fecility   Foundation   Fecility   Foundation   Fecility   Foundation   Fecility   Foundation   Fecility   Foundation   Fecility   Foundation   Fecility				tores produced such you					
Project Verification Costs: \$35,000 \$/year Green-E or other cost for project verification    Year 1		M-RETS RTC Upfront Registration Cos	ts:	\$1,500 One time upfront					
Project Verification Costs: \$35,000 \$/year Green-E or other cost for project verification    Year 1		FI-4i4- i		E 2500V	00/ 5.25.00/	E 2509/	E 250	ar l	
Project Verification Costs: \$35,000 \$/year Green-E or other cost for project verification  Year 1 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size		Escalation rate in gas commodity cos	no.	-0.200 /sj -5.20	-5.250%	-5.250%	-5.250	70	
Total Pilot Upfront Costs, Size A						\$ 1,625,729			
Total Pilot Upfront Costs, Size A		Project Verification Cos	its:	\$35,000 \$/year	Green-E or other cos	st for project verification			
Total Pliot Upfront Costs, Size A 5 194 \$ 195 \$ 196 \$ 196 \$ 196 per participant This represents the total equipment and installation costs does not account for whise plot (specifically non-different Costs, Size B 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility complete projects that were captured specific ally non-different Costs, Size C 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility complete projects that were captured specific ally non-different Costs, Size C 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility complete projects that were captured specific ally non-different Costs, Size C 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility contained and installation costs does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.    Year 1									
Total Pliot Upfront Costs, Size A 5 194 \$ 195 \$ 196 \$ 196 \$ 196 per participant This represents the total equipment and installation costs does not account for whise plot (specifically non-different Costs, Size B 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility complete projects that were captured specific ally non-different Costs, Size C 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility complete projects that were captured specific ally non-different Costs, Size C 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility complete projects that were captured specific ally non-different Costs, Size C 5 194 \$ 195 \$ 196 \$ 196 \$ 196 \$ 196 per participant utility contained and installation costs does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.    Year 1			V *	V	V 2	Voc- 4	Va 5	LICD (Naminal) Cont Units	
TOTAL AND DIRECT ADDITIONANT OF Third Party Funding, Size B  Total Pilot Upfront Costs, Size B  \$ 194 \$ 195 \$ 196 \$ 196 \$ 196 per participant utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility program admin costs.  Year 1  Year 2  Year 3  Year 4  Year 5  USD (Nominal) Cost Units:  If there are expectations for external funding sources (eg. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  Third Party Funding, Size B  Third Party Funding, Size C  \$ - \$ - \$ - \$ - \$ - per participant  There are expectations for external funding sources (eg. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  Third Party Funding, Size C  \$ - \$ - \$ - \$ - \$ - \$ - \$ per participant  Third Party Funding, Size C  \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ per participant  Third Party Funding, Size C  \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ per participant  Third Party Funding, Size C		Total Pilot Unfront Costs Size A	s Year 1						This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
TOTAL AND DIRECT AND ORDERS TO THE Plant Upfort Costs, Size C \$ 194 \$ 195 \$ 196 \$ 19			\$					6 per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
Vear 1 Vear 2 Vear 3 Vear 4 Vear 5 USD (Nominal) Cost Unit:  TOTAL AND DIRECT Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C			\$				\$ 19	6 per participant	covered by utility incentives, nor include utility program admin costs.
TOTAL AND DIRECT AND ORDERS BY Funding, Size A  Third Party Funding, Size C  \$ - \$ - \$ - per participant If there are expectations for external funding sources (ag, IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  The party Funding, Size C  \$ - \$ - \$ - per participant  Third Party Funding, Size C			·	<u></u>					
TOTAL AND DIRECT  DIRECT  AND TOIRANT (Party Funding, Size B  \$ - \$ - \$ - per participant  for reference, it's not used to calculate any of the NGIA evaluation criteria.  Third Party Funding, Size B  Third Party Funding, Size C  \$ - \$ - \$ - per participant		Third Porty Funding Size A	Year 1						If there are expectations for external funding sources (a.g. IPA ata) account for those values have This first-in-in-the
Direct   Third Party Funding, Size C			\$	- \$	- \$ -	\$ -	\$ -		
			\$	- \$	- \$ -	\$ -	\$ -		
	DARTICIDANT								

11201 00010	Direct Participant Pilot Costs, Size A		Year 1	- \$	Year 2	- \$	ear 3	Year 4	Year 5	USD (Nominal) Cost Unit:	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
	Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C		\$	- \$ - \$		- \$ - \$	- \$ - \$		\$ -	per participant per participant	are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note I: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no
	•		Year 1	1.7	V 0			V 4	Year 5		unfront financial contribution from the narticinant
	Calculations & Other Explanation:	Escalation rate		3.82%	Year 2 3.8	32%	ear 3 3.82%	Year 4 3.82%		% (for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available
											from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most
	Participant Non-Energy Costs, Size A		Year 1	- \$	Year 2	- \$	ear 3	Year 4	Year 5	USD (Nominal) Cost Unit: per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs
PARTICIPANT			•								will be used in the Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost estimate for year 1 and then use the escalation rate to estimate each remaining year.
NON-ENERGY	Participant Non-Energy Costs, Size B		\$	- 5		- \$	- 5	<del>-</del>	\$ -	per participant per year of pilot life	
COSTS	Participant Non-Energy Costs, Size C		\$	- \$		- \$	- \$	-	\$ -	per participant per year of pilot life	
	Calculations & Other Explanation:	Escalation rate	Year 1	3.82%	Year 2	Y€	ar 3 3.82%	Year 4 3.82%	Year 5	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available
		Escalation rate		3.82%	3.0	12.70	3.62.6	3.6276	3.82	(for each pilot analysis year)	from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most
			Year 1		Year 2	Ye	ear 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Participant Non-Energy Savings, Size A		\$	- \$		- \$	- \$	_	\$ -	per participant per year of pilot life	This includes any operating savings like water savings.
PARTICIPANT											
NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size B		\$	- \$		- 5	- 5	-	\$ -	per participant per year of pilot life	_
S/TITES	Participant Non-Energy Savings, Size C		\$	- \$		- \$	- \$	=	\$ -	per participant per year of pilot life	
	Calculations & Other Explanation:										
	Average Lifetime for Savings/Pilot Tech, Size A			10 year	s						
	Average Lifetime for Savings/Pilot Tech, Size B			10 year 10 year							
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size C			io year	s						
	Calculations & Other Explanation:										
NATURAL GAS	Avg. Dth/Participant Saved, Size A				Participant						
ENERGY SAVINGS: AVG.	Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C				Participant Participant						
Dth/											
PARTICIPANT SAVED	Calculations & Other Explanation:		Changes in natural gas con	sumption for RNG pro	duction are alrea	ady factored	into Carbon Inter	nsity through GREE	T calculations (a	avoiding double counting them here).	
	Avg. Non-Gas Fuel Units/Part. Saved, Size A				/Participant	Units are k	:Wh; could technically	be other non-NG. Avg	. Non-Gas Fuel Uni	ts/Part. Saved will be used in the Participant Co	st tests for the NGIA evaluation criteria.
	Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C				/Participant /Participant						
	•										
AVG. NON-GAS											
FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A			0 kWh	/Participant	Avg. Addit	ional Non-Gas Fuel U	Inits/Part. Used will be u	used in the Particips	ant Cost tests for the NGIA evaluation criteria.	
PARI.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B			0 kWh	/Participant						
	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C			0 kWh	/Participant						
	Calculations & Other Explanation:		Changes in electricity cons	umption for RNG prod	luction are alrea	ıdy factored i	into Carbon Inten	sity through GREET	calculations (a	voiding double counting them here).	
	<u>—</u>							**			
			-								
	Total Annual Dth Saved, Size A		Year 1	0.00	Year 2	.00	0.00	Year 4 0.00	<b>Year 5</b> 0.0	O Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
TOTAL ANNUAL	Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C			0.00		.00	0.00	0.00		O Dth O Dth	
Dth SAVED	·			0.00	0.	.00	0.00	0.00	0.0	0 541	
	Calculations & Other Explanation:										
	Grid Mix Scenario		Xcel			Select one	of the listed grid mix	scenarios taking into ε	account that:		
GRID MIX						•Utilities sh	hall use electric-utility from National Panews	/-specific generation m	ix information for th	he renewable natural gas facility when it is reaso	nably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation ising a higher proportion of carbon fea electricity than is available by default from their electric utility-weither from on-site
SCENARIO	Calculations & Other Explanation:		Xcel 2025 and Xcel 2030 u	sed to reflect plan wir	ndow investment					ice territory for electricity supply.	
							,			supply.	

		decreased natural gas and/or elect	ricity consumption will be calc	culated based on val	ues above. However, for p	ilots where NGIA	requires lifecycle GHG savi	ngs (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG emissions
	(per unit of participation).							
	Lifecycle GHG Intensity Savings, Size A  Low	Year 1	Year 2	Year 3	Year 4	Year 5	kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural
	Expected		68.10 68.10	0 68.10	68.10	68.10	kg CO2e/participant	Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will
	High						kg CO2e/participant	be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA plans.
	Lifecycle GHG Intensity Savings, Size B	Year 1	Year 2	Year 3			kg CO2e/participant	rearry printed.
	Expected		68.10 68.10	68.10	68.10		kg CO2e/participant kg CO2e/participant	
	High						kg CO2e/participant	
	Lifecycle GHG Intensity Savings, Size C	Year 1	Year 2	Year 3	Year 4	Year 5		
	Low Expected		68.10 68.10	0 68.10	68.10	68.10	kg CO2e/participant kg CO2e/participant	
	High	For RNG pilots (where the units of participa	tion are				kg CO2e/participant	
		Dth of RNG purchased) the above values re the lifecycle emission reduction achieved p	epresent					
LIFECYCLE GHG INTENSITY BY		RNG purchase (calculated as the difference between the carbon intensity score calcula	9					
PROJECT SIZE		GREET for this pilot, vs. the GREET emission for geologic natural gas combustion).	factor					
		88 · 8··						
	Calculations & Other Explanation:							
	***************************************	Size A	GHG Intensity Size B	Size C			project/archetype, as calculated by use of combined heat and power o	/ ICF using GREET. Some default assumptions from GREET have been updated to better reflect typical expectations for RNG projects in
		Size A	kg CO2e/Dth	Size C	+			I for specific projects as they are chosen (based on assumed project designs, and later updated for actual operating conditions).
	Low Scenario Expected Scenario		(2) (2	(2)	1			terPoint to follow) differ from California's Low-Carbon Fuel Standard (LCFS) in a number of areas, meaning that these scores can look
	High Scenario		(-)	(=)	quite different than California	.CFS Carbon Intensit	/ scores.	•
		kg CO2e/Dth						
	Default Geologic Gas Emissions Factor		66.14					
			2024-2028 period,	period using 2030	2034-2038 period,			
	RNG GHG factor, updated for grid mix factors 2025, 2030, and 2035	Pilot Lifetime Average	using 2025 grid mix	grid mix	using 2035 grid mix			
	kg CO2e/Dt	n	-1.96	2 -2.53	-2.54			
OTHER PILOT-SPI	ECIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator):							
PEAK	Peak Reduction Factor			ual effect of the project or				
REDUCTION						be 1% for energy effi	ciency pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
FACTOR	Calculations & Other Evolanation:		Cost and Non Participant C	ost tests for the NGIA eva		be 1% for energy effi	ciency pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
	Calculations & Other Explanation:		Cost and Non Participant C			be 1% for energy effi	iency pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
	Calculations & Other Explanation:		Cost and Non Participant C			be 1% for energy effi	pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
		Year 1	Year 2	ost tests for the NGIA eva Year 3	uation criteria. Year 4	Year 5	USD (Nominal) Cost Unit:	
VADIARI E OSM	Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes	Year 1		ost tests for the NGIA eva Year 3	uation criteria. Year 4	Year 5		The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-thydrogen and RNG may not decrease O&M
VARIABLE O&M		Year 1	Year 2	ost tests for the NGIA eva Year 3	uation criteria. Year 4	Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost test for the NGM evaluation criteria Note, to calculate this metric, you can make one cost
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes	\$ Year 1	Year 2 0.05 \$ 0.05	Year 3 Year 3 Year 3	Year 4 \$ 0.04 Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation Rate calculated using the average persont channe in the price of natural gas between 2023 through 2027 to
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u>	\$ Year 1	Vear 2 0.05 \$ 0.05 Vear 2	Year 3 Year 3 Year 3	Year 4 \$ 0.04 Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit: per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost test for the NGM evaluation criteria Note, to calculate this metric, you can make one cost
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u>	\$ Year 1	Year 2  0.05 \$ 0.05  Year 2  -5.250% -5.2509	Year 3 Year 3 Year 3	Year 4 \$ 0.04 Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit: per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation Rate calculated using the average persont channe in the price of natural gas between 2023 through 2027 to
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rat	\$ Year 1	Year 2   0.05   Year 2     Year 2	Year 3	Year 4  Year 4  Year 4  Year 4  -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation faste calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook
	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rat  Non-Gas (i.e., Electric) Fuel Cost	\$ Year 1	Year 2  0.05 \$ 0.05  Year 2  -5.250% -5.2509	Year 3	Year 4  Year 4  Year 4  Year 4  -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost test for the NGIA evaluation criteria Note to colculate this metric, you can make one cost Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook
NON-GAS FUEL	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rat	\$ Year 1	Year 2   0.05   Year 2     Year 2	Year 3	Year 4  Year 4  Year 4  Year 4  -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation faste calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook
NON-GAS FUEL	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rat  Non-Gas (i.e., Electric) Fuel Cost	\$ Year 1	Year 2   0.05   Year 2     Year 2	Year 3	Year 4  Year 4  Year 4  Year 4  -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation faste calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook
NON-GAS FUEL	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	\$ Year 1	Year 2	Year 3	Year 4 \$ 0.04 Year 4 -5.250% used for all resources other that daily real-time final market loca	Year 5 \$ 0.04 Year 5 -5.250%  n strategic electrificational marginal prices	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMF) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost test for the NGIA evaluation criteria Note, to calculate this metric, you can make one cost Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.  **Indianal Company**: The Company Country of Specific Utility Pilot proposals.**  **Indianal Company Country of Specific Utility Pilot proposals.**  **Indianal Company Country of Specific Utility Pilot proposals.**  **Indianal Company Country Office Country of Specific Utility Pilot proposals.**  **Indianal Country Office Count
NON-GAS FUEL COST	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rat  Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation:</u> Non-Gas Fuel Loss Factor	\$ Year 1	Year 2   0.05   Year 2     Year 2	Year 3 Year 3 Year 3 Year 3 Year 3 Year 3 The CIP methodology is equal to the average of	Year 4  Year 4  Year 4  -5.250%  used for all resources other the daily real-time final market local superiors.	Year 5 \$ 0.04  Year 5 -5.250% In strategic electrificational marginal prices	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation faste calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook
NON-GAS FUEL COST	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	\$ Year 1	Year 2	Year 3 Year 3 Year 3 Year 3 Year 3 Year 3 The CIP methodology is equal to the average of	Year 4  Year 4  Year 4  -5.250%  used for all resources other the daily real-time final market local superiors.	Year 5 \$ 0.04  Year 5 -5.250% In strategic electrificational marginal prices	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation flate calculated using the everage percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  "If it is not to be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  infication should be considered in the context of specific utility pilot proposals.
NON-GAS FUEL COST	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rat  Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation:</u> Non-Gas Fuel Loss Factor	\$ Year 1	Year 2	Year 3 Year 3 Year 3 Year 3 Year 3 Year 3 The CIP methodology is equal to the average of	Year 4  Year 4  Year 4  -5.250%  used for all resources other the daily real-time final market local superiors.	Year 5 \$ 0.04  Year 5 -5.250% In strategic electrificational marginal prices	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation flate calculated using the everage percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  "If it is not to be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  infication should be considered in the context of specific utility pilot proposals.
NON-GAS FUEL COST NON-GAS FUEL LOSS FACTOR	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	\$ Year 1	Year 2	Year 3 Year 3 Year 3 Year 3 Year 3 Year 3 The CIP methodology is equal to the average of	Year 4  Year 4  Year 4  -5.250%  used for all resources other the daily real-time final market local support of the formal way and the for all resources other than the formal for all resources other than the formal for all resources other than the formal formal for all resources other than the formal formal formal for all resources other than the formal for	Year 5 \$ 0.04  Year 5 -5.250% In strategic electrificational marginal prices	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation flate calculated using the everage percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  "If it is not to be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  infication should be considered in the context of specific utility pilot proposals.
NON-GAS FUEL COST	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	\$ Year 1	Year 2	Year 3 Year 3 Year 3 Year 3 Year 3 Year 3 The CIP methodology is equal to the average of	Year 4  Year 4  Year 4  -5.250%  used for all resources other the daily real-time final market local support of the formal way and the for all resources other than the formal for all resources other than the formal for all resources other than the formal formal for all resources other than the formal formal formal for all resources other than the formal for	Year 5 \$ 0.04  Year 5 -5.250% In strategic electrificational marginal prices	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation flate calculated using the everage percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  "If it is not to be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  infication should be considered in the context of specific utility pilot proposals.
NON-GAS FUEL COST NON-GAS FUEL LOSS FACTOR	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	\$ Year 1	Vear 2	Year 3 \$ 0.04 Year 3 \$ -5.250% The CIP methodology is equal to the average of the most recent loss fa	Year 4  Year 4  Year 4  -5.250%  used for all resources other that daily real-time final market local used for all resources other that the second of the se	Year 5 \$ 0.04 Year 5 -5.250% In strategic electrificational marginal prices In strategic electrificational marginal prices In strategic electrificational marginal prices In strategic electrification in strategic electri	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J  tion. The method for strategic elect Otter Tail Power's reported 2021 tra	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNO may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost test for the NIGN evaluation criteria. Note to calculate this metric, you can make one cost Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.  **Information** Information**
NON-GAS FUEL LOSS FACTOR OTHER QUANTITA	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  ATIVE CRITERIA:  Other Non-GHG Pollutants, Size A	\$ Year 1	Vear 2	Year 3  Year 3  Year 3  Year 3  Year 3  Year 3  For independent of the service of	Year 4  Year 4  Year 4  -5.250%  used for all resources other that daily real-time final market local total resources other that daily real-time final market local used for all resources other that tours reported by Minnesota Pour Indiana (Pour Indiana Carlo Indiana (Pour Indiana (	Year 5 \$ 0.04  Year 5  -5.250%  In strategic electrificational marginal prices In strategic electrificational marginal prices In strategic electrification and the strategic ele	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesote Hub from J  tion. The method for strategic elect Citer Tail Power's reported 2021 tra  e final environmental cost values agratal cost values using escalation rate re axample, an energy efficiency por example, an energy efficiency por	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NIGN evaluation criteria. Note to calculate this metric, you can make one cost Annual Escalation flate calculated using the exerge percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.  In the Cip Community of the
NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR  OTHER QUANTITA  OTHER NON-GHG	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	\$ Year 1	Year 2	Year 3  Year 3  Year 3  Year 3  Year 3  Fig. 1004  Year 3  The CIP methodology is equal to the average of the most recent loss fall the most recent loss fall calculated by inflating texternality values for microme paylustor migin income paylustor migin	Year 4  Year 4  Year 4  Year 4  -5.250%  used for all resources other the daily real-time final market local and the total for all resources other that the total for all resources other that total for all resources other than the total for all resources other than	Year 5  \$ 0.04  Year 5  -5.250%  In strategic electrificational marginal prices In strategic electrificational marginal	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)  tion. The method for strategic elect (LMP) at the Minnesota Hub from J  tion. The method for strategic elect Otter Tail Power's reported 2021 tra  tion. The method for strategic elect Otter Tail Power's reported 2021 tra  and the strategic elect otter Tail Power's reported 2021 tra  trace and the strategic elect otter Tail Power's reported 2021 trace  trace and the strategic elect otter Tail Power's reported 2021 trace  and the strategic elect otter Tail Power's reported 2021 trace  trace and the strategic election are recommended.	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNO may not decrease CISM costs as they also need to be transported to customers on the distribution system. Variable CISM will be used in the Utility Cost and Non Participant. Cost tests for the NOIA evaluation criteria. Note, to calculate this metric, you can make one cost Annual Escalation flate calculated using the everage percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.  If the CIP methodology is used for energy efficiency in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.  If the CIP methodology is used in the Context of specific utility pilot proposals.  In the Proposals of the Context of Specific utility pilot proposals.  In the most recent CIP, Staff used the weighted average of namiasion and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales.

	1								
	Calculations & Other Explanation:								
		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of project life	
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B	0		0 1		1 1		3 # of jobs 13 # of jobs	Utilities should consider both jobs created by proposed pilots ar jobs that may be eliminated by proposed pilots.
	Net Direct Job Creation, Size C	0		0 8		8 8		# 01 jobs	
		V 4	V 0	Y 0	V 4	V 5	T. 1.1. 1.1. 5.1. 5.1.	Remainder of project	
	Net Indirect Job Creation, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	life  1 3 # of jobs	Utilities should consider both jobs created by proposed pilots ar jobs that may be eliminated by proposed pilots.
	Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C	0		0 2 3		3 3		5 12 # of jobs 9 23 # of jobs	jobs triat may be eliminated by proposed pilots.
NET JOB								Remainder of project	
CREATION	Net Induced Job Creation, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	2 4 # of jobs	
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A	0		0 2		2 2		7 18 # of jobs 13 35 # of jobs	
	, , , , , , , , , , , , , , , , , , , ,		l				-		
	Calculations & Other Explanation:								
	Job numbers are estimated as Full Time Equivalents (FTE) and are rounded	loff.							
	Public Co-Benefits, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	Quantifiable in some cases If this matric isn't quantifi	able, there is space for any qualitative comments in the Additional
PUBLIC CO-	Public Co-Benefits, Size B	\$ -	\$ -	- \$ - :	-	\$ -	per year	Qualitative Considerations section below.	sure, there is space for any qualitative comments in the Additional
BENEFITS	Public Co-Benefits, Size C	-	\$ -	-   \$ -   ;	-	\$ -	per year		
	Calculations & Other Explanation:								
	Water Pollution, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	The legislation left the door open to quantify any cost	s and benefits on water pollution. This might be quantifiable for some o
WATER	Water Pollution, Size B	\$ -	\$ -	- \$ - :	-	\$ -	per year	the projects. If this metric isn't quantifiable, there is s Considerations section below.	pace for any qualitative comments in the Additional Qualitative
POLLUTION	Water Pollution, Size C	-	\$	- \$ -	<del>-</del>	\$ -	per year		
	Calculations & Other Explanation:								
ADDITIONAL QUA	ALITATIVE CONSIDERATIONS:								
Perspective Notes:									
lotes:									
	It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the								
Definition:	structural values and CIP quantification methods.								
IGIA_									
articipants' erspective									
lotes:									
efinition:	It is expected that many of the elements of the participant perspective For example, increased comfort in a home and health benefits from pile					information relate	d to some direct effects of pilots on	participants that may not be easily quantifiabl	e. 
NGIA									
Vonparticipating Customers'									
lerspective lotes:									

_		
	As with the utility perspective the direct effects of pilot programs on	
	As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases and can be heavily informed by structural values.	
Definition:	can be heavily informed by structural values. Provides widespread benefits to all sales customers	
Effects on Other		
Energy Systems		
and Energy Security:		
Definition:		
	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.	
	Fuel made in MN and reduces import of fuel from outside of MN	
0110 5		
GHG Emissions Notes:		
Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.	
	that this fow also caus for discussion of any environmental justice effects of the pilot related to dirto emissions, treas may not be quantifiable.	
Other Pollution		
Notes: Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot	
Dennition.	related to non-GHG pollution.	
	Planned facility located in an environmental justice area of concern	
Waste Reduction and		
Reuse Notes:		
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.	
	Supports community organics recycling	
Policy Notes:		
	NGIA is intended to help the state achieve certain environmental policy	
Definition:	goals including geologic gas throughput reduction and increased use of renewable resources.	
	Reduces fossil gas throughput; avoids landfilling; increases use of renewable energy	
Net Job Creation		
Notes:		
	An innovation plan must include, as applicable, "projected local job	
	impacts resulting from implementation of the plan." Utilities should	
Definition:	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.	
Fconomic		
Economic Development		
Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training	
DOMINION.	nonortunities would provide additional economic benefits	

Will pay prevailing wages; will seek apprentices; will seek to hire from local community

Pu	ы	ic (	co.		
Ве	ne	efit	٩s	lot	ie
_					

Supports local government waste management

### Market Development Notes: Definition:

May produce fertilizer or soil amendments

# Direct Innovation Support Notes: Definition:

This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.

Opportunity for Company to learn about purchasing RNG

## Resource Scalability and Role in a Decarbonized System Notes: Definition:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Realistic pathways to decarbonization include RNG

N/		Click here to go back to the list of all pilots					NGIA Pilot Profiles Workbook
プICF	CNPO2 - RNG Proposal - Anaerobic Digestion of East Metro Food Wa	ste					
	Pilot Project Code:	CNPO2					
	•	RNG Proposal - Anaerobic Digestion of					
	Pilot Project Name:	East Metro Food Waste					
	Sustantia Class (See to 11	C&I & Res					
	Customer Class/ Sector: Low-Income Community Benefit?	N					
	Target Area:	Territory-wide					
	Primary Innovative Resource Category:	Renewable Natural Gas (RNG)	Select primary Innovation	Category. Others can	be listed here:		
	Pilot Description:						
	CenterPoint Energy proposes to buy RNG, including both the commo-	dity and environmental attributes, from Rams	sev and Washington Counti	es' anaerobic digestic	n facility under deve	elopment.	
		,	.,		,		
DESCRIPTION							
	Overview of Program/ Implementation Approach:						
	This project is expected to be operational in 2026.						
	The terms of the RNG purchase contract would be determined at a la Environmental attributes would be retired on behalf of CenterPoint Er		stimates for the purpose of	this analysis.			
	Other Comments / Information:						
	Assumes offtake from developer or other entity, not capital investme	nt from CNP.					
KEY PILOT-SPECII	FIC INPLITS:						
KETTIEOT-GI EGI	10 HH 010.						
	Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
	Calendar Year Participating Units, Size A	2024	2025	2026 18,168	2027	2028	Dekatherms of gas purchased as offtake in single year. Incremental units added, annual (not cumulative).
	Participating Units, Size B			152,613			
	Participating Units, Size C			190,767			Note, this represents the annual RNG (Dth/year) that will be purchased through a multi-year agreement (project life defined below) starting in this year.
	Calculations & Other Explanation:	Units above are to annual dekatherms of 2026 is the RFI respondent's updated target		or the year supply co	ntract starts)		
	Calculations & Other Explanation.	2020 is the Kri respondents apaated talge	st for digester kind setup.				
		Year 1	Year 2	Year 3	Year 4	Year 5	Size A (10% of Dth listed in RFI response)
NUMBER OF	Cumulative RNG Supply (Dth/year), Size A Cumulative RNG Supply (Dth/year), Size B	-	=	18,168 152,613	18,168 152,613	18,168 152,613	2 mcfh or 48 mcfd 18168 Dth/yr Size B (80% of Dth listed in RFI response)
PARTICIPANTS	Cumulative RNG Supply (Dtr) year), Size C		-	190,767	190,767	190,767	16.8 mcfh or 403 mcfd 152613 Dth/yr
							Size C (100% of Dth listed in RFI response)
							21 mcfh or 504 mcfd 190767 Dth/yr
	Assumed Number of GHG Verifications Required, Size A	: 0	0	1	1	1	
	Assumed Number of GHG Verifications Required, Size B	: 0	0	1	1	1	Convert from MCF to MMBtu with *1.037 1.037
	Assumed Number of GHG Verifications Required, Size C	: 0	0	1	1	1	
	//ocamou nambor or and Formousions required, size o		ŭ	•	·		
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
	Annual Total Utility Incremental Cost, Size A	\$ -	\$ 10,094 \$	420,602 \$	424,047 \$	428,757	total cost per year These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility
	Annual Total Utility Incremental Cost, Size B	\$ -	\$ 10,094 \$	3,001,022 \$	3,038,747 \$	3,075,939	total cost per year Cost and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
	Annual Total Utility Incremental Cost, Size C	\$ -	\$ 10,094 \$	3,733,303 \$	3,780,757 \$	3,827,166	total cost per year and an elect pilots.
		Year 1	Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:
	Fixed O&M Cost, Size A	\$ -	\$ 10,094 \$		424,047 \$		total cost per year Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost
	Fixed O&M Cost, Size B Fixed O&M Cost, Size C	\$ -	\$ 10,094 \$ \$ 10.094 \$	3,001,022 \$ 3,733,303 \$	3,038,747 \$ 3,780,757 \$		total cost per year Incentives, and Workforce Development of Market Transformation Cost total cost per year
	, 1,000 Oct. 1, 0000, 0120 O	-	10,034 \$	0,733,303	3,730,737 \$	.,. ,	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
	Total Project Delivery, Size A	\$ -			424,047 \$		
	Total Project Delivery, Size B Total Project Delivery, Size C	\$ -	\$ 10,094 \$ \$ 10,094 \$		3,038,747 \$ 3,780,757 \$	3,075,939 3.827.166	per year
			,504	-,,	-,,		<del></del>
	Literat Delicat Delicate Cont.	Year 1	Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:
	Internal Project Delivery, Size A Internal Project Delivery, Size B	-	\$ 10,094 \$ \$ 10,094 \$		10,709 \$ 10,709 \$		per year CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.  per year
	Internal Project Delivery, Size B		\$ 10,094 \$		10,709 \$		per year per year
	•						
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:

	External Project Delivery, Size A	\$	- \$ -	\$ 410,205 \$	413,338 \$	417,727	per year	External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the
	External Project Delivery, Size B	\$	- \$ -	\$ 2,990,625 \$	3,028,039 \$	3,064,909	per year	Utility "Fixed O&M Cost" category above.
	External Project Delivery, Size C	\$	- \$ -	\$ 3,722,906 \$	3,770,048 \$	3,816,136	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Advertising and Promotions, Size A	\$	- \$ -	\$ - \$	- \$	_	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$	- \$ -	\$ - \$	- \$	-	per year	
	Advertising and Promotions, Size C	\$	- \$ -	\$ - \$	- \$	-	per year	
	· ·		, i				1.	<del></del>
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A						per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B						per year	
	Allocation of General Portfolio Costs, Size C						per year	
	Allocation of deneral fortions costs, size o						per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	t ear i	- \$ -	e e	rear 4	rear 5	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
		6	- \$ -	9 - 9	- 0			in applicable, include here the annual amount of trace any incentives (e.g. miosteam program)
	Trade Ally Incentives, Size B	\$	- \$ -	3 - 3	- \$		per year	
	Trade Ally Incentives, Size C	\$	-   \$ -	\$ - \$	- 5		per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$		\$ - \$	- \$		per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	- \$ -	\$ - \$	- \$		per year	
	Workforce Development or Market Transformation Cost, Size C	\$	- \$ -	\$ - \$	- \$	-	per year	
UTILITY PILOT								
COSTS		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
COSIS	Other Fixed O&M Cost, Size A	\$	- \$ -	\$ - \$	- \$	-	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$	- \$ -	\$ - \$	- \$	_	per year	
	Other Fixed O&M Cost, Size C	\$	- \$ -	\$ - \$	- \$	-	per year	
			1					
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$		\$ - \$	- \$	_	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly
	Total utility capital investment, Size B	\$	- \$ -	\$ - \$	- \$	_	per year	feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size C	•	- \$ -	7	- \$		per year	requirement resulting from these capital investments (shown below).
	Total drilley capital investment, size o	Ψ	Ψ	•	Ψ		per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$ -		- \$	10010	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
		\$	- \$ -		- \$			capital additions), as well as the utility 'Fixed O&M Costs' captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$		\$ - \$	- 3		per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$ -	2 - 2	- 3	_	per year	wall as the utility's rature on investment
			6					
			USD (Nominal) Cost					
		Total	Unit:	_				
	Est. Total Revenue Requirement for Capital Projects, Size A	Total	Unit: - per year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size B	Total \$	Unit:					expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
		Total \$ \$ \$	Unit: - per year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B	\$ \$	Unit:					expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	Total \$ \$ \$ Year1	Unit:	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A	\$ \$	Unit: - per year - per year - per year	Year 3 \$ - \$	Year 4	Year 5	per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	\$ \$	Unit: - per year - per year - per year - per year - Year 2	Year 3	Year 4	Year 5		expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A	\$ \$	Unit: - per year - per year - per year - per year - Year 2	Year 3 \$ - \$ \$ - \$ \$ - \$	Year 4 - \$ - \$	Year 5 - - -	per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B	\$ \$	Unit: - per year - per year - per year - per year - Year 2	Year 3  \$ - \$ \$ - \$ \$ - \$	Year 4 - \$ - \$ - \$	Year 5	per year per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
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	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Unit: - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	\$ - \$ \$ - \$ \$ - \$	- \$ - \$ - \$	- - - Year 5	per year per year per year USD (Nominal) Cost Unit:	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer chasen't hold an unmarethin incentives will be used in the Patricinant Creet test for the MSIA auditation.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size C  Incentives per Participant, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Unit: - per year - per year - per year - per year  Year 2 - \$ \$ \$ \$ #DW/O!	\$ - \$ \$ - \$ \$ - \$	- \$ - \$ - \$	- - -	per year per year per year USD (Nominal) Cost Unit: per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
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	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  RNG Contract Purchase Cost Incremental Fuel	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Unit: - per year - per year - per year - per year - s \$	\$	- \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 5 #DIV/OI #DIV/OI #DIV/OI Year 5 24.00 4.36 19.64 19.64  -5.250% on Year 5	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year per Dth (1Dth = 1 MMBtu) per Dth	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer chasn't hold an inment numershin. Incentives will be used in the Participant Cost tests for the NGIA avaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge.  Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
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	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  RNG Contract Purchase Cost Incremental Fuel	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Unit: - per year - per year - per year - per year - s \$	\$	- \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 5 #DIV/OI #DIV/OI #DIV/OI Year 5 24.00 4.36 19.64 19.64  -5.250% on Year 5	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year per Dth (1Dth = 1 MMBtu) per Dth	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer chasn't hold an inment numershin. Incentives will be used in the Participant Cost tests for the NGIA avaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge.  Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be

TOTAL AND DIRECT PARTICIPANT	Third Party Funding, Size B Third Party Funding, Size C	\$ - \$ -	\$ - \$ - \$ \$ - \$ - \$		per participant per participant	for reference, it's not used to calculate any of the NGIA evaluation criteria.
PILOT COSTS	Description of source of external funding:  Direct Participant Pilot Costs, Size A  Direct Participant Pilot Costs, Size B  Direct Participant Pilot Costs, Size C	Year 1	Year 2 Year 3  \$ - \$ - \$ \$ 5 - \$ \$ - \$ \$ - \$		USD (Nominal) Cost Unit: per participant per participant per participant	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the MGA evaluation criteria. Note I some pilots taking a Direct install approach may see the utility covering all costs, with no undertof financial contribution from the participant.
	Calculations & Other Explanation: Escalat	Year 1           on rate         3.82%	Year 2 Year 3 3.82% 3.82%	Year 4         Year 5           3.82%         3.82%	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B	Year 1 \$ -	Year 2		USD (Nominal) Cost Unit: per participant per year of pilot life per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
COSTS	Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalat	Year1 on rate 3.82%	Year 2 Year 3 3.82% 3.82%	- \$ - Year 4 Year 5 3.82%	per participant per year of pilot life  (for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
	Participant Non-Energy Savings, Size A	Year1	Year 2 Year 3	Year 4 Year 5	USD (Nominal) Cost Unit:	This includes any operating savings like water savings.
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size B Participant Non-Energy Savings, Size C	\$ - \$ -	\$ - \$ - \$ \$ - \$ - \$	- \$ - - \$ -	per participant per year of pilot life per participant per year of pilot life per participant per year of pilot life	
	Calculations & Other Explanation:					
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	10 10	years years years			
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	0	Dth/Participant Dth/Participant Dth/Participant G production are already factored into Carbon In	tensity through GREET calculation	ns (avoiding double counting them her	`e).
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	O	kWh/Participant Units are kWh; could technica kWh/Participant kWh/Participant	lly be other non-NG. Avg. Non-Gas Fuel L	Jnits/Part. Saved will be used in the Participant	Cost tests for the NGIA evaluation criteria.
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C Calculations & Other Explanation:	C	kWh/Participant Avg. Additional Non-Gas Fuel kWh/Participant kWh/Participant kWh/Participant 3 production are already factored into Carbon Int		ipant Cost tests for the NGIA evaluation criteri to the NGIA evaluation criterians of the NGIA evaluation cr	
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year1 0.00 0.00 0.00	Vear 2         Vear 3           0.00         0.00           0.00         0.00           0.00         0.00	Year 4	Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
	Grid Mix Scenario	Xcel	Select one of the listed grid m	ix scenarios taking into account that:	r tha ranawahla natural and facility when it is a	noennskly, wuildskla. Whan alastria utility, ennailia information is not musikkla tha filine one utility will you a stata ennailia

\*\*Pulmes also use encurs -- usiny-specimic generation risk montriation rou the retensive natural gas along when it is read as facility is used in executive network of the contribution in risk and another than the contribution of the contribution in risk and another risk and a facility is used a from failur contribution in a localization than data from that is called from that a facility is used a finisher control or a fareful from failur and a facility is used as failur and a facility is used a finisher control or a fareful from that a facility is used a finisher control or a fareful from that a facility is used a facility of the facility and a facility of the facility o SCENARIO Calculations & Other Explanation: This section does not apply to all pilot types. The GHG changes from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG Lifecycle GHG Intensity Savings, Size A Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high 96.89 96.89 96.89 kg CO2e/participant Expected 96.89 96.89 assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will kg CO2e/participant High be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and Lifecycle GHG Intensity Savings, Size B Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant Expected 96.89 96.89 96.89 96.89 96.89 kg CO2e/participant kg CO2e/participant High Lifecycle GHG Intensity Savings, Size C Year 1 Year 2 Year 3 Year 4 kg CO2e/participant Expected kg CO2e/participant kg CO2e/participant IFECYCLE GHG INTENSITY BY PROJECT SIZE Calculations & Other Explanation: GHG Intensity These values represent the carbon intensity for this project/archetype, as calculated by ICF using GREET. Some default assumptions from GREET have been updated to better reflect typical expectations for RNG projects in Minnesota (e.g. GHG intensity of electricity supply), use of combined heat and power on-site vs. grid electricity, etc. Size A Size B Size C kg CO2e/Dth Note that carbon intensities will vary by project, and GREET calculations will be required for specific projects as they are chosen (based on assumed project designs, and later updated for actual operating conditions). ow Scenario Expected Scenario (31) (31) (31) Also note that GREET's rules for carbon accounting (which NGIA legislation requires CenterPoint to follow) differ from California's Low-Carbon Fuel Standard (LCFS) in a number of areas, meaning that these scores can High Scenario kg CO2e/Dth Default Geologic Gas Emissions Factor 66.14 2024-2028 period, period, using 2030 period, using 2035 RNG GHG factor, updated for grid mix factors 2025, 2030, and 2035 Pilot Lifetime Average using 2025 grid mix grid mix kg CO2e/Dth -29.14 -31.42 OTHER PILOT-SPECIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato 1% The estimated average annual effect of the project on system peak. It is estimated to be 1% for energy efficiency pilots. The method for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the PEAK Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. REDUCTION Calculations & Other Explanation: USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 4 Year 5 The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in Variable O&M Cost, Applies to all project sizes 0.05 \$ 0.05 \$ 0.04 \$ 0.04 \$ 0.04 per Dth the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M VARIABLE O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Calculations & Other Explanation: Year 2 Year 3 Year 4 Year 5 Cost and Non Participant Cost tests for the NGIA evaluation criteria. Escalation rate -5.250% -5.250% -5.250% (for each pilot analysis year) Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to a USD (Nominal) Cost Unit: The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. 44.14 per MWh NON-GAS FUEL Non-Gas (i.e., Electric) Fuel Cost equal to the average of daily real-time final market locational marginal prices (LMP) at the Minnesota Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO) Calculations & Other Explanation: Non-Gas Fuel Loss Factor 8.22% The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales NON-GAS FUEL LOSS FACTOR Calculations & Other Explanation:

OTHER QUANTITATIVE CRITERIA:

				USD Cost Unit:	Generally no change from	m CIP methodology. The	actor is calculated	l using the final environmental cost values appro	ved by Minnesota Public Utili	ties Commission (Commi	ssion). The factors are reported in 2021 dollars in Table 2 below. which		
	Other Non-GHG Pollutants, Size A	Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission (Commission were calculated by Inflating the Commission Septored dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021 different septored in the control of the								021. Stakeholders expressed a preference for allowing utilities to selec			
THER NON-	Other Non-GHG Pollutants, Size B	\$		per Dth	different externality values for pilots targeting specific geographies or populations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe value. Similarly, a project targeting a low-income population might use a high value rather than the median. Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of requiring the use of median metropolitan								
GHG OLLUTANTS	Other Non-GHG Pollutants, Size C	\$	0.37	per Dth	fringe values for all non-	GHG pollutants, as show	in Table 1 of the C	Commission's January 3, 2018 Order in Docket No	. ED999/CI-14-643, utilities m	ay use the value most ap	olicable for the pilot or measure.		
	Calculations & Other Explanation:												
	Nu Provide Court of Court	Ye	ear 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of projec	_	Utilities should consider both jobs created by proposed pilots		
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C		(	1	0 11 0 13	9		9 3	1 8	# of jobs # of jobs # of jobs # of jobs	jobs that may be eliminated by proposed pilots.		
		Ve	ear 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of projec	ı			
NET JOB	Net Indirect Job Creation, Size A		(		0 1	1	100.0	1		# of jobs	Utilities should consider both jobs created by proposed pilot.		
REATION	Net Indirect Job Creation, Size B			1	0 6	6		5		# of jobs	jobs that may be eliminated by proposed pilots.		
	Net Indirect Job Creation, Size C		(	)	0 7	7		7  2	1 5-	# of jobs			
		Ye	ear 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of projec				
	Net Induced Job Creation, Size A		C	)	0 1	1		6 20		# of jobs			
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A		(	)	0 8	8		8 20		# of jobs # of jobs			
				1				1					
		Ye	ear 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>-</b>				
	Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C	\$		\$	- \$ -	\$ -	\$ -	per year per year	Quantitiable in some case.  Qualitative Considerations	i. If this metric isn't quant section below.	fiable, there is space for any qualitative comments in the Additional		
JBLIC CO- BENEFITS		\$	-	\$	- \$ -	\$ -	\$ -	per year	1				
	Calculations & Other Explanation:												
		Ye	ear 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>.</b>				
	Water Pollution, Size A Water Pollution, Size B	\$		\$	- \$ -	\$ -	\$ -	per year per year	the projects. If this metric	isn't quantifiable, there is	sts and benefits on water pollution. This might be quantifiable for son space for any qualitative comments in the Additional Qualitative		
WATER	Water Pollution, Size C	\$	-	\$	- \$ -	\$ -	\$ -	per year	Considerations section be	low.			
OLLUTION	Calculations & Other Explanation:								_				
<u>Utility</u>	ALITATIVE CONSIDERATIONS:												
OITIONAL QU A Utility spective es:													
Utility pective es:	ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.												
<u>Utility</u>	It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the	5											
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		<u></u> _
	As with the utility perspective, the direct effects of pilot programs an one-naticipating austroners should be quantified in most cases	
Definition:	on non-participating customers should be quantified in most cases and can be heavily informed by structural values.	
	Provides widespread benefits to all sales customers	
Effects on Other		
Energy Systems and Energy		
Security:		
Definition:		
	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.	
	thetes of the electric system in online, the folia empowers the commission to consider a vide variety or costs and electric vide in the electric system in order to expect the electric vide in the electric system in order in injuried resources and national identification.  Full made in MN and reduces import of fuel from outside of MN  Full made in MN and reduces import of fuel from outside of MN	
GHG Emissions		
Notes: Definition:	As innovation also must include the total lifequals CHC emissions that the utility assistate will be coduced or availed through innovations the day. This benefit should be consequently quantificable using the Commission	
Dennition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.	
	todace most that the sale calls for discussion of any eminemana justice entropy and the sale calls of	
Other Pollution		
Notes:		
Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.	
	provide to their divergence to the second to	
Waste Reduction and		
Reduction and Reuse Notes:		
reuse Notes.		
	Waste reduction, reuse, and anaerobic digestion are goals of the	
Definition:	NGIA. Includes reduction of water use.	
	Supports community organics recycling	
Policy Notes:		
	NGIA is intended to help the state achieve certain environmental	
	policy goals including geologic gas throughput reduction and	
Definition:	increased use of renewable resources.	
	Reduces fossil gas throughput; avoids landfilling; increases use of renewable energy	
Net Job Creation		
Notes:		
	An innovertion often must include an emplicable functional link	
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should	
	consider both jobs created by proposed pilots and jobs that may be	
Definition:	eliminated by proposed pilots.	

The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.

Will pay prevailing wages; will seek apprentices; will seek to hire from local community

Public Co- Benefits Notes: Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.  Supports local government waste management
Market Development Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized  May produce biochar
Direct Innovation Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA 40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for Company to learn about purchasing RNG
Resource Scalability and Role in a Decarbonized System Notes: Definition:	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.  Realistic pathways to decarbonization include RNG

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Click here to go back to the list of all pilots NGIA Pilot Profiles Workbook

CNP03 - RNG Archetype - Wastewater Resource Recovery Facility

Pilot Project Code:	CNP03
Pilot Project Name:	RNG Archetype - Wastewater Resource
Filot Floject Name.	Recovery Facility
Customer Class/ Sector:	C&I & Res
Low-Income Community Benefit?	N
Target Area:	Territory-wide
Primary Innovative Resource Category:	Renewable Natural Gas (RNG)

Select primary Innovation Category. Others can be listed here:

#### Pilot Description:

For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purchase RNG - including the commodity and environmental attributes - from multiple RNG producers that have developed RNG projects using a variety of feedstocks. CNP may also support RNG project development by directly investing in the biogas upgrading equipment (required to produce pipeline-quality RNG) for a limited number of RNG projects, to reduce developers' required capital. We have developed an estimate of expected carbon intensity for each type of feedstock to inform our analysis of potential GHG reductions from a portfolio of RNG purchases.

#### DESCRIPTION

#### Overview of Program/ Implementation Approach:

CenterPoint Energy would likely issue a request for proposals (RFP) from RNG project developers. The RFP process would help CenterPoint Energy to maximize cost-effectiveness by building a portfolio of RNG purchases from a variety of projects and under customized contract terms.

#### Other Comments / Information:

Internal Project Delivery, Size A

nternal Project Delivery, Size B

nternal Project Delivery, Size C

For the purposes of this analysis, assumes offtake from developer or other entity, not capital investment from CNP.

Year 1

12,250

12,250 \$

4,996 \$

8,093 \$

13,218 \$

Pict Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 3 Year 4 Year 5 Year 5 Year 6 Year 6 Year 6 Year 6 Year 6 Year 1 Year 1 Year 1 Year 7 Year 8 Year 6 Year 7 Year 8
Calendar Year Participating Units, Size A Participating Units, Size B Participating Units, Size A Participating Un
Calendar Year Participating Units, Size A Participating Units, Size B Participating Units, Size A Participating Un
Participating Units, Size A Participating Units, Size A Participating Units, Size A Participating Units, Size B Participating Units, Size C  Units above are to annual dekatherms of SMD Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG Supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG supply (Shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG purchase volumes (NGIA rules require at least half of the budget to be for low-carbon fuels, like RNG and Hydrogen).  Year 1
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Variable Participating Units, Size 0:  Units above are to annual dekatherms of RNG supply (shown only for the year supply contract starts)  Sizes are placeholder assumptions to show a range of RNG purchase volumes (NGIA rules require at least half of the budget to be for low-carbon fuels, like RNG and Hydrogen).  **PARTICIPANTS**  **Calculations & Other Explanation:**  **Calculations & Other Explanation:**  **Vear 1**  **Vear 2**  **Vear 3**  **Vear 4**  **Vear 5**  **Cumulative RNG Supply (Dth/year), Size A  **Cumulative RNG Supply (Dth/year), Size B  **Assumed Number of GHG Verifications Required, Size A:  **O 1 1 1 1 1 1  **Assumed Number of GHG Verifications Required, Size B:  **O 2 2 2 2 Uncertain how many RNG projects would be needed, conservatively assuming multiple verifications.  **Assumed Number of GHG Verifications Required, Size C:  **O 3 3 3 3 3 Uncertain how many RNG projects would be needed, conservatively assuming multiple verifications.  **Annual Total Utility Incremental Cost, Size A  **Annual Total Utility Incremental Cost, Size A  **S 12250 \$ 876,304 \$ 809,8054 \$ 905,793 \$ 1001 cost per year  These incremental utility costs are what will count against the NGA budget cap for this measure and will be used in the Utility admin costs to run pilot, any part of cost and Non-Participant Cost tests for the NGA evaluation cointin. This is the sum of utility admin costs to run pilot, any participant Cost tests for the NGA evaluation cointin. This is the sum of utility admin costs to run pilot, any participant Cost tests for the NGA evaluation cointin. This is the sum of utility admin costs to run pilot, any parti
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Annual Total Utility Incremental Cost, Size A  \$ 12,250 \$ 201,051 \$ 209,927 \$ 212,867 \$ 215,685 total cost per year  These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility  Annual Total Utility Incremental Cost, Size B  \$ 12,250 \$ 876,304 \$ 892,652 \$ 905,791 \$ 918,273 total cost per year  Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
Annual Total Utility Incremental Cost, Size A  \$ 12,250 \$ 201,051 \$ 209,927 \$ 212,867 \$ 215,685 total cost per year  These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility  Annual Total Utility Incremental Cost, Size B  \$ 12,250 \$ 876,304 \$ 892,652 \$ 905,791 \$ 918,273 total cost per year  Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
Annual Total Utility Incremental Cost, Size A  \$ 12,250 \$ 201,051 \$ 209,927 \$ 212,867 \$ 215,685 total cost per year  These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility  Annual Total Utility Incremental Cost, Size B  \$ 12,250 \$ 876,304 \$ 892,652 \$ 905,791 \$ 918,273 total cost per year  Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
Annual Total Utility Incremental Cost, Size B \$ 12,250 \$ 876,304 \$ 892,652 \$ 905,791 \$ 918,273 total cost per year Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
74 11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Annual Total Utility Incremental Cost, Size C \$ 12,250 \$ 4,897,758 \$ 5,052,819 \$ 5,125,699   total cost per year incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made
on select pilots.
Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:
Fixed O&M Cost, Size A \$ 12,250 \$ 201,051 \$ 209,927 \$ 212,867 \$ 15 total cost per year Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
Fixed O&M Cost, Size B \$ 12,250 \$ 876,304 \$ 892,652 \$ 905,791 \$ 918,273 total cost per year Incentives, and Workforce Development of Market Transformation Cost
Fixed O&M Cost, Size C \$ 12,250 \$ 4,897,758 \$ 4,975,935 \$ 5,052,819 \$ 5,125,699 total cost per year
Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:
Total Project Delivery, Size A \$ 12,250 \$ 200,736 \$ 209,927 \$ 212,867 \$ 215,685 per year Total internal and external project delivery
Total Project Delivery, Size A   \$   \$   \$   \$   \$   \$   \$   \$   \$

12,996 \$

12,996 \$

12,996 \$

13,386 \$

13,386 \$

13,386 \$

USD (Nominal) Cost Unit:

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

13,787 per year

13,787 per year

13,787 per year

				_					
	E tour I During the During the A	Year 1	Y	ear 2 195,740 \$	Year 3 196,931	Year 4 \$ 199,481   \$	Year 5 201,897	USD (Nominal) Cost Unit: per year	External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the
	External Project Delivery, Size A External Project Delivery, Size B	¢	- ¢	867,701 \$	879,656			per year	Utility 'Fixed O&M Cost' category above.
	External Project Delivery, Size B External Project Delivery, Size C	\$	- \$	4,883,706 \$	4,962,939			per year	, , , , , , , , , , , , , , , , , , , ,
	External Project Delivery, Size C	•	- 4	4,003,700 φ	4,902,939	φ 5,039,433 φ	3,111,311	per year	
		Year 1	Y	ear 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Advertising and Promotions, Size A	\$	- \$	315 \$	-			per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$	- \$	510 \$	-	\$ - \$	_	per year	* * * * * * * * * * * * * * * * * * * *
	Advertising and Promotions, Size C	\$	- \$	833 \$	-	\$ - \$	-	per year	
								'	
		Year 1	Υ	ear 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A							per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B							per year	
	Allocation of General Portfolio Costs, Size C							per year	
		Year 1	-	ear 2 - \$	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>_</b>
	Trade Ally Incentives, Size A	\$	- \$ - \$	- \$		\$ -   \$ \$ -   \$		per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	- \$ - \$	- \$	-			per year	
	Trade Ally Incentives, Size C	\$	- 5	- 4		ъ  — т		per year	
		Year 1	v	ear 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$	- \$	- \$	-			per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	- \$	- \$		\$ - \$		per year	These costs are day set of the starty fixed carrious category above.
	Workforce Development or Market Transformation Cost, Size C	\$	- \$	- \$		\$ - \$		per year	
	Trontores Severephone of Market Transformation Cook, 6120 C		1.					p /	_
UTILITY PILOT COSTS		Year 1	Υ	ear 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
COSIS	Other Fixed O&M Cost, Size A	\$	- \$	- \$	-	\$ - \$	-	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$	- \$	- \$	-	\$ - \$	-	per year	
	Other Fixed O&M Cost, Size C	\$	- \$	- \$	-	\$ - \$	-	per year	
		Year 1		ear 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	=
	Total utility capital investment, Size A	\$	- \$	- \$		\$ - \$		per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B	\$	- \$	- \$		\$ - \$		per year	requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$	- \$	- \$	-	\$ - \$		per year	
		Year 1	v	ear 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$	-  \$	-			per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$	- \$	-	\$ - \$		per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$	- \$	-			per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		1.	-				magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment.
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$ Total	USD (Nom	1.	-				
		\$ Total	USD (Nom Unit:	1.	-				well as the utility's return on investment.
	Est. Total Revenue Requirement for Capital Projects, Size A	Total	USD (Nom Unit: - per year	1.	-				well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B	Total \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year	1.	-				well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size A	Total \$	USD (Nom Unit: - per year	1.	-				well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B	Total \$ \$ \$ Year1	USD (Nom Unit: - per year - per year - per year	1.	- Year 3				well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A	\$ \$ \$	USD (Nom Unit: - per year - per year - per year	ninal) Cost	1	\$ - \$	- Year 5	per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude 6, timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B	\$ \$ \$	USD (Nom Unit: - per year - per year - per year	ninal) Cost	Year 3	\$ - \$	- Year 5	per year  USD (Nominal) Cost Unit:	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A	\$ \$ \$	USD (Nom Unit: - per year - per year - per year - year	ninal) Cost	Year 3	Year 4  \$ -   \$	- Year 5	per year  USD (Nominal) Cost Unit:  per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude 6, timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B	\$ \$ \$ Year1 \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - per year - \$ - \$ - \$	ear 2	Year 3	Year 4 \$ - \$ \$ - \$ \$ - \$	Year 5	USD (Nominal) Cost Unit:  per year  per year  per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customer solve the terminal parameters of the fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C	\$ \$ \$ \$ \$ Year1 \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - \$ - \$ - \$	ear 2 - \$ - \$ - \$	Year 3	Year 4  \$ - \$ \$ - \$  Year 4	Year 5	USD (Nominal) Cost Unit:    per year     per year     per year     per year     USD (Nominal) Cost Unit:	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C	\$ \$ \$ \$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - yer year - yer year - yer year - \$ - \$ - \$ - \$	ear 2	Year 3	Year 4 \$ - \$ \$ - \$ \$ - \$ Year 4 #DIV/OI	Year 5  Year 5  #DIV/O!	USD (Nominal) Cost Unit: Der year Per year Per year USD (Nominal) Cost Unit: Der participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude 6 timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or other install measures), or making a capital investment in a customer's project where the
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size A Incentives per Participant, Size B	\$ \$ \$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2 - \$ - \$ - \$	Year 3	Year 4  \$ - \$ \$ - \$  Year 4  \$ - \$  \$ - \$  Year 4  #DIV/OI  #DIV/OI	Year 5	USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C	\$ \$ \$ \$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - yer year - yer year - yer year - \$ - \$ - \$ - \$	ear 2 - \$ - \$ - \$	Year 3	Year 4 \$ - \$ \$ - \$ \$ - \$ Year 4 #DIV/OI	Year 5  Year 5  #DIV/O!	USD (Nominal) Cost Unit: Der year Per year Per year USD (Nominal) Cost Unit: Der participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2 - \$ - \$ - \$	Year 3	Year 4  \$ - \$ \$ - \$  Year 4  \$ - \$  \$ - \$  Year 4  #DIV/OI  #DIV/OI	Year 5	USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size A Incentives per Participant, Size B	\$ \$ \$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2 - \$ - \$ - \$	Year 3	Year 4  \$ - \$ \$ - \$  Year 4  \$ - \$  \$ - \$  Year 4  #DIV/OI  #DIV/OI	Year 5	USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2 - \$ - \$ - \$ - \$	Year 3	Year 4  \$ - \$ \$ - \$  Year 4  \$ - \$ \$ - \$  Year 4  #DIV/OI  #DIV/OI  #DIV/OI	Year 5	USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit:  - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2 - \$ - \$ ear 2 \$ ear 2 \$ ear 2	Year 3  Year 3  #DIV/OI  #DIV/OI  Year 3	Year 4 \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ Year 4 #DIV/OI #DIV/OI #DIV/OI  Year 4 \$ 2100 \$	Year 5	USD (Nominal) Cost Unit:  per year  per year  per year  USD (Nominal) Cost Unit:  per participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA evaluation
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost: Incremental Fuel Cost:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Norr Unit: - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	par 2 - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 3  Year 3  #DIV/OI  #DIV/OI  Year 3  2100	Year 4  \$ - \$  Year 4  #DIV/OI  #DIV/OI  Year 4  #DIV/OI  #DIV/OI  Year 4  # 0	Year 5	USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHB auditor officer install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost - Average over Contract Life (based on	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Norr Unit:  - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2  - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Year 3  Year 3  #DIV/OI  #DIV/OI  Year 3  2100 4.86 16.14	Year 4 \$ - \$	Year 5	USD (Nominal) Cost Unit:  per year  per year  per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  per Dth (1 Dth = 1 MMBtu)  per Dth  per Dth	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge-
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost: Incremental Fuel Cost:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nom Unit: - per year - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2  - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Year 3	Year 4 \$ - \$	Year 5	Der year  USD (Nominal) Cost Unit: Der year Der year Der year Der year USD (Nominal) Cost Unit: Der participant per year	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHB auditor officer install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.
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	Est. Total Revenue Requirement for Capital Projects, Size A  Est. Total Revenue Requirement for Capital Projects, Size B  Est. Total Revenue Requirement for Capital Projects, Size B  Est. Total Revenue Requirement for Capital Projects, Size B  Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A  Incentives, Size B  Incentives, Size B  Incentives per Participant, Size A  Incentives per Participant, Size B  Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost:  Geologic Gas Cost:  Incremental Fuel Cost  Escalation rate in gas commodity costs:  Project Verification Costs:  Total Pilot Upfront Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Norr Unit:  - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ser 2  - \$ - \$ - \$ ser 2  - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Year 3  Year 3  #DIV/OI  #DIV/OI  #DIV/OI  Year 3  21:00  4.86 16.14 16.57  each year  -5.250%  Year 3	Year 4  \$ - \$  Year 4  \$ - \$  Year 4  #DIV/OI  #DIV/OI  #DIV/OI  Year 4  \$ 16.62 \$  t for project verification  Year 4  \$ 166 \$	Year 5	USD (Nominal) Cost Unit: per year per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth Cost Unit:	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customer solution criteria.  This tracks total incentives paid directly to customer solution or the fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge-
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size B Incentives, Size A Incentives, Size A Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost Incremental Fuel Cost Average over Contract Life (based on contract start year): M-RETS RTC On-going Registration Costs:  M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Norr Unit:  - per year - per year - per year - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	ear 2  - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Year 3	Year 4  \$ - \$ \$ - \$  Year 4  #DIV/OI  #DIV/OI  #DIV/OI  Year 4  #DIV/OI  #DIV/OI  \$ 2100 \$ \$ 4.60 \$ \$ 16.40 \$ \$ 16.62 \$  t for project verification  Year 4  **  **  **  **  **  **  **  **  **	Year 5	USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth Der Dth	well as the utility's return on investment.  The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customer glocustomer rebates like money, gift cards or other fungible payments, etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of general payments and incremental cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-

TOTAL AND DIRECT PARTICIPANT PILOT COSTS	Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size C Calculations & Other Explanation:	Escalation rate	Year 1 \$ \$  Year 1 \$  Year 1  Year 1  Year 1	- \$ - \$ - \$ - \$	Year 2  - \$ - \$ - \$  Year 2  - \$ - \$  Year 2  3.82%	Year 3  Year 3  Year 3  Year 3  Year 3  3.82%	Year 4  Year 4  Year 4  3.82%	\$ - \$ - Year 5 \$ - Year 5	USD (Nominal) Cost Unit: per participant per participant per participant  USD (Nominal) Cost Unit: per participant	If there are expectations for external funding sources (e.g. RA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note 1 some pilots taking a 'Direct install' approach may see the utility covering all costs, with no fundront firancial contribution from the articibant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
PARTICIPANT NON-ENERGY COSTS	Participant Non-Energy Costs, Size A  Participant Non-Energy Costs, Size B  Participant Non-Energy Costs, Size C  Calculations & Other Explanation:	Escalation rate [	Year 1 \$ \$ \$ Year 1	- \$ - \$	Year 2  - \$  - \$  Year 2  3.82%	Year 3 - \$ - \$ Year 3 - \$ Year 3 3.82%	Year 4 - : - : Year 4 3.82%	\$ - \$ - Year 5	USD (Nominal) Cost Unit: per participant per year of pilot life per participant per year of pilot life per participant per year of pilot life [(for each pilot analysis year)	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C <u>Calculations &amp; Other Explanation:</u>		Year 1 \$ \$	- s - s - s	Year 2  - \$ - \$	Year 3 5 - \$ 6 - \$ 7 - \$	Year 4	Year 5	USD (Nominal) Cost Unit:  per participant per year of pilot life  per participant per year of pilot life  per participant per year of pilot life	This includes any operating savings like water savings.
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:			10 years 10 years 10 years						
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:		Changes in natural gas consumpt	O Dth/Part O Dth/Part O Dth/Part	ticipant ticipant	actored into Carbon Ir	ntensity through GRE	ET calculations	(avoiding double counting them here	).
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C Avg. Non-Gas Fuel Units/Part.Used, Size / Avg. Additional Non-Gas Fuel Units/Part.Used, Size / Avg. Additional Non-Gas Fuel Units/Part.Used, Size / Avg. Additional Non-Gas Fuel Units/Part.Used, Size / Calculations & Other Explanation:	В	Changes in electricity consumpti	O kWh/Par O kWh/Par O kWh/Par O kWh/Par O kWh/Par	rticipant rticipant  rticipant A rticipant	vg. Additional Non-Gas Fuel	l Units/Part Used will be u	used in the Participa	its/Part. Saved will be used in the Participant C ant Cost tests for the NGIA evaluation criteria.  (avoiding double counting them here)	
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:		Year 1	0.00 0.00 0.00	Year 2 0.00 0.00 0.00	Year 3 0.00 0.00 0.00	Year 4 0.00 0.00 0.00	Year 5 0.00 0.00 0.00	Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year

GRID MIX SCENARIO	Grid Mix Scenario  Calculations & Other Explanation:	NREL	•Dtilities shall use electr	grid mix scenarios taking into a ic-utility-specific generation n m National Renewahle Fnerov	nix information for the renewable natural gas facilit	by when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific manual entering the state of
	This section does not apply to all pilot types. The GHG changes from	n decreased natural gas and/or electricity o	consumption will be calculated based on v	alues above. However, f	for pilots where NGIA requires lifecycle	GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	emissions (per unit of participation).  Lifecycle GHG Intensity Savings, Size A  Low  Expected High  Lifecycle GHG Intensity Savings, Size B  Low  Expected High	Year 1 53.11  Year 1 53.11	Year 2 Year 3  53.11  53.11  Year 2 Year 3  53.11  53.11	Year 4 53.11  Year 4 53.11	Year 5  kg CO2e/participant 53.11 kg CO2e/participant kg CO2e/participant  Year 5  kg CO2e/participant kg CO2e/participant kg CO2e/participant kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas Innovation Act innovation (NGIA) plan, where applicable, High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA plans.
	Lifecycle GHG Intensity Savings, Size C Low	Year 1	Year 2 Year 3	Year 4	Year 5 kg CO2e/participant	
LIFECYCLE GHG INTENSITY BY PROJECT SIZE	Expected High	For RNG pilots (where the units of participation are Dth of RNG purchased) the above values represent the fleeycle emission reduction achieved per Dth of RNG purchase Calculated as the difference between the carbon intensity some calculated from GREET for this pilot, vs. the GREET emission factor for geologic natural gas combustion).	53.II 53.II	53.11	53.11 kg CO2e/participant kg CO2e/participant	
	Calculations & Other Explanation:	GHG In	Size B Size C	These values represent the o	carbon intensity for this project/archetype, as calc y of electricity supply), use of combined heat and	ulated by ICF using GREET. Some default assumptions from GREET have been updated to better reflect typical expectations for RNG projects in power on-site vs. grid electricity, etc.
	Low Scenario	kg CO2		required for specific projects as they are chosen (based on assumed project designs, and later updated for actual operating conditions).		
	Expected Scenario High Scenario	kg CO2e/Dth	13 13		for carbon accounting (which NGIA legislation req a LCFS Carbon Intensity scores.	uires CenterPoint to follow) differ from California's Low-Carbon Fuel Standard (LCFS) in a number of areas, meaning that these scores can look
	Default Geologic Gas Emissions Factor  RNG GHG factor, updated for grid mix factors 2025, 2030, and 2035 kg C02e/Dth	Pilot Lifetime Average		2034–2038 period, using 2035 grid mix 11.29		
OTHER PILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator	):				
PEAK REDUCTION FACTOR	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>		The estimated average annual effect of the project or Cost and Non Participant Cost tests for the NGIA eval		to be 1% for energy efficiency pilots. The method for	or other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rate	Year 1  Year 1  Year 1  -5.250%	Year 2         Year 3           \$ 0.05         \$ 0.04           Year 2         Year 3           -5.250%         -5.250%	Year 4	Year 5	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation:</u>		USD (Nominal) Cost Unit:  The CIP methodology is equal to the average of	used for all resources other th daily real-time final market loc	nan strategic electrification. The method for strategic autional marginal prices (LMP) at the Minnesota Hu	gic electrification should be considered in the context of specific utility pilot proposals.  b from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)

NON-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor <u>Calculations &amp; Other Explanation:</u>	8.229	<u>%</u>	The CIP methodology is of the most recent loss	used for all resources other factors reported by Minneso	than strategic elec ota Power, Xcel Ene	ttrification. The method for strategic electrificati gy, and Otter Tail Power's reported 2021 transr	on should be considered in nission and distribution los:	the context of specific utili s factors and weighting by t	ty pilot proposals. In the most recent CIP, Staff used the weighted average ne utilities' 2017-2019 average retail sales
OTHER QUANTITA	ATIVE CRITERIA:									
OTHER NON- GHG POLLUTANTS	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$ 0.37	USD Cost Unit: 7 per Dth 7 per Dth 7 per Dth	calculated by inflating the externality values for pil income population might	he Commission's approved o lots targeting specific geogra nt use a high value rather tha	dollar per ton enviro aphies or population n the median. Utilit	nmental cost values using escalation rate to ad ns. For example, an energy efficiency project th	ljust by observed inflation b at targets an urban area mi VGIA plans if they can provi	etween 2014 and 2021. Stak ght use the urban value rati de justification for the chan	on). The factors are reported in 2021 dollars in Table 2 below, which were eholders expressed a preference for allowing utilities to select different rer than the metropolitan fringe value. Smilarly, a project targeting a low- ge. Instead of requiring the use of median metropolitan fringe values for all measure.
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year1	Year 2	Year 3  1 1 3 3 3 17 17 17	Year 4	Year 5	Total during 5 program years  1 3 1 6 6 6		5 # of jobs 21 # of jobs 115 # of jobs	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
NET JOB CREATION	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C		Year 2	Year 3  0 0  2 2  9 9	Year 4 0 2 9	Year 5	Total during 5 program years  0 2 9 3	Remainder of proje life	2 # of jobs 11 # of jobs 62 # of jobs	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A Net Induced Job Creation, Size A	Year1	Year 2	Year 3  0 0  2 2  11 10	Year 4 0 0 2 10	Year 5	Total during 5 program years	Remainder of proje life	3 # of jobs 13 # of jobs 71 # of jobs	
PUBLIC CO- BENEFITS	Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C Calculations & Other Explanation:	Year 1 \$ - \$ - \$ -	Year 2	Year 3 - \$ \$ \$ -	Year 4 \$ - \$ - \$ -	Year 5	USD (Nominal) Cost Unit: per year per year per year	Quantifiable in some cas Qualitative Consideratio	ses. If this metric isn't quant ns section below.	ifiable, there is space for any qualitative comments in the Additional
	Water Pollution, Size A Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:	Year 1 \$ - \$ - \$ -	Year 2 \$ \$ \$ \$ \$ \$ \$	Year 3 - \$ \$ \$ -	Year 4 \$ - \$ - \$ -	Year 5	USD (Nominal) Cost Unit: per year per year per year	The legislation left the d the projects. Methodolo Qualitative Consideratio	gy is TBD. If this metric isn't	ats and benefits on water pollution. This might be quantifiable for some of quantifiable, there is space for any qualitative comments in the Additional
WATER POLLUTION								The legislation left t door open to quant any costs and benefits on water pollution. This might be quantifiable for some of the project if this metric isn't quantifiable, there is space for any qualitative commer in the Additional Qualitative Considerations section below.	ify t :s.	

ADDITIONAL QUALITATIVE CONSIDERATIONS:

IGIA Utility	
Perspective_	
lotes:	
	It is expected that most of the utility perspective costs and benefits
	will be quantifiable with and should be heavily informed by the
Definition:	structural values and CIP quantification methods.
IGIA_	
articipants'	
erspective	
lotes:	
Definition:	It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that may not be easily
	quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.
IGIA_	
Nonparticipating	
Customers'	
Customers' Perspective	
lotes:	
10103.	
	As with the utility perspective, the direct effects of pilot programs
Onfinition	on non-participating customers should be quantified in most cases
Definition:	and can be heavily informed by structural values. Provides widespread benefits to all sales customers
	rrovides widespread benefits to all sales customers
ffects on Other	
nergy Systems	
and Energy Security: Definition:	
ecurity:	
Definition:	
	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative
	effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.
	Company will give preference to fuel made in MN that will reduce import from outside of MN
NIO F:	
GHG Emissions	
Notes: Definition:	
	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values.
	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution	
Other Pollution Notes:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution Notes:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution Notes: Definition:	
Other Pollution Notes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot
Other Pollution lotes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot
Other Pollution lotes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot
Other Pollution lotes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot
Other Pollution lotes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot
Other Pollution lotes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution lotes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution lotes: Pefinition: Vaste Leduction and	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution Notes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution lotes: Jefinition: Waste Reduction and Rouse Notes:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.
Other Pollution lotes: Pefinition: Maste Reduction and Rouse Notes:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the
Other Pollution lotes: Definition: Meste Leduction and Leuse Notes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Other Pollution lotes: Definition: Vaste Leduction and Leuse Notes:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the
Other Pollution lotes: Definition: Vaste Leduction and Leuse Notes:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Other Pollution lotes: Definition: Meste Leduction and Leuse Notes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Other Pollution Jotes: Pefinition:  Waste Leduction and Leuse Notes:  Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Other Pollution lotes: Definition: Meste Leduction and Leuse Notes: Definition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
ther Pollution otes: efinition:  faste eduction and euse Notes: efinition:	Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.

	NGIA is intended to help the state achieve certain environmental
Definition:	policy goals including geologic gas throughput reduction and increased use of renewable resources.
Dennidon.	Interceptor use of international responsibility increases use of renewable energy Reduces fossil gas throughput; increases use of renewable energy
	Accepted to the Copy plant, more consists of the Copy plant is a copy plant in the Copy plant is a copy plant in the Copy plant is a copy plant in the Copy plant in the Copy plant is a copy plant in the Copy plant in the Copy plant is a copy plant in the Copy plant in the Copy plant in the Copy plant is a copy plant in the Copy plant in the Copy plant is a copy plant in the Copy plant in
_	
Net Job Creation	
Notes:	
	An innovation plan must include, as applicable, "projected local job
	An initia/vation pier miss initiate, as application, projected rotal job impacts resulting from implementation of the plan." Utilities should
	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Definition:	eliminated by proposed pilots.
<u>Economic</u> <u>Development</u>	
Notes:	
Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or
	training opportunities would provide additional economic benefits.
Public Co-	
Benefits Notes:	
Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor
	problems. Pilot would support wastewater treatement, which is often a public and publicly funded service
	The trade deposit motories decidents, minimal beautiful management and a particular decidence of the control of
<u>Market</u>	
<u>Development</u>	
Notes:	
Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
B*	
<u>Direct</u> Innovation	
Support Notes:	
Definition:	This category is intended to answer how the projects, which are permitted under the NGIA 40 are unlikely to
	produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for Company to learn about purchasing RNG
	opposition of the state of the
Resource	
Scalability and	
Role in a	
Decarbonized System Notes:	
Definition:	
	While NGIA pilots may have small impacts in the near-term, stakeholders felt Visus important for consider changes to natural gas utility and englished several productions and the contract of
	and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.  Realistic pathways to decarbonization include RNG

Ì/⊆ ŽICF	CNPO4 - RNG Archetype - Dairy Manure	Click here to go back to the list	t of all pilots					NGIA Pilot Profiles Workbook			
· ICF		T									
	Pilot Project Code:	CNP04									
	Pilot Project Name: Customer Class/ Sector:	RNG Archetype - Dairy Manure C&I & Res	'								
	Low-Income Community Benefit?	N Res									
	Target Area:	Territory-wide									
	Primary Innovative Resource Category:	Renewable Natural Gas (RNG)	Sele	ect primary Innovation	Category Others can	he listed here					
DESCRIPTION	Pilot Description: For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purch by directly investing in the biogas upgrading equipment (required to p analysis of potential GHG reductions from a portfolio of RNG purchase	produce pipeline-quality RNG) fo									
BESONI HON	Overview of Program/ Implementation Approach: CenterPoint Energy would likely issue a request for proposals (RFP) froterms.	om RNG project developers. The	RFP process wou	uld help CenterPoint Ei	nergy to maximize cos	st-effectiveness by	building a port	ifolio of RNG purchases from a variety	y of projects and under customized contract		
	Other Comments / Information:										
	For the purposes of this analysis, assumes offtake from developer or o	other entity, not capital investme	ent from CNP.								
KEY PILOT-SPECIF	IC INDITS:										
KETTIEOT-01 EOII	10 HV 010.										
	Pilot Year	Year 1		Year 2	Year 3	Year 4	Year 5				
	Calendar Year		2024	2025	2026	2027	2028	3			
	Participating Units, Size A			10,000				Dekatherms of gas purchased as offtake in s	single year. Incremental units added, annual (not cumulative).		
	Participating Units, Size B			20,000				Note this represents the annual PNG (Dth/u	rear) that will be purchased through a multi-year agreement (project life defined below) starting in this year.		
	Participating Units, Size C	III in a land	ul	100,000				note, and represents the trinital rive (Bay)	car and the parameter arrough a make year agreement (project the defined below) starting in this year.		
	Calculations & Other Explanation:	Units above are to annual dek					of the hudget t	o be for low-carbon fuels, like RNG an	ad Hydrogen)		
	Salediatione & Striet Explanations	oizes are placeriolder assumpti	ons to snow a ra	inge of KNO parchase	volumes (NGIA rules in	equire at least riail	or the budget t	o be for low carbon rue a, like kind an	ia riyatogen <i>j.</i>		
		Year 1		Year 2	Year 3	Year 4	Year 5				
NUMBER OF	Cumulative RNG Supply (Dth/year), Size A Cumulative RNG Supply (Dth/year), Size B		-	10,000	10,000	10,000	10,000				
PARTICIPANTS			-	20,000	20,000	20,000	20,000				
	Cumulative RNG Supply (Dth/year), Size C		-	100,000	100,000	100,000	100,000				
	Assumed Number of GHG Verifications Required, Size A		0	1	1	1		1			
	·										
	Assumed Number of GHG Verifications Required, Size B		0	2	2	2	2	2 Uncertain how many RNG projects v	would be needed, conservatively assuming multiple verifications.		
	Assumed Number of CHC Varifications Required Size C		0	3	3	3		D. I.I			
	Assumed Number of GHG Verifications Required, Size C		U	3	3	3	3	Uncertain how many RNG projects v	would be needed, conservatively assuming multiple verifications.		
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_		
	Annual Total Utility Incremental Cost, Size A	\$	12,250 \$	491,051				total cost per year	These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility  Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any		
	Annual Total Utility Incremental Cost, Size B	\$	12,250 \$	973,422		992,348			Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made		
	Annual Total Utility Incremental Cost, Size C	2	12,250 \$	4,603,586	\$ 4,637,309 \$	4,663,197	\$ 4,687,758	total cost per year	on select pilots.		
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
	Fixed O&M Cost, Size A	\$	12,250 \$	491,051				total cost per year	Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally		
	Fixed O&M Cost, Size B	\$	12,250 \$	973,422		992,348		total cost per year	Incentives, and Workforce Development of Market Transformation Cost		
	Fixed O&M Cost, Size C	\$	12,250 \$	4,603,586	\$ 4,637,309 \$	4,663,197	\$ 4,687,758	total cost per year			
				V6	V 2	V	v	110D (111-1) 0			
	Total Project Delivery Size A	Year 1	12,250 \$	Year 2 490.736	Year 3 \$ 499,927 \$	Year 4 502.867	Year 5 \$ 505,685	USD (Nominal) Cost Unit:	Total internal and external project delivery		
	Total Project Delivery, Size A Total Project Delivery, Size B	\$	12,250 \$	973,218					Total internal and external project delivery		
	Total Project Delivery, Size B	\$	12,250 \$	4,603,308					<del> </del>		
		<u> </u>		,,,	, ,	, / - /	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	11.			
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u>_</u>		
	Internal Project Delivery, Size A	\$	12,250 \$	4,996				per year	CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.		
	Internal Project Delivery, Size B	\$	12,250 \$	3,237							
	Internal Project Delivery, Size C	\$	12,250 \$	4,406	\$ 12,996 \$	13,386	\$ 13,787	per year			
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
	External Project Delivery, Size A	\$	- \$	485.740 \$				per year	External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the		
	External Project Delivery, Size A  External Project Delivery, Size B	\$	- \$	969,980			\$ 983,794	per year per year	Utility "Fixed O&M Cost" category above.		
	External Project Delivery, Size C	\$	- \$	4,598,902			\$ 4,673,970				
	• •		1.7			73					

	•							
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u></u>
	Advertising and Promotions, Size A	\$	- \$ 315		\$ - \$	<u>-</u>	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B Advertising and Promotions, Size C	\$	- \$ 204 - \$ 278		\$ - 3	\$ - \$ -	per year per year	
	reason doing and 1 fornotions, ones o			*		•	F /	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A Allocation of General Portfolio Costs, Size B						per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B						per year per year	
	Allocation of deficial fortions costs, size o						por your	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u></u>
	Trade Ally Incentives, Size A	\$	- \$ -	T	\$ - \$	•	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B Trade Ally Incentives, Size C	\$	- \$ - - \$ -	•	\$ - \$		per year per year	
	Trade Ally Incentives, oize o	•	Ψ	Ψ	14	Ψ	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u></u>
	Workforce Development or Market Transformation Cost, Size A	\$		\$ -	\$ - \$	<u>-</u>	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B Workforce Development or Market Transformation Cost, Size C	\$	- \$ - - \$ -	Ψ	\$ - 3	*	per year per year	<del></del>
	Workforce Development of Market Transformation Cost, Size C	Ψ	- 9	Ψ -	Ψ - 4	ρ -	per year	
UTILITY PILOT COSTS		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
COSIS	Other Fixed O&M Cost, Size A	\$	- \$ -	\$ -	\$ - 9	-	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B Other Fixed O&M Cost, Size C	\$	- \$ -	\$ -	\$ - \$	- 8	per year	
	Other Fixed Oxim Cost, Size C	3	- 5 -	Φ -	2 - 1	<b>-</b>	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$	- \$ -	\$ -	\$ - \$	\$ -	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly
	Total utility capital investment, Size B	\$	- \$ -	*	\$ - \$	•	per year	feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$	- \$ -	\$ -	\$ - \$	5 -	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$ -		\$ - 9		per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$ -	\$ -	\$ - 9	-	per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$ -	\$ -	\$ - 3	5 -	per year	wall as the utility's return on investment
			USD (Nominal) Cost					
		Total	Unit:					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$	- per year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per year					expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per year					
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	- \$ -	\$ -	\$ - \$	-	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B Incentives, Size C	\$	- \$ -	\$ -	\$ - 9	<u> </u>	per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	incentives, Size C	4	- 5 -	<b>Ф</b> -	2 - 1	<b>D</b> -	per year	customer descrit held equinment expersion locantives will be used in the Participant Cost tests for the NGIA evaluation
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	#DIV/O!	\$ -	#DIV/O!	#DIV/O!	#DIV/O!	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	#DIV/0! #DIV/0!	\$ - \$ -	#DIV/0! #DIV/0!	#DIV/O! #DIV/O!	#DIV/0!	per participant per year	
	Incentives per Participant, Size C	#DIV/O!	-	#DIV/0!	#DIV/U!	#DIV/O!	per participant per year	
	Calculations & Other Explanation:							
		Year 1	Year 2	Year 3	Year 4	Year 5	_	
	RNG Contract Purchase Cost		50.00 \$ 50.00				per Dth (1 Dth = 1 MMBtu)	
	Geologic Gas Cost Incremental Fuel Cost		5.41 \$ 5.13 44.59 \$ 44.87				per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge-
	Incremental Fuel Cost - Average over Contract Life (based or							
	contract start year)		45.38 \$ 45.49	\$ 45.57	\$ 45.62 \$	\$ 45.64	1 per Dth	Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.
			40.05 4/0.1 ( 110.1 1					
	M-RETS RTC On-going Registration Costs	a .	\$0.05 \$/Dth, for all Dth produce	ed each year				
	M-RETS RTC Upfront Registration Costs	3:	\$1,500 One time upfront					
			<u> </u>					
	Escalation rate in gas commodity costs	z	-5.250% -5.250%	-5.250%	-5.250%	-5.250	%	
	Project Verification Costs	s:	\$35,000 \$/year	Green-E or other c	ost for project GHG veri	ification		
	·				, ,			
	Total Billiot Hafarant Courts Circ. A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	*	454 \$ 455 454 \$ 455				per participant per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	I Otal I not Opitolit Costs, size b	Ψ					per participant per participant	covered by utility incentives, nor include utility program admin costs.
	Total Pilot Upfront Costs, Size C	\$	454 \$ 455					
	Total Pilot Upfront Costs, Size C	\$	454 \$ 455	<del>y                                    </del>				
	· ·	Year1	454 \$ 455 Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
TOTAL AND	Third Party Funding, Size A	Year 1					USD (Nominal) Cost Unit:	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference it's not used to calculate any of the NSIA evaluation criteria.
TOTAL AND	Third Party Funding, Size A Third Party Funding, Size B	Year 1 \$					USD (Nominal) Cost Unit: per participant per participant	If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
TOTAL AND DIRECT PARTICIPANT	Third Party Funding, Size A	Year 1 \$ \$ \$ \$ \$ \$					USD (Nominal) Cost Unit:	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.

	This section does not apply to all pilot types. The GHG emissions (per unit of participation).	changes from	decreased natural gas and/or	electricity cor	nsumption will be cald	culated based on valu	ues above. However	, for pilots whe	ere NGIA requires lifecyc	le GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity Savings, Size A	_	Year 1		Year 2	Year 3	Year 4	Year 5	-	
	Low Expected			98.95	98.95	98.95	98.95	98.95	kg CO2e/participant kg CO2e/participant kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will
	High Lifecycle GHG Intensity Savings, Size B	L	Year 1		Year 2	Year 3	Year 4	Year 5	_kg CO2e/participant	be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA plans.
	Low Expected			98.95	98.95	98.95	98.95		kg CO2e/participant	
	High								kg CO2e/participant	
	Lifecycle GHG Intensity Savings, Size C Low		Year 1	98.95	Year 2	Year 3	Year 4	Year 5	kg CO2e/participant	
	Expected High	E E	or RNG pilots (where the units of partic		96.90	96.95	96.90	96.90	kg CO2e/participant	
LIFECYCLE GHG INTENSITY BY PROJECT SIZE		E F E	th of RNG purchased) the above value he lifecycle emission reduction achieva NG purchase (calculated as the differ etween the carbon intensity score calc RREET for this pilot, vs. the GREET emiss or geologic natural gas combustion).	s represent ed per Dth of ence culated from						
	Calculations & Other Explanation:			GHG Inter	ocity	77	nese values represent the	carbon intensity	for this project/archatype as c	alculated by ICF using GREET. Some default assumptions from GREET have been updated to better reflect typical expectations for RNG projects
			Size A	kg CO2e/	Size B	Size C in	Minnesota (e.g. GHG inte	nsity of electricity	supply), use of combined hea	be required for specific projects as they are chosen (based on assumed project designs, and later updated for actual operating conditions).
	Low Scenario Expected Scenario			(33)	(33)	(33) AI	lso note that GREET's rule	s for carbon acco	unting (which NGIA legislation r	equires CenterPoint to follow) differ from California's Low-Carbon Fuel Standard (LCFS) in a number of areas, meaning that these scores can
	High Scenario					lo	ok quite different than Ca	alifornia LCFS Carb	oon Intensity scores.	
			kg CO2e/Dth							
	Default Geologic Gas Emissions Factor			66.14						
	RNG GHG factor, updated for grid mix factors 2025, 203	O, and 2035 kg CO2e/Dth	Pilot Lifetime Average			period, using 2030 2 grid mix u: -36.17	2034-2038 period, sing 2035 grid mix -36.41			
OTHER BILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in C	IP Calculator):								
PEAK	Peak Reduction Factor	ir Calculator):			e estimated average annual st and Non Participant Cost			d to be 1% for ener	gy efficiency pilots. The method	If or other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
REDUCTION FACTOR	Calculations & Other Explanation:									
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Un	
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes		\$	0.05 \$	0.05	\$ 0.04 \$	0.04	\$ 0.04	per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-tor-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility.
VARIABLE O&M	Calculations & Other Explanation:	Г	Year 1		Year 2	Year 3	Year 4	Year 5	T	Cost and Non Participant Cost tests for the NGIA evaluation criteria.
	Es	calation rate		-5.250%	-5.250%	-5.250%	-5.250%	-5.250%	(for each pilot analysis y	(PBT)  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 t
					D (Nominal) Cost					
NON-GAS FUEL	Non-Gas (i.e., Electric) Fuel Cost		\$	44.14 pe	r MM/h	The CIP methodology is use	ed for all resources other	than strategic ele	ctrification. The method for stra	tegic electrification should be considered in the context of specific utility pilot proposals. Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
COST	Calculations & Other Explanation:				,	equal to the average or dail	y rear-une mai market i	ocational marginal	prices (Livii ) at the Millinesota	nuu nun vanua y t 2022 tu betenuen 9t 2022 usaig uata 11011 milumest independent system Operatus (milos)
	Non-Gas Fuel Loss Factor			8.22%						tegic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted
NON-GAS FUEL LOSS FACTOR	Calculations & Other Explanation:	_		_	•	average of the most recent	ioss factors reported by	minnesota Power,	. хсеі Energy, and Otter Tail Pov	rer's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales

	•											
	Other Non-GHG Pollutants, Size A	\$		0.37 per		calculated by inflating to	he Commission's approve	d dollar per ton env	ironmental cost values using escalation rate to	adjust by observed inflation	between 2014 and 202	amission). The factors are reported in 2021 dollars in Table 2 below, which we 21. Stakeholders expressed a preference for allowing utilities to select differe
THER NON-	Other Non-GHG Pollutants, Size B	\$		0.37 per	Dth	externality values for pil	lots targeting specific geo nt use a high value rather t	graphies or popula han the median. Ut	tions. For example, an energy efficiency project ilities can make deviations such as these in the	that targets an urban area r ir NGIA plans if they can pro	night use the urban vali vide iustification for the	ue rather than the metropolitan fringe value. Similarly, a project targeting a l change. Instead of requiring the use of median metropolitan fringe values
GHG DLLUTANTS	Other Non-GHG Pollutants, Size C	\$		0.37 per	Dth	all non-GHG pollutants,	as shown in Table 1 of the	Commission's Janu	uary 3, 2018 Order in Docket No. E0999/CI-14-6	43, utilities may use the value	most applicable for the	e pilot or measure.
	Calculations & Other Explanation:											
	Canculations & Other Explanation.											
										Remainder of proje	ct	
			Year 1		Year 2	Year 3	Year 4	Year 5	Total during 5 program years	life		Utilities should consider both jobs created by proposed pilots a
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B			0		1 1	l l		1	5	4 # of jobs 8 # of jobs	jobs that may be eliminated by proposed pilots.
	Net Direct Job Creation, Size C			0		6 6	5 5		5	22 :	# of jobs	
										Remainder of proje	ct	
NET JOB CREATION			Year 1		Year 2	Year 3	Year 4	Year 5	Total during 5 program years	life		
	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B			0		2 1	1 3		1		9 # of jobs 18 # of jobs	Utilities should consider both jobs created by proposed pilots a jobs that may be eliminated by proposed pilots.
	Net Indirect Job Creation, Size C			0		13 13	12		12		# of jobs	
										Remainder of proje	•	
			Year 1		Year 2	Year 3	Year 4	Year 5	Total during 5 program years	life	ct	
	Net Induced Job Creation, Size A			0		1 1	1		1	3	5 # of jobs	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
	Public Co-Benefits, Size A	\$		- \$		\$ -	\$ -	\$ -	per year	Quantifiable in some cas Qualitative Consideration	es. If this metric isn't que section below	uantifiable, there is space for any qualitative comments in the Additional
PUBLIC CO- BENEFITS	Public Co-Benefits, Size B Public Co-Benefits, Size C	\$		- \$	-	\$ -	\$ -	\$ -	per year per year	Quantative Consideration	b occion below.	
	·			<u> </u>								
	Calculations & Other Explanation:											
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
	Water Pollution, Size A	\$	Year 1	- \$			Year 4	Year 5	USD (Nominal) Cost Unit:			
WATER	Water Pollution, Size B	\$	Year 1	- \$ - \$				Year 5	per year per year		ic isn't quantifiable, the	y costs and benefits on water pollution. This might be quantifiable for some or e is space for any qualitative comments in the Additional Qualitative
		\$ \$	Year 1	-			\$ -	Year 5  \$ - \$ -	per year	the projects. If this metr	ic isn't quantifiable, the	
	Water Pollution, Size B	\$ \$	Year 1	-			\$ -	Year 5  \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
WATER POLLUTION	Water Pollution, Size B Water Pollution, Size C	\$	Year1	-			\$ -	Year 5 - \$ - \$	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:	\$ \$	Year 1	-			\$ -	Year 5 \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA	Water Pollution, Size B Water Pollution, Size C	\$	Year1	-			\$ -	Year 5	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:	\$ \$ \$	Year1	-			\$ -	Year 5 - \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA  IA Utility  spective	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:	\$ \$ \$	Year1	-			\$ -	Year 5 - \$ \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA  A Utility  spective	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation: ALITATIVE CONSIDERATIONS:	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA  A Utility  rspective  tes:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA  A Utility  spective  es:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DOITIONAL QUA  SIA Utility  rspective  stes:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DITIONAL QUA  IA Utility  spective  (es:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
DITIONAL QUA IA Utility spective tes:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
DITIONAL QUALA UVILLA U	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
POLLUTION  DOITIONAL QUA  SIA Utility  Inspective  stinition:  SIA  Intricipants'  Inspective	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the	\$ \$ \$	Year1	-			\$ -	Year 5 \$ - \$ - \$ -	per year per year	the projects. If this metr	ic isn't quantifiable, the	
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DITIONAL QUA A Utility spective. es:  A ticipants' spective. es:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.	ective, with respe	ect to the direct effe	- \$ - \$	- - - be quantifiable an	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	per year per year per year	the projects. If this metr Considerations section b	ic isn't quantifiable, the	e is space for any qualitative comments in the Additional Qualitative
DITIONAL QUALA QUA	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.	ective, with respe	ect to the direct effe	- \$ - \$	- - - be quantifiable an	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	per year per year per year	the projects. If this metr Considerations section b	ic isn't quantifiable, the	e is space for any qualitative comments in the Additional Qualitative
POLLUTION  DOITIONAL QUI SIA Utility. rspective tess:  finition:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.	ective, with respe	ect to the direct effe	- \$ - \$	- - - be quantifiable an	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	per year per year per year	the projects. If this metr Considerations section b	ic isn't quantifiable, the	e is space for any qualitative comments in the Additional Qualitative
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OILLUTION  DITIONAL QU'A Utility, spective es:  A dicipants' spective es:  mition:  A participating tomers' spective	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.  It is expected that many of the elements of the participant perspective quantifiable. For example, increased comfort in a home and health.	ective, with respe benefits from p	ect to the direct effe	- \$ - \$	- - - be quantifiable an	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	per year per year per year	the projects. If this metr Considerations section b	ic isn't quantifiable, the	e is space for any qualitative comments in the Additional Qualitative
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DITIONAL QUI LA Utility spective tes:  LA tticipants' spective tes:	Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:  ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.  It is expected that many of the elements of the participant perspective quantifiable. For example, increased comfort in a home and health.	ctive, with respe benefits from p	ect to the direct effe	- \$ - \$	- - - be quantifiable an	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	per year per year per year	the projects. If this metr Considerations section b	ic isn't quantifiable, the	

Effects on Othe
Energy Systems
and Energy
Security:
Definition:

NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.

Company will give preference to fuel made in MN that will reduce import from outside of MN

#### GHG Emissions Notes:

Definition:

An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.

#### Other Pollution

Notes: Definition:

Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.

Dairy manure projects can have local water quality, odor benefits

#### Waste Reduction and Reuse Notes:

Definition:

Waste reduction, reuse, and anaerobic digestion are goals of the

NGIA. Includes reduction of water use.

dairy projects all make a useful product from waste

#### Policy Notes:

Definition:

NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and

increased use of renewable resources.

Reduces fossil gas throughput; increases use of renewable energy

#### Net Job Creation

Notes:

An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be

efinition: eliminated by proposed pilots

#### <u>Economic</u> Development Notes:

The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training apportunities would provide additional economic benefits.

#### <u>Public Co-</u> Benefits Notes:

There may be public benefits for certain pilots. For example the NGIA is intended to help support wastewater treatment and prognics recycling. This category could also include odar effects on Minnesota communities — either reductions in unpleasant odors or increased odor.

	problems.
Market Development Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
<u>Direct</u> <u>Innovation</u> <u>Support Notes:</u> Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for Company to learn about purchasing RNG
Resource Scalability and Role in a Decarbonized System Notes: Definition:	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.  Realistic pathways to decarbonization include RNG

Ì∠ ∕ICF	CNP05 - RNG Archetype - Food Waste	Click here to go back to the list of all pilot	<u>ts</u>				NGIA Pilot Profiles Workbook		
	Pilot Project Code:	CNP05							
	Pilot Project Name: Customer Class/ Sector:	RNG Archetype - Food Waste C&I & Res	_						
	Low-Income Community Benefit?	N							
	Target Area:	Territory-wide					<u> </u>		
	Primary Innovative Resource Category:	Renewable Natural Gas (RNG)	Select primary Innovatio	n Category. Others can b	ne listed here:				
	Pilot Description: For Pilots 3-6, the 'RNG Archetypes', CenterPoint Energy would purch directly investing in the biogas upgrading equipment (required to produpotential GHG reductions from a portfolio of RNG purchases.								
DESCRIPTION									
	Overview of Program/ Implementation Approach: CenterPoint Energy would likely issue a request for proposals (RFP) fro	om RNG project developers. The RFP proces:	s would help CenterPoint E	nergy to maximize cost-e	ffectiveness by buildi	ng a portfolio of	RNG purchases from a variety of proj	jects and under customized contract terms.	
	Other Comments / Information:								
	For the purposes of this analysis, assumes offtake from developer or c	other entity, not capital investment from CNI	Р.						
KEY PILOT-SPECII	FIC INPUTS:								
	Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5			
	Calendar Year	202		2026	2027	2028			
	Participating Units, Size A		10,000				Dekatherms of gas purchased as offtake in	single year. Incremental units added, annual (not cumulative).	
	Participating Units, Size B Participating Units, Size C		220,000 500,000				Note, this represents the annual RNG (Dth/y	year) that will be purchased through a multi-year agreement (pr	oject life defined below) starting in this year.
		Units above are to annual dekatherms of	f RNG supply (shown only	for the year supply con	tract starts)			,	
	Calculations & Other Explanation:	Sizes are placeholder assumptions to sho	w a range of RNG purchase	volumes (NGIA rules requ	uire at least half of the	budget to be to	r low-carbon fuels, like RNG and Hydi	rogen).	
		Year 1	Year 2	Year 3	Year 4	Year 5			
NUMBER OF PARTICIPANTS	Cumulative RNG Supply (Dth/year), Size A Cumulative RNG Supply (Dth/year), Size E	-	10,000 220,000	10,000 220,000	10,000 220,000	10,000 220,000			
TAICHOILAICIS	Cumulative RNG Supply (Dtr) year), Size C		500,000	500,000	500,000	500,000			
	Assumed Number of GHG Verifications Required, Size A	:	0 1	1	1	1			
	Assumed Number of GHG Verifications Required, Size B	:	0 2	2	2	2	Uncertain how many RNG projects v	would be needed, conservatively assuming multiple	verifications.
	Assumed Number of GHG Verifications Required, Size C	:	0 3	3	3	3	Uncertain how many RNG projects v	would be needed, conservatively assuming multiple	verifications.
	Annual Total Utility Incremental Cost, Size A	Year 1 12,250	Year 2	Year 3 \$ 239,927 \$	Year 4 242,867	Year 5	USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count against to	ne NGIA budget cap for this measure and will be used in the Utility
	Annual Total Utility Incremental Cost, Size B	\$ 12,250		\$ 4,305,484 \$	4,361,970	\$ 4,415,522	total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation	n criteria. This is the sum of utility admin costs to run pilot, any
	Annual Total Utility Incremental Cost, Size C	\$ 12,250	\$ 9,591,929	\$ 9,714,560 \$	9,842,441	\$ 9,963,640	total cost per year	incentive funding to support project deployment, and/or th on select pilots.	e utility's annual revenue requirement for capital investments made
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:		
	Fixed O&M Cost, Size A	\$ 12,250	\$ 231,051	\$ 239,927 \$	242,867	\$ 245,685	total cost per year	Fixed O&M Cost is the result of adding up Total Project Del	ivery, Advertising and Promotions, Utility Administration, Trade Ally
	Fixed O&M Cost, Size B	\$ 12,250				\$ 4,415,522	total cost per year	Incentives, and Workforce Development of Market Transfor	nation Cost
	Fixed O&M Cost, Size C	\$ 12,250	9,591,929	\$ 9,714,560 \$	9,842,441	\$ 9,963,640	total cost per year		
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:		
	Total Project Delivery, Size A	\$ 12,250			242,867		per year	Total internal and external project delivery	
	Total Project Delivery, Size B Total Project Delivery, Size C	\$ 12,250 \$ 12,250			4,361,970 9,842,441	\$ 4,415,522 \$ 9,963,640	per year per year		
	, , , , , , , , , , , , , , , , , , , ,							<del></del>	
	Internal Project Delivery, Size A	Year 1 \$ 12,250	Year 2 3 \$ 4,996	Year 3 \$ 12,996 \$	Year 4 13,386	Year 5	USD (Nominal) Cost Unit: per year	CNP staff. These costs are sub-set of the Utility "Fixed O&N	Cost" category above
	Internal Project Delivery, Size A Internal Project Delivery, Size B	\$ 12,250			13,386		per year per year	on stan. These costs are sub-set of the office Prixed Own	our caregor, above.
	Internal Project Delivery, Size C	\$ 12,250			13,386	\$ 13,787	per year		
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:		
	External Project Delivery, Size A		\$ 225,740		229,481	\$ 231,897	per year	External vendor costs would include direct install costs who	re CNP reimburses the vendor. These costs are sub-set of the
	External Project Delivery, Size B	·	\$ 4,234,784		4,348,584	\$ 4,401,735	per year	Utility "Fixed O&M Cost" category above.	
	External Project Delivery, Size C	<b>3</b> -	\$ 9,568,510	\$ 9,701,564 \$	9,829,055	\$ 9,949,852	per year		

Year 1

Year 2

Year 3

Year 4

Year 5 USD (Nominal) Cost Unit:

	Advertising and Promotions, Size A	\$	- \$ 315	5 \$ - \$	- 1:	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$	- \$ 2,245		- :	- per year	
	Advertising and Promotions, Size C	\$	- \$ 1,389	\$ - \$	- :	per year	
	Allered and Control Production Control Control	Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size A Allocation of General Portfolio Costs, Size B					per year per year	Share of portionio level costs, including plan development costs, regulatory costs, and general portionio costs
	Allocation of General Portfolio Costs, Size B					per year	
			· ·			7	
		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	
	Trade Ally Incentives, Size A	\$		\$ - \$	- :	- per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	*	\$ - \$	- :	- per year	
	Trade Ally Incentives, Size C	\$	- \$ -	\$ - \$	-   :	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	
	Workforce Development or Market Transformation Cost, Size A	¢	- ¢ -	¢ _ ¢	10al 4	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	- \$ -	\$ - \$	- :	per year	
	Workforce Development or Market Transformation Cost, Size C	\$	- \$ -	\$ - \$	- :	- per year	
UTILITY PILOT			·				
COSTS		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	
	Other Fixed O&M Cost, Size A	\$	- \$ -	\$ - \$	- :	- per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B Other Fixed O&M Cost, Size C	\$	- \$ -	\$ - \$	- :	- per year	
	Other Fixed Oxim Cost, Size C	\$	-  3 -	2 - 2	-	- per year	
		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	
	Total utility capital investment, Size A	\$		\$ - \$	- 1	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly
	Total utility capital investment, Size B	\$	- \$ -	\$ - \$	- :	per year	feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$	- \$ -	\$ - \$	- :	per year	requirement resulting from these capital investments (shown below).
		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	
	Est. Annual Revenue Requirement for Capital Projects, Size A Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$ -	\$ - \$	- 1	- per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$ -	\$ - \$	_ ;	- per year - per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. / Illinda Novolido Noquilo Norio Sapital 1 Tojoto, 6120 0		, u			por your	wall as the utility's ratum on investment
			USD (Nominal) Cost				
		Total	Unit:	_			
	Est. Total Revenue Requirement for Capital Projects, Size A	\$	- per year				The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per year				reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per year				
		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	•
	Incentives, Size A	\$	- \$ -	\$ - \$	- ;	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	\$	- \$ -	\$ - \$	- :	- per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size C	\$	- \$ -	\$ - \$	- :	per year	cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation.
	Incentives per Participant, Size A	Year 1 #DIV/O!	Year 2	Year 3 #DIV/O!	Year 4	Year 5 USD (Nominal) Cost Unit #DIV/O! per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size A Incentives per Participant, Size B	#DIV/0!	\$ -	#DIV/O!	#DIV/0! #DIV/0!	#DIV/0! per participant per year #DIV/0! per participant per year	incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size C	#DIV/0!	\$ -	#DIV/0!	#DIV/0!	#DIV/O! per participant per year	
			1				
	Calculations & Other Explanation:						
		Year 1	Year 2	Year 3	Year 4	Year 5	
	RNG Contract Purchase Cost: Geologic Gas Cost:		24.00 \$ 24.00 5.41 \$ 5.13				
	Incremental Fuel Cost:		5.41 \$ 5.13 18.59 \$ 18.87		19.40		Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of geo
	Incremental Fuel Cost - Average over Contract Life (based on		ю.55 ф ю.67	ψ 15.14 ψ	15.40	10.04 per 201	basing costs to civil off the incremental cost, since tive of take contacts will reduce the volumes of geo
	contract start year)		19.38 \$ 19.49	\$ 19.57 \$	19.62	\$ 19.64 per Dth	Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract
						•	, 3 3, 17, 1
	M-RETS RTC On-going Registration Costs	:	\$0.05 \$/Dth, for all Dth produ	iced each year			
			#1500 O				
	M-RETS RTC Upfront Registration Costs:		\$1,500 One time upfront				
	Escalation rate in gas commodity costs:		-5.250% -5.2509	% -5.250%	-5.250%	-5.250%	
	Essential in gas sommounty source		0.200%	0.20070	0.20070	0.200%	
	Project Verification Costs	:	\$35,000 \$/year	Green-E or other cost f	for project verification		
	Tatal Bilat Hafrant Costs Sins A	Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	\$	194 \$ 195 194 \$ 195	5 \$ 196 \$ 5 \$ 196 \$	196	196 per participant 196 per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Total Pilot Upfront Costs, Size C	\$	194 \$ 195		196	\$ 196 per participant	covered by utility incentives, nor include utility program admin costs.
						E Paraopara	
		Year 1	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit	
		Φ.	- \$ -	\$ - \$	- !	per participant	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here
	Third Party Funding, Size A	\$				per participant	for reference, it's not used to calculate any of the NGIA evaluation criteria.
TOTAL AND	Third Party Funding, Size B	\$	- \$ -	\$ - \$			
DIRECT	Third Party Funding, Size B Third Party Funding, Size C	\$	- \$ - - \$ -	\$ - \$ \$ - \$	- !	per participant  per participant	
DIRECT PARTICIPANT	Third Party Funding, Size B	\$	- \$ - - \$ -	\$ - \$	-		
DIRECT	Third Party Funding, Size B Third Party Funding, Size C	\$ \$ Veer1	- \$ - - \$ -	\$ - \$ \$ - \$	Year 4	per participant	
DIRECT PARTICIPANT	Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:	\$ \$ \$ Year 1	- \$ \$ Year 2 - \$ -	Year 3	Year 4	year 5 USD (Nominal) Cost Univ	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
DIRECT PARTICIPANT	Third Party Funding, Size B Third Party Funding, Size C	\$ \$ Year 1 \$ \$	- \$ \$ \$ \$ \$ \$ \$ \$		Year 4	per participant	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for
DIRECT PARTICIPANT	Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A	Year 1 \$ \$ \$ \$	- \$		Year 4	Year 5 USD (Nominal) Cost Unit per participant	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives

	Calculations & Other Explanation:	Escalation rate	Year 1	3.82%	Year 2 3.82%	Year 3 6 3.82%	Year 4	Year 5	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index availab
		Escalation rate	Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most
PARTICIPANT NON-ENERGY COSTS	Participant Non-Energy Costs, Size A  Participant Non-Energy Costs, Size B  Participant Non-Energy Costs, Size C		\$	- \$ - \$	-	\$ - \$ \$ - \$		- \$ -	per participant per year of pilot life  per participant per year of pilot life  per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Cost will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Calculations & Other Explanation:	Escalation rate	Year 1	3.82%	Year 2 3.82%	Year 3 6 3.82%	<b>Year 4</b> 3.8	Year 5 2% 3.82	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index avail from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most
	Participant Non-Energy Savings, Size A		Year 1	- 4	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	This includes any operating savings like water savings.
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size B Participant Non-Energy Savings, Size C		\$	- \$	-	\$ - \$		- \$ -	per participant per year of pilot life per participant per year of pilot life per participant per year of pilot life	
	Calculations & Other Explanation:									
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:			10 years	rs					
ENERGY SAVINGS: AVG. Dth/	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:		Changes in natural gas consu	O Dth/i	/Participant /Participant /Participant oduction are already	y factored into Carbon Inte	ensity through GRE	ET calculations (av	oiding double counting them here).	
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C			0 kWh	n/Participant n/Participant n/Participant	Units are kWh; could technical	ly be other non-NG. Av	rg. Non-Gas Fuel Units/	Part. Saved will be used in the Participant Cost t	tests for the NGIA evaluation criteria.
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size I Avg. Additional Non-Gas Fuel Units/Part.Used, Size I Avg. Additional Non-Gas Fuel Units/Part.Used, Size I Calculations & Other Explanation:	В	Changes in electricity consu	O kWh,	n/Participant n/Participant n/Participant				Cost tests for the NGIA evaluation criteria.	
	Concorditions & Other Explanation.								iding double counting them here).	
Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:		Year 1	0.00 0.00 0.00	Year 2 0.00 0.00 0.00			0.0	Dth DDth Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a give
	Grid Mix Scenario		NREL			Select one of the listed grid m	nix scenarios taking into	account that:		
GRID MIX SCENARIO	Calculations & Other Explanation:	,				•Otilities shall use electric-utilit	ty-specific generation i	mix information for the		bly available. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation hisher renovation of eathors free electricity than is available by riefault from their electric utility-either from on-site enerate
	This section does not apply to all pilot types. The Gi (per unit of participation).	HG changes from	n decreased natural gas and	or electricity consu	umption will be ca	lculated based on values	above. However,	for pilots where N	GIA requires lifecycle GHG savings (e.	.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG emissio
	Lifecycle GHG Intensity Savings, Size A		Year 1		Year 2	Year 3	Year 4	Year 5		

	Low						kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural
	Expected High		115.79	115.79	115.79		kg CO2e/participant kg CO2e/participant	Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will
		Year 1	Year 2	Year 3	Year 4	Year 5	ng 0020/participant	be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA plans.
	Lifecycle GHG Intensity Savings, Size B Low	Year I		Year 3			kg CO2e/participant	
	Expected High		115.79	115.79	115.79		kg CO2e/participant kg CO2e/participant	
		Year 1						
	Lifecycle GHG Intensity Savings, Size C Low	Year 1	Year 2	Year 3	Year 4	Year 5	kg CO2e/participant	
	Expected High		115.79	115.79	115.79	115.79	kg CO2e/participant kg CO2e/participant	
		For RNG pilots (where the units of participation  Dth of RNG purchased) the above values rep.					ng 0020/participant	
LIFECYCLE GHG		the lifecycle emission reduction achieved per RNG purchase (calculated as the difference						
INTENSITY BY PROJECT SIZE		between the carbon intensity score calculate GREET for this pilot, vs. the GREET emission for						
		for geologic natural gas combustion).						
	Calculations & Other Explanation:		GHG Intensity		These values represent the carbo	on intensity for this p	project/archetype, as calculated by	r ICF using GREET. Some default assumptions from GREET have been updated to better reflect typical expectations for RNG projects in
		Size A	Size B kg CO2e/Dth				se of combined heat and power o	
	Low Scenario							for specific projects as they are chosen (based on assumed project designs, and later updated for actual operating conditions).
	Expected Scenario High Scenario		(50) (50)	(50)	Also note that GREET's rules for c different than California LCFS Car	arbon accounting (w rbon Intensity scores	vhich NGIA legislation requires Cer s.	terPoint to follow) differ from California's Low-Carbon Fuel Standard (LCFS) in a number of areas, meaning that these scores can look quite
		1 000 (5.1						
	Default Geologic Gas Emissions Factor	kg CO2e/Dth	66.14					
			2024-2028 period,	period, using 2030	2034-2038 period			
	RNG GHG factor, updated for grid mix factors 2025, 2030, and 2035	Pilot Lifetime Average	using 2025 grid mix	grid mix	using 2035 grid mix			
	kg CO2e/Dt	h -	-49.65 -44.30	-53.17	-53.42			
	ng 0020/30							
	Ng 0020/03							
	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato	r):						
OTHER PILOT-SPE	•	r):				1% for energy efficie	ency pilots. The method for other i	nnovetive resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost
OTHER PILOT-SPE  PEAK  REDUCTION	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor	r);	1% The estimated average annual and Non Participant Cost tes			1% for energy efficie	ency pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost
OTHER PILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato	r):				1% for energy efficie	ency pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost
OTHER PILOT-SPE  PEAK  REDUCTION	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor		and Non Participant Cost tes	ts for the NGIA evaluation o	criteria.			nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost
OTHER PILOT-SPE  PEAK  REDUCTION	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:	Year 1	and Non Participant Cost tes Year 2	ts for the NGIA evaluation of	criteria. Year 4	Year 5	USD (Nominal) Cost Unit:	
OTHER PILOT-SPE  PEAK  REDUCTION	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes	Year 1	and Non Participant Cost tee  Year 2  0.05 \$ 0.05	Year 3	Year 4 \$ 0.04	Year 5		The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the Utility Cost to the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable OAM will be used in the Utility.
OTHER PILOT-SPE PEAK REDUCTION FACTOR	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:	Year 1	and Non Participant Cost tes Year 2	ts for the NGIA evaluation of	criteria. Year 4	Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the KNGA evaluation criteria.
OTHER PILOT-SPE PEAK REDUCTION FACTOR	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes	Year 1 \$ Year 1	and Non Participant Cost tee  Year 2  0.05 \$ 0.05	Year 3 Year 3	Year 4 \$ 0.04	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to
OTHER PILOT-SPE PEAK REDUCTION FACTOR	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:	Year 1 \$ Year 1	Year 2	Year 3 Year 3	Year 4  Year 4  Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit: per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM mill be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.  Annual Escalation Real calculated using the average percent change in the price of natural gas between 2023 through 2027 to
OTHER PILOT-SPE PEAK REDUCTION FACTOR	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:	Year 1 \$ Year 1	Year 2	Year 3 Year 3	Year 4  Year 4  Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit: per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM mill be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.  Annual Escalation Real calculated using the average percent change in the price of natural gas between 2023 through 2027 to
OTHER PILOT-SPE  PEAK REDUCTION FACTOR  VARIABLE OSM	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:	Year 1 \$ Year 1	Year 2	Year 3 \$ 0.04 Year 3 -5.250%	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.
OTHER PILOT-SPE PEAK REDUCTION FACTOR  VARIABLE OSM	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost	Year 1 \$ Year 1	Year 2	Year 3 \$ 0.04 Year 3 -5.250%	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the KIOIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2033 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook
OTHER PILOT-SPE  PEAK REDUCTION FACTOR  VARIABLE OSM	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:  Escalation rat	Year 1 \$ Year 1	Year 2	Year 3 \$ 0.04 Year 3 -5.250%	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.
OTHER PILOT-SPE  PEAK REDUCTION FACTOR  VARIABLE OSM	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost	Year 1 \$ Year 1	Year 2	Year 3 \$ 0.04 Year 3 -5.250%	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.250%	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook.
OTHER PILOT-SPE PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost	Year1 \$ Year1 =5	Year 2	Year 3 \$ 0.04  Year 3  The CIP methodology is u equal to the average of di	Year 4  Year 4  Year 4  -5.250%  seed for all resources other than saily real-time final market location	Year 5 \$ 0.04  Year 5  -5.250%  strategic electrificational marginal prices (strategic electrificational marginal prices)	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year  on. The method for strategic elect.  MP) at the Minnesota Hub from J  on. The method for strategic elect.	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease C&M costs as they also need to be transported to customers on the distribution system. Variable C&M will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  iffication should be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
OTHER PILOT-SPE  PEAK REDUCTION FACTOR  VARIABLE OGM  NON-GAS FUEL COST	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost Calculations & Other Explanation:  Non-Gas Fuel Loss Factor	Year1 \$ Year1 =5	Year 2	Year 3 \$ 0.04  Year 3  The CIP methodology is u equal to the average of di	Year 4  Year 4  Year 4  -5.250%  seed for all resources other than saily real-time final market location	Year 5 \$ 0.04  Year 5  -5.250%  strategic electrificational marginal prices (strategic electrificational marginal prices)	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year  on. The method for strategic elect.  MP) at the Minnesota Hub from J  on. The method for strategic elect.	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease 0.6M costs as they also need to be transported to customers on the distribution system. Variable 0.6M will be used in the Utility Cost and Non Participant Cost tests for the KNIGN evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Fnergy Information Administration's 2023 Annual Energy Outlook.  illication should be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
OTHER PILOT-SPE  PEAK REDUCTION FACTOR  VARIABLE OGM  NON-GAS FUEL COST	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	Year1 \$ Year1 =5	Year 2	Year 3 \$ 0.04  Year 3  The CIP methodology is u equal to the average of di	Year 4  Year 4  Year 4  -5.250%  seed for all resources other than saily real-time final market location	Year 5 \$ 0.04  Year 5  -5.250%  strategic electrificational marginal prices (strategic electrificational marginal prices)	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year  on. The method for strategic elect.  MP) at the Minnesota Hub from J  on. The method for strategic elect.	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease C&M costs as they also need to be transported to customers on the distribution system. Variable C&M will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  iffication should be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
OTHER PILOT-SPE PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost Calculations & Other Explanation:  Non-Gas Fuel Loss Factor Calculations & Other Explanation:	Year1 \$ Year1 =5	Year 2	Year 3 \$ 0.04  Year 3  The CIP methodology is u equal to the average of di	Year 4  Year 4  Year 4  -5.250%  seed for all resources other than saily real-time final market location	Year 5 \$ 0.04  Year 5  -5.250%  strategic electrificational marginal prices (strategic electrificational marginal prices)	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year  on. The method for strategic elect.  MP) at the Minnesota Hub from J  on. The method for strategic elect.	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease C&M costs as they also need to be transported to customers on the distribution system. Variable C&M will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  iffication should be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
OTHER PILOT-SPE  PEAK REDUCTION FACTOR  VARIABLE OGM  NON-GAS FUEL COST	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost Calculations & Other Explanation:  Non-Gas Fuel Loss Factor Calculations & Other Explanation:	Year1 \$ Year1 =5	Year 2	Year 3 \$ 0.04  Year 3  The CIP methodology is u equal to the average of di	Year 4  Year 4  Year 4  -5.250%  seed for all resources other than saily real-time final market location	Year 5 \$ 0.04  Year 5  -5.250%  strategic electrificational marginal prices (strategic electrificational marginal prices)	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year  on. The method for strategic elect.  MP) at the Minnesota Hub from J  on. The method for strategic elect.	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-rhydrogen and RNG may not decrease C&M costs as they also need to be transported to customers on the distribution system. Variable C&M will be used in the Utility Cost and Non Participant Cost tests for the NGM evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy Information Administration's 2023 Annual Energy Outlook  iffication should be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
OTHER PILOT-SPE PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:  Escalation rat  Non-Gas (i.e., Electric) Fuel Cost Calculations & Other Explanation:  Non-Gas Fuel Loss Factor Calculations & Other Explanation:	Year1 \$ Year1 =5	Year 2	Year 3 \$ 0.04  Year 3  -5.250%  The CIP methodology is u equal to the average of di	Year 4  Year 4  Year 4  -5.250%  Jean di resources other than saily real-time final market location all resources other than so response for all resources other than sors reported by Minnesota Power,	Year 5  Year 5  -5.250%  strategic electrificational marginal prices (to trategic electrificational xitrategic electrificational xitrategic electrification X. Xcel Energy, and On	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year on. The method for strategic elect LMP) at the Minnesota Hub from J on. The method for strategic elect ter Tail Power's reported 2021 tra	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-thydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the PIGIA evaluation retries.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all users in the West North Central Region as estimated in the Energy information Administration's 2023 Annual Energy Outlook  iffication should be considered in the context of specific utility pilot proposals.  anuary 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  iffication should be considered in the context of specific utility pilot proposals. In the most recent CIP. Staff used the weighted average of ramission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales
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	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year1 0	15	Year 3	Year 4	Year 5	6	
NET JOB CREATION	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C	Year 1 0 2 2		Year 3  0  8 18	Year 4  0  8 17	Year 5		
	Net Induced Job Creation, Size A	Year1 0	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of project life 2 3 # of jobs
	Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C	Year 1	\$ - \$	Year 3 5 - \$ 5 - \$ 6 - \$	Year 4	\$ -	USD (Nominal) Cost Unit:  per year  per year  per year	Quantifiable in some cases. For example, when a utility pays a municipality for RNG produced from wastewater treatment but may be qualitative in other situations. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below
PUBLIC CO- BENEFITS								Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative
	Calculations & Other Explanation:							Considerations section below.
	Water Pollution, Size A Water Pollution, Size B Water Pollution, Size C	Year 1 \$ - \$ - \$ -	Year 2 \$ - \$ \$ - \$ \$ - \$	Year 3 \$ - \$ \$ - \$	Year 4	Year 5	USD (Nominal) Cost Unit: per year per year per year	The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. Methodology is TBD. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.
WATER POLLUTION	Water Pollution, Size B						per year per year	the projects. Methodology is TBD. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional
	Water Pollution, Size B						per year per year	the projects. Methodology is TBD. If this metric sin't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below  The legislation left the door open to quantify any costs and benefits on water pollution. This might
POLLUTION	Water Pollution, Size B Water Pollution, Size C						per year per year	the projects. Methodology is TBD. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below  The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations

It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.

Definition:

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	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should
Definition:	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Economic Development	
Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.
Public Co- Benefits Notes:	
Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.
Market Development	
Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
<u>Direct</u>	
Innovation Support Notes:	
Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for Company to learn about purchasing RNG
<u>Resource</u>	
Scalability and Role in a Decarbonized	
System Notes: Definition:	
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.
	Realistic pathways to decarbonization include RNG

NZ		Click here to go back to the list	of all pilots					NGIA Pilot Profiles Workbook	
ŽÍĆF	CNPO6 - RNG Archetype - Landfill Gas	Ī							
· ICF	**	Lauras							
	Pilot Project Code: Pilot Project Name:	CNP06  RNG Archetype - Landfill Gas							
	Customer Class/ Sector:	C&I & Res							
	Low-Income Community Benefit?	N							
	Target Area:	Territory-wide							
	Primary Innovative Resource Category:	Renewable Natural Gas (RNG)	S	Select primary Innovation	Category. Others can	be listed here:			
	Plat Barrelon								
	Pilot Description: For Pilots 3-6, the "RNG Archetypes", CenterPoint Energy would purc	hasa BNG - including the common	dity and anying	anmontal attributor - from	m multiple BNG produc	nore that have dove	alanad BNG pro	singte uning a variety of foodstacks	CND may also support BNG project development
	by directly investing in the biogas upgrading equipment (required to								
	analysis of potential GHG reductions from a portfolio of RNG purcha-								
DESCRIPTION									
	Overview of Program/ Implementation Approach:								
	CenterPoint Energy would likely issue a request for proposals (RFP) f	rom RNG project developers. The	RFP process v	vould help CenterPoint Er	nergy to maximize cos	t-effectiveness by	building a porti	folio of RNG purchases from a varie	ety of projects and under customized contract
	terms.		,		. 6,	,	0.1		7
	Other Comments / Information:								
	For the purposes of this analysis, assumes offtake from developer or	other entity, not capital investme	nt from CNP.						
KEY PILOT-SPECI	CIFIC INPUTS:								
	Pilot Year	Year 1		Year 2	Year 3	Year 4	Year 5	_	
	Calendar Year		2024	2025 128.750	2026	2027	2028		in single year. Incremental units added, annual (not cumulative).
	Participating Units, Size A Participating Units, Size B			200,000				Ť .	
	Participating Units, Size C			900,000				Note, this represents the annual RNG (Dt	h/year) that will be purchased through a multi-year agreement (project life defined below) starting in this year.
		Units above are to annual deka						_	
	Calculations & Other Explanation:	Sizes are placeholder assumption	ons to show a	range of RNG purchase v	volumes (NGIA rules re	quire at least half o	of the budget to	be for low-carbon fuels, like RNG	and Hydrogen).
		Year 1		Year 2	Year 3	Year 4	Year 5		
NUMBER OF	Cumulative RNG Supply (Dth/year), Size	A	-	128,750	128,750	128,750	128,750		
PARTICIPANTS	Cumulative RNG Supply (Dth/year), Size	В	-	200,000	200,000	200,000	200,000		
	Cumulative RNG Supply (Dth/year), Size	C	-	900,000	900,000	900,000	900,000		
	Assumed Number of GHG Verifications Required, Size	A:	0	1	1	1		1	
	Assumed Number of GHG Verifications Required, Size I	р.	0	2	2	2		) Hannatain haw many DNC assista	s would be needed, conservatively assuming multiple verifications.
	Assumed Number of Grid Verifications Required, Size i	ь:	U	2	2	2	2	oncertain now many kind project	s would be needed, conservatively assuming multiple verifications.
	Assumed Number of GHG Verifications Required, Size (	C:	0	3	3	3	3	Uncertain how many RNG project	s would be needed, conservatively assuming multiple verifications.
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Annual Total Utility Incremental Cost, Size A	Year 1	12,250			Year 4 1,522,330		USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility
	Annual Total Utility Incremental Cost, Size B	Year 1	12,250	\$ 1,511,345 \$ \$ 2,290,716 \$	1,489,111 \$ 2,321,622 \$	1,522,330 2,373,008	\$ 1,553,837 \$ 2,421,728	total cost per year total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
		Year 1 \$ \$		\$ 1,511,345 \$ \$ 2,290,716 \$	1,489,111 \$ 2,321,622 \$	1,522,330 2,373,008	\$ 1,553,837	total cost per year total cost per year	
	Annual Total Utility Incremental Cost, Size B	\$ \$	12,250	\$ 1,511,345 \$ \$ 2,290,716 \$ \$ 9,980,273 \$	1,489,111 \$ 2,321,622 \$ 10,191,812 \$	1,522,330 2,373,008 10,421,685	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521	total cost per year total cost per year total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made
	Annual Total Utility Incremental Cost, Size B	Year 1 \$ \$ Year 1 \$ \$	12,250 : 12,250 :	\$ 1,511,345 \$ 2,290,716 \$ 9,980,273 \$ Year 2 \$ 1,511,345 \$	1,489,111 \$ 2,321,622 \$ 10,191,812 \$  Year 3 1,489,111 \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837	total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B	\$ \$	12,250 : 12,	\$ 1,511,345 \$ 2,290,716 \$ 9,980,273 \$ Year 2 \$ 1,511,345 \$ 2,290,716 \$	1,489,111 \$ 2,321,622 \$ 10,191,812 \$  Year 3 1,489,111 \$ 2,321,622 \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728	total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C Fixed O&M Cost, Size A	\$ \$	12,250 : 12,250 :	\$ 1,511,345 \$ 2,290,716 \$ 9,980,273 \$ Year 2 \$ 1,511,345 \$ 2,290,716 \$	1,489,111 \$ 2,321,622 \$ 10,191,812 \$  Year 3 1,489,111 \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837	total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B	Year 1 \$ \$ \$ \$	12,250 : 12,	\$ 1,511,345 \$ \$ 2,290,716 \$ \$ 9,980,273 \$  Year 2 \$ 1,511,345 \$ \$ 2,290,716 \$ \$ 9,980,273 \$	1,489,111 \$ 2,321,622 \$ 10,191,812 \$  Year 3 1,489,111 \$ 2,321,622 \$ 10,191,812 \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521	total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B	\$ \$	12,250 : 12,	\$ 1,511,345   \$ \$ 2,290,716   \$ \$ 9,980,273   \$  Year 2 \$ 1,511,345   \$ \$ 2,290,716   \$ \$ 9,980,273   \$  Year 2	i 1,489,111 \$ 2,321,622 \$ i 10,191,812 \$  Year 3  Year 3	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5	total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year total cost per year USD (Nominal) Cost Unit:	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B	Year 1 \$ \$ \$ \$	12,250   12,	\$ 1,511,345   \$ \$ 2,290,716   \$ \$ 9,980,273   \$  Year 2 \$ 1,511,345   \$ \$ 2,290,716   \$ \$ 9,980,273   \$  Year 2 \$ 1,507,290   \$ \$ 2,288,675   \$ \$ 2,288,675   \$	1,489,III   \$   2,321,622   \$   \$   \$   \$   \$   \$   \$   \$   \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728	total cost per year total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: per year per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed OGM Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A	Year 1 \$ \$ \$ \$	12,250 : 12,	\$ 1,511,345   \$ \$ 2,290,716   \$ \$ 9,980,273   \$  Year 2 \$ 1,511,345   \$ \$ 2,290,716   \$ \$ 9,980,273   \$  Year 2 \$ 1,507,290   \$ \$ 2,288,675   \$ \$ 2,288,675   \$	1,489,III   \$   2,321,622   \$   \$   \$   \$   \$   \$   \$   \$   \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837	total cost per year total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: per year per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed OGM Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	12,250   12,	\$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,511,345   \$ 9,980,273   \$ Year 2   \$ 1,507,290   \$ 2,288,675   \$ 9,977,773   \$	i 1.489,III \$ 2,321,622 \$ 10,191,812 \$  Year 3 1,489,III \$ 2,321,622 \$ 10,191,812 \$  Year 3 1,489,III \$ 2,321,622 \$ 10,191,812 \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521	total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: per year per year per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed OGM Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C	Year 1 \$ \$ \$ \$	12,250 12	\$ 151345   \$ \$ 2.290,716   \$ \$ 9,980,273    Year 2 \$ 151345   \$ \$ 2.290,716   \$ \$ 9,980,273    Year 2 \$ 1,507,290   \$ \$ 2.288,675   \$ \$ 9,977,773    Year 2	1489.III \$ 2,321,622 \$ 10,191,812 \$  Year 3 1489.III \$ 1499.III \$ 1499.II \$ 1499.III \$ 1499.II \$ 1499.III \$ 1499.III \$ 1499.II \$ 1	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5	total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit:	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost  Total internal and external project delivery
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	12,250   12,	\$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,507,290   \$ 2,288,675   \$ 9,977,773   \$ Year 2   \$ 64,322   \$ 32,371   \$ \$ 32,371   \$ \$ \$ 32,371   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,489,III   \$   2,321,622   \$   10,191,812   \$   1489,III   \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 13,787	total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: per year per year per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed OGM Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	12,250   12,	\$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,507,290   \$ 2,288,675   \$ 9,977,773   \$ Year 2   \$ 64,322   \$ 32,371   \$ \$ 32,371   \$ \$ \$ 32,371   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,489,III   \$   2,321,622   \$   10,191,812   \$   1489,III   \$	1,522,330 2,373,008 10,42(685) Year 4 1,522,330 2,373,008 10,42(685) Year 4 1,522,330 2,373,008 10,42(685) Year 4	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 13,787 \$ 13,787	total cost per year total cost per year total cost per year total cost per year usb (Nominal) Cost Unit: total cost per year total cost per year total cost per year usb (Nominal) Cost Unit: per year per year per year usb (Nominal) Cost Unit: per year usb (Nominal) Cost Unit: per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.    Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost    Total internal and external project delivery
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	12,250   12,	\$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,511,345   \$ 9,980,273   \$ Year 2   \$ 1,507,290   \$ 2,288,675   \$ 9,977,773   \$ Year 2   \$ 64,322   \$ 64,322   \$ 32,371   \$ \$ 39,655   \$ \$	1.489,III   \$   \$   \$   \$   \$   \$   \$   \$   \$	1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 1,522,330 2,373,008 10,421,685 Year 4 13,386 13,386 13,386	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 1,553,837 \$ 2,421,728 \$ 10,639,521 Year 5 \$ 13,787 \$ 13,787	total cost per year total cost per year total cost per year total cost per year utotal cost per year total cost per year usb (Nominal) Cost Unit: per year per year USD (Nominal) Cost Unit: per year per year per year per year per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.    Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost    Total internal and external project delivery
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size B Internal Project Delivery, Size B Internal Project Delivery, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	12,250   12,	\$ 1513.45   \$ \$ 2.290,716   \$ \$ 9,980,273    Year 2 \$ 1513.45   \$ \$ 2.290,716   \$ \$ 9,980,273    Year 2 \$ 1,507,290   \$ \$ 2.288,675   \$ \$ 9,977,773    Year 2 \$ 64,322   \$ \$ 32,371   \$ \$ 39,655   \$	1489,III   8   2,321,622   5   10,191,812   5   1489,III   8   1489,III   8   1499,III   8   1	1522,330 2,373,008 10,42(685 Year 4 1522,330 2,373,009 10,42(685 Year 4 1522,330 10,42(685 Year 4 13,386 13,386 13,386 Year 4	\$ 1,553,837 \$ 2,421,728 \$ 1,653,837 \$ 1,553,837 \$ 1,653,837 \$ 1,653,837 \$ 1,653,837 \$ 1,787 \$ 13,787 \$ 13,787 \$ 13,787	total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year total cost per year  USD (Nominal) Cost Unit: per year per year  USD (Nominal) Cost Unit: per year USD (Nominal) Cost Unit: per year USD (Nominal) Cost Unit:	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive landing to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delivery. Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O&M Cost' category above.
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	12,250   12,	\$ 1,511,345   \$ 2,290,716   \$ 9,980,273   \$ Year 2   \$ 1,511,345   \$ 9,980,273   \$ Year 2   \$ 1,507,290   \$ 2,288,675   \$ 9,977,773   \$ Year 2   \$ 64,322   \$ 32,371   \$ 39,655   \$ Year 2   \$ 32,371   \$ \$ 39,655   \$ \$ \$ 39,655   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,489,III   \$   1,489,III   \$   \$   \$   \$   \$   \$   \$   \$   \$	1522,330 2,373,008 10,42(685 Year 4 1522,330 2,373,009 10,42(685 Year 4 1522,330 10,42(685 Year 4 13,386 13,386 13,386 Year 4	\$ 1,553,837 \$ 2,421,728 \$ 10,639,521	total cost per year total cost per year total cost per year total cost per year utotal cost per year total cost per year total cost per year total cost per year total cost per year USD (Nominal) Cost Unit: per year per year USD (Nominal) Cost Unit: per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.    Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost    Total internal and external project delivery

									<del></del>
	External Project Delivery, Size C	\$	- \$	9,938,118	\$ 10,178,816 \$	10,408,299	\$ 10,625,734	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Advertising and Promotions, Size A	\$	- \$	4,055	\$ - \$	-	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$	- \$	2,041		-	\$ -	per year	
	Advertising and Promotions, Size C	\$	- \$	2,500	\$ - \$	-	\$ -	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A	fear I		rear 2	rears	rear 4	rearo	per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B	-						per year	
	Allocation of General Portfolio Costs, Size C							per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size A Trade Ally Incentives, Size B	\$	- \$ - \$	-	\$ - \$	-	\$ -	per year per year	ir applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size C	\$	- \$	-	\$ - \$	-	\$ -	per year	
	nado / my moonavoo, oleo o	·			*		*	ps. /ss.	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u></u>
	Workforce Development or Market Transformation Cost, Size A	\$	- \$	-			\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	- \$	-	Ψ Ψ	-	\$ -	per year	
	Workforce Development or Market Transformation Cost, Size C	\$	- \$	-	\$ - \$	-	<b>5</b> -	per year	
UTILITY PILOT		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
COSTS	Other Fixed O&M Cost, Size A	\$	- \$	-		-	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$	- \$	-	\$ - \$	-	\$ -	per year	
	Other Fixed O&M Cost, Size C	\$	- \$	-	\$ - \$	-	\$ -	per year	
		V		V0	V 0	V 4	V	1100 (11	
	Total utility capital investment, Size A	Year 1	- \$	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly
	Total utility capital investment, size A	\$	- \$	-		-	\$ -	per year per year	feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size C	\$	- \$	-	, ,	-	\$ -	per year	requirement resulting from these capital investments (shown below).
								,	<u> </u>
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$	-	\$ - \$	-	\$ -	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$ - \$	-	- \$	-	\$ -	per year per vear	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	est. Affilial Revenue Requirement for Capital Projects, Size C	3	- 5	-	<b>5</b> -   <b>5</b>	=	Φ -	per year	well as the utility's return on investment
			USD (No	minal) Cost					
		Total	Unit:	,					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$	- per year						The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and decreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B	\$	- per year						expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per year						,
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	- \$	-	\$ - \$	-	\$ -	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	\$	- \$	-	\$ - \$	-	\$ -	per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size C	\$	- \$	-	\$ -  \$	-	\$ -	per year	customer doesn't hold equipment ownership Incentives will be used in the Participant Cost tests for the NIGIA evaluation
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
				rear z					<del></del>
	Incentives per Participant, Size A			-			#DIV/OI	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size A Incentives per Participant, Size B	#DIV/0!	\$	-	#DIV/O! #DIV/O!	#DIV/0! #DIV/0!	#DIV/0! #DIV/0!	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C			- -	#DIV/O! #DIV/O! #DIV/O!	#DIV/O! #DIV/O!	#DIV/0! #DIV/0! #DIV/0!	per participant per year per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/0! #DIV/0!	\$	- - -	#DIV/O!	#DIV/O!	#DIV/0!	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	#DIV/0! #DIV/0! #DIV/0!	\$ \$	- - -	#DIV/O! #DIV/O!	#DIV/O! #DIV/O!	#DIV/O! #DIV/O!	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	#DIV/0! #DIV/0! #DIV/0! Year 1	\$ \$		#DIV/0! #DIV/0! Year 3	#DIV/0! #DIV/0! Year 4	#DIV/O! #DIV/O! Year 5	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> RNG Contract Purchase Cost:	#DIV/O! #DIV/O! #DIV/O! Year1	\$ \$	16.00	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$	#DIV/0! #DIV/0! Year 4	#DIV/O! #DIV/O! Year 5 \$ 16.00	per participant per year per participant per year per Dth (1 Dth = 1 MMBtu)	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	#DIV/OI #DIV/OI #DIV/OI Year1 \$	\$ \$		#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ 4.86 \$	#DIV/0! #DIV/0! Year 4	#DIV/O! #DIV/O! Year 5 \$ 16.00 \$ 4.36	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.  Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost - Average over Contract Life (based on	#DIV/OI #DIV/OI #DIV/OI Year1 \$	16.00 \$ 5.41 \$ 10.59 \$	16.00 5.13 10.87	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/0! #DIV/0! Year 4 16.00 4.60 11.40	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost:	#DIV/OI #DIV/OI #DIV/OI Year1 \$	\$ \$ \$ 16.00 \$ 5.41 \$	16.00 5.13	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/0! #DIV/0! Year 4 16.00 4.60	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth	
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost Contract Life (based on	#DIV/OI #DIV/OI #DIV/OI Year1 \$	16.00 \$ 5.41 \$ 10.59 \$	16.00 5.13 10.87	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/0! #DIV/0! Year 4 16.00 4.60 11.40	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost - Average over Contract Life (based on	#DIV/OI #DIV/OI #DIV/OI Year1 \$	16.00 \$ 5.41 \$ 10.59 \$	16.00 5.13 10.87	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/0! #DIV/0! Year 4 16.00 4.60 11.40	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs:	#DIV/OI #DIV/OI #DIV/OI Year1 \$	16.00 \$ 5.41 \$ 10.59 \$ 11.38 \$ \$0.05 \$/Dth, fo	16.00 5.13 10.87 11.49 or all Dth produce	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/0! #DIV/0! Year 4 16.00 4.60 11.40	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost Contract Life (based on	#DIV/OI #DIV/OI #DIV/OI Year1 \$	16.00 \$ 5.41 \$ 10.59 \$	16.00 5.13 10.87 11.49 or all Dth produce e upfront	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/OI #DIV/OI Year 4 16.00 4.60 11.40	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	16.00 \$ 5.41 \$ 10.59 \$ 11.38 \$ \$0.05 \$/Dth, fo	16.00 5.13 10.87 11.49 or all Dth produce	#DIV/O! #DIV/O! Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$	#DIV/0! #DIV/0! Year 4 16.00 4.60 11.40	#DIV/0! #DIV/0! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	16.00 \$ 5.41 \$ 10.59 \$ 11.38 \$ \$0.05 \$/Dth, fo	16.00 5.13 10.87 11.49 or all Dth produce e upfront	#DIV/OI #DIV/OI Year 3 \$ 16.00 \$ \$ 4.86 \$ 11.14 \$ \$ 11.57 \$	#DIV/OI #DIV/OI Year 4 16.00 4.60 11.40	#DIV/O! #DIV/O! Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce e upfront -5.250%	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$ 11.57 \$ d each year	#DIV/OI #DIV/OI Year 4 16.00 4.60 11.40 11.62	#DIV/OI #DIV/OI Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	16.00 \$ 5.41 \$ 10.59 \$ 11.38 \$ \$0.05 \$/Dth, fo	16.00 5.13 10.87 11.49 or all Dth produce e upfront -5.250%	#DIV/OI #DIV/OI Year 3 \$ 16.00 \$ \$ 4.86 \$ 11.14 \$ \$ 11.57 \$	#DIV/OI #DIV/OI Year 4 16.00 4.60 11.40 11.62	#DIV/OI #DIV/OI Year 5 \$ 16.00 \$ 4.36 \$ 11.64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce e upfront -5.250%	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$ \$ 11.57 \$ d each year  -5.250%	#DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV #DIV/OI #	#DIV/OI #DIV/OI Year 5 \$ 16:00 \$ 4:36 \$ 11:64 \$ 11:64	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of ge
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce e upfront -5.250%	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ 4.86 \$ 11.14 \$ 11.57	#DIV/OI #DIV/OI Year 4 16.00 4.60 11.40 11.62	#DIV/OI #DIV/OI  Year 5 \$ 16.00 \$ 1.64 \$ 1.64  -5.250	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of get Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:  Project Verification Costs:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce 9 upfront -5.250%	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ 4.86 \$ 11.4 \$ 11.57	#DIV/OI #DIV/O	#DIV/OI #DIV/OI #DIV/OI \$ 16.00 \$ 1.64 \$ 1.6	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth  USD (Nominal) Cost Unit: per participant	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of gel Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost: Incremental Fuel Cost: M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs: Project Verification Costs:	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce e upfront -5.250%	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ 4.86 \$ 11.14 \$ \$ 11.57 \$ deach year  -5.250% Green-E or other cost for Year 3 \$ 116 \$	#DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV #DIV #DIV #DIV #DIV #DIV #DIV #DI	#DIV/OI #DIV/OI #DIV/OI \$ 16.00 \$ 1.64 \$ 1.6	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth  USD (Nominal) Cost Unit: per participant	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of get Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:  Project Verification Costs:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$ \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce e upfront -5.250% Year 2 115 115	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ \$ 4.86 \$ \$ 11.14 \$ \$ 11.57 \$ *** deach year  -5.250%  Year 3 \$ 116 \$ \$ 116 \$	#DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV #DIV/OI #	#DIV/OI #DIV/OI  Year 5 \$ 16.00 \$ 4.36 \$ 11.64  \$ 11.64  -5.250'  Year 5 \$ 116 \$ 116 \$ 116	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth  USD (Nominal) Cost Unit: per participant per participant per participant	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of gel Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:  Project Verification Costs:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce 9 upfront -5.250%	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ 4.86 \$ 11.4 \$ 11.57	#DIV/OI #DIV/O	#DIV/OI #DIV/OI  Year 5 \$ 16.00 \$ 11.64 \$ 11.64  -5.250  year 5 \$ 116 \$ 116  Year 5 \$ 116	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth  USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit:	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of gel Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
TOTAL AND	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost: Incremental Fuel Cost: M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs: Project Verification Costs:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$ \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce 9 upfront -5.250%  (9) Year 2 115 115 115 115 Year 2	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ 4.86 \$ 11.4 \$ 11.57	#DIV/OI #DIV/O	#DIV/OI #DIV/OI  Year 5 \$ 16.00 \$ 11.64 \$ 11.64  -5.250  year 5 \$ 116 \$ 116  Year 5 \$ 116	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth per Dth per Dth per Dth per participant per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of gel Assumes Incremental Cost from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
TOTAL AND DIRECT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  RNG Contract Purchase Cost: Geologic Gas Cost: Incremental Fuel Cost Incremental Fuel Cost - Average over Contract Life (based on contract start year):  M-RETS RTC On-going Registration Costs: M-RETS RTC Upfront Registration Costs: Escalation rate in gas commodity costs:  Project Verification Costs:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	#DIV/OI #DIV/OI #DIV/OI Year 1 \$ \$ \$ \$	\$   \$   \$   \$   \$   \$   \$   \$   \$   \$	16.00 5.13 10.87 11.49 or all Dth produce 9 upfront -5.250%  (9) Year 2 115 115 115 115 Year 2	#DIV/OI #DIV/OI  Year 3 \$ 16.00 \$ 4.86 \$ 11.4 \$ 11.57	#DIV/OI #DIV/O	#DIV/OI #DIV/OI  Year 5 \$ 16.00 \$ 11.64 \$ 11.64  -5.250  year 5 \$ 116 \$ 116  Year 5 \$ 116	per participant per year per participant per year  per Dth (1 Dth = 1 MMBtu) per Dth per Dth per Dth  USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit:	Basing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of getassing costs to CNP on the incremental cost, since RNG offtake contracts will reduce the volumes of getassing costs from year 5 is unchanged for remaining years of supply contract.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here

PARTICIPANT	Description of source of external funding:	-								_	
PILOT COSTS	-		Year 1		Year 2	Year	. 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Direct Participant Pilot Costs, Size A			\$		\$	- \$	-		per participant	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
	Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C		\$ -	\$	-	\$	- \$ - \$	-	\$ - \$ -	per participant per participant	are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note 1: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no unfront financial contribution from the participant
		Į.					_			ha ha a ha	untroot financial contribution from the narticinant
	Calculations & Other Explanation: Escala	ation rate	Year 1 3.82	2%	Year 2 3.83	Year 2%	3.82%	Year 4 3.82%	Year 5 3.82%	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
		ı						, t			available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
			Year 1		Year 2	Year	3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Participant Non-Energy Costs, Size A		\$ -	\$	-	\$	- \$	-	\$ -	per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
PARTICIPANT	Participant Non-Energy Costs, Size B		\$	\$	-	\$	- \$	-	\$ -	per participant per year of pilot life	
NON-ENERGY COSTS	Participant Non-Energy Costs, Size C		¢			¢			¢	per participant per year of pilot life	
COSTS	Participant Non-Energy Costs, Size C	l	<b>-</b>	φ	-	Φ	-   \$	=	<b>Ф</b> -	per participant per year of pilot life	1
	Calculations & Other Explanation:	ation rate	Year 1 3.82	nez I	Year 2 3.83	Year	3.82%	Year 4 3.82%	Year 5	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
	Escars	ation rate	3.02	2/0	3.0.	270	3.02%	3.02%	3.027	(for each pilot analysis year)	available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
			Year 1		Year 2	Year	. 2	Year 4	Year 5	USD (Nominal) Cost Unit:	
		ĺ	Teal I		rear z	Teal	3	rear 4	rears	OSD (Norminar) Cost Offic.	This includes any operating savings like water savings.
	Participant Non-Energy Savings, Size A		\$ -	\$	-	\$	- \$	-	\$ -	per participant per year of pilot life	
PARTICIPANT NON-ENERGY	Participant Non-Energy Savings, Size B		\$	\$	-	\$	- \$	-	\$ -	per participant per year of pilot life	
SAVINGS	Participant Non-Energy Savings, Size C		•	•		•	6		•	per participant per year of pilot life	
	Participant Non-Energy Savings, Size C	l	<b>-</b>	ų.		Φ	- J	-	<b>Ф</b> -	per participant per year of pilot life	<u>.</u>
	Calculations & Other Explanation:										
	Average Lifetime for Savings/Pilot Tech, Size A	ī		10 years							
	Average Lifetime for Savings/Pilot Tech, Size A  Average Lifetime for Savings/Pilot Tech, Size B			10 years 10 years							
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size C			10 years							
	Calculations & Other Explanation:										
NATURAL GAS	Avg. Dth/Participant Saved, Size A			O Dth/Pa							
ENERGY SAVINGS: AVG.	Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C			O Dth/Pa O Dth/Pa							
Dth/	Avg. Dtn/Participant Saved, Size C	l		U Dth/Pa	articipant						
PARTICIPANT SAVED	Calculations & Other Explanation:		Changes in natural gas consumption for	RNG produ	uction are alre	ady factored ir	nto Carbon In	tensity through GF	EET calculation	ns (avoiding double counting them her	e).
SAVED											
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B				articipant articipant	Units are kWh	; could technica	illy be other non-NG. A	vg. Non-Gas Fuel I	Units/Part. Saved will be used in the Participant	Cost tests for the NGIA evaluation criteria.
	Avg. Non-Gas Fuel Units/Part. Saved, Size C				articipant						
AVG. NON-GAS		[									
FUEL UNITS/	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A			0 kWh/P	articipant	Avg. Additions	al Non-Gas Fuel	Units/Part. Used will be	used in the Partic	cipant Cost tests for the NGIA evaluation criteri	9.
PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B			0 kWh/P	articipant						
	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C			0 6/4/6/0	articipant						
		Į									
	Calculations & Other Explanation:		Changes in electricity consumption for R	NG produ	iction are alrea	dy factored in	to Carbon Int	ensity through GR	ET calculation	s (avoiding double counting them here	a).
	Grid Mix Scenario		NREL			Select one of	the listed arid m	ix scenarios taking into	account that		
	and him occidino	ļ	·····CL	_						or the renewable natural gas facility when it is s	easonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific
GRID MIX SCENARIO						generation mi	x taken from Na	tional Renewable Fners	v I ahoratorv (NRF	Standard Scenarios If the renewable natural	easonably available, when electric dulity-specific mornation is not available, the limiting as dulity will use a state-specific eas facility is using a higher proportion of carbon free electricity than is available by default from their electric utility—either from
	Calculations & Other Explanation:										
		anges from	n decreased natural gas and/or electrici	ty consun	mption will be	calculated ba	sed on value	s above. However	for pilots whe	re NGIA requires lifecycle GHG savin	gs (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	emissions (per unit of participation).										
	Lifecycle GHG Intensity Savings, Size A		Year 1		Year 2	Year	3	Year 4	Year 5	_	
	Low	Į			-					kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural

	Expected High		53.35 53.3	5 53.35	53.35	53.35	kg CO2e/participant kg CO2e/participant	Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of plot programs and
	Lifecycle GHG Intensity Savings, Size B	Year 1	Year 2	Year 3	Year 4	Year 5	<del>-</del>	NGIA plans.
	Low Expected		53.35 53.3	5 53.35	53.35	53.35	kg CO2e/participant kg CO2e/participant	
	High						kg CO2e/participant	
	Lifecycle GHG Intensity Savings, Size C Low	Year 1	Year 2	Year 3	Year 4	Year 5	kg CO2e/participant	
	Expected High		53.35 53.3	5 53.35	53.35	53.35	kg CO2e/participant kg CO2e/participant	
LIFECYCLE GHG INTENSITY BY	1161	For RNG pilots (where the units of particips Dth of RNG purchased) the above values of the lifecycle emission reduction achieved if RNG purchase (calculated as the difference between the carbon intensity score calcula	epresent per Dth of e		I.		Tag 0029/participant	
PROJECT SIZE		GREET for this pilot, vs. the GREET emission for geologic natural gas combustion).						
	Calculations & Other Explanation:							
		Size A	GHG Intensity Size B	Size C	Inese values represent the in Minnesota (e.g. GHG inte	nsity of electricity	or this project/archetype, as calculated b supply), use of combined heat and powe	y ICF using GREET. Some default assumptions from GREET have been updated to better reflect typical expectations for RNG projects on-site vs. grid electricity, etc.
	Low Scenario		kg CO2e/Dth		Note that carbon intensities	s will vary by proje	ct, and GREET calculations will be required	for specific projects as they are chosen (based on assumed project designs, and later updated for actual operating conditions).
	Expected Scenario		13 13	3 13	Also note that GREET's rule:	s for carbon accou	nting (which NGIA legislation requires Ce	nterPoint to follow) differ from California's Low-Carbon Fuel Standard (LCFS) in a number of areas, meaning that these scores can look
	High Scenario				quite different than Californ	ia LCFS Carbon In	ensity scores.	
	Default Geologic Gas Emissions Factor	kg CO2e/Dth	66.14					
	Default Geologic das Emissions Factor		00.14					
	RNG GHG factor, updated for grid mix factors 2025, 2030, and 2035	Pilot Lifetime Average	2024-2028 period, using 2025 grid mix	period, using 2030 grid mix	2034-2038 period, using 2035 grid mix			
	kg CO2e/Dth	Thot Elletine Average	12.79 15.1		11.11			
OTHER BILOT CRE	ECIEIC BARAMETERS (formarly 'Ganaral Parameters' in CIR Calculate	~).						
OTHER PILOT-SPE	ECIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator	r):						
PEAK	EGIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator  Peak Reduction Factor	r):	1% The estimated average ann Cost and Non Participant C	nual effect of the project on Cost tests for the NGIA evalu	system peak. It is estimated ation criteria.	l to be 1% for ener	ry efficiency pilots. The method for other i	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
		r):	1% The estimated average ann Cost and Non Participant C	aual effect of the project on Cost tests for the NGIA evalu	system peak. It is estimated ation criteria.	l to be 1% for enen	y efficiency pilots. The method for other	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
PEAK REDUCTION	Peak Reduction Factor	r):	The estimated average ann Cost and Non Participant C	oual effect of the project on lost tests for the NGIA evalu	system peak. It is estimated ation criteria.	l to be 1% for enen	y efficiency pilots. The method for other	nnovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility
PEAK REDUCTION	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>	Year 1	Cost and Non Participant C  Year 2	ost tests for the NGIA evalu	etion criteria. Year 4	Year 5	USD (Nominal) Cost Unit:	
PEAK REDUCTION FACTOR	Peak Reduction Factor		Cost and Non Participant C  Year 2	ost tests for the NGIA evalu	etion criteria. Year 4	Year 5		The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM
PEAK REDUCTION	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>		Cost and Non Participant C  Year 2	ost tests for the NGIA evalu	etion criteria. Year 4	Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in
PEAK REDUCTION FACTOR	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u> Variable O&M Cost, Applies to all project sizes	Year1	Cost and Non Participant C  Year 2  0.05 \$ 0.05	Year 3 Year 3	Year 4 \$ 0.04	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	Year1	Year 2 0.05 \$ 0.05  Year 2 -5.250% -5.250%	Year 3 Year 3	Year 4 \$ 0.04 Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit: per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O.S.M costs as they also need to be transported to customers on the distribution system. Variable O.S.M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	Year1	Year 2  O.05 \$ O.05  Year 2	Year 3 Year 3	Year 4 \$ 0.04 Year 4	Year 5 \$ 0.04 Year 5	USD (Nominal) Cost Unit: per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O.S.M costs as they also need to be transported to customers on the distribution system. Variable O.S.M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	Year1	Year 2	Vear 3  Var 3  Vear 3  The CIP methodology is a	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.2509	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and KnO Participant Cost starts for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.
PEAK REDUCTION FACTOR VARIABLE O&M	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u> Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rate  Non-Gas (i.e., Electric) Fuel Cost	Year1	Year 2	Vear 3  Var 3  Vear 3  The CIP methodology is a	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.2509	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u> Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rate	Year1	Year 2	Vear 3  Var 3  Vear 3  The CIP methodology is a	Year 4 \$ 0.04 Year 4 -5.250%	Year 5 \$ 0.04 Year 5 -5.2509	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and KnO Participant Cost starts for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	Year1	Year 2	Year 3  Year 3  Year 3  Year 3  Year 3  The CIP methodology is equal to the average of d	Year 4 \$ 0.04 Year 4 -5.250%  used for all resources other final market to	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electronal marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic elect prices (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to distribution of the context of specific utility pilot proposals.  Sification should be considered in the context of specific utility pilot proposals.  Brown Midwest Independent System Operator (MISO)
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u> Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation rate  Non-Gas (i.e., Electric) Fuel Cost	Year1	Year 2	Year 3  Year 3  O.04  Year 3  The CIP methodology is a equal to the average of of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to	Year 4 \$ 0.04  Year 4  -5.250%  Jused for all resources other laily real-time final market to	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electional marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and KnO Participant Cost starts for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	Year1	Year 2	Year 3  Year 3  O.04  Year 3  The CIP methodology is a equal to the average of of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to	Year 4 \$ 0.04  Year 4  -5.250%  Jused for all resources other laily real-time final market to	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electional marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the Nolls evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Inflication should be considered in the context of specific utility pilot proposals. anuary 1 2022 to December 31 2022 using data from Midwest Independent System Operator (MISO)
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	Year1	Year 2	Year 3  Year 3  O.04  Year 3  The CIP methodology is a equal to the average of of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to	Year 4 \$ 0.04  Year 4  -5.250%  Jused for all resources other laily real-time final market to	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electional marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the Nolls evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Inflication should be considered in the context of specific utility pilot proposals. anuary 1 2022 to December 31 2022 using data from Midwest Independent System Operator (MISO)
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	Year1	Year 2	Year 3  Year 3  O.04  Year 3  The CIP methodology is a equal to the average of of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to	Year 4 \$ 0.04  Year 4  -5.250%  Jused for all resources other laily real-time final market to	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electional marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the Nolls evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Inflication should be considered in the context of specific utility pilot proposals. anuary 1 2022 to December 31 2022 using data from Midwest Independent System Operator (MISO)
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	Year1	Vear 2  O.05 \$ O.05  Year 2  -5.250% -5.250′  USD (Nominal) Cost Unit:  44.14 per MWh	Year 3  Year 3  O.04  Year 3  The CIP methodology is a equal to the average of of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to the average of the CIP methodology is a second to	Year 4 \$ 0.04  Year 4  -5.250%  Jused for all resources other laily real-time final market to	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electional marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the Nolls evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Inflication should be considered in the context of specific utility pilot proposals. anuary 1 2022 to December 31 2022 using data from Midwest Independent System Operator (MISO)
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	Year1	Year 2	Year 3  Year 3  Year 3  Year 3  Year 3  Year 3  The CIP methodology is used a control of the average of a control of the average of the most received and the control of the average of the most received and the control of the average of the most received and the control of the average of the most received and the control of the control	Year 4  \$ 0.04  Year 4  -5.250%  used for all resources other daily real-time final market is least for all resources other mit loss factors reported by	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electrocational marginal	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J  trification. The method for strategic electorices (LMP) and Otter Tail Power's report trification. The method for strategic electoric trification is a strategic electoric trification. The method for strategic electoric trification is a strategic electoric trification. The method for strategic electoric trification is a strategic electoric trification. The method for strategic electoric trification is a strategic electoric trification. The method for strategic electoric trification is a strategic electoric trification. The method for strategic electoric trification is a strategic electoric trification. The method for strategic electoric trification is a strategic elector trification is	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost stars for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate Calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate Calculated using the average percent change in the price of natural gas b
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	Year1	Vear 2  0.05 \$ 0.05  Vear 2  -5.250% -5.250'  USD (Nominal) Cost Unit:  44.14 per MWh  8.22%  USD Cost Unit:  0.37 per Dth	Year 3  Year 3  Year 3  Year 3  Year 3  Year 3  The CIP methodology is used a control of the average of a control of the average of a control of the average of the most received average of the most received average of the control of the average of the most received average of the most received average of the most received average of the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the attention to the average from calculated by inflating the average from calculated by the average from calculated by a calculated by the average from cal	Year 4  \$ 0.04  Year 4  -5.250%  Used for all resources other daily real-time final market lc.  Used for all resources other mit loss factors reported by  The CIP methodology. The fact of Commission's approved to stargeting specific geograp.	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electronal marginal than strategic electronal marginal tor is calculated us	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J  trification. The method for strategic electorices (LMP) at the Minnesota Hub from J  trification. The method for strategic electorices (LMP) and Otter Tail Power's report  trification. The method for strategic electoric scale line in the method for strategic electoric scale in the method for strategic electorics. The method for strategic electorics is trification. The method for strategic e	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost starts for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate Calculated using the provention of the price of natural gas between 2023 through 2027 to.  Annual Escalation Rate Calculated using the average percent change in the price of natural gas between 2023
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escalation rate  Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	Year1	Year 2	Vear 3  Vear 3  O.04  Vear 3  The CIP methodology is a equal to the average of of the most receive average of the most received average of the most re	Year 4 \$ 0.04  Year 4  Year 4  -5.250%  Jused for all resources other laily real-time final market to the lail resources other into	Year 5 \$ 0.04 Year 5 -5.2509 than strategic electronal marginal electronal marginal electronal marginal electronal marginal electronal electron	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)  trilication. The method for strategic elect prices (LMP) at the Minnesota Hub from J  trilication. The method for strategic elect Kcel Energy, and Otter Tail Power's report trilication. The method for strategic elect Kcel Energy, and Otter Tail Power's report trilication. The method for strategic elect Kcel Energy, and Otter Tail Power's report trilication. The method for strategic elect Kcel Energy, and Otter Tail Power's report trilication. The method for strategic elect Kcel Energy, and Otter Tail Power's report trilication and the strategic electrons are strategic electrons. The method for strategic electrons are strategic electrons are strategic electrons. The method for strategic electrons are strategic electrons are strategic electrons. The method for strategic electrons are strategic electrons. The method for strategic electrons are strategic electrons are strategic electrons. The method for strategic electrons are strategic electrons are strategic electrons. The method for strategic electrons are strategic electrons are strategic electrons are strategic electrons. The method for strategic electrons are strategic	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and fine Pericipant.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to decrease and the price of natural gas between 2023 through 2027 to decrease and the price of natural gas between 2023 through 2027 to decrease and the price of natural gas between 2023 through 2027 to decrease and the context of specific utility pilot proposals.  In 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  In 2023 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  In 2024 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  In 2024 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  In 2024 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  In 2024 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  In 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)

Calculations & Other Explanation:

	1							
		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of project life
	Net Direct Job Creation, Size A	rearr	1	4 4	4	Teal 5	4 1	8 27 # of jobs Utilities should consider both jobs created by proposed pilots and
	Net Direct Job Creation, Size B		0	17 17	17		17 6 33 13	
	Net Direct Job Creation, Size C		0 3	35 34	34		33   13	# of jobs
NET JOB CREATION		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of project
	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B		0	2 2	2		2	9 15 # of jobs Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
	Net Indirect Job Creation, Size C		0	19 18	18		18 7	73 130 # of jobs
								Remainder of project
		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	life
	Net Induced Job Creation, Size A		0	3 2	2			0 18 # of jobs
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Public Co-Benefits, Size A	\$	- \$ -	\$ -			per year	Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional
PUBLIC CO-	Public Co-Benefits, Size B	\$	- \$ -	\$ - :	\$ -	\$ -	per year	Qualitative Considerations section below.
BENEFITS	Public Co-Benefits, Size C	\$	- \$ -	\$ -	\$ -	\$ -	per year	
	Calculations & Other Explanation:							
	Water Pollution, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some o
	Water Pollution, Size B	\$	- \$ -	\$ -	\$ -	\$ -	per year	the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative
WATER POLLUTION	Water Pollution, Size C	\$	- \$ -	\$ - :	\$ -	\$ -	per year	Considerations section below.
	Calculations & Other Explanation:							
ADDITIONAL QUA	LITATIVE CONSIDERATIONS:							
NGIA Utility								
<u>Perspective</u>								
Notes:								
	It is expected that most of the utility perspective costs and benefits							
Definition:	will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.							
Delinition.	structural values and Cir quantification methods.							
NGIA								
NGIA Participants'								
Perspective Notes:								
Definition:	It is expected that many of the elements of the participant perspect	tive, with respect to the direct effect	of pilots, will be quantifiable an	d will rely on the structu	ral values. Add here a	nv informatic	on related to some direct effects of pilo	ts on participants that may not be easily
	quantifiable. For example, increased comfort in a home and health b							
NOIA								
NGIA Nonparticipating								
Customers'								
<u>Perspective</u>								
Notes:								
	As with the utility perspective, the direct effects of pilot programs							
	on non-participating customers should be quantified in most cases and can be heavily informed by structural values.							
Definition:	and can be heavily informed by structural values.  Provides widespread benefits to all sales customers							
	rrovides widespread benefits to all sales customers							
Effects on Other								
Energy Systems								
and Energy								
Security:								

	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.	
	effects on the escric system. Further, the NGA empowers the Commission to consider a wide variety of costs and benefits that may be expected under a plan, one of which is a reduction of reliance on imported resources and national fuel markets.  Company will give preference to fuel made in MN that will reduce import for outside of MN  Order o	
	Company will give preference to fuel made in Mix that will reduce in port norm outside or Mix	
GUG Emissions		
GHG Emissions Notes: Definition:		
Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality	
	values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.	
Other Pollution Notes: Definition:		
Notes:		
Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.	
	накев со поп-ама рошиот.	
<u>Waste</u>		
Reduction and		
Reuse Notes:		
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.	
Definition:	No.IA. Includes reduction of water use.	
Policy Notes:		
	NGIA is intended to help the state achieve certain environmental	
	policy goals including geologic gas throughput reduction and	
Definition:	increased use of renewable resources.	
	Reduces fossil gas throughput	
Net Job Creation		
Notes:		
	An innovation plan must include, as applicable, "projected local job	
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should	
	consider both jobs created by proposed pilots and jobs that may be	
Definition:	eliminated by proposed pilots.	
Economic Davidson		
<u>Development</u> <u>Notes:</u>		
Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or	
	training opportunities would provide additional economic benefits.	
Public Co-		
Benefits Notes:		
	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor	
	problems.	
Manhat		
Market Development		
Notes:		

Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized	
Direct Innovation Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for Company to learn about purchasing RNG	
Resource Scalability and Role in a Decarbonized System Notes: Definition:	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.  Realistic pathways to decarbonization include RNG	

Utility "Fixed O&M Cost" category above.

hese costs are sub-set of the Utility "Fixed O&M Cost" category above

#### Click here to go back to the list of all pilots NGIA Pilot Profiles Workbook フicf CNPO7 - Green Hydrogen Blending into Natural Gas Distribution System Pilot Project Code: CNP07 reen Hydrogen Blending into Natural Gas Distribution System Pilot Project Name: Customer Class/ Sector: C&I & Res Low-Income Community Benefit? Target Area: Primary Innovative Resource Category: Select primary Innovation Category. Others can be listed here: Pilot Description: CenterPoint Energy proposes to own and operate a 1 megawatt ("MW") green hydrogen plant at an existing Company facility in Mankato, Minnesota. DESCRIPTION Overview of Program/ Implementation Approach: CenterPoint Energy would own all components of installed system, including electrolyzer and PV systems. Estimated timeline for system design, planning and installation would be approximately 2 years. This represents a next phase in CenterPoint Energy's hydrogen production work, gaining experience using dedicated renewables to produce hydrogen and in turn drive down the costs of the blending projects. Other Comments / Information: Size A assumes no grid electricity used to supplement dedicated solar power input. Size B assumes grid electricity to power the electrolyzer when solar PV is not generating power. May still add a pilot size C to test using battery storage with increased solar PV capacity - which would allow running the electrolyzer at higher capacity factor than Size A (without, or with less grid electricity purchases). Some important details on IRA funding, and whether or not grid electricity can be used, have not been finalized. KEY PILOT-SPECIFIC INPUTS: Pilot Year Year 1 Year 2 Year 3 Year 4 Year 5 Calendar Year 2024 2025 2026 2027 2028 emental units added, annual (not cumulative) Participating Units, Size A Participating Units, Size B Participating Units, Size C Unit of Participation = Capacity of Electrolyzer (MW) Calculations & Other Explanation: NUMBER OF PARTICIPANTS Year 1 Year 2 Year 3 Year 4 Year 5 Cumulative Electrolyzer Capacity Installed (MW), Size A 1 Size A assumes no grid electricity used to supplement dedicated solar power input. Cumulative Electrolyzer Capacity Installed (MW), Size B 1 Size B assumes grid electricity to power the electrolyzer when solar PV is not generating power. Cumulative Electrolyzer Capacity Installed (MW), Size A Year 1 USD (Nominal) Cost Unit: Year 2 Year 3 Year 4 Year 5 Annual Total Utility Incremental Cost, Size A 49.800 \$ 150.094 \$ 522 377 \$ 710.465 \$ 723,283 total cost per year These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any Annual Total Utility Incremental Cost, Size B 49,800 1,649,927 total cost per year ncentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made Annual Total Utility Incremental Cost, Size C total cost per year n select pilots USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 4 Year 5 Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost Fixed O&M Cost, Size A 49,800 150,094 120,833 171,155 total cost per year 152,021 \$ ixed O&M Cost, Size B 49,800 1,047,477 1,097,798 total cost per year 150,094 Fixed O&M Cost, Size C total cost per year USD (Nominal) Cost Unit: Year 2 Year 3 Year 5 Year 1 Year 4 Total Project Delivery, Size A 49,800 \$ 150,094 \$ 151.897 \$ 120.709 171,030 per year Total internal and external project delivery Total Project Delivery, Size B 49,800 \$ 150,094 152,955 \$ 121,767 172,088 per year Total Project Delivery, Size C per vear Year 1 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: Internal Project Delivery, Size A 9.800 \$ 10.094 \$ 10.397 \$ 10.709 \$ 11,030 per year CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above Internal Project Delivery, Size B 9.800 \$ 10.094 \$ 10.397 \$ 10.709 \$ 11,030 per year Internal Project Delivery, Size C per year Year 1 Year 4 Year 5 USD (Nominal) Cost Unit: 160,000 per year External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the External Project Delivery, Size A 40,000 \$ 140,000 141,500 \$ 110,000

40,000

Year 1

140,000 \$

142,558

Year 3

111,058

Year 4

161,058 per year

Year 5

per year

per year

USD (Nominal) Cost Unit:

External Project Delivery, Size B

External Project Delivery, Size C

Advertising and Promotions, Size A

Advertising and Promotions, Size B

	to a second		14						T
	Advertising and Promotions, Size C	\$	- \$	- 9	- 3	-	\$ -	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Allocation of General Portfolio Costs, Size A Allocation of General Portfolio Costs. Size B	\$	- \$ - \$	- 9	- \$	-	\$ - \$ -	per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B Allocation of General Portfolio Costs, Size C	\$	- \$	- 3	- 3	-	\$ - \$ -	per year per vear	
		·					•	11 7	
	L	Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	Transfer to the second of the
	Trade Ally Incentives, Size A Trade Ally Incentives, Size B	\$	- \$ - \$	- \$			\$ - \$ -	per year per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size C	\$	- \$	- 5			\$ -	per year	
									<del>-</del>
	Workforce Development or Market Transformation Cost. Size A	Year 1	- \$	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	- \$	- 3			\$ -	per year per year	,
	Workforce Development or Market Transformation Cost, Size C	\$	- \$	- \$	- \$	-	\$ -	per year	
UTILITY PILOT		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
COSTS	Other Fixed O&M Cost, Size A	\$	- \$	- \$				per year	Increased electricity costs for renewable power purchases for the electrolyzer and increased water costs. Electricity
	Other Freed OSM Over Corp.	<b>A</b>	- \$	4	00570 4	005 710	A 005 710		costs were included directly here because they expect to use a green tarif program to procur renewable electricity,
	Other Fixed O&M Cost, Size B Other Fixed O&M Cost. Size C	\$	- \$	- 3	925,710 \$	925,710	\$ 925,710 \$ -	per year per vear	while the default areas to enter increased electricity consumption below would automatically apply higher GHG emission factors for power generation.
					ļ.		•	11: 7	1
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	T
	Total utility capital investment, Size A Total utility capital investment, Size B	\$	- \$ - \$	- 3	3,500,000 \$ 3,500,000 \$	-	\$ -	per year per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size C	\$	- \$	- 5		-	\$ -	per year	requirement resulting from these capital investments (shown below).
	Est. Annual Revenue Requirement for Capital Projects, Size A	Year 1	-  \$	Year 2	Year 3 370,356 \$	Year 4 589,632	Year 5	USD (Nominal) Cost Unit: per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$	- 5				per year per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$	- \$	- \$	-	\$ -	per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment
			USD (No	ominal) Cost					
		Total	Unit:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
	Est. Total Revenue Requirement for Capital Projects, Size A		6,590,790 total co						The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	\$ 6,590,790 total cost \$ - total cost							reference, it's not used to calculate any of the NGIA evaluation criteria.
	Lat. Total Revenue Requirement for Capital Frojects, 6/26 C	Ψ	totalco	31					
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	T
	Incentives, Size A	Year 1	- \$	Year 2		Year 4	Year 5	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, letc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size A Incentives, Size B Incentives, Size C	Year 1 \$ \$ \$ \$				Year 4	Year 5 \$ - \$ -		etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size B	\$ \$	- \$ - \$ - \$	- \$ - \$	- \$ - \$ - \$	- - -	\$ - \$ - \$ -	per year per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size B Incentives, Size C	\$ \$ \$ Year1	- \$ - \$ - \$	- \$ - \$ - \$	- \$ - \$ Year 3	Year 4	\$ - \$ - Year 5	per year per year per year USD (Nominal) Cost Unit:	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the Losstomer doesn't hold emisiment numershin incomfuses will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B	\$ \$	- \$ - \$ - \$	- \$ - \$	- \$ - \$ - \$ Year 3	- - -	\$ - \$ - \$ -	per year per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A	\$ \$ Year1 #DIV/O!	- \$ - \$ - \$	- \$ - \$ - \$ Year 2	- \$ - \$ - \$ Year 3		\$ - \$ - \$ - Year 5 #DIV/O!	per year per year per year USD (Nominal) Cost Unit: per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the Losstomer doesn't hold emisiment numershin incomfuses will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ Year1 #DIV/O! #DIV/O!	- \$ - \$ - \$	- \$ - \$ - \$ Year 2 #DIV/O! \$ #DIV/O! \$	- \$ - \$ Year 3	Year 4 #DIV/O! #DIV/O!	\$ - \$ - Year 5 #DIV/O! #DIV/O!	per year per year per year  USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the Losstomer doesn't hold emisiment numershin incomfuses will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$	- \$ - \$ - \$ Year 2 #DIV/O! \$ #DIV/O! \$	- \$ - \$ Year 3	Year 4 #DIV/O! #DIV/O!	\$ - \$ - \$ - Year 5 #DIV/O! #DIV/O!	per year per year per year  USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the Losstomer doesn't hold emisiment numershin incomfuses will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ Year1 #DIV/O! #DIV/O!	- \$ - \$ - \$	- \$ - \$ Year 2 #DIV/O! \$ #DIV/O! \$	- \$ - \$ Year 3	Year 4 #DIV/O! #DIV/O!	\$ - \$ - \$ - Year 5 #DIV/O! #DIV/O!	per year per year per year  USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the Losstomer doesn't hold emisiment numershin incomfuses will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation: Capitals	\$ \$ Year 1 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ Year 2 #DIV/O! \$ 5,000,000	- \$ \$ \$ \$	Year 4 #DIV/O! #DIV/O! #DIV/O!	\$ - \$ - Year 5 #DIV/O! #DIV/O!	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the Losstomer doesn't hold emisiment numershin incomfuses will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation: Capitals  External Delivery O&M Estimate Detail – 1MW Electrolyzes	Year 1  #DIV/OI  #DIV/OI  #DIV/OI  costs for electrolyzer (1 MW) ar	- \$ - \$ - \$	- \$ - \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ \$ \$ Year 3	Year 4 #DIV/OI #DIV/OI #DIV/OI	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O!	per year per year per year Per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a costpal investment in a customer's project where the customer closen's hold equimment ownershin Incentives will be used in the Participant Cost feets for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation: Capitals	\$	- \$ - \$ - \$ - \$ - \$ - \$	-   \$	- \$ \$ \$ \$ \$ \$	Year 4 #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$50,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000	per year per year per year per year USD (Nominal) Cost Unit: per participant per year \$6 \$60 \$50,000	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer project where the customer doson't hold equinoment ownershin Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail - IMW Electrolyzee Technical Support Contract Labor Materials/Parts	\$    Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ \$ \$ \$ \$ \$ \$	Year 4 #DIV/O! #DIV/O! #DIV/O! #STO,000 \$50,000	\$ - \$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000	per year per year per year  USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$50,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of engry(PdR outles or direct install measures), or making a capital investment in a customer spriject where the customer chosen's hold equipment ownershin Incentives will be used in the Participant Cost tests for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Utilities	Year 1  #DIV/OI  #DIV/OI  costs for electrolyzer (1 MW) ar  Year 1  Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ \$ \$ \$ \$ \$	Year 4 #DIV/OI #DIV/OI #DIV/OI  Year 4 \$10,000 \$50,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! ************************************	per year per year per year USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$ \$50,000 \$55,000 \$25,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer project where the customer doson't hold equipment ownership incentives will be used in the Participant Crest sets for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail - IMW Electrolyzee Technical Support Contract Labor Materials/Parts	Year 1  #DIV/OI  #DIV/OI  costs for electrolyzer (1 MW) ar  Year 1  Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ \$ \$ \$ \$ \$ \$	Year 4 #DIV/O! #DIV/O! #DIV/O! #STO,000 \$50,000	\$ - \$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000	per year per year per year USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$50 \$50,000 \$50,000 \$25,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer project where the customer doson't hold equipment ownership incentives will be used in the Participant Crest sets for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.
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	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V M-RETS Generator Registration Fee (One Time, year of installation) M-RETS RTC Registration Costs	Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ \$ \$ \$ \$ \$	Year 4 #DIV/OI #DIV/OI #DIV/OI  Year 4 \$10,000 \$50,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! ************************************	per year per year per year USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$ \$50,000 \$55,000 \$25,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer project where the customer doson't hold equipment ownership incentives will be used in the Participant Crest sets for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation)	Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ \$ \$ \$ \$ \$	Year 4 #DIV/OI #DIV/OI #DIV/OI  Year 4 \$10,000 \$50,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! ************************************	per year per year per year USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$ \$50,000 \$55,000 \$25,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer project where the customer doson't hold equipment ownership incentives will be used in the Participant Crest sets for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V M-RETS Generator Registration Fee (One Time, year of installation) M-RETS RTC Registration Costs	Year 1	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$   -   \$   -   \$   \$   -   \$   \$	- \$ \$ \$ \$ \$ \$ \$ \$	Year 4 #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$50,000 \$25,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/OI #DIV/OI #DIV/OI \$50,000 \$50,000 \$25,000 \$25,000 \$25,000	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$0 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer species where the customer doson't hold equipment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives peid directly to customers.  Incentives per participant is a function of total incentives peid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V M-RETS Generator Registration Fee (One Time, year of installation, M-RETS RTC Registration Costs M&V - Total Cost for Whole Pilot	Year 1	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$ -   \$	- \$ \$ \$ \$ \$ \$ \$	Year 4 #DIV/OI #DIV/OI #DIV/OI  Year 4 \$10,000 \$50,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! ************************************	per year per year per year per year  USD (Nominal) Cost Unit:  per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$50 \$50,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold equipment ownership incentives will be used in the Participant Cost feets for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V M-RETS Generator Registration Fee (One Time, year of installation) M-RETS RTC Registration Costs	Year 1	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$   -   \$   -   \$   \$   -   \$   \$	- \$ \$ \$ \$ \$ \$ \$	Year 4 #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$50,000 \$25,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/OI #DIV/OI #DIV/OI \$50,000 \$50,000 \$25,000 \$25,000 \$25,000	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$0 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000 \$50,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold equipment ownership incentives will be used in the Participant Cost sets for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V M-RETS Generator Registration Fee (One Time, year of installation) M-RETS RTC Registration Costs M&V – Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A	Year 1	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$ -   \$	- \$ \$ \$ \$ \$ \$ \$   \$	Year 4 #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$50,000 \$25,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/OI #DIV/OI #DIV/OI \$50,000 \$50,000 \$25,000 \$25,000 \$25,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$50 \$50,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG sudits or direct install measures), or making a capital investment in a customer's project where the customer doson't hold equipment awareshin Incentives will be used in the Participant Cost tests for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation), M-RETS RTC Registration Costs M&V – Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	\$	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$   -   \$	- \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 4  \$10,000 \$50,000 \$25,000 \$25,000	\$ - \$ - Year 5 #DIV/OI #DIV/OI #DIV/OI \$50,000 \$50,000 \$25,000 \$25,000 \$25,000	per year per year per year per year per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$0 \$50,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold equipment ownership incentives will be used in the Participant Cost sets for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation), M-RETS RTC Registration Costs M&V – Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	Year 1	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$ -   \$	Year 3  Year 3  Year 3  \$40,000 \$50,000 \$25,000 \$25,000 \$25,000 \$26,000 \$26,000	Year 4 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$25,000 \$25,000 \$25,000 \$27,000	\$ - \$ - Year 5 #DIV/OI #DIV/OI #DIV/OI \$50,000 \$50,000 \$25,000 \$25,000 \$25,000	per year per year per year per year per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$60 \$50,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG sudits or direct install measures), or making a capital investment in a customer's project where the customer doson't hold equipment awareshin Incentives will be used in the Participant Cost tests for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc) account for those values here. This funding is noted here
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation) M-RETS RTC Registration Costs M&V – Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B	\$	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$	Year 3  Year 3  Year 3  Year 3  \$40,000 \$50,000 \$25,000 \$25,000 \$25,000 \$26,000 \$26,000 \$26,000	Year 4 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$25,000 \$25,000 \$25,000 \$27,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000 \$25,000 \$25,000	per year per year per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$60 \$50,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold equipment ownership incentives will be used in the Participant Cost sets for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail - IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation, M-RETS RTC Registration Costs M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C	\$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	-   \$ -   \$	Year 3  Year 3  Year 3  Year 3  \$40,000 \$50,000 \$25,00	Year 4 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$25,000 \$25,000 \$25,000 \$27,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000 \$25,000 \$25,000	per year per year per year per year Per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$ \$ \$5,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG sudits or direct install measures), or making a capital investment in a customer's project where the customer doson't hold equipment awareshin Incentives will be used in the Participant Cost tests for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc) account for those values here. This funding is noted here
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation) M-RETS RTC Registration Costs M&V – Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B	\$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	-   \$ -   \$	Year 3  Year 3  Year 3  Year 3  \$40,000 \$50,000 \$25,00	Year 4 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$25,000 \$25,000 \$25,000 \$27,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000 \$25,000 \$25,000	per year per year per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year  Remaing Years of Equipment Life \$60 \$50,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG sudits or direct install measures), or making a capital investment in a customer's project where the customer doson't hold equipment awareshin Incentives will be used in the Participant Cost tests for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc) account for those values here. This funding is noted here
	Incentives, Size B Incentives, Size C Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail – IMW Electrolyzee Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation, M-RETS RTC Registration Costs M&V – Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:	\$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	-   \$ -   \$	Year 3  Year 3  Year 3  Year 3  \$40,000 \$50,000 \$25,00	Year 4 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$25,000 \$25,000 \$25,000 \$27,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! Year 5 \$10,000 \$50,000 \$25,000 \$25,000	per year per year per year per year per year  USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life S \$50,000 \$25,000	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of engry(4)f4G audits or direct install measures), or making a capital investment in a customer's project where the customer rhosen's hold equipment awarshin Incentives will be used in the Participant Cost sets for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
TOTAL AND	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Capitals  External Delivery O&M Estimate Detail - IMW Electrolyzer Technical Support Contract Labor Materials/Parts Utilities Formal M&V  M-RETS Generator Registration Fee (One Time, year of installation, M-RETS RTC Registration Costs M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C	Year 1	- \$ \$ \$ \$ \$ \$ \$ \$	-   \$	Year 3  Year 3  \$40,000 \$50,000 \$25,000 \$25,000 \$26,00	Year 4 #DIV/O! #DIV/O! #DIV/O! #DIV/O! #DIV/O!  Year 4 \$10,000 \$25,000 \$25,000 \$25,000 \$27,000 \$27,000 \$27,000 \$27,000 \$27,000 \$27,000 \$27,000 \$27,000	\$ - \$ - Year 5 #DIV/O! #DIV/O! #DIV/O! *\$10,000 \$50,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000 \$25,000	per year per year per year per year per year  USD (Nominal) Cost Unit: per participant per year  Remaing Years of Equipment Life \$ 50 \$ \$ 50,000 \$ \$ 25,000 \$ 25,00	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG sudits or direct install measures), or making a capital investment in a customer's project where the customer doson't hold equipment awareshin Incentives will be used in the Participant Cost tests for the NGIA evaluation.  Incentives per participant is a function of total incentives paid directly to customers.  Electricity purchased here to be from renewable sources, acquired through green tariff program.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc) account for those values here. This funding is noted here

DIRECT	Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C	\$	- \$	- \$	- \$ -	\$ -	per participant per participant	are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note I: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no
PARTICIPANT PILOT COSTS	Calculations & Other Explanation:	Year 1	Year 2	Year 3	Year 4	Year 5	регранистрани	Junfront financial contribution from the nacticinant
	Escalation re				2% 3.82%		(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
	IRA max credit value as \$3/kg H2 feasible when the hydrogen produ Funding from II		n 0.45kg CO2e/kg H2 which woul 3.00 /kg H2 (assumes ma		on-site solar PV gen	eration for the	electrolyzers. For max credit, also need	and the state of t
	ITC Rebate lev	rel:	30%	choosing ITC				
					or green tarif progra	ams to count to	owards reaching the \$3/kg incentive lev	el.
		So instead, for this pilot we are Note that NGIA Frameworks Or			ing carbon-free elec	tricity has no g	reenhouse gas emissions associated w	ith its production but may have greenhouse gas emissions associated with electricity used for compressi
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Participant Non-Energy Costs, Size A	\$	- \$	- \$	- \$ -	\$ -	per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. No costs were included here, because this is a utility owned pilot, so costs were instead entered into the utility budget directly (in rows 107-109). Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Participant Non-Energy Costs, Size B	\$	- \$	- \$	- \$ -	\$ -	per participant per year of pilot life	raticipant von-energy costs will be used in the raticipant cost tests for the ivon evaluation criteria.
	Participant Non-Energy Costs, Size C	\$	-  \$	- \$	- \$ -	\$ -	per participant per year of pilot life	
	Calculations & Other Explanation:  Escalation re	Year 1	Year 2 3.82% 3.8	Year 3 82% 3.8	Year 4 2% 3.82%	Year 5 3.82	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
PARTICIPANT	Water consumption (kg water/kg H	2):	10					available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most recently available data.
NON-ENERGY	Water cost \$/metric ton of wat		\$0.40					
COSTS	Price of Renewable Electricity Purchases (tot		\$0.129 \$/kWh					
	20-year (2025–2044) average electricity retail price (\$/kWh C&l in M	N): \$	0.12 \$/kWh	(base electricity	price)			
	Incremental Electricity cost for renewable electricity Windsource (estimated net charg		0.0065 \$/kWh	(used here beca	use carbon-free pov	ver must be pu	ırchased for power to hydrogen pilots ı	under Frameworks Order)
	Xcel Energy's Windsource subscriptions are available in 100 kilowat							
	The Windsource charge includes a per block charge of \$3.53, less a This cost is in addition to your current electric charges. If your elec						. Actual costs will vary based on usage :	and monthly fuel credit variations.
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Participant Non-Energy Savings, Size A	\$	- \$	- \$	- \$ -	\$ -	per participant per year of pilot life	This includes any operating savings like water savings.
PARTICIPANT NON-ENERGY	Participant Non-Energy Savings, Size B	\$	- \$	- \$	- \$ -	\$ -	per participant per year of pilot life	
SAVINGS	Participant Non-Energy Savings, Size C	\$	- \$	- \$	- \$ -	\$ -	per participant per year of pilot life	
	Calculations & Other Explanation:		li '	<u> </u>			,	_
	Average Lifetime for Savings/Pilot Tech, Size A		20 years					
	Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C		20 years					
PILOT LIFE			years					
	Calculations & Other Explanation:							
	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B		4,232 Dth/Participant 21,160 Dth/Participant					
	Avg. Dth/Participant Saved, Size C		- Dth/Participant					
	Calculations & Other Explanation:	Assumes that all H2 produced	is blended into gas distribution	system displacing nat		erPoint custon	ners.	
						green		
						alaatriaity		
				v odena i	Annual Solar	electricity purchases	Total desirable of the second	Acceptant to the second
		Electrolyzer Size (MV			Annual Solar Generation (MWh)		Total electricity for Electrolyzers (MWh)	Annual Hydrogen Production (kg H2)) Production (MMBtu) Balance of Plant (BOP) Elecicity Consumption (KWh)
NATURAL GAS ENERGY SAVINGS: AVG.	Siz Siz	<b>A</b> 1	Installed Solar P V) Capacity (MW)	Factor (%)	Annual Solar Generation	purchases from grid	(MWh) 1,664	Production (kg H2)) Production (MMBtu) Balance of Plant (BOP) Elecicity Consumption (KWh) 31,404 4,232 125,615

Target **PARTICIPANT** Electrolyzer Capacity Additional annual Factor with electricity consumption for pilot Grid Purchases: 95% B vs. A (kWh): 7,160,060 53 kWh/kg H2 Electricity consumption electrolyzer: Electricity consumption BOP: 4 kWh/kg H2 Source: CenterPoint Experience Heat content per Kg of H2 (HHV) 0.1348 MMBTU/kg 63 481 0.00 kWh/Participant Units are kWh; could technically be other non-NG. Avg. Non-Gas Fuel Units/Part. Saved will be used in the Participant Cost tests for the NGIA evaluation criteria. Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B 0.00 kWh/Participant Avg. Non-Gas Fuel Units/Part. Saved, Size C 0.00 kWh/Participant AVG. NON-GAS Avg. Additional Non-Gas Fuel Units/Part.Used, Size A kWh/Participant Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria. FUEL UNITS/ PART. Avg. Additional Non-Gas Fuel Units/Part.Used, Size B kWh/Participant Avg. Additional Non-Gas Fuel Units/Part.Used, Size C kWh/Participant Calculations & Other Explanation: Additional electricity usage is reflected in costs above so as to not over-count emissions. Year 1 Year 2 Year 3 Year 4 Year 5 Total Annual Dth Saved, Size A 4,232 Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year Total Annual Dth Saved, Size B Dth 21,160 TOTAL ANNUA Total Annual Dth Saved, Size C Dth SAVED Calculations & Other Explanation: Grid Mix Scenario Select one of the listed grid mix scenarios taking into account that: Not leveraged for GHG evaluation, which Utilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific GRID MIX  $From Frameworks\ Order: "Carbon-free\ electricity\ includes\ dedicated\ carbon-free\ generation,\ electricity\ purchased$ SCENARIO pursuant to a Commission approved green-tariff program, and, for approval on a case-by-case basis, other carbon-free generation supported by a demonstration that the greenhouse gas intensity of the connected electric grid is not Calculations & Other Explanation: adversely impacted." his section does not apply to all pilot types. The GHG changes from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG missions (per unit of participation). Lifecycle GHG Intensity, Size A Year 1 Year 2 Year 3 Year 4 Year 5 Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural
Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high kg CO2e/participant Expected 0.00 0.00 0.00 0.00 0.00 kg CO2e/participant assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will kg CO2e/participant be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and Lifecycle GHG Intensity, Size B Year 1 Year 2 Year 3 Year 4 kg CO2e/participant 0.00 kg CO2e/participant Expected kg CO2e/participant High Lifecycle GHG Intensity, Size C Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant LIFECYCLE GHG Expected 0.00 kg CO2e/participant INTENSITY BY PROJECT SIZE kg CO2e/participant High Calculations & Other Explanation: **GHG Intensity** Using this calculation structure is optional; if modifications are needed, please use the hidden rows or raise with project leads. Size C Size A Size B kg CO2e/Dth ow Scenario Expected Scenario ligh Scenario

	Default Geologic Gas Emissions Factor From Frameworks Order: "Utilities may assume that hydrogen produ	kg CO2e/Dth	66.14 as no greenhouse gas emissions a	ssociated with its produ	uction but may h	ave greenhous	se gas emissions associated with elect	tricity used for compression, transportation, b	lending, injection, purification and pumping of water, or other
	NG Dth/year savings profiled will already be calculating GHG savings				.,				
OTHER PILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculate	or):							
PEAK REDUCTION FACTOR	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>			ual effect of the project on s pant Cost tests for the NGIA (		nated to be 1% fo.	r energy efficiency pilots. The method for other	r innovative resources should be considered in the cont	ext of specific utility proposals. Peak Reduction Factor will be used in the
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation</u> :	Year1	Year 2           0.05         \$         0.05           −5.250%         −5.250%		Year 4 \$ 0.04 :		USD (Nominal) Cost Unit: per Dth  6 (for each pilot analysis year)	the context of specific utility proposals. For example, costs as they also need to be transported to custom Cost and Non Participant Cost tests for the NGIA eva	owever, the value for other innovative resources should be considered in resources like power-to-hydrogen and RNG may not decrease O&M ers on the distribution system. Variable O&M will be used in the Utility luation criteria. Dercent change in the price of natural gas between 2023 through 2027 to.
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation:</u>	\$	USD (Nominal) Cost Unit: 44.14 per MWh	The CIP methodology is us equal to the average of da	ed for all resources of all resources of all resources of all resources of the second resources of the	other than strateg ket locational ma	ic electrification. The method for strategic elec riginal prices (LMP) at the Minnesota Hub from	ctrification should be considered in the context of specif January 1, 2022 to December 31, 2022 using data from I	ic utility pilot proposals. Idwest Independent System Operator (MISO)
NON-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor <u>Calculations &amp; Other Explanation</u> :		8.22%	The CIP methodology is us average of the most recen	ed for all resources of toss factors reporte	other than strateg d by Minnesota F	ic electrification. The method for strategic elec Power, Xcel Energy, and Otter Tail Power's repc	ctrification should be considered in the context of specification should be considered in the context of specificated 2021 transmission and distribution loss factors and	ic utility pilot proposals. In the most recent CIP, Staff used the weighted weighting by the utilities' 2017-2019 average retail sales
OTHER QUANTITA	TIVE CRITERIA:								
OTHER NON- GHG POLLUTANTS	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$ \$	USD Cost Unit: (0004) per Dth (0004) per Dth (0004) per Dth	increased NOx emissions in reflects slightly higher cost by Minnesota Public Utilitie to adjust by observed inflation project that targets an urb	from the combustion t increases from NOx es Commission (Com ation between 2014 a ean area might use th f they can provide jus	of Hydrogen in p. combustion than mission). The fac- nd 2021. Stakehol e urban value rati stification for the	lace of natural gas. The valuation of NOx emiss the savings achieved (from multiple types of tors are reported in 2021 dollars in Table 2 beld (ders expressed a preference for allowing utiliti- her than the metropolitan fringe value. Similarly change. Instead of requiring the use of median	ions comes from the same source, and the level of NOx emissions) from reduced gas combustion. The natural g w, which were calculated by inflating the Commission's est to select different externality values for pilots targeti , a project targeting a low-income population might use	ilated with in line with the CIP methodology, this pilot accounts for emissions come from GRET. The negative net savings shown here is factor is calculated using the final environmental cost values approved approved dollar per ton environmental cost values using escalation rate genefities geographies or populations. For example, an energy efficiency a high value rather than the median. Utilities can make deviations such as shown in Table I of the Commission's January 3, 2018 Order in Docket
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year 1	Year 2	Year 3 1 4 1 6	Year 4	Year 5	Total during 5 program years	Remainder of project   life	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
NET JOB CREATION	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C	Year 1	Year 2	Year 3 0 3 0 6	Year 4 0 3	Year 5	Total during 5 program years	life	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A Net Induced Job Creation, Size A	Year 1	Year 2	Year 3	Year 4	Year 5		Remainder of project   life	
PUBLIC CO- BENEFITS	Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C	Year 1	Year 2  - \$	Year 3	Year 4 \$ - \ \ \ \ \ \ \ - \ \ \ \ \ \ \ \ \ \	Year 5 -	USD (Nominal) Cost Unit: per year per year per year	Quantifiable in some cases. If this metric isn't quantifi Qualitative Considerations section below.	able, there is space for any qualitative comments in the Additional

Calculations & Other Explanation: Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: Water Pollution, Size A per year The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of Water Pollution, Size B per year the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative WATER onsiderations section below. Water Pollution, Size C per year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS: IGIA Utility erspective lotes: It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods. Participants' erspective It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that may not be easily quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify. lonparticipating erspective lotes: on non-participating customers should be quantified in most cases and can be heavily informed by structural values. Definition: Provides widespread benefits to all sales customers Effects on Other nergy Systems nd Energy ecurity: NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets. Fuel made in MN and reduces import of fuel from outside of MN; hydrogen may place burden on electric grid **GHG Emissions** Notes: An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable. Other Pollution Notes: Definition: Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.

Waste Reduction and Reuse Notes:	
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Policy Notes:	
Definition:	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and increased use of renewable resources.
	Reduces fossil gas throughput; increases use of renewable energy
Net Job Creation Notes:	
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should
Definition:	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  This type of project can creates high-wage jobs during construction and also long-term employment options for high-skill, displaced workers from traditional energy industries (as the skillset from the coal, oil, gas, and petrochemical segments transfers directly to green
	H2production).
Economic Development Notes:	
	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Will pay prevailing wages: will seek apprentices; will seek apprentices.  Will pay prevailing wages: will seek apprentices; will seek advantage of higher IRA credits due to labor practices; hydrogen projects represent clean energy opportunity for workers from traditional fossil fuel jobs; will help MN build hydrogen workforce as hydrogen poised for growth due to IRA
<u>Public Co-</u> <u>Benefits Notes:</u>	
Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.
Market Development Notes:	
Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
<u>Direct</u> <u>Innovation</u>	
Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA 40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.
	Opportunity for Company to learn about hydrogen blending, storage, and use of solar
Resource_	
Scalability and Role in a	
Decarbonized System Notes: Definition:	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas
	and the state of t

utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state. Hydrogen poised to become more affordable and scalable as a result of IRA

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Click here to go back to the list of all pilots NGIA Pilot Profiles Workhook

CNPO8 - Green Hydrogen Archetype for Industrial or Large Commercial Facility

Pilot Project Code:	CNP08
Pilot Project Name:	Green Hydrogen Archetype for Industrial or Large Commercial Facility
Customer Class/ Sector:	C&I
Low-Income Community Benefit?	N
Target Area:	Territory-wide
Primary Innovative Resource Category:	Power-to-Hydrogen

Select primary Innovation Category. Others can be listed here:

#### Pilot Description:

CenterPoint Energy would offer incentives covering a portion (100%, up to a max of \$1.5 million) of the equipment and installation costs of green hydrogen production systems (electrolyzers) for on-site use by industrial or large commercial customers, displacing natural gas use by these facilities. These systems would be installed onsite for 1-3 customers, who would own and operate the systems. CenterPoint has not yet identified specific customers for the projects, so a 5 MW 'archetype' was chosen to assess to the pilot for the time being, considering that a number of existing customers should be large enough for that size of electrolyzer (some could be higher).

#### DESCRIPTION

#### Overview of Program/ Implementation Approach:

The projects would be expected to purchase renewable electricity from grid to supply the electrolyzers, and so even with potential IRA incentives and the upfront funding from CenterPoint Energy, participants in this pilot would be committing to a considerable cost increase in their electricity supply in order to decarbonize (part of) their heating load. Some additional programmatic support to identify potential sites and assist with feasibility studies for the projects is also envisioned. CenterPoint Energy would create a measurement and verification plan to monitor system performance for a period of time following installation.

#### Other Comments / Information:

Possible that some participants could be larger or smaller than the electrolyzer size below.

# KEY PILOT-SPECIFIC INPUTS:

Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
Calendar Year	2024	2025	2026	2027	2028	
Participating Units, Size A	0	0	1	0	0	Incremental units added, annual (not cumulative)
Participating Units, Size B	0	0	1	1	0	
Participating Units, Size C	0	0	1	1	1	

38% Annual capacity utilization for electrolyzer

Year 2

42,581 Output MMBtu HHV/year (for one electrolyzer)

315,973 Output kg/year

148,500 \$

Calculations & Other Explanation:

Assumes all H2 production onsite from electrolyzers, PEM electrolysis,

NUMB	ER OF
DADTIC	IDANIT

contracted carbon free electricity rather than onsite generation	Single Unit: Small PEM Electrolysis	
	5,000	kW electricity inpu
	53	Electricity consum
Balance of Plant electricity includes pumps, other electricity needed		
for hydrogen production:	8	Electricity consum

	53	Electricity consumption electrolyzer kWh/ kg H2
Balance of Plant electricity includes pumps, other electricity needed		
for hydrogen production:	8	Electricity consumption BOP kWh/kg H2
	61	Total Electricity consumption kWh/kg H2
	95	Capacity kg H2 output/ hour
This relates to industrial facility site's NG firing rate (facility scale);		
how much NG are you trying to displace w/ H2:	13	Capacity MMBtu H2 output HHV/ hour

Year 1

how much NG are By way of comparison, the AEO Reference Case annual capacity

Unit of Participation = Industrial facilities installing 5MW electrolyzer

utilization rates for solar averages 23.5% and wind averages 37.4% in 2050. Combining solar & wind would increase these CUs.

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USD (Nominal) Cost Unit:

on select pilots.

63,159 total cost per year

115,288 total cost per year

181,523 total cost per year

134,762 Btu/kg H2, HHV

Year 5

nnual Total Utility Incremental Cost, Size A
nnual Total Utility Incremental Cost, Size B
navel Total Utility Ingramental Cost Size C

					·	on social protes.
Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 148,500	\$ 21,630	\$ 25,908	\$ 12,838	\$ 63,159	total cost per year	Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
\$ 148,500	\$ 24,130	\$ 25,908	\$ 28,705	\$ 115,288	total cost per year	Incentives, and Workforce Development of Market Transformation Cost

Year 4

12,838 \$

Year 3

Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C.

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

nternal Project Delivery, Size A nternal Project Delivery, Size B nternal Project Delivery, Size C

Year 3 USD (Nominal) Cost Unit: Year 1 Year 4 Year 5 146,000 5 21,630 \$ 25.908 \$ 12.838 \$ 63,159 per year Total internal and external project delivery 115,288 per year 28705 \$ 146,000 \$ 21630 \$ 25.908 \$ 146,000 \$ 25,908 \$ 28,705 \$ 181,523 per year 21,630 \$

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 21,000	\$ 21,630	\$ 22,279	\$ 10,709	\$ 11,030	per year
\$ 21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 11,030	per year
\$ 21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 23,636	per year

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any

incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made

	External Project Delivery, Size A	Year 1	125,000 \$	Year 2	Year 3 3,629 \$	Year 4 2,129 \$	Year 5	USD (Nominal) Cost Unit: 9 per year	External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Utility
	External Project Delivery, Size A External Project Delivery, Size B	\$	125,000 \$	- 3	3,629 \$	5,758 \$	104.25	B per year	Fixed O&M Cost" category above.
	External Project Delivery, Size C	\$	125,000 \$	- S	3,629 \$	5,758 \$	157.88	7 per year	
	External Project Sollvery, Size S				-,	-7:	,	Po. 700.	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Advertising and Promotions, Size A	\$	2,500 \$	- \$	- \$	- \$	-	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$	2,500 \$	2,500 \$	- \$	- \$	-	per year	
	Advertising and Promotions, Size C	\$	2,500 \$	2,500 \$	1,250 \$	2,500 \$	-	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A	\$	- \$	- \$	- \$	- \$	-	per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B	\$	- \$	- \$	- \$	- \$		per year	
	Allocation of General Portfolio Costs, Size C	\$	- 3	- 3	- 3	- \$		per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	tear i	- \$	Year 2	rear 3	- \$	rear 5	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	- \$	- \$	- \$	- \$		per year	in applicable, mediate first the annual amount of trade any meetiates (e.g. middleam program)
	Trade Ally Incentives, Size C	\$	- s	- s	- \$	- \$	-	per year	
	Trade 7 my moonth vos, orze o		1.	1.		·		ps. / sa.	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$	- \$	- \$	- \$	- \$	-	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	- \$	- \$	- \$	- \$	-	per year	
	Workforce Development or Market Transformation Cost, Size C	\$	- \$	- \$	- \$	- \$	-	per year	
UTILITY PILOT									
COSTS		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
00010	Other Fixed O&M Cost, Size A	\$	- \$	- \$	- \$	- \$	-	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$	- \$	- \$	- \$	- \$	-	per year	
	Other Fixed O&M Cost, Size C	\$	- \$	- \$	- \$	- \$		per year	
		Year 1	1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b></b>
	Total utility capital investment, Size A	\$	- \$	- \$	- \$	- \$	-	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement
	Total utility capital investment, Size B	\$	- \$	- \$	- \$	- \$	-	per year	resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$	- \$	- \$	- \$	- \$	-	per year	• • • • • • • • • • • • • • • • • • • •
				v •	v 0				
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- S	- 5	- \$	- \$ - \$		per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$	- 5	- \$	- \$		per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	<b>a</b>	- 3	- 3	- 5	- 3		per year	well as the utility's return on investment
			110	D (Nominal) Cost					
		Total	Un						
	Est. Total Bayonus Baguiroment for Capital Brainata Siza A	¢	- no	r vear					The total revenue requirement is calculated from the magnitude & timing of total central investment centured shove besed on
	Est. Total Revenue Requirement for Capital Projects, Size A	\$		r year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B	\$ \$	- pe	r year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
		*	- pe						expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B	*	- pe	r year	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A	\$	- pe	r year r year	Year 3 1,530,000 \$	Year 4 -  \$	Year 5	USD (Nominal) Cost Unit:	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's nor used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.).
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B	\$	- pe - pe	r year r year			Year 5 - -		expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc).  Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A	\$	- pe - pe	r year r year	1,530,000 \$	- \$	Year 5 - - 1,530,000	per year	expected measure life (and depreciation time period), as we'll as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.).  Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/CMP audits or direct install measure), or making a capital investment in a customer's project where the customer
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	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A	\$  Year 1  \$  Year 1  #DIV/O!	- pe - pe	r year  Year 2  - \$ - \$ - \$  Year 2  #DIV/O! \$	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/O!	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year per year USD (Nominal) Cost Unit: per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	\$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- pe - pe	r year  Year 2  - \$ - \$ - \$  Year 2  #DIV/O! \$ #DIV/O! \$	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3 1,530,000 \$ 1,530,000 \$	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B	\$ Year1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- pe - pe	r year  Year 2  - \$ - \$ - \$  Year 2  #DIV/O! \$ #DIV/O! \$	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3 1,530,000 \$ 1,530,000 \$	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	\$  Year 1  \$  Year 1  #DIV/OI  #DIV/OI	- pe - pe - \$ - \$ - \$	Year 2   -   \$	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3  1,530,000 \$ 1,530,000 \$  1,530,000 \$	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000 \$ 1,530,000 \$	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	Year 1  S S S Year 1  #DIV/OI  #DIV/OI  #DIV/OI  Single Unit: Small PEM Elect	- pe - pe - pe - ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	year	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3 1,530,000 \$ 1,530,000 \$ 1,530,000 \$	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000 \$ 1,530,000 \$	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	Year 1   \$   Year 1   #DIV/OI   #D	- pe - pe - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3  1,530,000 \$ 1,530,000 \$ 1,530,000 \$  1,530,000 \$	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000 \$ 1,530,000 \$	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	Year 1	- pe - pe - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	year	1,530,000 \$ 1,530,000 \$ 1,530,000 \$  Year 3 1,530,000 \$ 1,530,000 \$ 1,530,000 \$ 1,530,000 \$ \$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$	-   \$   1,530,000   \$   1,530,000   \$	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	Year 1   \$	- pe - pe -   \$ -	year	1,530,000 \$ 1,530,000 \$  Vear 3  1,530,000 \$	-   \$   1,530,000   \$   1,530,000   \$	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C	Year 1   \$	- pe	Year 2	1,530,000   \$   1,530,000	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000 \$  onsite	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year ) per year  USD (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
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	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Support for Studies	Year 1   \$   Year 1   #DIV/OI   #DIV/OI   #DIV/OI   #DIV/OI   #DIV/OI   #DIV/OI   #DIV/OI   \$   \$   \$   \$   \$   \$   \$   \$   \$	- pe - pe -   \$ -	Year 2  - \$ - \$ - \$ Year 2  #DIV/O! \$ #DIV/O! \$ #DIV/O! \$ #DIV/O! \$ #DIV YOI \$ #DIV YOU S #DIV YOU	1,530,000   \$   1,530,000	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000 \$  onsite	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year per year Der (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification CapEx Incentive, After Third Party Funding 3	Year 1   \$   Year 1   #DIV/OI   #D	- pe - pe -   \$ -	year  year  Year 2  #DIV/OI \$	1,530,000   \$   1,530,000	- \$ 1,530,000 \$ 1,530,000 \$  Year 4 #DIV/0! 1,530,000 \$  onsite	1,530,000 Year 5 #DIV/O! #DIV/O!	per year per year per year Der (Nominal) Cost Unit: per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold enuironed ownership incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.
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	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification  CapEx Incentive, After Third Party Funding 3 M-RETS RTC Registration Cost M-RETS Generator Registration Fee (One Time) M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A	Year 1  S S S S Year 1  #DIV/OI  #DIV/OI  Single Unit: Small PEM Elect S S S S S S S S S S S S S S S S S S S	- pe - pe - s - s - s - s - s - s - s - s - s - s	Year 2  Year 2  Year 2  #IDIV/OI \$ #IDIV/OI	1,530,000   \$   1,530,000	- \$ 1530,000 \$ 1530,000 \$  Year 4 #DIV/01 1530,000 \$  onsite  Year 4 10,641,674 \$	Vear 5 1,530,000  Year 5 #DIV/OI 1,530,000  Vear 5 10,641,67 10,641,67	per year per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or offect install measure) or making a capital investment in a customer's project where the customer rhown hold enuinment numerabin incentives will be used in the Participant Cost treats for the NGIA evaluation criteria incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification  CapEx Incentive, After Third Party Funding 3  M-RETS Generator Registration Costs  M-RETS Generator Registration Foe (One Time) M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	Year 1   S   Year 1	- pe - pe - s - s - s - s - s - s - s - s - s - s	Year 2	1,530,000   \$   1,530,000	S	1,530,000 Year 5 #DIV/OI 1,530,000  1,530,000  Year 5 10,641,67 10,641,67	per year per year per year per year USD (Nominal) Cost Unit: per participant per year USD (Nominal) Cost Unit: per participant per participant per participant per participant	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy)(PIG audits or direct install measure), or making a capital investment in a customer's project where the customer shown hold enuironed numeration incentives will be used in the Participant Cost treats for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification  CapEx Incentive, After Third Party Funding M-RETS Generator Registration Fee (One Time) M&W - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	Year 1  S S S S Year 1  #DIV/OI  #DIV/OI  Single Unit: Small PEM Elect S S S S S S S S S S S S S S S S S S S	- pe - pe - pe - s - s - s - s - s - s - s - s - s - s	Year 2	1,530,000   \$   1,530,000	Year 4  10.641,674  10.841,674  Year 4  10.841,674  Year 4	Year 5 #DIV/OI 1,530,000  Year 5 #DIV/OI 1,530,000  Year 5 10,641,67: 10,841,67: Year 5	per year per year per year per year per year USD (Nominal) Cost Unit: per participant per year USD (Nominal) Cost Unit: 4 per participant 4 per participant 4 USD (Nominal) Cost Unit:	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's nor used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measure), or making a capital investment in a customer's project where the customer shown hold environment numeration incentives will be used in the Participant Cost treats for the NGIA evaluation criteria incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installistion costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification  CapEx Incentive, After Third Party Funding 3  M-RETS RTC Registration Cost M-RETS Generator Registration Fee (One Time) M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	Year 1   S   Year 1	- pe - pe - pe - s - s - s - s - s - s - s - s - s - s	Year 2	1,530,000   \$   1,530,000	S	Vear 5 10,64167- 10,64167- 10,64167- 10,64167- 10,64167- 10,64167-	per year per year per year per year USD (Nominal) Cost Unit: per participant per year USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRIA audits or direct install measures) or making a capital investment in a customer's project where the customer rhown'n hold acustomers conversion incentives will be used in the Participant Cost treats for the NGIA evaluation criteria incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification CapEx Incentive, After Third Party Funding 3 M-RETS Generator Registration Costs M-RETS Generator Registration Fee (One Time, M&V - Total Cost for Whole Pilot Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B	Year 1   S   Year 1	- pe - pe - pe - s - s - s - s - s - s - s - s - s - s	Year 2	1,530,000   \$   1,530,000	Year 4 10,641,674 \$ 10,841,674 \$ 10,841,674 \$ 10,841,674 \$ 8,699,856 \$	Year 5 10,641,67 10,841,67 10,849,85 8,699,85	per year per year per year per year per year USD (Nominal) Cost Unit: per participant per year USD (Nominal) Cost Unit: 4 per participant 4 per participant USD (Nominal) Cost Unit: 5 per participant 5 per participant	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's nor used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measure), or making a capital investment in a customer's project where the customer shown hold environment numeration incentives will be used in the Participant Cost treats for the NGIA evaluation criteria incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installistion costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C  Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Support for Studies Scoping Study / Customer Identification  CapEx Incentive, After Third Party Funding 3  M-RETS RTC Registration Cost M-RETS Generator Registration Fee (One Time) M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	Year 1   S   Year 1	- pe - pe - pe - s - s - s - s - s - s - s - s - s - s	Year 2	1,530,000   \$   1,530,000	S	Year 5 10,641,67 10,841,67 10,849,85 8,699,85	per year per year per year per year USD (Nominal) Cost Unit: per participant per year USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant	expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRIA audits or direct install measures) or making a capital investment in a customer's project where the customer rhown'n hold acustomers conversion incentives will be used in the Participant Cost treats for the NGIA evaluation criteria incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for

TOTAL AND DIRECT PARTICIPANT PILOT COSTS	Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C  Calculations & Other Explanation:  Escalation rat.  IRA max credit value as \$3/kg H2 feasible when the hydrogen Funding from IRA	k: \$	ded here, to be accc Upfront Costs belov year value is divided  - \$ - \$ - \$ 3.82%	year 2 Year 2 3.82%  12 (assumes max ich have not yet be	oriate cost effectiveness teterarty IRA funding is added a innee this input is per year of the second of the secon	115, but these values ARE	NOT used to y Savings' in rows Year 5 - 9,311,674 Year 5 3.82%	USD (Nominal) Cost Unit:  per participant  per participant  per participant  [for each pilot analysis year)  bles that count as low-carbon. We assu	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGA evaluation criteria. Note 1 some pilots taking a Direct Install approach may see the utility overling all costs, with no infriend financial contribution from the narticipant. Mark 2 years and sea are not satisfied from the utility was 1 and then use if the For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most recently available data.  Imperior and the control of the last five years are possible to the last five years. Using the most recently available data.
	Electrolyzer stack must be replaced after 10 years  PV of stack replacement cost (\$	) \$	10 yr 788,106		Capex Stack replacement cost \$ Stack life (hours) Weighted average real cost of capital	1,478,035 80000 6.5%			
					·				
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	Increased electricity costs for renewable power purchases for the electrolyzer, increased operating and
	Participant Non-Energy Costs, Size A	\$	3,288,011 \$	3,288,011	\$ 3,288,011 \$	3,288,011 \$	3,288,011	per participant per year of pilot life	maintenance costs (O&M), and increased water costs. Electricity costs were included directly here because they expect to use a green tarif program to procur renewable electricity, while the default areas to enter
	Participant Non-Energy Costs, Size B	\$	3,288,011 \$	3,288,011	\$ 3,288,011 \$	3,288,011 \$	3,288,011	per participant per year of pilot life	increased electricity consumption below would automatically apply higher GHG emission factors for power generation. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation
	Participant Non-Energy Costs, Size C	\$	3,288,011 \$	3,288,011	\$ 3,288,011 \$	3,288,011 \$	3,288,011	per participant per year of pilot life	criteria.
PARTICIPANT	<u>Calculations &amp; Other Explanation:</u> Escalation rate	Year 1	3.82%	Year 2 3.82%	Year 3 3.82%	Year 4 3.82%	Year 5 3.82%	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most
NON-ENERGY COSTS	20-year (2025-2044) average electricity retail price (\$/kWh fo C&i in MN Electricity cost for renewable electricity via Windsource (astimated net charge) Xcel Energy's Windsource subscriptions are available in 100 kilowatt- The Windsource charge includes a per block charge of \$3.53, less a cr This cost is in addition to your current electric charges. If your electri Water consumption (kg water/kg H2 Water cost \$/metric ton of wate	\$ shour (kWh) blocks. redit for fuel costs. For Commer city use is less than your Winds r		h h emand customers, t			Actual costs will va	ry based on usage and monthly fuel cre	edit variations.
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	True in the control of the control o
	Participant Non-Energy Savings, Size A	\$	473,960 \$	473,960	\$ 473,960 \$	473,960 \$	473,960	per participant per year of pilot life	This includes any operating savings like water savings.
PARTICIPANT NON-ENERGY	Participant Non-Energy Savings, Size B	\$	473,960 \$	473,960	\$ 473,960 \$	473,960 \$	473,960	per participant per year of pilot life	
SAVINGS	Participant Non-Energy Savings, Size C	\$	- \$	_	\$ - \$	- \$	_	per participant per year of pilot life	
	Calculations & Other Explanation:	This area is used to include the	ne IRA \$3/kg incentiv	e, as it is an on-goi	ng cost savings (not upfron	t).			
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:		20 years 20 years 20 years						
NATURAL GAS ENERGY SAVINGS: AVG.	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C		42,581 Dth/P 42,581 Dth/P 2,581 Dth/P	articipant					
Dth/ PARTICIPANT SAVED	Calculations & Other Explanation:	Assumes no H2 storage (tha	all H2 produced is o	consumed at facility	displacing natural gas con	nbustion).			
	Avg. Non-Gas Fuel Units/Part. Saved, Size A		0.00 kWh/l	Participant	Units are kWh; could technically b	e other non-NG. Avg. Non-Gas	Fuel Units/Part. Saved v	will be used in the Participant Cost tests for the I	NGIA evaluation criteria.

	Avg. Non-Gas Fuel Units/Part. Saved, Size B		0.00 kWh/Participant					
	Avg. Non-Gas Fuel Units/Part. Saved, Size C	C	0.00 kWh/Participant					
AVG. NON-GAS								
FUEL UNITS/	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A	C	0.00 kWh/Participant	Avg. Additional Non-Gas Fuel Units	/Part. Used will be used in the	Participant Cost tests	or the NGIA evaluation criteria.	
PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B		0.00 kWh/Participant					
	Avg. Additional Non-das ruel onits/rai cosed, 3126 B		KWII/Fai ticipant					
	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	C	0.00 kWh/Participant					
	Calculations & Other Explanation:	Additional electricity usage is reflected	in costs above so as to not o	iver-count emissions.				
	Total Annual Dth Saved, Size A	Year 1	Year 2	Year 3 42,581	Year 4	Year 5	Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
TOTAL ANNUAL	Total Annual Dth Saved, Size B			42,581	42,581	-	Dth	rational gas artings and result from matepying sarings per participant affect the total number of new participants in a given year
Dth SAVED	Total Annual Dth Saved, Size C		-	42,581	42,581	42,581	Dth	
	Calculations & Other Explanation:							
	Calculations & Other Explanation.							
	0.145.0	NOS						
	Grid Mix Scenario	NREL Not leveraged for GHG evaluation, which	h	Select one of the listed grid mix sc	enarios taking into account th	et:		
		not interaged for an a draudation, minor	•	•Utilities shall use electric-utility-sp	pecific generation mix informa	tion for the renewable r	atural gas facility when it is reasonably a	vailable. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation mix taken from on of carbon free electricity than is available by default from their electric utility—either from on-site generation, by subscribing to a
GRID MIX								
SCENARIO		From Frameworks Order: "Carbon-free e						n, and,
		for approval on a case-by-case basis, of adversely impacted."	ther carbon-tree generation	supported by a demonstration	on that the greenhouse	gas intensity of the	connected electric grid is not	
	Calculations & Other Explanation:	daversely impacted.						
		m decreased natural gas and/or electric	city consumption will be cal	culated based on values ab	ove. However, for pilot	where NGIA requ	ires lifecycle GHG savings (e.g.	RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG emissions (per unit
	of participation).							
	Lifecycle GHG Intensity, Size A	Year 1	Year 2	Year 3	Year 4	Year 5		
	Low	100.1	100.2	700.0	1001 4	10010	kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas
	Expected	C	0.00	0.00	0.00	0.00	kg CO2e/participant	Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will be
	High						kg CO2e/participant	used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA
	Lifecycle GHG Intensity, Size B	Year 1	Year 2	Year 3	Year 4	Year 5		plans.
	Low						kg CO2e/participant	
	Expected	C	0.00	0.00	0.00	0.00	kg CO2e/participant	
	High						kg CO2e/participant	
	Lifecycle GHG Intensity, Size C	Year 1	Year 2	Year 3	Year 4	Year 5		
	Low						kg CO2e/participant	
LIFECYCLE GHG INTENSITY BY	Expected High	C	0.00	0.00	0.00	0.00	kg CO2e/participant kg CO2e/participant	
PROJECT SIZE	rigi						rg coze/participant	
	Calculations & Other Explanation:							
			HG Intensity		his calculation structure is op	tional; if modifications	are needed, please use the hidden rows	or raise with project leads.
		Size A	Size B	Size C				
	Low Scenario		8 0020/0111					
	Expected Scenario	C	0.00	0.00				
	High Scenario							
		kg CO2e/Dth						
	Default Geologic Gas Emissions Factor		6.14					
		6		and the second				
	From Frameworks Order: "Utilities may assume that hydrogen produce	6 ad using carbon-free electricity has no gr		ciated with its production b	ut may have greenhouse	gas emissions ass	ociated with electricity used for	compression, transportation, blending, injection, purification and pumping of water, or other purposes."
		6 ad using carbon-free electricity has no gr		ciated with its production b	ut may have greenhouse	gas emissions ass	ociated with electricity used for	compression, transportation, blending, injection, purification and pumping of water, or other purposes."
	From Frameworks Order: "Utilities may assume that hydrogen produce	6 ad using carbon-free electricity has no gr		ciated with its production b	ut may have greenhouse	gas emissions ass	ociated with electricity used for	compression, transportation, blending, injection, purification and pumping of water, or other purposes."
	From Frameworks Order: "Utilities may assume that hydrogen produce NG Dth/year savings profiled will already be calculating GHG savings t	6 ad using carbon-free electricity has no gro pased on 66.14 factor.		ciated with its production b	ut may have greenhouse	gas emissions ass	ociated with electricity used for	compression, transportation, blending, injection, purification and pumping of water, or other purposes."
OTHER PILOT-SP	From Frameworks Order: "Utilities may assume that hydrogen produce	6 ad using carbon-free electricity has no gro pased on 66.14 factor.		ciated with its production b	ut may have greenhouse	gas emissions ass	ociated with electricity used for	compression, transportation, blending, injection, purification and pumping of water, or other purposes."
	From Frameworks Order: "Utilities may assume that hydrogen produce NG Dth/year savings profiled will already be calculating GHG savings t	6 ad using carbon-free electricity has no gro pased on 66.14 factor.	eenhouse gas emissions asso	effect of the project on system pe				compression, transportation, blending, injection, purification and pumping of water, or other purposes."  ces should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non
PEAK	From Frameworks Order. "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIPIC PARAMETERS (formarly 'General Parameters' in CIP Calculate Peak Reduction Factor	6 ad using carbon-free electricity has no gro pased on 66.14 factor.	eenhouse gas emissions asso	effect of the project on system pe				
	From Frameworks Order: 'Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato	6 ad using carbon-free electricity has no gro pased on 66.14 factor.	eenhouse gas emissions asso	effect of the project on system pe				
PEAK REDUCTION	From Frameworks Order. "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIPIC PARAMETERS (formarly 'General Parameters' in CIP Calculate Peak Reduction Factor	6 ad using carbon-free electricity has no gro pased on 66.14 factor.	eenhouse gas emissions asso	effect of the project on system pe				
PEAK REDUCTION	From Frameworks Order. "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIPIC PARAMETERS (formarly 'General Parameters' in CIP Calculate Peak Reduction Factor	6 ad using carbon-free electricity has no gro pased on 66.14 factor.	eenhouse gas emissions asso	effect of the project on system pe			. The method for other innovative resou	
PEAK REDUCTION	From Frameworks Order: "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato Peak Reduction Factor  Calculations & Other Explanation:	6 ad using carbon-free electricity has no gr assed on 66.14 factor.	The estimated average annua Participant Cost tests for the	effect of the project on system pe NGIA evaluation criteria. Year 3	ak. It is estimated to be 1% for Year 4	energy efficiency pilots Year 5	The method for other innovative resource.  USD (Nominal) Cost Unit:	ces should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non
PEAK REDUCTION	From Frameworks Order. "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIPIC PARAMETERS (formarly 'General Parameters' in CIP Calculate Peak Reduction Factor	6 ad using carbon-free electricity has no gr assed on 66.14 factor.	eenhouse gas emissions associated as the state of the stimated average annua.  Participant Cost tests for the	effect of the project on system pe NGIA evaluation criteria. Year 3	ak. It is estimated to be 1% for	energy efficiency pilots Year 5	. The method for other innovative resou	ces should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non  The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in
PEAK REDUCTION	From Frameworks Order: "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes	6 ed using carbon-free electricity has no gn assed on 66.14 factor.  Year 1	The estimated average annua Participant Cost tests for the  Year 2  05 \$ 0.05	effect of the project on system per NGIA evaluation criteria.  Year 3 \$ 0.04 \$	ak. It is estimated to be 1% for  Year 4  0.04 \$	Year 5	The method for other innovative resource.  USD (Nominal) Cost Unit:	ces should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non  The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease OEM costs as they also need to be transported to customers on the distribution system. Variable OEM will be used in the Utility Cost and
PEAK REDUCTION FACTOR	From Frameworks Order: 'Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIFIC PARAMETERS (formerly 'General Parameters' in CIF Calculato Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes	6 ad using carbon-free electricity has no gr assed on 66.14 factor.	The estimated average annua Participant Cost tests for the	effect of the project on system pe NGIA evaluation criteria. Year 3	ak. It is estimated to be 1% for Year 4	energy efficiency pilots Year 5	The method for other innovative resource.  USD (Nominal) Cost Unit:	ces should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non  The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs
PEAK REDUCTION FACTOR	From Frameworks Order: "Utilities may assume that hydrogen product NG Dth/year savings profiled will already be calculating GHG savings to CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes	See a using carbon-free electricity has no grassed on 66.14 factor.  Year 1  Year 1	The estimated average annua Participant Cost tests for the  Year 2  05 \$ 0.05	effect of the project on system per NGIA evaluation criteria.  Year 3 \$ 0.04 \$	ak. It is estimated to be 1% for  Year 4  0.04 \$	Year 5	The method for other innovative resource.  USD (Nominal) Cost Unit:	ces should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non  The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO may not decrease OEM costs as they also need to be transported to customers on the distribution system. Variable OEM will be used in the Utility Cost and

N-GAS FUEL SS FACTOR  ER QUANTITATIV  THER NON- GHG DILLUTANTS  OI  ES	Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  IVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:  Escalation rate from legislation	\$ \$ \$	(0.00 (0.00	USD Cost Unit: 4) per Dth per Dth	This is a net cost savings pe the combustion of Hydroge than the savings achieved (2021 dollars habe 2 below	by Minnesota Power, Xcel  r Dth of natural gas saved. in place of natural gas. To	Energy, and Otter Tail Power	's reported 2021 transmission and distribution loss	factors and weighting by the util	ities' 2017-2019 average r				
OHER NON-GHG GHG CS ES	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$ \$ \$	(0.00	per Dth per Dth	the combustion of Hydroger than the savings achieved (f 2021 dollars in Table 2 below	n in place of natural gas. Th rom multiple types of emis	In addition to the 'other non-	-GHG pollutan" cost sayings from radiused combus	tion of natural gas, which is calcu	ulated with in line with the	CID methodology this pilot appoints in instance of MCA.			
OHER NON-GHG GHG CS ES	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$ \$ \$	(0.00	per Dth per Dth	the combustion of Hydroger than the savings achieved (f 2021 dollars in Table 2 below	n in place of natural gas. Th rom multiple types of emis	In addition to the other non-	-GHG pollutant' cost savings from reduced combine	tion of natural gas, which is calcu	ulated with in line with the	CID mathadology this pilot accounts for invested NO.			
THER NON- GHG DILLUTANTS OF Es	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$ \$	(0.00	per Dth per Dth	the combustion of Hydroger than the savings achieved (f 2021 dollars in Table 2 below	n in place of natural gas. Th rom multiple types of emis	In addition to the 'other non-	-GHG pollutant' cost savings from reduced combus	tion of natural gas, which is calcu	ulated with in line with the	CID methodology this pilot accounts for insert NO			
THER NON- GHG DILLUTANTS OF Es	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$ \$ \$	(0.00	4) per Dth	the combustion of Hydroger than the savings achieved (f 2021 dollars in Table 2 below	n in place of natural gas. Th rom multiple types of emis								
GHG DLLUTANTS OH  Ca  Es	Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$	(0.00	4)		, which were calculated by	This is a net cost savings per 0th of natural gas saved in addition to the 'other non-GHQ pollutant' cost savings from reduced combustion of natural gas, which is calculated with in line with the Combustion of Hydrogen in place of natural gas. The valuation of Not verification are remissions come from GHET. The negative net savings shot than other savings achieved from multiple types of emissions) from reduced gas combustion. The natural gas factor is calculated using the final environmental cost values approved by Minnesota (2014) officers in 14-b 2 Palsow within twee calculated for unifiation the Commissions annowed redistorer for memory indigenous production.							
Ci Es	Calculations & Other Explanation:	\$	-		a low-income population mi	21 dollars in Table 2 below, which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expresses in Table 5 below that the state of the transport of the under value and the under what have then than the metroplate inflige value for plats targets an unders an ear might use the under value and part of the under value and the under what have then than the metroplate inflige value in the value of the under value of the under value of the value of the under value of the								
Es No No				per Dth										
No No	Escalation rate from legislation			_										
No			18.73	% 2014 USD adjustment to 2021 USD	For an escalation rate, we us available data.	e the 12-month percentag	e change in the "all items" co	nsumer price index available from the United State:	s Bureau of Labor Statistics, as re	eported in December for e	each of the observed years from 2014 to 2021. Using the most recently			
No									Remainder of project					
No	Net Direct Job Creation, Size A		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	9 125 :	# of jobs	Utilities should consider both jobs created by proposed pilots a			
N.	Net Direct Job Creation, Size B			1 (	45		32	11 8	9 241	# of jobs	jobs that may be eliminated by proposed pilots.			
/	Net Direct Job Creation, Size C			1 (	24		27	35	281	# of jobs				
			Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of project life					
	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B			0 12	2 4		19	6 5		# of jobs # of jobs	Utilities should consider both jobs created by proposed pilots jobs that may be eliminated by proposed pilots.			
	Net Indirect Job Creation, Size C			0 (	14		17	20	51 169	# of jobs				
NET JOB CREATION			Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of project					
Ne	Net Induced Job Creation, Size A Net Induced Job Creation. Size A			0 16	5 5		4	4 2	8 91	# of jobs				
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A			0 0	18		21	25 6		# of jobs # of jobs				
	<u>Calculations &amp; Other Explanation:</u> ob numbers are estimated as Full Time Equivalents (FTE) and are rounded	d off.												
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:						
D <sub>1</sub>	Public Co-Benefits, Size A Public Co-Benefits. Size B	\$		\$ -	\$ -	\$	- \$	- per year - per year	Quantifiable in some cases. If Qualitative Considerations se	this metric isn't quantifia ction below.	able, there is space for any qualitative comments in the Additional			
	Public Co-Benefits, Size B Public Co-Benefits, Size C	\$		\$ -	\$ -	\$	- \$	- per year						
	Calculations & Other Explanation:								_					
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>-</b>					
w	Water Pollution, Size A Water Pollution, Size B	\$		\$ =	\$ - \$ -	\$	- \$	- per year - per year	the projects. If this metric isn	n't quantifiable, there is sp	and benefits on water pollution. This might be quantifiable for some pace for any qualitative comments in the Additional Qualitative			
	Water Pollution, Size C	\$	-	\$ -	\$ -	\$	- \$	- per year	Considerations section below	<i>t.</i>				
	Calculations & Other Explanation:													

NGIA Utility	
<u>Perspective</u>	
Notes:	
	It is expected that most of the utility perspective costs and benefits
	will be quantifiable with and should be heavily informed by the
Definition:	structural values and CIP quantification methods.
NCIA	
NGIA Participants'	
Perspective	
Notes:	
Definition:	It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable. For example,
	increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.
	May assist MN businesses in achieving GHG goals
NGIA_	
Nonparticipating	
Customers' Perspective	
Notes:	
	As with the utility perspective, the direct effects of pilot programs on
	non-participating customers should be quantified in most cases and
Definition:	can be heavily informed by structural values.
Effects on Other	
Energy Systems	
and Energy	
Security: Definition:	
	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the
	electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.
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GHG Emissions	electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.
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GHG Emissions. Notes: Definition:  Other Pollution. Notes: Definition:  Waste. Reduction and Reuse Notes: Definition:	electric system. Further, the NGA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.  Fuel made in MN and reduces import of fuel from outside of MN; hydrogen production may place burden on electric grid  An innovation plan must include the total illecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.  Waste reduction, reuse, and anaerobic digestion are goals of the NGIA.
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GHG Emissions. Notes: Definition:  Other Pollution Notes: Definition:  Waste Reduction and Reuse Notes: Definition:	electric system. Further, the Kirk Assessment the Commission to consider a wide veriety of four and benefits that may be expected under a plan." One of which is a reduction of reliance on imported resources and national four markets.  Full made in NN and reduces import of fuel from outside of MN, hydrogen production may place burden on electric grid  An innovation plan must include the total lifecycle GPG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GPG accounting framework and GPG externally values. Note that this row also calls for discussion of any environmental justice effects of the plot related to GPG emissions, these may not be quantifiable.  Include any additional non-GPG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GPG pollution.  Waster reduction, reuse, and anaerobic digestion are goals of the NGA.  Includes reduction of water use.
GHG Emissions Notes: Definition:  Other Pollution Notes: Definition:  Waste Reduction and Reuse Notes:  Definition:	electric system. Turnible the NGA empowers the Commission to consider a reduction may place burden on electric grid  An innovation plan must include the total fitting of GMS emissions that the utility projects will be reduced or a violed through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GMS accounting framework and GMS enternality values. Note that this may also onlis for discussion of any environmental justice effects of the pilot related to GMS emissions, these may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GMS pollution.  Water reduction revise, and exercicle digestion are goals of the NGA. Includes reduction of water use.
GHG Emissions Notes: Definition:  Other Pollution Notes: Definition:  Waste Reduction and Reuse Notes:  Definition:	electric system. Further, the Kirk Assessment the Commission to consider a wide veriety of focus and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.  Full made in NN and reduces import of fuel from outside of MN, hydrogen production may place burden on electric grid  An innovation plan must include the total lifecycle GPG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quentifiable using the Commission-approved GPG accounting framework and GPG externality values. Note that this row also calls for discussion of any environmental justice effects of the plicit related to GPG emissions, these may not be quantifiable.  Include any additional non-GPG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GPG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GPG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GPG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GPG environmental costs and benefits.
GHG Emissions Notes: Definition:  Other Pollution Notes: Definition:  Waste Reduction and Reuse Notes:  Definition:	electric system. Turther, the Kild ampowers the Commission to consider a wide variety of 'Cost at and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national final markets.  Full middle in MN and reduces import of fuel from outside of MN. hydrogen production may place burden on electric grid  An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or accided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externally values. Note that this row also calls for discussion of any environmental justice effects of the pilor related to GHG emissions, these may not be quantifiable.  Include any additional non-GHG environmental costs and benefits. For example effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilor related to non-GHG pollution.  Water reduction reuse, and enverobic digestion are goals of the NGA. Includes reduction of water use.  NGAs is intended to help the state achieve contain environmental and policy goals including geologic past throughput reduction and

Net Job Creation Notes:	
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
Definition:	eliminated by proposed pilots.
Economic Development Notes: Definition:	
	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Likely that many projects will satisfy IRA labor requirements; hydrogen projects represent clean energy opportunity for workers from traditional fossil fuel jobs; will help MN build hydrogen workforce as hydrogen poised for growth due to IRA
Public Co- Benefits Notes: Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.
Market Development Iotes: Definition:	
	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized May help MN businesses appeal to customers interested in sustainability
Direct nnovation Support Notes:	
Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for customers to learn about novel options for reducing GHGs from their systems
esource calability and tole in a decarbonized	
iystem Notes: Definition:	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state. Hydrogen poised to become more affordable and scalable as a result of IRAC, Hydrogen may be best decarb to approve the state.

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NGIA Pilot Profiles Workbook

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CNPO9 - Industrial Methane and Refrigerant Leak Reduction Program

Pilot Project Code:	CNP09
Pilot Project Name:	Industrial Methane and Refrigerant Leak Reduction Program
Customer Class/ Sector:	C&I
Low-Income Community Benefit?	N
Target Area:	Territory-wide
Primary Innovative Resource Category:	Carbon Capture

Select primary Innovation Category. Others can be listed here:

CenterPoint Energy will hire a third-party vendor to conduct surveys of participating industrial and large commercial facilities for methane and refrigerant leaks behind the customer gas meter. After leaks are identified, CenterPoint Energy will offer incentives to partially offset the cost of leak repair. Participating customers will also receive follow up surveys every two years during the term of the Plan to test how well the impacts of the leak survey on reducing methane and refrigerant leakage are sustained.

#### DESCRIPTION

#### Overview of Program/ Implementation Approach:

Large industrial and commercial CenterPoint Energy customers would be encouraged to participate in this program, targetting between 25-50 new facilities per year. In their first year of participation facilities would receive a 'sweep survey' to identify and quantify behind the meter methane leaks, as well as planning support to establish a systematic leak repair program. These services would be provided by a 3rd party vendor and fully funded through the pilot. The program would also offer incentives to partially offset the costs of repairing identified leaks. Program participants would also receive follow-up 'sweep surveys' every 2 years of the 5-year NGIA framework, as an approach to testing how well the impacts can be sustained. There is significant uncertainty on the level of leaks, as well as expectations that leak levels can vary widely between facilities. To that end, we have made conservative estimates of leak reductions, and ultimately actual leak levels (and impact of repairs) will be documented through the initial and follow up leak sweeps.

#### Other Comments / Information:

Pilot sizes differ depending on number of participants

Due to data limitations, magnitude of GHG reduction from refrigerant leaks is not quantified for the purposes of this analysis, so estimate provided here could be an underestimate of the total GHG savings potential.

This program is expected to be accessible to large industrial and commercial facilities, and able to reach rural and/or underserved communities.

## KEY PILOT-SPECIFIC INPUTS:

Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
Calendar Year	2024	2025	2026	2027	2028	
Participating Units, Size A	25	25	0	0	0	Incremental units added, annual (not cumulative).
Participating Units, Size B	25	25	25	25	25	
Participating Units, Size C	50	50	50	50	50	
Unit of Participation =	Facilities enrolling in program					

#### Calculations & Other Explanation:

NUMBER OF PARTICIPANTS Participating units above only include first time customer sweeps, while the numbers below include a follow up sweep every other year (sites from year 1 get sweep again in year 3 and year 5). Follow up sweeps will serve to confirm that leak repairs have been made, that savings are maintained over time, and monitor the rate of new leak occurences.

2024 2025 2026 2027 2028 Total Number of Sweeps Per Year, Size A 25 25 25 25 25 Total Number of Sweeps Per Year, Size B 25 25 50 50 Total Number of Sweeps Per Year, Size C 50 50 100 100 150

Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C

Fixed O&M Cost. Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Internal Project Delivery, Size A

USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 4 Year 5 436,676 450.561 226,947 total cost per year 902,027 total cost per year 436.676 450,561 675.736 total cost per year

USD (Nominal) Cost Unit: 226,947 total cost per year 399.000 412.885 210.904 218,778 864,352 total cost per year 399,000 412,88 615,91 638,060 1,653,554 total cost per year

deployment, and/or the utility's annual revenue requirement for capital Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost

These incremental utility costs are what will count against the NGIA

budget cap for this measure and will be used in the Utility Cost, and Non

Participant Cost tests for the NGIA evaluation criteria. This is the sum of

utility admin costs to run pilot, any incentive funding to support project

Year 1 USD (Nominal) Cost Unit: Year 2 Year 3 Year 4 Year 5 Total internal and external project delivery 374.000 \$ 387885 210.904 218,778 226,947 per year 374,000 613,060 839,352 per year 699,000 \$ 725 300 1,623,554 per year 1129 843 1172 577

Vear 1 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 49,000 \$ 50,470 \$ 22,279 \$ 22,947 \$ 23,636 per year

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost"

				10.000	50.470					category above.
	Internal Project Delivery, Size B	\$		49,000 \$	50,470				per year	attigary above.
	Internal Project Delivery, Size C	\$		49,000 \$	50,470	\$ 51,984	\$ 53,544	\$ 55,150	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	External Project Delivery, Size A	\$		325,000 \$	337,415	\$ 188,625	\$ 195,831	\$ 203,312		External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Utility "Fixed
	External Project Delivery, Size B	\$		325,000 \$	337,415	\$ 538,930	\$ 559,517	\$ 784,202		O&M Cost" category above.
	External Project Delivery, Size C	\$		650,000 \$	674,830	\$ 1,077,859	\$ 1,119,033	\$ 1,568,404	per year	Can cost category above.
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Advertising and Promotions, Size A	\$		25,000 \$	25,000	\$ -	\$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$		25.000 \$	25.000	\$ 25,000	\$ 25,000	\$ 25,000	per year	
	Advertising and Promotions, Size C	\$		30,000 \$	30,000	\$ 30,000	\$ 30,000	\$ 30,000	per year	
	and the second s	<u> </u>					,		11 7 7 1	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A					. our o		100.0	per year	Share of portfolio level costs, including plan development costs,
	Allocation of General Portfolio Costs, Size B								per year	regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B								per year	
	Allocation of General Portfolio Costs, Size C					Į.			per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	\$		- \$	- :	\$ -	\$ -	\$ -	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
UTILITY PILOT	Trade Ally Incentives, Size B	\$		- \$	- ;	\$ -	\$ -	\$ -	per year	miastream program)
COSTS	Trade Ally Incentives, Size C	\$		- \$	- :	\$ -	\$ -	\$ -	per year	
		•								
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$		- \$	- 1	\$ -	\$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$		- \$	_	\$ -	\$ -	\$ -	per year	, , , , , , , , , , , , , , , , , , , ,
	Workforce Development or Market Transformation Cost, Size C	4		- \$		¢	¢	¢	per year	
	workforce Development or Market Transformation Cost, Size C	Ф		- 12	- 1	<b>5</b> -	<b>a</b> -	φ -	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A	\$		- \$	-	\$ -	\$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$		- \$	- :	\$ -	\$ -	\$ -	per year	
	Other Fixed O&M Cost, Size C	\$		- \$	-	\$ -	\$ -	\$ -	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$		- \$	-	\$ -	\$ -	\$ -	per year	This tracks expectations for when this pilot would require capital
	Total utility capital investment, Size B	\$		- \$	-	\$ -	\$ -	\$ -	per year	investments from the utility, if applicable. This will not directly feed into
	Total utility capital investment, Size C	¢		_ ¢	_	¢ _	¢ _	¢ _	per year	the incremental costs for NGIA, but instead will be used to estimate the
	Total utility capital livestifient, size C	Ψ		-   Ψ		Ψ -	Ψ –	Ψ –	per year	timing and level of annual revenue requirement resulting from these
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	5 . 4 . 15	Α.	Year i		Year 2			Year 5		E
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$		- \$	- :	Ψ	\$ -	\$ -	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$		- \$	- :	\$ -	\$ -	\$ -	per year	well as the utility "Fixed O&M Costs" captured above. This revenue
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		- \$	- :	\$ -	\$ -	\$ -	per year	requirement is calculated from the magnitude & timing of capital
				USD	(Nominal) Cost					
			Total	Unit						
	Est. Total Revenue Requirement for Capital Projects, Size A	\$		- per \	/ear					The total revenue requirement is calculated from the magnitude &
	Est. Total Revenue Requirement for Capital Projects, Size B	\$		- per y	/ear					timing of total capital investment captured above, based on expected
	Est. Total Revenue Requirement for Capital Projects, Size C	¢		- per \						measure life (and depreciation time period), as well as the utility's return
	Est. Total Revenue Requirement for Capital Frojects, Size C	Ψ		- Iper	cai					on investment. This cost is noted here for reference, it's not used to
					v 0	٧. ٥	v .	v - 5	1100 (11 . 1) 0 . 11 .:	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$		37,676 \$	37,676	\$ -	\$ -	\$ -	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not
	Incentives, Size B	\$		37,676 \$	37,676	\$ 37,676	\$ 37,676	\$ 37,676	per year	include here cost of customer benefits delivered directly to the
	Incentives, Size C	\$		75,351 \$	75,351	\$ 75,351	\$ 75,351	\$ 75,351	per year	customer by a program vendor (paving for the cost of energy/GHG
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	\$		1.507 \$	1,507	#DIV/0!	#DIV/0!	#DIV/O!	per participant per year	Incentives per participant is a function of total incentives paid directly
	Incentives per Participant, Size B	\$		1,507 \$	1,507	\$ 1,507	\$ 1,507	\$ 1,507		to customers.
	Incentives per l'articipant, Size D	φ ¢		1,507 \$	1,507	\$ 1,507			per participant per year	
	incentives per Farticipant, Size C	Φ		1,507 φ	1,507	φ 1,5U7	Φ 1,5U7	φ 1,507	per participant per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u></u>
	Total Pilot Upfront Costs, Size A	\$		12,000 \$	12,458	\$ 12,934	\$ 13,428	\$ 13,94	per participant	This represents the total equipment and installation costs for
	Total Pilot Upfront Costs, Size B	\$		12,000 \$	12,458	\$ 12,934	\$ 13,428	\$ 13,94		technologies implemented as part of this pilot (specifically non-utility
	Total Pilot Upfront Costs, Size C	\$		12.000 \$	12,458	\$ 12,934	\$ 13,428	\$ 13.94	per participant	capital projects that were captured separately above). This cost does
				,,	,,		,	,01		nor account for what portion of costs may be covered by utility
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Third Danta Funding Circ A	•	reari	- \$	rear z	tear o	rear 4	rear 3	per participant	If there are expectations for external funding sources (e.g. IRA, etc)
										ii criere are expectations for external runding sources (e.g. IRA, etc.)
	Third Party Funding, Size A	Φ		- ş		\$ -	Φ -	Φ -		account for those values here. This funding is noted here for reference
	Third Party Funding, Size B	\$		- \$	- :	\$ -	\$ -	\$ -	per participant	account for those values here. This funding is noted here for reference,
	Third Party Funding, Size B Third Party Funding, Size C	\$		- \$ - \$	- :	\$ - \$ -	\$ - \$ -	\$ - \$ -		account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Third Party Funding, Size B	\$ \$ IRA, etc		- \$ - \$	- - -	\$ - \$ -	\$ - \$ -	\$ - \$ -	per participant	

		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
TOTAL AND	Direct Participant Pilot Costs, Size A	\$	3,493 \$	3,684		\$ 4,088 \$	4,302	per participant	This represents the upfront costs to participants who participate in this
DIRECT	Direct Participant Pilot Costs, Size B	\$	3,493 \$	3,684	\$ 3,882	\$ 4,088 \$	4,302	per participant	pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be
PARTICIPANT	Direct Participant Pilot Costs, Size C	\$	3,493 \$	3,684	\$ 3,882	\$ 4,088   \$	4,302	per participant	used in the Participant Cost tests for the NGIA evaluation criteria. Note 1:
PILOT COSTS	Calculations & Other Explanation:	Year 1		Year 2	Year 3	Year 4	Year 5		
	Escalation rate		3.82%	3.82%	3.82%	3.82%		(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage
								•	change in the "all items" consumer price index available from the United
		Year 1		Year 2	Year 3	Year 4	Year 5		
	Cost of onsite sweep survey per customer: Cost for 1-year on-going vendor planning support:		\$7,000 \$6,000	\$7,267 \$6,229	\$7,545 \$6,467	\$7,833 \$6,714		Covered by Pilot Covered by Pilot	
	Assumed customer leak repair costs:		\$5,000	\$5,191	\$5,389	\$5,595		Customer cost, incentive in next row	
	Total Incentives for Customer Leak Repairs (per customer):		\$1,507	\$1,507	\$1,507	\$1,507		Covered by Pilot	
	Leak repair incentives:		\$0.50 \$ / ar	nnual therm					
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Participant Non-Energy Costs, Size A	\$	-  \$	rear z	\$ - :	\$ - \$	rear 5	per participant per year of pilot life	This includes any increased in costs like equipment operating costs or
		Ť							increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
PARTICIPANT NON-	Participant Non-Energy Costs, Size B	\$	- \$	-	\$ - :	\$ - \$	-	per participant per year of pilot life	Participant Cost tests for the NGIA evaluation criteria.
ENERGY COSTS		Φ.							
	Participant Non-Energy Costs, Size C	\$	-   \$	-	\$ -	\$ -   \$	-	per participant per year of pilot life	1
	Calculations & Other Explanation:	Year 1		Year 2	Year 3	Year 4	Year 5		
	Escalation rate		3.82%	3.82%	3.82%	3.82%	3.82%	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage
									change in the "all items" consumer price index available from the United
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
					100.0	100.1-4		(Normal) Good Give	This includes any operating savings like water savings.
	Participant Non-Energy Savings, Size A	\$	- \$	-	\$ -	\$ - \$	-	per participant per year of pilot life	
ENERGY SAVINGS	Participant Non-Energy Savings, Size B	\$	- \$	-	\$ -	\$ - \$	-	per participant per year of pilot life	-
Zitzitat ortiitas	Participant Non-Energy Savings, Size C	\$	- \$	_	\$ - :	\$ - \$	-	per participant per year of pilot life	
					-				_
	Calculations & Other Explanation:								
									_
	Average Lifetime for Savings/Pilot Tech, Size A		5 years	S					
	Average Lifetime for Savings/Pilot Tech, Size B		5 years						
	Average Lifetime for Savings/Pilot Tech, Size C		5 years	S					
PILOT LIFE		There is little publicly available in	formation on how	u long the leaks would	d have remained up-r	anaired PELreenon	dont suggested	a range of 5 to 8 years might be	
		appropriate. Pilot is being design							
	Calculations & Other Explanation:			Ü	,				
									_
			_			for savings from th	e first sweep at	a given site (given that these savings a	re assumed to persist), not accounting for savings from follow-
	Avg. Dth/Participant Saved, Size A				up sweeps.				
	Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C			Participant Participant					
	Avg. Dtn/Participant Saved, Size C		301 Dth/i	Participant					
	Calculations & Other Explanation:								
	·								
	Average 2022 Gas Consumption for CenterPoint's largest 200								
	customers:		120,562 Dth/	year					
NATURAL GAS					9	Source: this is an as	sumption being	made in an area where there is a lot of	uncertainty. This testing in this pilot would quantify the leaks
ENERGY SAVINGS:									ngs. The RFI respondent initially proposed that a higher level of
AVG. Dth/ PARTICIPANT			a		Je	eak reduction might	t be possible, so	this could be viewed as conservative (	i.e., GHG reduction impacts may be higher than what is
SAVED	Assumed level of reduction in methane leaks:		% of 0.25% cons	customer gas	C	calculated here, if lea	ak reduction rat	es are higher).	
	Assumed level of reduction in methane leaks:		0.20% cons	шприон					

One EPA estimate of methane leaks from industrial facilities pegged the rate at up to 5%, however this work was concentrated on refineries, and we do not expect this level to be common at most industrial facilities (EPA document Leak Detection and Repair Compliance Assistance Guidance Best Practices Guide: https://www.epa.gov/sites/default/files/2014-02/documents/ldarguide.pdf) Other work in California, in the commercial sector, has found leak rates ranging between 0.14% and 0.28% of total customer consumption (https://www.energy.ca.gov/sites/default/files/2021-05/CEC-500-2020-048.pdf) Estimates here are further complicated by the fact that in some studies many facilities might have no/minimal leaks, while a few facities make up the majority of total leaks. Units are kWh; could technically be other non-NG. Avg. Non-Gas Fuel Units/Part. Saved will be used in the Participant Cost tests for the NGIA evaluation criteria. Avg. Non-Gas Fuel Units/Part. Saved, Size A 0.00 kWh/Participant Avg. Non-Gas Fuel Units/Part. Saved, Size B 0.00 kWh/Participant Avg. Non-Gas Fuel Units/Part. Saved, Size C kWh/Participant Avg. Additional Non-Gas Fuel Units/Part.Used, Size A 0.00 kWh/Participant Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria. **AVG. NON-GAS** FUEL UNITS/ PART, Avg. Additional Non-Gas Fuel Units/Part, Used, Size B 0.00 kWh/Participant Avg. Additional Non-Gas Fuel Units/Part.Used, Size C 0.00 kWh/Participant The sweeps may also be able to uncover leaks in refrigerants. However the potential volumes, savings, and likelihood of repairs are unclear for refrigerant leaks, so these benefits are conservatively being assumed to be zero for now. Calculations & Other Explanation: No electricity savings Year 1 Year 2 Year 3 Year 4 Year 5 Total Annual Dth Saved, Size A 7,535 Natural gas energy savings that result from multiplying savings per participant I Total Annual Dth Saved. Size B 7535 7535 7535 Dth 7535 TOTAL ANNUAL Total Annual Dth Saved, Size C 15,070 15,070 15,070 15.070 **Dth SAVED** Calculations & Other Explanation: Grid Mix Scenario No Electricity Impact Select one of the listed grid mix scenarios taking into account that: •Dtilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not **GRID MIX** available the filing gas utility will use a state-specific generation mix taken from National Renewable Energy Laboratory (NRFL) Standard Scenarios. If the renewable natural gas facility is SCENARIO Calculations & Other Explanation: This section does not apply to all pilot types. The GHG changes from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section account: or the lifecycle change in GHG emissions (per unit of participation). Lifecycle GHG Intensity, Size A Year 1 Year 2 Year 3 Year 4 Year 5 Low kg CO2e/participant Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas Innovation Act Expected 115,116 kg CO2e/participant innovation (NGIA) plan, where applicable. High and low scenarios shall kg CO2e/participant High incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas Lifecycle GHG Intensity, Size B Vear 1 Year 2 Year 3 Year 4 Year 5 intensity values will be used in cost-benefit calculations and when kg CO2e/participant 115 116 115,116 kg CO2e/participant Expected High kg CO2e/participant Lifecycle GHG Intensity, Size C Year 1 Year 3 kg CO2e/participant low Expected kg CO2e/participant High kg CO2e/participant LIFECYCLE GHG Calculations & Other Explanation: INTENSITY BY Conversions Units Calculations in this section take the assume reduction in natural gas leaks (in Dth/year), convert that to a **PROJECT SIZE** Density of Methane at 60 degrees F and 14. 0.0192 kg/scf(MT/MCF) volume of natural gas (cf), then take the methane fraction of that gas, calculate the mass of methane emissions (kg) to atmosphere that have been avoided, and apply a global warming potential (GWP) to GREET 2022 default Methane 100 years GWP 29.8 convert those units into kg CO2e. This represents the GHG emission reduction from avoiding these to AR6 methane leaks. The natural gas combustion emision factor (66.14) is then subtracted from these savings simply because the spreadsheet these numbers feed into will automatically add that same amount of

Methane Composition for sales gas 84.5% savings for this pilot (when there are no actual reductions in combustion emissions in this pilot). kg CO2e/Dth Default Geologic Gas Emissions Factor: 6614 OTHER PILOT-SPECIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator) 1/K. The estimated average annual effect of the project on system peak. It is estimated to be 1% for energy efficiency pilots. The method for other innovative resources should be considered in the context of specific utility Peak Reduction Factor proposals. Peak Reduction Factor will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. PEAK REDUCTION Calculations & Other Explanation: Year 1 Year 2 Year 3 Year 4 USD (Nominal) Cost Unit: The CIP methodology is used for energy efficiency. However, the value Variable O&M Cost, Applies to all project sizes 0.05 \$ 0.05 0.04 \$ 0.04 \$ 0.04 per Dth for other innovative resources should be considered in the context of **VARIABLE O&M** specific utility proposals. For example, resources like power-to-Calculations & Other Explanation: Year 1 Year 2 Year 3 Year 4 Year 5 hydrogen and RNG may not decrease O&M costs as they also need to Escalation rate -5.250% -5.250% -5.250% -5.250% -5.250% (for each pilot analysis year) Annual Escalation Rate calculated using the average percent change in the USD (Nominal) Cost Unit: The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot **NON-GAS FUEL** Non-Gas (i.e., Electric) Fuel Cost 44.14 per MWh equal to the average of daily real-time final market locational marginal prices (LMP) at the Minnesota Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent Calculations & Other Explanation: Non-Gas Fuel Loss Factor 8.22% The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 **NON-GAS FUEL** transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales LOSS FACTOR Calculations & Other Explanation: OTHER QUANTITATIVE CRITERIA: **USD Cost Unit:** Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission (Commission). The factors 0.37 per Dth Other Non-GHG Pollutants Size A are reported in 2021 dollars in Table 2 below, which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by 0.37 per Dth observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing utilities to select different externality values for pilots targeting specific geographies or Other Non-GHG Pollutants, Size B OTHER NON-GHG opulations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe value. Similarly, a project targeting a lowper Dth come population might use a high value rather than the median. Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of **POLLUTANTS** Other Non-GHG Pollutants, Size C Calculations & Other Explanation: Remainder of project Total during 5 program years life Year 2 Year 3 Year 4 Year 5 Utilities Net Direct Job Creation, Size A 0 # of jobs should Net Direct Job Creation, Size B 4 # of jobs consider both Net Direct Job Creation, Size C # of jobs iobs created Remainder of project Year 1 Year 2 Year 3 Year 4 Year 5 Total during 5 program years life Utilities Net Indirect Job Creation, Size A 0 # of jobs should Net Indirect Job Creation, Size B # of jobs consider both Net Indirect Job Creation, Size C # of jobs iobs created

NET JOB CREATION	Net Induced Job Creation, Size A Net Induced Job Creation, Size A Net Induced Job Creation, Size A  Calculations & Other Explanation: off.	Year 1	Year 2 2 2 2 3 3 3	Year 3 3 5	Year 4  1  3  5	Year 5	Total during 5 program years  1	. or jess
PUBLIC CO- BENEFITS	Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C <u>Calculations &amp; Other Explanation:</u>	Year 1 \$ \$	Year 2 - \$ \$ \$ -	Year 3 \$ - \$ \$ - \$ \$ - \$		Year 5 \$ - \$ -	USD (Nominal) Cost Unit:  per year  per year  per year	Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.
WATER POLLUTION	Water Pollution, Size A Water Pollution, Size B Water Pollution, Size C Calculations & Other Explanation:	Year 1 \$ \$ \$ \$ \$ \$ \$	Year 2  - \$ \$	Year 3  \$ - \$ \$ - \$ \$ - \$		Year 5 \$ - \$ -	USD (Nominal) Cost Unit: per year per year per year	The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.
ADDITIONAL QUALINGIA Utility Perspective Notes:	It is expected that most of the utility perspective costs and benefits							
Definition:	will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.							
NGIA Participants' Perspective Notes: Definition:		fits from pilots that improve indoor air qu				ny information	related to some direct effects of pilots	on participants that may not be easily
NGIA Nonparticipating Customers' Perspective Notes: Definition:	As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases and can be heavily informed by structural values.							

Effects on Other Energy Systems and Energy Security: Definition:	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.
	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values.  Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Quantified benefits do not include avoided refrigerant leaks
Oak an Ballodian	
	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.
Waste Reduction and Reuse Notes:	
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Policy Notes:	
Definition:	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and increased use of renewable resources.
	Reduces fossil gas throughput
Net Job Creation	
Notes:	
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
Definition:	eliminated by proposed pilots.
Economic Development Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or

## Public Co-Benefits

# Notes:

There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.

# Market Development

Notes:
Definition:

The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized

May help MN businesses appeal to customers interested in sustainability

# Direct Innovation

#### Support Notes: Definition:

This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA,40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.

Opportunity for customers to learn about novel options for reducing GHGs from their systems; will reduce uncertainty about GHG potential of leak detection programs

# Resource Scalability and Role in a Decarbonized System Notes: Definition:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Even in full decarbonized system likely to have some methane gas and continuing need for leak detection

>l∠ ∕ICF	CNP10 - Urban Tree Carbon Offset Program	Click here	e to go back to the list of all pil	ots				NGIA Pilot Profiles Workbook		
	Pilot Project Code:	CNP10								
	Pilot Project Name:		ee Carbon Offset Program							
	Customer Class/ Sector: Low-Income Community Benefit?	C&I & Re	S							
	Target Area:	Urban								
	Primary Innovative Resource Category:	Carbon C	Capture	Select primary Innovat	on Category. Others o	an be listed here				
	<u>Pilot Description:</u> Local non-profit Green Minneapolis, which is workin credits and retire them on behalf of CenterPoint En		eapolis Park and Recreation Bo	ard ("MPRB"), is selling regist	ered City Forest Cred	its for trees plant	ed in Minneap	olis between 2019 and 2021. Under t	this pilot, CenterPoint Energy will purchase these	
DESCRIPTION										
	Overview of Program/ Implementation Approach: Trees planted in area with conditions of project-de		ch as at schools, affordable or	subidized housing, formerly	redlined neigbothoods	s, areas with high	property vaca	ncy rates, or areas with high propor	rtion of renters.	
	Other Comments / Information: Pilot size determined by number of credits purchas	sed. Sizes A, B, and C represent	25%, 50%, and 100% of the cre	dits expected to be availabl	e from the RFI respond	dent, respectively				
EY PILOT-SPEC	Pilot Year Calendar Year Participating Units, Size A			Year 2		Year 4 2027	Year 5 2028			
	Participating Units, Size B			800 850 800 1700			1000 2000	Incremental units added, annual (not cum	nulative).	
NUMBER OF PARTICIPANTS	Participating Units, Size B Participating Units, Size C	Unit of Participation = Carbon c Sizes A, B	1 3	600 1700 200 3400	0 1800 0 3600	950 1900 3800	1000 2000 4000	Incremental units added, annual (not cum	andative).	
	Participating Units, Size B Participating Units, Size C  UI		1 3 redits purchased	600 1700 200 3400	0 1800 0 3600	950 1900 3800	1000 2000 4000 dent, respecti	Incremental units added, annual (not cum	nulative).	
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A		redits purchased , and C represent 25%, 50%, an Year 1	000 1700 200 3400 d 100% of the credits expec Year 2 00 \$ 50,894	1800 3600 ted to be available fro	950 1900 3800 om the RFI respon Year 4 \$ 66,759	1000 2000 4000 dent, respecti Year 5 \$ 75,030	Incremental units added, annual (not cum vely.  USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count against	t the NGIA budget cap for this measure and will be used in the Ut
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B		1 3 3 credits purchased , and C represent 25%, 50%, and Vear 1 45,0 80,2	700 3401 d 100% of the credits expected by 1701 200 3401 d 100% of the credits expected by 1701 200 \$ \$ 50.894 00 \$ 91.694	1800 3600 ted to be available fro Year 3 \$ 58,097 \$ 105,797	950 1900 3800 om the RFI respon Year 4 \$ 66,759 \$ 122,809	1000 2000 4000 dent, respecti Year 5 \$ 75,030 \$ 139,030	Incremental units added, annual (not cum vely.  USD (Nominal) Cost Unit: total cost per year total cost per year	These incremental utility costs are what will count agains Cost and Non Participant Cost tests for the NGIA evalue	tion criteria. This is the sum of utility admin costs to run pilot, any
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A		redits purchased , and C represent 25%, 50%, an Year 1	700 3401 d 100% of the credits expected by 1701 200 3401 d 100% of the credits expected by 1701 200 \$ \$ 50.894 00 \$ 91.694	1800 3600 ted to be available fro Year 3 \$ 58,097 \$ 105,797	950 1900 3800 om the RFI respon Year 4 \$ 66,759	1000 2000 4000 dent, respecti Year 5 \$ 75,030 \$ 139,030	Incremental units added, annual (not cum vely.  USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count agains Cost and Non Participant Cost tests for the NGIA evalue	t the NGIA budget cap for this measure and will be used in the Ut tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C		Year 1	700 3401 1700 1700 1700 1700 1700 1700 1700 1	1800 3600 ted to be available fro  Year 3 \$ 58,097 \$ 105,797 \$ 201,197	950 1900 3800 om the RFI respon Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4	1000 2000 4000 dent, respecti Year 5 \$ 75,030 \$ 139,030 \$ 267,030 Year 5	usp (Nominal) Cost Unit: total cost per year total cost per year total cost per year	These incremental utility costs are what will count again. Cost, and Non Participant Cost tests for the NGIA evalue incentive funding to support project deployment, and/or made on select pilots.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C Fixed O&M Cost, Size A		vear 1  Year 1  Year 1  45,0  Year 1  46,0  Year 1	700   1700   3400   1700   3400   1700   3400   170	Year 3  \$ 58,097  \$ 105,797  \$ 201,193  \$ 58,097	950 1900 3800 m the RFI respon Year 4 \$ 66,759 \$ 122,809 Year 4 \$ 66,759	1000 2000 4000 dent, respecti Year 5 \$ 75,030 \$ 139,030 \$ 267,030 Year 5 \$ 75,030	usp (Nominal) Cost Unit: total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGA evalua- incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project I	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B		10 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	700   1701   170	Year 3 \$ 58,097 Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097	950 1900 3800 m the RFI respon Year 4 \$ 66,759 \$ 122,809 Year 4 \$ 66,759 \$ 122,809	1000 2000 4000 dent, respecti Year 5 \$ 75,030 \$ 139,030 Year 5 \$ 75,030 \$ 139,030	usp (Nominal) Cost Unit: total cost per year usp (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count again. Cost, and Non Participant Cost tests for the NGIA evalue incentive funding to support project deployment, and/or made on select pilots.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C Fixed O&M Cost, Size A		10 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	700   1700   3400   1700   3400   1700   3400   170	Year 3 \$ 58,097 Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097	950 1900 3800 m the RFI respon Year 4 \$ 66,759 \$ 122,809 Year 4 \$ 66,759 \$ 122,809	1000 2000 4000 dent, respecti Year 5 \$ 75,030 \$ 139,030 Year 5 \$ 75,030 \$ 139,030	usp (Nominal) Cost Unit: total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGA evalua- incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project I	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B		10 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	700   1701   170	Year 3 \$ 58,097 Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097	950 1900 3800 m the RFI respon Year 4 \$ 66,759 \$ 122,809 Year 4 \$ 66,759 \$ 122,809	1000 2000 4000 dent, respecti  Year 5 \$ 75,030 \$ 139,030 Year 5 \$ 75,030 \$ 139,030 \$ 267,030	usp (Nominal) Cost Unit: total cost per year usp (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade
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	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A		1   3   3   3   3   3   3   3   3   3	Year 2	Year 3  \$ 58,097  Year 3  \$ 58,097  Year 3  \$ 58,097  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097	950 1900 3800 What he RFI responsively the RFI responsive the	1000 2000 4000 dent, respecti  Year 5 \$ 75,030 \$ 139,030 Year 5 \$ 75,030 \$ 139,030 Year 5 \$ 75,030 \$ 139,030 Year 5 \$ 35,030 Year 5 \$ 35,030 Year 5	usely.  USD (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year total cost per year	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B		Year 1  45,0  Year 1	170,	Year 3  \$ 58,097  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 201,197  Year 3	950 1900 3800 m the RFI respon Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030 \$ 267,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 76,030  Year 5	usely.  USD (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: total cost per year total cost per year total cost per year total cost per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGIA evalua incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Incentives, and Worldorce Development of Market Trans  Total internal and external project delivery	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade formation Cost
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Total Project Delivery, Size A Total Project Delivery, Size C  Internal Project Delivery, Size A		Year 1  Year 1  45.0  Year 1	Year 2	Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  Year 3  \$ 58,097  Year 3  \$ 58,097  Year 3  \$ 58,097  Year 3	950 1900 3800 m the RFI respon Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4	1000 2000 4000  dent, respecti  Year 5 5 75,030 5 75,030 5 139,030 7 Year 5 7 75,030 7 Year 5	usp (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit:	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade formation Cost
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size A Internal Project Delivery, Size A Internal Project Delivery, Size B		Year 1  45,0  Year 1  9,8	Year 2	Year 3  \$ 58,097 \$ 105,797 \$ 105,797 \$ 201,197  Year 3  \$ 58,097 \$ 201,197  Year 3  \$ 10,397  Year 3 \$ 10,397 \$ 10,397	950 1900 3800 What he RFI respons Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 267,030  Year 5 \$ 75,030 \$ 11,030  Year 5 \$ 11,030	use (Nominal) Cost Unit: total cost per year use (Nominal) Cost Unit: total cost per year use (Nominal) Cost Unit: per year per year use (Nominal) Cost Unit: per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGIA evalua incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Incentives, and Worldorce Development of Market Trans  Total internal and external project delivery	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade formation Cost
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Total Project Delivery, Size A Total Project Delivery, Size C  Internal Project Delivery, Size A		Year 1  45,0  Year 1  9,8	Year 2	Year 3  \$ 58,097 \$ 105,797 \$ 105,797 \$ 201,197  Year 3  \$ 58,097 \$ 201,197  Year 3  \$ 10,397  Year 3 \$ 10,397 \$ 10,397	950 1900 3800 What he RFI respons Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 267,030  Year 5 \$ 75,030 \$ 11,030  Year 5 \$ 11,030	usp (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit:	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGIA evalua incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Incentives, and Worldorce Development of Market Trans  Total internal and external project delivery	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade formation Cost
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size A Internal Project Delivery, Size A Internal Project Delivery, Size B		Year 1  Year 1  45,C  80,2  150,6  Year 1  45,C  80,2  150,6  Year 1  45,C  80,2  150,6  Year 1  9,8,0  9,8	Year 2	Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 105,797  \$ 201,197  Year 3  \$ 58,097  \$ 105,797  \$ 201,197  Year 3  \$ 103,797  \$ 10,397	950 1900 3800 What he RFI respons Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 234,909 Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709	1000 2000 4000  dent, respecti  Year 5  75,030 \$ 139,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 139,030  Year 5 \$ 139,030  Year 5 \$ 110,30  \$ 110,30 \$ 110,30	usp (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per year per year per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGIA evalua incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Incentives, and Worldorce Development of Market Trans  Total internal and external project delivery	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments Delivery, Advertising and Promotions, Utility Administration, Trade formation Cost
	Participating Units, Size B Participating Units, Size C Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size A Internal Project Delivery, Size A Internal Project Delivery, Size B		Year 1  Year 1  45.6  80.2  150.6  Year 1  45.6  80.2  150.6  Year 1  45.0  150.6  Year 1  45.0  9.0  9.8  9.8  9.8  Year 1	Year 2	Vear 3  \$ 58,097  Year 3  \$ 58,097  Year 3  \$ 58,097  Year 3  \$ 105,797  Year 3  \$ 105,797  Year 3  \$ 105,797  Year 3  \$ 105,797  Year 3  \$ 40,097  Year 3  \$ 10,397  Year 3  \$ 10,397  Year 3  \$ 10,397  Year 3  \$ 10,397  Year 3	950 1900 3800  The RFI responsion of the RFI	1000 2000 4000 dent, respecti  Year 5 \$ 75,030 \$ 75,030 \$ 139,030 Year 5 \$ 110,030 Year 5	usp (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year per year USD (Nominal) Cost Unit: per year USD (Nominal) Cost Unit:	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O	tion criteria. This is the sum of utility admin costs to run pliot, any the utility's annual revenue requirement for capital investments.  Delivery, Advertising and Promotions, Utility Administration, Trade formation Cost  EM Cost* category above.
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size C		Year 1  45,0 80,2 150,6  Year 1  45,0 80,2 150,6  Year 1  45,0 80,2 150,6  Year 1  9,8 9,8  Year 1  9,8 9,8  Year 1  35,2 70,4	Year 2	Year 3 \$ 58,097 \$ 105,797	950 1900 3800  The RFI responsible of the RFI	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 267,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 10,030  Year 5 \$ 110,030  Year 5 \$ 110,030  Year 5 \$ 110,030  Year 5 \$ 110,030	uspecial units added, annual (not cum  vely.  USD (Nominal) Cost Unit: total cost per year  USD (Nominal) Cost Unit: per year per year per year per year per year per year USD (Nominal) Cost Unit: per year per year per year	These incremental utility costs are what will count agains Cost and Non Participant Cost tests for the NGA evalue incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project Incentives, and Workforce Development of Market Trans  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility 'Fixed O	tion criteria. This is the sum of utility admin costs to run plict, any the utility's annual revenue requirement for capital investments  Delivery, Advertising and Promotions, Utility Administration, Trade  formation Cost
NUMBER OF PARTICIPANTS	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size A Internal Project Delivery, Size B Internal Project Delivery, Size B Internal Project Delivery, Size B Internal Project Delivery, Size C		Year 1  45,0 80,2 150,6  Year 1  45,0 80,2 150,6  Year 1  45,0 80,2 150,6  Year 1  9,8 9,8  Year 1  9,8 9,8  Year 1  35,2 70,4	Year 2	Year 3 \$ 58,097 \$ 105,797	950 1900 3800  whith RFI respons  Year 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 122,809 \$ 122,809 \$ 122,809 \$ 120,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 15,6050	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 267,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 10,030  Year 5 \$ 110,030  Year 5 \$ 110,030  Year 5 \$ 110,030  Year 5 \$ 110,030	uspecial units added, annual (not cum  vely.  USD (Nominal) Cost Unit: total cost per year  USD (Nominal) Cost Unit: per year per year per year per year per year per year USD (Nominal) Cost Unit: per year per year per year	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O	tion criteria. This is the sum of utility admin costs to run plict, any the utility's annual revenue requirement for capital investments  Delivery, Advertising and Promotions, Utility Administration, Trade  formation Cost
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size C		Year 1  Year 1  45.6  80.2  150.6  Year 1  45.0  Year 1  45.0  80.2  150.6  Year 1  45.0  9.8  9.8  9.8  Year 1  9.8  9.8  14  150.6  Year 1  9.8  9.8  9.8  9.8	Year 2	Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 58,097  \$ 105,797  Year 3  \$ 10,397  Year 3	950 1900 3800  Wear 4 \$ 66,759 \$ 12,2809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 122,809 \$ 120,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 112,100 \$ 244,200	1000 2000 4000 dent, respecti  Year 5 5 75,030 5 75,030 5 75,030 7 Year 5 7 75,030 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	usp (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year per year uSD (Nominal) Cost Unit: per year per year per year	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O	tion criteria. This is the sum of utility admin costs to run plict, any the utility's annual revenue requirement for capital investments  Delivery, Advertising and Promotions, Utility Administration, Trade  formation Cost
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C		Year 1  45,0 80,2 150,6  Year 1  45,0 80,2 150,6  Year 1  45,0 80,2 150,6  Year 1  9,8 9,8  Year 1  9,8 9,8  Year 1  35,2 70,4	Year 2	Year 3 \$ 58,097 \$ 105,797	950 1900 3800  Wear 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709  Year 4 \$ 56,050 \$ 112,100 \$ 224,200  Year 4	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 139,030  Year 5 \$ 110,30 \$ 110,30  Year 5 \$ 110,30 \$ 110,30  Year 5 \$ 64,000 \$ 256,000  Year 5	usb (Nominal) Cost Unit: total cost per year usb (Nominal) Cost Unit: per year per year usb (Nominal) Cost Unit: per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGA evalue incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project I incentives, and Workforce Development of Market Trans  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O  External vendor costs would include direct install costs w Utility Tixed O&M Cost* category above.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments belivery, Advertising and Promotions, Utility Administration, Trade formation Cost  SM Cost* category above.
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size C		Year 1  Year 1  45.6  80.2  150.6  Year 1  45.0  Year 1  45.0  80.2  150.6  Year 1  45.0  9.8  9.8  9.8  Year 1  9.8  9.8  14  150.6  Year 1  9.8  9.8  9.8  9.8	Year 2	Year 3 \$ 58,097 \$ 105,797 \$ 105,797 \$ 10,397 \$ 10,397 \$ 10,397 Year 3 \$ \$ 47,700 \$ 95,400 \$ 190,800 Year 3	950 1900 3800  Wear 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709  Year 4 \$ 56,050 \$ 112,100 \$ 224,200  Year 4	1000 2000 4000  dent, respecti  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 75,030 \$ 139,030  Year 5 \$ 139,030  Year 5 \$ 110,30 \$ 110,30  Year 5 \$ 110,30 \$ 110,30  Year 5 \$ 64,000 \$ 256,000  Year 5	usp (Nominal) Cost Unit: total cost per year  USD (Nominal) Cost Unit: total cost per year total cost per year  USD (Nominal) Cost Unit: per year per year per year USD (Nominal) Cost Unit: per year	These incremental utility costs are what will count agains. Cost, and Non Participant Cost tests for the NGIA evalual incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans.  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments belivery, Advertising and Promotions, Utility Administration, Trade formation Cost  SM Cost* category above.
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size B External Project Delivery, Size A Advertising and Promotions, Size A		Year 1  Year 1  45.6  80.2  150.6  Year 1  45.0  Year 1  45.0  80.2  150.6  Year 1  45.0  9.8  9.8  9.8  Year 1  9.8  9.8  14  150.6  Year 1  9.8  9.8  9.8  9.8	Year 2	Year 3 \$ 58,097 \$ 105,797 \$ 105,797 \$ 10,397 \$ 10,397 \$ 10,397 Year 3 \$ \$ 47,700 \$ 95,400 \$ 190,800 Year 3	950 1900 3800  Wear 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 112,100 \$ 224,200  Year 4 \$ 56,050 \$ 112,100 \$ 224,200  Year 4	1000   2000   4000	usb (Nominal) Cost Unit: total cost per year usb (Nominal) Cost Unit: per year per year usb (Nominal) Cost Unit: per year	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGA evalue incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project I incentives, and Workforce Development of Market Trans  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O  External vendor costs would include direct install costs w Utility Tixed O&M Cost* category above.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments belivery, Advertising and Promotions, Utility Administration, Trade formation Cost  SM Cost* category above.
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed Delivery, Size B Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C  Advertising and Promotions, Size A Advertising and Promotions, Size B		Year 1  Year 1  45.6 80.2 150.6  Year 1  45.6 80.2 150.6  Year 1  45.6 80.2 150.6  Year 1  45.7 80.2 150.6  Year 1  9.8 9.8 9.8 Year 1	Year 2	Vear 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 10,397	950 1900 3800  Wear 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709  Year 4 \$ 56,050 \$ 124,200 \$ 244,200 \$ 244,200  Year 4 \$ - \$ 56,050 \$ 12,100 \$ 224,200	1000 2000 4000  dent, respecti  Year 5  \$ 75,030 \$ 139,030  Year 5  \$ 75,030 \$ 139,030  Year 5  \$ 75,030 \$ 139,030  Year 5  \$ 10,030  \$ 110,030  \$ 110,030  Year 5  \$ 64,000	uspecial units added, annual (not cum uspecial units added, annual (not cum uspecial	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGA evalue incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project I incentives, and Workforce Development of Market Trans  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O  External vendor costs would include direct install costs w Utility Tixed O&M Cost* category above.	tion criteria. This is the sum of utility admin costs to run pliot, any the utility's annual revenue requirement for capital investments believery, Advertising and Promotions, Utility Administration, Trade formation Cost  SM Cost category above.
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed Delivery, Size B Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C  Advertising and Promotions, Size A Advertising and Promotions, Size B Advertising and Promotions, Size C		Year 1  Year 1  45.6  80.2  150.6  Year 1  45.0  Year 1  45.0  80.2  150.6  Year 1  45.0  9.8  9.8  9.8  Year 1  9.8  9.8  14  150.6  Year 1  9.8  9.8  9.8  9.8	Year 2	Year 3 \$ 58,097 \$ 105,797 \$ 105,797 \$ 10,397 \$ 10,397 \$ 10,397 Year 3 \$ \$ 47,700 \$ 95,400 \$ 190,800 Year 3	950 1900 3800  Wear 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709 \$ 112,100 \$ 224,200  Year 4 \$ 56,050 \$ 112,100 \$ 224,200  Year 4	1000   2000   4000	uspecial units added, annual (not cum  uspecial units added, annual (not cum  uspecial units added, annual (not cum  uspecial units  uspecial	These incremental utility costs are what will count again Cost and Non Participant Cost tests for the NGIA evaluation incertive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project incentives, and Workforce Development of Market Trans  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O  External vendor costs would include direct install costs of Utility Fixed O&M Cost* of the Utility Fixed O&M Cost	tion criteria. This is the sum of utility admin costs to run pilot, and the utility's annual revenue requirement for capital investments believery. Advertising and Promotions, Utility Administration, Trade formation Cost  6M Cost" category above.  There CNP reimburses the vendor. These costs are sub-set of the category above.
	Participating Units, Size B Participating Units, Size C  Calculations & Other Explanation:  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed Delivery, Size B Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size B Internal Project Delivery, Size C  External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C  Advertising and Promotions, Size A Advertising and Promotions, Size B		Year 1  Year 1  45.6 80.2 150.6  Year 1  45.6 80.2 150.6  Year 1  45.6 80.2 150.6  Year 1  45.7 80.2 150.6  Year 1  9.8 9.8 9.8 Year 1	Year 2	Vear 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 58,097 \$ 105,797  Year 3 \$ 10,397	950 1900 3800  Wear 4 \$ 66,759 \$ 122,809 \$ 234,909  Year 4 \$ 66,759 \$ 122,809 \$ 122,809 \$ 122,809 \$ 10,709 \$ 10,709 \$ 10,709 \$ 10,709  Year 4 \$ 56,050 \$ 124,200 \$ 244,200 \$ 244,200  Year 4 \$ - \$ 56,050 \$ 12,100 \$ 224,200	1000	uspecial units added, annual (not cum uspecial units added, annual (not cum uspecial	These incremental utility costs are what will count agains Cost, and Non Participant Cost tests for the NGA evalue incentive funding to support project deployment, and/or made on select pilots.  Fixed O&M Cost is the result of adding up Total Project I incentives, and Workforce Development of Market Trans  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O  External vendor costs would include direct install costs w Utility Tixed O&M Cost* category above.	tion criteria. This is the sum of utility admin costs to run pilot, any the utility's annual revenue requirement for capital investments believery. Advertising and Promotions, Utility Administration. Trade formation Cost  &M Cost* category above.  where CNP reimburses the vendor. These costs are sub-set of the category above.

	Allocation of General Portfolio Costs. Size C							1			1
	Allocation of General Portfolio Costs, Size C									per year	
			Year 1		Year 2		Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A Trade Ally Incentives, Size B	\$		- \$ - \$		- \$ - \$	-	\$ - \$ -	\$ -	per year per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B Trade Ally Incentives, Size C	\$		- \$ - \$		- \$		\$ -	\$ -	per year per vear	
	,							*	*	11:- 7:-	
UTILITY PILOT		-	Year 1		Year 2		Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
COSTS	Workforce Development or Market Transformation Cost, Size A Workforce Development or Market Transformation Cost, Size B	\$		- \$ - \$		- \$ - \$	-	\$ - \$ -	\$ - \$ -	per year per year	These costs are sub-set of the Utility Fixed O&M Cost category above.
	Workforce Development or Market Transformation Cost, Size D	\$		- \$		- \$	-	-	\$ -	per year	-
	·										-
	Other Fixed O&M Cost, Size A	•	Year 1	- \$	Year 2	- \$	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size B	\$		- \$		- \$		\$ -	\$ -	per year per year	These costs are sub-set of the builty. The documents category above.
	Other Fixed O&M Cost, Size C	\$		- \$		- \$	-	\$ -	\$ -	per year	
	Total utility capital investment, Size A	\$	Year 1	- \$	Year 2	- \$	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not
	Total utility capital investment, Size B	\$		- \$		- \$	_	\$ -	\$ -	per year	directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size C	\$		- \$		- \$	1-1	\$ -	\$ -	per year	requirement resulting from these capital investments (shown below).
			Year 1		Year 2		Voor 2	Voc. 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	rear I	- \$	rear 2	- \$	Year 3	Year 4	\$ -	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$		- \$		- \$	-	\$ -	\$ -	per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		- \$		- \$	-	\$ -	\$ -	per year	well as the utility's return on investment captured above, based on expected measure line (and depreciation time period), as
				115	D (Nominal) Co	ve+					
			Total	Un		151					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$		- pe	r year						The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based
	Est. Total Revenue Requirement for Capital Projects, Size B	\$		- pe							on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$		- pe	r year						
			Year 1		Year 2		Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$		- \$		- \$	-	\$ -	\$ -	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size B Incentives, Size C	\$		- \$		- \$ - \$	-	\$ -	\$ - \$ -	per year	cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	incentives, Size C	Ф		- 5		- Φ		<b>5</b> -	<b>Ф</b> -	per year	customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
			Year 1		Year 2		Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	to a continuo de Destinia de Cina A										Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size A	\$		- \$		- \$	-	-	-	per participant per year	incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	\$		- \$ - \$		- \$	-	\$ -	\$ - \$ -	per participant per year	incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C	\$						-	-		incentives per participant is a runction of total incentives paid directly to customers.
	Incentives per Participant, Size B	\$ \$				- \$		\$ -	-	per participant per year	incentives per participant is a runction of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	\$ \$ \$		- \$		- \$ - \$	-	\$ -	\$ -	per participant per year per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ dit): \$				- \$		\$ -	\$ -	per participant per year per participant per year	procentives per participant is a nunction of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	\$ \$ \$ dit): \$		- \$		- \$ - \$	-	\$ -	\$ -	per participant per year per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	\$ \$ \$ dit): \$		- \$		- \$ - \$	-	\$ -	\$ -	per participant per year per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	\$ \$ \$ dit): \$		- \$		- \$ - \$	-	\$ -	\$ -	per participant per year per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> <u>Expected price per credit (\$/crec</u>	\$ \$ \$ dit): \$	Year1	- \$ - \$	Year 2	- \$ - \$	- - 53 <b>Year 3</b>	\$ - \$ - \$ 59	\$ - \$ - \$ 64	per participant per year per participant per year Assuming upper end of cost range pro USD (Nominal) Cost Unit:	ovided by the RFI respodent for each year
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Expected price per credit (\$/crec	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	- \$ - \$ 44 \$	Year 2	- \$ - \$ 48 \$	53 Year 3	\$ - \$ - \$ 59	\$ - \$ - \$ 64 Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	by the RFI respondent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	\$ \$ \$ dit): \$	Year1	- \$ - \$	Year 2	- \$ - \$	- - 53 <b>Year 3</b>	\$ - \$ - \$ 59 Year 4 \$ 59 \$ 59	\$ - \$ - \$ - \$ 64 Year 5 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant	ovided by the RFI respodent for each year
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Expected price per credit (\$/crec	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		- \$ - \$ 44 \$		- \$ - \$ 48 \$ 48 \$	53  Year 3  53  53	\$ - \$ - \$ 59 \$ 59 \$ 59	\$ - \$ - \$ 64 Year 5 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant	Divided by the RFI respodent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1 Year1	- \$ - \$ 44 \$	Year 2	- \$ - \$ 48 \$ 48 \$	- - 53 <b>Year 3</b> 53	\$ - \$ - \$ 59 Year 4 \$ 59 \$ 59	\$ - \$ - \$ - \$ 64 Year 5 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit:	ovided by the RFI respodent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
TOTAL AND	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Expected price per credit (\$/crec  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		- \$ - \$ 44 \$		- \$ - \$ 48 \$ 48 \$	53  Year 3  53  53	\$ - \$ - \$ 59 \$ 59 \$ 59	\$ - \$ - \$ 64 Year 5 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	Divided by the RFI respodent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
TOTAL AND DIRECT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		- \$ - \$ 44 \$		- \$ - \$ 48 \$ 48 \$	53  Year 3  53  53	\$ - \$ - \$ 59 \$ 59 \$ 59	\$ - \$ - \$ 64 Year 5 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit:	Divided by the RFI respodent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA etc) account for those values here. This funding is noted here
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		- \$ - \$ 44 \$		- \$ - \$ 48 \$ 48 \$	53  Year 3  53  53	\$ - \$ - \$ 59 \$ 59 \$ 59	\$ - \$ - \$ 64 Year 5 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant	Divided by the RFI respodent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA etc) account for those values here. This funding is noted here
DIRECT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	- \$ - \$ 44 \$	Year 2	- \$ - \$ 48 \$ 48 \$	53  Year 3  53  53  Year 3	\$ - \$ - \$ 59 Year 4 \$ 59 \$ 59 Year 4 \$ - \$ - \$ -	\$ -\$ \$ -\$ \$ 64 \$ 64 \$ 64 \$ 64 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant per participant	Divided by the RFI respodent for each year  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA etc) account for those values here. This funding is noted here
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$		- \$ - \$ 44 \$		- \$ - \$ 48 \$ 48 \$	53  Year 3  53  53	\$ - \$ - \$ 59 \$ 59 \$ 59	\$ - \$ - \$ 64 Year 5 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation;  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2	- \$ - \$ 48 \$ 48 \$ - \$ - \$	53  Year 3  53  53  Year 3	\$ - \$ - \$ 59 Year 4 \$ 59 \$ 59 Year 4 \$ - \$ - \$ -	\$ -\$ \$ -\$ \$ 64 \$ 64 \$ 64 \$ 64 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2	- \$ - \$ 48 \$ 48 \$ - \$ - \$	53  Year 3  53  53  Year 3	\$ - \$ - \$ 59 Year 4 \$ 59 \$ 59 Year 4 \$ - \$ - \$ -	\$ -\$ \$ -\$ \$ 64 \$ 64 \$ 64 \$ 64 \$ 64 \$ 64	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2	- \$ - \$ 48 \$ 48 \$ - \$ - \$		\$ - \$ - \$ 59 \$ 59 \$ 59 \$ 59 \$ - \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria Note 1 come pilots taking a Direct Install approach may see the utility covering all
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation;  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ - \$ 48 \$ 48 \$ - \$ - \$	53  Year 3  53  53  Year 3	\$ - \$ - \$ 59 \$ 59 \$ 59 \$ 59 \$ 59 Year 4 \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ - \$ -  Year 5 \$ - \$ -  Year 5 \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria Note is come pilots taking a Direct Install approach may see the utility covering all costs with no infront financial contribution from the narticinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size C Calculations & Other Explanation;	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ \$ 48 \$ 48 \$ - \$ - \$ - \$ - \$	53  Year 3  53  Year 3  Year 3  Year 3	\$ - \$ - \$ 59 \$ 59 \$ 59 \$ 59 \$ 59 Year 4 \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ - \$ -  Year 5 \$ - \$ -  Year 5 \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- untility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note Is some pilots taking a Direct Install' approach may see the utility covering all costs with no unfront financial contribution from the narticipant.
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size C Calculations & Other Explanation;	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1 Year1 Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ \$ 48 \$ 48 \$ - \$ - \$ - \$ - \$	Year 3 53 53 Year 3 Year 3 Year 3	\$ - \$ - \$ 59 \$ 59 \$ 59 \$ 59 \$ 59 \$ 59 \$ - \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ -  \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria Note is come pilots taking a Direct Install approach may see the utility covering all costs with no infront financial contribution from the narticinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:  Escalation r	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ \$ 48 \$ 48 \$ - \$ - \$ - \$ - \$	Year 3  Year 3	\$ - \$ - \$ 59 \$ 59 \$ 59 \$ 59 \$ 59 Year 4 \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ - \$ -  Year 5 \$ - \$ -  Year 5 \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria Note is come pilots taking a Direct Install approach may see the utility covering all costs with no infront financial contribution from the narticinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
DIRECT PARTICIPANT PILOT COSTS	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation;  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation;  Escalation r  Participant Non-Energy Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1 Year1 Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 3  Year 3	\$ - \$ - \$ - \$ 59 \$ 59 \$ 59 Year 4 \$ - \$ - \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ -  \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note It some pilots taking a Direct Install approach may see the utility covering all costs with no unfront financial contribution from the participant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
DIRECT PARTICIPANT PILOT COSTS	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:  Escalation r	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1 Year1 Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 3  Year 3	\$ - \$ - \$ - \$ 59 \$ 59 \$ 59 Year 4 \$ - \$ - \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ -  \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note is some pilots taking a Direct install approach may see the utility covering all costs with no infront financial contribution from the narticinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
DIRECT PARTICIPANT PILOT COSTS	Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation;  Expected price per credit (\$/cred  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation;  Escalation r  Participant Non-Energy Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1 Year1 Year1	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 2 Year 2	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	Year 3  Year 3	\$ - \$ - \$ - \$ 59 \$ 59 \$ 59 Year 4 \$ - \$ - \$ - \$ - \$ - \$ -	\$ -\$ \$ 64  Year 5 \$ 64  Year 5 \$ -  \$ -  Year 5	per participant per year per participant per year  Assuming upper end of cost range pro  USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note is some pilots taking a Direct install approach may see the utility covering all costs with no infront financial contribution from the narticinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the

	Calculations & Other Explanation: Escala	Year 1 Year 2 Year 3 Year 4 Year 5  tion rate 3.82% 3.82% 3.82% 3.82% (for each pilot analysis year)  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C  Calculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  This includes any operating savings like water savings.  \$ - \$ - \$ - \$ - per participant per year of pilot life  \$ - \$ - \$ - per participant per year of pilot life  \$ - \$ - \$ - per participant per year of pilot life  \$ - \$ - \$ - per participant per year of pilot life
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	years years years  Offset purchases only reduce emissions for the year they are purchased. New offsets need to be purchased again for subsequent years.
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	0.00 Dth/Participant 0.00 Dth/Participant 0.00 Dth/Participant 0.00 Dth/Participant
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	O.00 kWh/Participant Units are kWh; could technically be other non-NG. Avg. Non-Gas Fuel Units/Part. Saved will be used in the Participant Cost tests for the NGIA evaluation criteria.  O.00 kWh/Participant  Wh/Participant
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A  Avg. Additional Non-Gas Fuel Units/Part.Used, Size B  Avg. Additional Non-Gas Fuel Units/Part.Used, Size C  Calculations & Other Explanation:	O.00 kWh/Participant Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria.  kWh/Participant  Wh/Participant  Wh/Participant
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year1         Year2         Year3         Year 5           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00
GRID MIX SCENARIO	Grid Mix Scenario  Calculations & Other Explanation:	Select one of the listed grid mix scenarios taking into account that:  *Dtilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation mix taken from National Renewable Feneral Laboratory (NRFL) Standard Scenarios II the renewable natural gas facility is using a higher connocition of carbon free electricity than is available by default from their
	This section does not apply to all pilot types. The GHG chang emissions (per unit of participation).	res from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity, Size A	Year1         Year2         Year4         Year5           kg CO2e/participant
	Low Expected High	Kg CO2e/participant   Kg CO2e/participant
LIFECYCLE GHG INTENSITY BY PROJECT SIZE	Lifecycle GHG Intensity, Size B Low Expected High	Year 1         Year 2         Year 3         Year 4         Year 5           Image: I

	Lifecycle GHG Intensity, Size C Low Expected High	Year 1         Year 2         Year 3         Year 4         Year 5           1,000         1,000         1,000         1,000         1,000         kg CO2e/participant           kg CO2e/participant         kg CO2e/participant         kg CO2e/participant
	Calculations & Other Explanation:	Each credit represents an offset of 1 tCO2 (equivalent to 1,000 kg CO2).
HER PILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato	r):
AK REDUCTION FACTOR	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>	17%2 The estimated average annual effect of the project on system peak. It is estimated to be 1% for energy efficiency pilots. The method for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  \$ 0.05 \$ 0.05 \$ 0.04 \$ 0.04 \$ 0.04 per Dth  The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered by the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO army not decrease QSD.  costs as the value for other innovative resources should be considered by the context of specific utility proposals. For example, resources like power-to-hydrogen and RNO army not decrease QSD.
	Calculations & Other Explanation:	Cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and some properties of the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost and Non Participant Cost tests for the NGIA evaluation criteria.
NON-GAS FUEL COST		USD (Nominal) Cost Unit:  The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals.
	Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	\$ 44.14 per MWh Inte CP methodology is used for all resources other than strategic electrification. I he method for strategic electrification should be considered in the context of specific utility pilot proposals.  equal to the average of daily real-time final market locational marginal prices (LMP) at the Minnesota Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
ON-GAS FUEL OSS FACTOR	Non-Gas Fuel Loss Factor Calculations & Other Explanation:	The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sa
HER QUANTITA	TIVE CRITERIA:	
HER NON-GHG POLLUTANTS	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	Social per Dth  Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission). The factors are reported in 2021 dollars in Table 2 be which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing utilities to select different externality values for plots targeting specific geographies or populations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fring value. Similarly, a project targeting a low-income population might use a high value rather than the median. Utilities can make deviations such as these in their NGA plans if they can provide justification for the charge Instead of requiring the use of median metropolitan fringe values for all non-GHG pollutants, as shown in Table 1 of the Commission's January 3, 2018 Order in Docket No. E1899/CI-14-643, utilities may use the value most applicable for the plot
	Sanotania & Sanot Englandonii	
NET JOB CREATION	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Near 2   Year 3   Year 4   Year 5   Total during 5 program years   life
	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B	Nemainder of project
	Net Indirect Job Creation, Size C	O O O O O O O O O O O O O O O O O O O
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A Net Induced Job Creation, Size A	0     0     0     0     0     0     # of jobs       0     0     0     0     0     # of jobs       0     0     0     1     1     2     # of jobs
	<u>Calculations &amp; Other Explanation:</u> Job numbers are estimated as Full Time Equivalents (FTE) and are rour	nded off.

Year 1 Year 2 Year 4 USD (Nominal) Cost Unit: Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Public Co-Benefits, Size A per year Dualitative Considerations section below. Public Co-Benefits, Size B per year Public Co-Benefits, Size C BENEFITS Calculations & Other Explanation: Year 1 Year 2 Year 4 USD (Nominal) Cost Unit: Year 3 Year 5 The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of Water Pollution, Size A per year the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Water Pollution, Size B per year WATER Water Pollution, Size C per year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS: **NGIA Utility** will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods. lonparticipating Customers' non-participating customers should be quantified in most cases and can be heavily informed by structural values. Shade can reduce cooling and heating costs for nearby buildings ffects on Other nd Energy ecurity: NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets. Shade can reduce need for cooling in summer months

# **GHG Emissions**

Notes: Definition.

An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable

Other Pollution Notes:	
Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pollution.
	Trees can reduce urban heat effects, reduce stormwater runoff, prevent air pollution from reaching homes; pilot targets areas of low tree coverage which correspond with poverty
Waste Reduction	
and Reuse Notes:	
	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA.
Definition:	Includes reduction of water use.
Policy Notes:	
	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and
Definition:	increased use of renewable resources.
Net Job Creation	
Notes:	
	An innovation plan must include, as applicable, "projected local job
	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
Definition:	eliminated by proposed pilots.
<u>Economic</u> Development	
Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or
	training opportunities would provide additional economic benefits.
Public Co-	
Benefits Notes: Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor
	problems. Reduces stormwater runoff costs; supports Minneapolis Park and Recreation Board tree planting and maintenance
<u>Market</u> <u>Development</u>	
Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where
	benefits are realized
Discot Issues stics	

Support Notes:

Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.	
Resource		
Scalability and		
Role in a		
Decarbonized		
System Notes:		
Definition:		
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.	

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost

ےاح		Click here to go back to the list of all pilots					NGIA Pilot Profiles Workbook			
FICE	CNP11 - Carbon Capture Archetype for Industrial or Large Commercial	Facility								
	Pilot Project Code:	CNP11								
	Pilot Project Name:	Carbon Capture Archetype for Industrial								
	not rojest name.	or Large Commercial Facility								
	Customer Class/ Sector:	C&I								
	Low-Income Community Benefit?	N Tidid-								
	Target Area: Primary Innovative Resource Category:	Territory-wide Carbon Capture	Select primary Innovati	on Category. Others can b	e listed here:	ĺ				
	· · · · · · · · · · · · · · · · · · ·									
	Pilot Description:									
	CNP would offer incentives covering a portion of the equipment and ins	stallation cost of capture carbon systems for	r industrial or large comn	nercial customers. These s	systems would be if	nstalled directly or	isite for I-3 customers.			
DESCRIPTION										
	Overview of Program/ Implementation Approach:									
	Program would begin with a site identification and customer recruitmen	nt phase.								
	Customer would own and operate the carbon capture system.									
	CenterPoint Energy would creat a measurement and verification plan to	o monitor system performance for a period o	r time following installati	on.						
	Other Comments / Information:	han and an inches								
	Possible that some participants could be larger or smaller than the carb	oon capture size below.								
KEY PILOT-SPECII	EIC INDUTS:									
KETTIEOT-SI EGI	10 14 013.									
	Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5				
	Calendar Year Participating Units, Size A	2024	2025		2027	2028	Incremental units added, annual (not cumulative).			
	Participating Units, Size B	0	0		0	0	more contents and added, annual (not contained).			
	Participating Units, Size C	0	0	3	0	0				
	Unit of Participation = Calculations & Other Explanation:	Facility implementing carbon capture syste	m	plant size (# of 25-tonne	e/day units)					
	Based on Post-Combustion Capture (amine)	Size A								
	Capture Capacity	25								
		9268	l							
	Industrial Facility's Natural Gas Firing Rate	22	MMBtu/ Hour base size	facility Natural Gas Firing I	Rate					
	Examples for Capture Cost Alone. Based on natural gas combusion in b	oilers and process heater with flue gases of	8% CO2 at atmospheric	oressure and 90% capture	e. Facility operates	at 75% capacity ut	ilization.		Ī	
							GHG Emissions & Capture Volumes at 100% Capacity			
			Facility Size				Utilization (not used in analysis)	I		This column used in the analysis
		Natural Gas Firing Rate in MMBtu per Hour	Equivalent pounds of steam per hour (80%	Equivalent MW (7000	Fuel Use (MMBtu per year	Combustion CO2 (metric tons per	Combustion CO2 (metric tons per day @100% CU)	Capture Capacity (CO2	CO2 Capturable (metric tons	CO2 Captured (metric tons per year @expected% CU)
NUMBER OF		sas rang rate arransta per riou	efficient boiler)	Btu/kWh)						
PARTICIPANTS				*	@100%CU)	year @100%CU)	Combustion CO2 (metric tons per day @100% CU)	metric tons/day)	per year @100% CU)	CO2 Captured (metric tons per year @expected% CO)
	Size A: 1 facility		14,657		191,625	10,298	28	25	9,268	6,95
	Size B: 2 facilities	2 sites @ 22			191,625 383,250	10,298 20,596	28 56	25 51	9,268 18,536	6,95 13,90
		2 sites @ 22			191,625	10,298	28	25 51	9,268	6,95
	Size B: 2 facilities	2 sites @ 22			191,625 383,250 574,875	10,298 20,596 30,893	28 56	25 51	9,268 18,536	6,95 13,90
	Size B: 2 facilities Size C: 3 facilities Capture %:	2 sites @ 22 3 sites @ 22 90%			191,625 383,250 574,875	10,298 20,596 30,893	28 56 85	25 51	9,268 18,536	6,95 13,90
	Size B: 2 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG	2 sites @ 22 3 sites @ 22 90%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste	28 56 85 am (for size comparisons)	25 51	9,268 18,536	6,95 13,90
	Size B: 2 facilities Size C: 3 facilities Capture %:	2 sites @ 22 3 sites @ 22 90%			191,625 383,250 574,875	10,298 20,596 30,893	28 56 85 am (for size comparisons)	25 51	9,268 18,536	6,91 13,90
	Size B: 2 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV):	2 sites @ 22 3 sites @ 22 90%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste	28 56 85 am (for size comparisons) comparisons) Number of Trucks needed for facility scale of 22	25 51 76	9,268 18,536	6,91 13,90
	Size B: 2 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV):	2 sites @ 22 3 sites @ 22 90%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste	28 56 85 am (for size comparisons)	25 51 76 (ICF analysis)	9,268 18,536	6,91 13,90
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2):	2 sites @ 22 3 sites @ 22 90% 53.74 75%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons) comparisons) Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 (ICF analysis)	9,268 18,536 27,804	6,95 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor:	2 sites @ 22 3 sites @ 22 90% 53.74 75%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste	28 56 85 am (for size comparisons) comparisons) Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 (ICF analysis)	9,268 18,536	6,95 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2):	2 sites @ 22 3 sites @ 22 90% 53.74 75%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons) comparisons) Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 76 (ICF analysis) Rounding up to whole truck	9,268 18,536 27,804	6,91 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2):	2 sites @ 22 3 sites @ 22 90% 53.74 75%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons) comparisons) Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot	9,268 18,536 27,804	6,91 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2):	2 sites @ 22 3 sites @ 22 90% 53.74 75%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons) comparisons)  Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot	9,268 18,536 27,804	6,91 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2):	2 sites @ 22 3 sites @ 22 90% 53.74 75%			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons) comparisons)  Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot	9,268 18,536 27,804	6,95 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2): Pressure (psi):	2 sites @ 22 3 sites @ 22 90% 53.74 75% 8% 14.70			191,625 383,250 574,875	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons)  comparisons)  Number of Trucks needed for facility scale of 22 MMBtu/l+r NG-firing rate (generating 25 tCO2/d)	25 51 76 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot Sizes B and C do not share trucks across facilities	9,268 18,536 27,804 Tractor Lifetime in Years	6,95 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2): Pressure (psi):	2 sites @ 22 3 sites @ 22 90% 53.74 75% 8% 14.70			191,625 383,250 574,875	10,298 20,596 30,893  Btu/pound of ste  Btu/kWh (for size	28 56 85 am (for size comparisons) comparisons)  Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot Sizes B and C do not share trucks across facilities	9,268 18,536 27,804 Tractor Lifetime in Years	6,95 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2): Pressure (psi):	2 sites @ 22 3 sites @ 22 90% 53.74 75% 8% 14.70			191.625 383.250 574.875 1194 7000	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size	28 56 85 am (for size comparisons)  comparisons)  Number of Trucks needed for facility scale of 22 MMBtu/hir NG-fring rate (generating 25 tCO2/d)  1	25 51 76 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot Sizes B and C do not share trucks across facilities	9,268 18,536 27,804 Tractor Lifetime in Years	6,95 13,90 20,85
	Size B: 2 facilities Size C: 3 facilities Size C: 3 facilities Capture %: Small Industrial Boiler (10-100 mmBtu/hr input) GREET NG Combustion Factor (kg CO2e/MMBtu HHV): Facility capacity utilization factor: Concentration (% CO2): Pressure (psi):	2 sites @ 22 3 sites @ 22 90% 53.74 75% 8% 14.70	Year 2 \$ 21,630	3.13 Year 3	191,625 383,250 574,875 1194 7000	10,298 20,596 30,893 Btu/pound of ste Btu/kWh (for size Size A Size B Size C Year 5 \$ 11,030	28 56 85 am (for size comparisons) comparisons)  Number of Trucks needed for facility scale of 22 MMBtu/Hr NG-firing rate (generating 25 tCO2/d)	25 51 76 (ICF analysis) Rounding up to whole truck Assumes facilities participating in pilot Sizes B and C do not share trucks across facilities	9,268 18,536 27,804  Tractor Lifetime in Years  Trailer Lifetime in Years	6,95 13,90 20,85

3 Year 4 Year 5 USD (Nominal) Cost Unit: 154,779 \$ 122,947 \$ 11,030 total cost per year 284,779 \$ 222,947 \$ 11,030 total cost per year 413,529 \$ 322,947 \$ 11,030 total cost per year 100,000 total cost per yea

Year 1

Fixed O&M Cost, Size A

Fixed O&M Cost, Size B

Fixed O&M Cost, Size C

Year 2

134,800 \$

134,800 \$ 134,800 \$ 21,630 \$ 21,630 \$ 21,630 \$ Year 3

	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Total Project Delivery, Size A	\$ 134,800		152,279			per year	Total internal and external pr	roject delivery	
Total Project Delivery, Size B	\$ 134800		282,279		11,030	per year		-,,	
Total Project Delivery, Size C	\$ 134,800				11.030	per year			
			•						
Internal Project Delivery, Size A	Year 1 9,800	Year 2 \$ 21,630 \$	Year 3 22,279	Year 4 22,947	Year 5	USD (Nominal) Cost Unit: per year	CNP staff These costs are s	ub-set of the Utility "Fixed O&M Cost" o	reterrory above
Internal Project Delivery, Size A	\$ 9,800		22,279		11,030	per year	Ora Stant Prese costs are si	ab det of the dulity Thee data court	andgory above.
Internal Project Delivery, Size B	\$ 9,800		22,279		11,030	per year per year			
iternal Project Delivery, Size C	9,800	φ 21,030 φ	22,219	22,547	11,030	per year			
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
External Project Delivery, Size A	\$ 125,000		130,000		-	per year	External vendor costs would "Fixed O&M Cost" category		reimburses the vendor. These costs are sub-set of the Utility
External Project Delivery, Size B	\$ 125,000		260,000			per year			
External Project Delivery, Size C	\$ 125,000	5 - 5	390,000	300,000	-	per year			
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Advertising and Promotions, Size A	\$	\$	2,500			per year	These costs are sub-set of t	he Utility "Fixed O&M Cost" category a	bove.
Advertising and Promotions, Size B	\$ -	\$	2,500			per year			
Advertising and Promotions, Size C	\$ -	\$	1,250			per year			
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Allocation of General Portfolio Costs, Size A	Tear I	Teal 2	Teal 3	rear 4	rears	per year	Share of portfolio level costs	s. including plan development costs. re	gulatory costs, and general portfolio costs
Allocation of General Portfolio Costs, Size B						per year			,
Allocation of General Portfolio Costs, Size C						per year			
			'						
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Trade Ally Incentives, Size A	\$ -	\$ - \$	- 1	- :	<u> </u>	per year	If applicable, include here th	e annual amount of trade ally incentive	s (e.g. miastream program)
Trade Ally Incentives, Size B Trade Ally Incentives, Size C	\$ -	\$ - \$	- 5	- :	-	per year			
rade Ally Incentives, Size C	-	2 - 2	- ;		-	per year	_		
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Workforce Development or Market Transformation Cost, Size A	\$ -	\$ - \$	- 8	- :	-	per year	These costs are sub-set of t	he Utility "Fixed O&M Cost" category a	bove.
Workforce Development or Market Transformation Cost, Size B	\$ -	\$ - \$	- 5	- :	-	per year			
Workforce Development or Market Transformation Cost, Size C	\$ -	\$ - \$	- 5	- :	-	per year			
Other Fixed O&M Cost. Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<del></del>	he Utility "Fixed O&M Cost" category a	
Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size B	\$ -	\$ - \$	- 3	- :	-	per year	I nese costs are sub-set of t	ne Utility Fixed USM Cost category a	bove.
Other Fixed O&M Cost, Size B Other Fixed O&M Cost, Size C	\$ - e	\$ - \$	- :	- :	-	per year per year			
Attend to New Coat, Size C	Ψ		,	,	,	per year			
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Total utility capital investment, Size A	\$ -	\$ - \$	- 5			per year	This tracks expectations for	when this pilot would require capital in	vestments from the utility, if applicable. This will not directly feed
Total utility capital investment, Size B	\$ -	\$ - \$	- 3	- :	-	per year	into the incremental costs for from these capital investmen	or NGIA, but instead will be used to esti	mate the timing and level of annual revenue requirement resulting
Total utility capital investment, Size C	\$ -	\$ - \$	- 5	- :	-	per year	from these capital investmen	nts (snown below).	
Feet Annual Devices - Devices - Annual Control Devices - Circ A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	For cenital projects the incr	amental cost impact on the NGIA huda	et is the annual revenue requirement (return of and on capital
Est. Annual Revenue Requirement for Capital Projects, Size A Est. Annual Revenue Requirement for Capital Projects, Size B	\$ -	\$ - \$ \$ - \$	- ;		-	per year per year	additions), as well as the util	ity "Fixed O&M Costs" captured above.	This revenue requirement is calculated from the magnitude &
Est. Annual Revenue Requirement for Capital Projects, Size C	\$ -	s - s	- !		-	per year	timing of capital investment	captured above, based on expected m	easure life (and depreciation time period), as well as the utility's
SE Annada November November 101 Supredi 110/0000, 0120 S		1.*	1.			por your	return on investment		
		USD (Nominal) Cost							
Est. Total Revenue Requirement for Capital Projects, Size A	Total	Unit: per year					The total revenue requireme	nt is calculated from the magnitude &	timing of total capital investment captured above, based on
Est. Total Revenue Requirement for Capital Projects, Size B	\$ -	per year					expected measure life (and	depreciation time period), as well as th	e utility's return on investment. This cost is noted here for
Est. Total Revenue Requirement for Capital Projects, Size C	\$ -	per year					reference, it's not used to ca	lculate any of the NGIA evaluation crite	eria.
, , , , , , , , , , , , , , , , , , ,									
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
Incentives, Size A	\$ -	\$ - \$	1,500,000 \$	- :	-	per year	This tracks total incentives p	oaid directly to customers (customer re tomer henefits delivered directly to the	bates like money, gift cards or other fungible payments, etc). Do customer by a program vendor (paying for the cost of
Incentives, Size B Incentives, Size C	\$ -	5 - 5	4500,000	- :	-	per year per year	energy/GHG audits or direct	install measures), or making a capital i	nvestment in a customer's project where the customer doesn't
icentives, size C		- J	4,500,000	-   .	-	рег уеаг	hold equipment ownership I	ncentives will be used in the Particinar	t Cost tests for the NGIA evaluation criteria
	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:			
		#DIV/0! \$	1,500,000.00	#DIV/0!	#DIV/0!	per participant per year	Incentives per participant is	a function of total incentives paid dire	ctly to customers.
ncentives per Participant, Size A	#DIV/O!		1,500,000.00	#DIV/0!	#DIV/0!	per participant per year			
Incentives per Participant, Size A Incentives per Participant, Size B	#DIV/O! #DIV/O!	#DIV/0! \$			#DIV/O!	per participant per year			
		#DIV/O! \$ #DIV/O! \$	1,500,000.00	#DIV/O!					
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/O!			#DIV/O!			<del></del>		
Incentives per Participant, Size B	#DIV/O!			#DIV/0!		Becompton for Continue Compression etc.	<del></del>	T	
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/O!	#DIV/O! \$		#DIV/0!		Parameters for Capture, Compression, etc.	Value		
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/O!			#DIV/0!		Parameters for Capture, Compression, etc. Economics	Value	Compressor electricity	
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/O! #DIV/O!	#DIV/O! \$		#DIV/O!					109
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/O! #DIV/O!	#DIV/O! \$		#DIV/O!		Economics		use kWh/metric ton Compressor electricity	109
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/OI #DIV/OI tonnes CO2/day	#DIV/O! \$  Size A  25		#DIV/O!		Economics	75%	use kWh/metric ton  Compressor electricity use kWh/day (@100% CU)	109
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/OI #DIV/OI tonnes CO2/day	#DIV/O! \$  Size A  25		#DIV/O!		Economics	75%	use kWh/metric ton  Compressor electricity use kWh/day (@100% CU)	109
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/OI #DIV/OI tonnes CO2/day	#DIV/O! \$  Size A  25		#DIV/O!		Economics  Capacity utilization factor	75%	use kWh/metric ton Compressor electricity use kWh/day (@100% CU) for single CC unit	
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/OI #DIV/OI tonnes CO2/day	#DIV/O! \$  Size A  : 25	1,500,000.00	#DIV/OI		Economics Capacity utilization factor Life in years	75%	use kWh/metric ton  Compressor electricity use kWh/day (@100% CU) for single CC unit  Compressor Capacity	2,768
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/OI #DIV/OI tonnes CO2/day	#DIV/O! \$  Size A  : 25	1,500,000.00	#DIV/OI		Economics  Capacity utilization factor	75%	use kWh/metric ton  Compressor electricity use kWh/day (@100% CU) for single CC unit  Compressor Capacity (kW) for single CC unit	
Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/OI #DIV/OI tonnes CO2/day	#DIV/O! \$  Size A  : 25	1,500,000.00	#DIV/OI		Economics Capacity utilization factor Life in years Electricity price (\$/kWh for CSI in MN)	75% 20 \$ 0.098	use kWh/metric ton Compressor electricity use kWh/day (@100% CU) for single CC unit Compressor Capacity (kW) for single CC unit Electricity kWh input per	2,768
incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	#DIV/OI #DIV/OI tonnes CO2/day tonnes CO2/year	#DIV/O! \$  Size A  : 25	1,500,000.00	#DIV/OI		Economics Capacity utilization factor Life in years	75% 20 \$ 0.098	use kWh/metric ton  Compressor electricity use kWh/day (@100% CU) for single CC unit  Compressor Capacity (kW) for single CC unit	2,768
Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Include customer incentives to cover the cost of an engineering study and upfront equipment costs; could also account for site	#DIV/OI #DIV/OI tonnes CO2/day tonnes CO2/year	#DIV/O! \$  Size A  : 25	1,500,000.00	#DIV/OI		Economics Capacity utilization factor  Life in years  Electricity price (\$/kWh for CSI in MN)  Price of NG to CSI in MN (\$/MMBtu)	75% 20 \$ 0.098 \$ 6.38	use kWh/metric ton Compressor electricity use kWh/dw (@lOO% CU) for single CC unit Compressor Capacity (kW) for single CC unit Electricity kWh input per HP-hour Compressor Capacity (HP)	2,768 115 0,785
Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Include customer incentives to cover the cost of an engineering study	#DIV/OI #DIV/OI tonnes CO2/day tonnes CO2/year	#DIV/O! \$  Size A  : 25	1,500,000.00	#DIV/OI		Economics Capacity utilization factor Life in years Electricity price (\$/kWh for CSI in MN)	75% 20 \$ 0.098 \$ 6.38	use kWh/metric ton Compressor electricity use kWh/day (@)00% CU) for single CC unit Compressor Capacity (kW) for single CC unit Electricity kWh input per HP-hour	2,768 115
Incentives per Participant, Size B Incentives per Participant, Size C		#DIV/OI  tonnes CO2/day  tonnes CO2/year	#DIV/O! #DIV/O! \$  Size A  tonnes CO2/day: 25  tonnes CO2/year: 9268	Size A tonnes CO2/day: 25 tonnes CO2/year: 9268	tonnes CO2/day: 25 tonnes CO2/year: 9268	tonnes CO2/day: 25 tonnes CO2/year: 9268	Size A  tonnes CO2/day:  25  tonnes CO2/year:  9268  Parameters for Capture, Compression, etc. Economics  Capacity utilization factor  Life in years	Size A         Economics         Value           tonnes CO2/day:         25         Capacity utilization factor         75%           tonnes CO2/year:         9268         Life in years         20	Size A  Economics  Value  Compressor electricity  tonnes CO2/day:  25  Capacity utilization factor  Compressor electricity use kWh/day (@100% CU)  Life in years  20 for single CC unit  Compressor Capacity

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	CNP Incentive to Cover X% of Expected CAPEX:	10	0% (up to \$1.5M cap)			CAPEX Categories	Size A	
	Scoping Study / Customer Identification:	\$125,0	000			Carbon Capture Equipment	\$ 1,880,4	Capex = 10,226 *(CO2TPA)^0.8 ICF team created an equation from the GCCSI cost examples to represent the CAPE)
					•			
						CO2		
			50 (M&V) + 50K (post-			Dehydration/ Compression		
	Pilot Program M&V and Updated LCA:	\$100,0	000 project LCA update)			Equipment	\$ 367,2	90
						CO2		
						Transportation		
						(Trucking) Equipment	\$ 599,0	00 Semi trailer (\$449k), tank, equipment, and tractor (truck) (\$150k), total capital cost of \$599,000/truck, not in
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u></u>
	Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B			\$ 3,346,718 \$ 3,346,718			per participant per year per participant per year	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility
	Total Pilot Upfront Costs, Size B			\$ 3,346,718			per participant per year per participant per year	incentives, nor include utility program admin costs.
	Third Party Funding, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per participant per year	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for
	Third Party Funding, Size B	\$	- \$ -	\$ - :	\$ -	\$ -	per participant per year	reference, it's not used to calculate any of the NGIA evaluation criteria.
	Third Party Funding, Size C	While carbon capture units could quali	- \$ -	\$ - :	\$ -	\$ -	per participant per year	
	Description of source of external funding:	expected to be too small to meet the n						
		would qualify for IRA funding.						
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
TOTAL AND	Direct Participant Pilot Costs, Size A	\$	- \$ -	\$ 1,846,718		\$ -	per participant per year	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are
DIRECT	Direct Participant Pilot Costs, Size B	\$	- \$ -	\$ 1,846,718	\$ -	\$ -	per participant per year	subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note 1: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no upfront financial
PARTICIPANT	Direct Participant Pilot Costs, Size C	\$	-   \$ -	\$ 1,846,718	-	\$ -	per participant per year	contribution from the narticinant
PILOT COSTS	Calculations & Other Explanation:	Year 1	Year 2	Year 3	Year 4	Year 5	74	
	Escalation rate	3.8	3.82%	3.82%	3.82%	3.82%	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the
	Refund from IRA:		O% There is a minimum for carb		direct air capture and		generating facility; the project has to capture at least 12,500	0 metric tons of carbon oxide per year.
	Portion of Costs IRA incentive applicable	\$ 28467	718 IRA Discount on Capital Cost					thermal energy storage property as defined in 26 USC 48); assume labor requirements will be satified so as to quaify for 30% as oppos
	Portion of Costs IRA incentive applicable:			ts; assuming project would qualify	y for 30% investment	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	thermal energy storage property as defined in 26 USC 48); assume labor requirements will be satified so as to qualfy for 30% as oppos
	Portion of Costs IRA incentive applicable:	\$ 2,846,7 Assuming too small for IRA for now, if in		ts; assuming project would qualify	y for 30% investment	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	thermal energy storage property as defined in 26 USC 48); assume labor requirements will be satified so as to qualfy for 30% as oppose
	Portion of Costs IRA incentive applicable:			ts; assuming project would qualify	y for 30% investment	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	thermal energy storage property as defined in 26 USC 48); assume labor requirements will be satilfied so as to qualfy for 30% as oppos
	Portion of Costs IRA incentive applicable:	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with	Size A	s; assuming project would qualify	y for 30% investment	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	thermal energy storage property as defined in 26 USC 48); assume labor requirements will be satified so as to qualty for 30% as oppos
	Portion of Costs IRA incentive applicable:	Assuming too small for IRA for now, if in Additional CAPEX: replacements  CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye	Size A	e; assuming project would qualify	y for 30% investment could qualify (fut Size C	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	
	Portion of Costs IRA incentive applicable:	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with	Size A	s; assuming project would qualify	y for 30% investment could qualify (fut Size C	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	
	Portion of Costs IRA incentive applicable:	Assuming too small for IRA for now, if in Additional CAPEX: replacements  CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye	Size A	e; assuming project would qualify	y for 30% investment could qualify (fut Size C	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	
	Portion of Costs IRA incentive applicable:	Assuming too small for IRA for now, if in Additional CAPEX: replacements  CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye	Size A	e; assuming project would qualify	y for 30% investment could qualify (fut Size C	tax credit pursuant	t to 26 USC 48E as an energy storage facility (which includes	
		Assuming too small for IRA for now, if in Additional CAPEX: replacements  CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye	Size A	s: assuming project would qualify Size C get one bigger one, c Size B \$ 600,000 :	y for 30% investment could qualify (fut Size C \$ 900,000	re opportunitie  PV of two \$150,0	t to 28 USC 48E as an energy storage facility (which includes as to explore)  OOO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:	or life (neglecting tractor/trailer salvage values)
	Participant Non-Energy Costs, Size A	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life	stead of 3 participants for Size A participants Size A participants Size A participants	s; assuming project would qualify Size C get one bigger one, of Size B \$ 600,000	y for 30% investment could qualify (fut Size C \$ 900,000	re opportunitie  PV of two \$150,0  Year 5  \$ 864,072	t to 28 USC 48E as an energy storage facility (which includes as to explore)  200 tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  [per participant per year of pilot life	
		Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life	stead of 3 participants for Size A participants Size A participants Size A participants	s; assuming project would qualify Size C get one bigger one, c Size B \$ 600,000 :  Year 3 \$ 801,655 :	y for 30% investment could qualify (fut Size C \$ 900,000	read two \$150,0  Year 5 \$ 864,072 \$ 864,072	t to 28 USC 48E as an energy storage facility (which includes as to explore)  OOO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:	or life (neglecting tractor/trailer salvage values)  This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be
	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1	Size A  Size A  Size A  Size A  Size A	Size C get one bigger one, c	y for 30% investment could qualify (fut:  Size C  \$ 900,000  Year 4 \$ 832,278 \$ 832,278	rear to redit pursuant ure opportunitie  PV of two \$150,0  Year 5 \$ 864,072 \$ 864,072 \$ 864,072	t to 28 USC 48E as an energy storage facility (which includes as to explore)  OO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  per participant per year of pilot life per participant per year of pilot life	or life (neglecting tractor/trailer salvage values)  This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be
_	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B	Assuming too small for IRA for now, If in Additional CAPEX: replacements  CQ2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1	stead of 3 participants for Size A participants Size A participants Size A participants	Size C get one bigger one, c   Size B	y for 30% investment could qualify (fut: Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278	rear 5  Year 5  8 864,072  Year 5  Year 5	t to 28 USC 48E as an energy storage facility (which includes as to explore)  OO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  per participant per year of pilot life per participant per year of pilot life	or life (neglecting tractor/trailer salvage values)  This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be
_	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:	Assuming too small for IRA for now, If in Additional CAPEX: replacements  CQ2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1	Size A Size A Size A Size A Vear 2	Size C get one bigger one, c	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 Year 4	rear 5  Year 5  8 864,072  Year 5  Year 5	to 28 USC 48E as an energy storage facility (which includes as to explore)  OO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  Der participant per year of pilot life	or life (neglecting tractor/trailer salvage values)  This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  3.8	Size A Si	Size C get one bigger one, c	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%	Year 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072	to 28 USC 48E as an energy storage facility (which includes as to explore)  OO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  Der participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGA evaluation criteria.  For an escalation rate, we
	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalation rate  Non fuel consumables VOM costs for carbon capture	Assuming too small for IRA for now, If in Additional CAPEX: replacements  CQ2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  3.8	Size A	Size C get one bigger one, c	y for 30% investment could qualify (fut:    Size C	Year 5 \$ 864,072 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 864,072	to 28 USC 48E as an energy storage facility (which includes as to explore)  DOO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  Der participant per year of pilot life per participant per year of pilot life per participant per year of pilot life [for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most	or life (neglecting tractor/trailer salvage values)  This includes any increased in costs file equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGA evaluation criteria.  For an escalation rate, we
	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation: Escalation rate	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  3.8	Size A Si	\$ sesuming project would qualify  Size C get one bigger one, c  Size B  \$ 600,000 :  Year 3  \$ 801,655 : \$ 801,655 :  Year 3  (via GCSI)  Year 3	y for 30% investment could qualify (fut   Size C   \$ 900,000    Year 4   \$ 832,278   \$ 832,278   Year 4   3,82%    Non-fuel cost of \$ Year 4	Year 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5	usb (Nominal) Cost Unit:    Per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we
PARTICIPANT	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalation rate  Non fuel consumables VOM costs for carbon capture	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  3.8  Year 1  \$  Year 1	Size A   S	Size C get one bigger one, c	y for 30% investment could qualify (fut:    Size C	Vear 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5 \$ 376,432 \$ 1129,297	usb (Nominal) Cost Unit:  per participant per year of pilot life (for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,0 0.00	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  thy made up of chemicals and other consumables.  CSI)  OO Fixed 06M of 270,000/ year plus 0.0566 * Capex is based on the GCCSI study from which the cost algorithm was created.
PARTICIPANT NON-ENERGY COSTS	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ \$ \$ \$ \$ \$ \$ \$	Size A   S	\$ 129.297   \$ 128.281   \$ 276.432   \$ 376.432   \$ 128.297   \$ 188.2461   \$ 128.297   \$ 188.2461	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1129,297 \$ 1282,161	Vear 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5 \$ 376,432 \$ 1129,297	usb (Nominal) Cost Unit:  per participant per year of pilot life (for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,0 0.00	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  thy made up of chemicals and other consumables.  CSI)  OO Fixed 06M of 270,000/ year plus 0.0566 * Capex is based on the GCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalation rate  Non fuel consumables VOM costs for carbon capture	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ \$ \$ \$ \$ \$ \$ \$	Size A   S	Size C get one bigger one, c	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1129,297 \$ 1282,161	Vear 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5 \$ 376,432 \$ 1129,297	usb (Nominal) Cost Unit:  per participant per year of pilot life  (for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,0) 0.0:  Assumes 125-mile 1-way trips (all return trips are	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  Ity made up of chemicals and other consumables.  CSI)  On Fixed OSM of 270,000/ year plus 0.0566 * Capex is based on the GCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ \$ \$ \$ \$ \$ \$ \$	Size A   S	\$ 129.297   \$ 128.281   \$ 276.432   \$ 376.432   \$ 128.297   \$ 188.2461   \$ 128.297   \$ 188.2461	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1129,297 \$ 1282,161	Vear 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5 \$ 376,432 \$ 1129,297	ust o 28 USC 48E as an energy storage facility (which includes as to explore)  USD (Nominal) Cost Unit:  Der participant per year of pilot life  O(for each pilot analysis year)  If CO2 is computed from the GCCI report. It is most  \$ 270,0  O(t)  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  Ity made up of chemicals and other consumables.  CSI)  On Fixed OSM of 270,000/ year plus 0.0566 * Capex is based on the GCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture  O&M for compression:	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ \$ \$ \$ \$ \$ \$ \$	Size A   S	\$ 129.297   \$ 128.281   \$ 276.432   \$ 376.432   \$ 128.297   \$ 188.2461   \$ 128.297   \$ 188.2461	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1129,297 \$ 1282,161	Vear 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5 \$ 376,432 \$ 1129,297	usb (Nominal) Cost Unit:  USD (Nominal) Cost Unit:  per participant per year of pilot life  (for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,0)  Assumes 125-mile I-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  If y made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the GCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ \$ \$ \$ \$ \$ \$ \$	Size A   S	\$ 129.297   \$ 128.281   \$ 276.432   \$ 376.432   \$ 128.297   \$ 188.2461   \$ 128.297   \$ 188.2461	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1129,297 \$ 1282,161	Vear 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 22/ metric ton of Year 5 \$ 376,432 \$ 1129,297	ust o 28 USC 48E as an energy storage facility (which includes as to explore)  USD (Nominal) Cost Unit:  Der participant per year of pilot life per participant per year of pilot life per participant per year of pilot life per participant per year of pilot life [(for each pilot analysis year)]  f CO2 is computed from the GCCI report. It is most  \$ 270,0  O.0:  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M andiesel fuel O&M.	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  If y made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0566 * Capex is based on the GCCS/ study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip -1	Assuming too small for IRA for now, if in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ Year 1  \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Size A   S	\$ 129.297   \$ 128.291   \$ 376.432   \$ 128.2927   \$ 128.2937   \$ 128.29	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1,129,297 \$ 1,882,161 µr.+ prop. taxes)	Year 5 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 3.82%  22/ metric ton of Year 5 \$ 376,432 \$ 1,129,297 \$ 1,882,161	usb (Nominal) Cost Unit:  per participant per year of pilot life  (for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,0 0.0)  Assumes 125-mile I-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M and diesel fuel O&M.  Est. 309 trips/year needed for CO2 quantity	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  If y made up of chemicals and other consumables.  CSI)  OD Fixed OSM of 270,000/ year plus 0.0566 * Capex is based on the GCCSI study from which the cost algorithm was created.  566
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C  Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip - 1 way, 125 mi. trip with CO2; 1 way empty as return)	Assuming too small for IRA for now, If in Additional CAPEX: replacements CQ2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$ Year 1  \$ Year 1  \$ Year 1	Size A   S	\$ 129.297   \$ 128.291   \$ 376.432   \$ 128.2927   \$ 128.2937   \$ 128.29	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ Year 4 \$ 376,432 \$ 1,129,297 \$ 1,882,i61 µr.+ prop. taxes)	Year 5 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 3.82%  22/ metric ton of Year 5 \$ 376,432 \$ 1,129,297 \$ 1,882,161	ust o 28 USC 48E as an energy storage facility (which includes as to explore)  USD (Nominal) Cost Unit:  Der participant per year of pilot life  O(1)  O(2)  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M actions of the control of th	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  If y made up of chemicals and other consumables.  CSI)  OF Tived OGM of 270,000/ year plus 0.0566 * Capex is based on the GCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip -1 way, 125 mi. trip with CO2; 1 way empty as return)  Covers insurance, staff, overhead, licenses and permits, tire replacement, and fuel O&M costs (at \$0.92/liter, or -\$0.75/mile) for	Assuming too small for IRA for now, If in Additional CAPEX: replacements CQ2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  S Year 1  S S Year 1  S Year 1	Size A   S	Size B	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 3.82%  Non-fuel cost of \$ 76,432 \$ 1129,297 \$ 1882,161 ur.+ prop. taxes)	Year 5 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 3.82% 22/ metric ton of Year 5 \$ 376,432 \$ 1,129,297 \$ 1,882,161	usb (vaid of capital per year of pilot life per participant per year of pilot life year of pilot life per year of pilot life ye	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  By made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the QCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture  Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip - 1 way, 125 mi. trip with CO2; 1 way empty as return)  Covers insurance, staff, overhead, licenses and permits, tire	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$  Year 1  \$  Year 1  \$  Year 1	Size A   S	Size C get one bigger one, c	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 Year 4 \$ 382,278 \$ 1,129,297 \$ 1,882,161 Jur. + prop. taxes)  Year 4 \$ 253,936	Year 5 \$ 864,072 \$ 964,072	to 28 USC 48E as an energy storage facility (which includes as to explore)  DOO tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  Der participant per year of pilot life per participant per year of pilot life per participant per year of pilot life [for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,00 0.0)  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-1uel O&M and cliesel fuel O&M.  Est. 309 trips/year needed for CO2 quantity capatured at single facility (Size A), given truck full cladweight of commodity of 22,482 kg; 781 kg/m² density of CO2 in pressurized tanks at -1,750 psi trailer tank water vol. 28,770 it railer tank water vol. 28,770 it railer tank water vol. 28,700 psi trailer tank water vol. 28,700 psi trailer tank water vol. 28,700 psi	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  By made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the QCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip -1 way, 125 mi. trip with CO2; 1 way empty as return)  Covers insurance, staff, overhead, licenses and permits, tire replacement, and fuel O&M costs (at \$0.92/liter, or -\$0.75/mile) for	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$  Year 1  \$  Year 1  \$  Year 1  \$  Year 1	Size A   S	\$ 600,000 :    Size B	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 \$ 376,432 \$ 1,129,297 \$ 1,882,161 µr.+ prop. taxes)  Year 4  \$ 253,936 \$ 761,808	Year 5 \$ 864,072 \$ 964,072	usb (Nominal) Cost Unit:  Der participant per year of pilot life per participant per year of pilot life  (for each pilot analysis year)  Co2 is computed from the GCCI report. It is most  (via GC 270,00 0.01  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M and diesel fuel O&M.  Est. 309 trips/year needed for CO2 quantity captured at single facility (Size A), given truck full load weight of commodity of 22,482 kg, 781 kg/m/ density of CO2 in pressurized tanks at -1/550 psi trailer tank water vol. 28,770 L.	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  By made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the QCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip -1 way, 125 mi. trip with CO2; 1 way empty as return)  Covers insurance, staff, overhead, licenses and permits, tire replacement, and fuel O&M costs (at \$0.92/liter, or -\$0.75/mile) for	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$  Year 1  \$  Year 1  \$  Year 1  \$  Year 1	Size A   S	\$ 600,000 :    Size B	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 \$ 376,432 \$ 1,129,297 \$ 1,882,161 µr.+ prop. taxes)  Year 4  \$ 253,936 \$ 761,808	Year 5 \$ 864,072 Year 5 \$ 864,072 Year 5 \$ 3.82%  Year 5 \$ 376,432 \$ 1,129,297 \$ 1,882,161  Year 5 \$ 76,808	usb (Nominal) Cost Unit:  Der participant per year of pilot life per participant per year of pilot life  (for each pilot analysis year)  Co2 is computed from the GCCI report. It is most  (via GC 270,00 0.01  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M and diesel fuel O&M.  Est. 309 trips/year needed for CO2 quantity captured at single facility (Size A), given truck full load weight of commodity of 22,482 kg, 781 kg/m/ density of CO2 in pressurized tanks at -1/550 psi trailer tank water vol. 28,770 L.	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  By made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the QCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip -1 way, 125 mi. trip with CO2; 1 way empty as return)  Covers insurance, staff, overhead, licenses and permits, tire replacement, and fuel O&M costs (at \$0.92/liter, or -\$0.75/mile) for	Assuming too small for IRA for now, If in Additional CAPEX: replacements CO2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$  Year 1  \$  Year 1  \$  Year 1  \$  Year 1	Size A   S	\$ 600,000 :    Size B	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 \$ 376,432 \$ 1,129,297 \$ 1,882,161 µr.+ prop. taxes)  Year 4  \$ 253,936 \$ 761,808	Year 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072  Year 5 \$ 3,82%  22/ metric ton of  Year 5 \$ 1,129,2161  Year 5 \$ 1,129,6161  Year 5 \$ 1,129,6161  Year 5 \$ 1,129,6161  Year 5 \$ 1,129,6161  Year 5	usb (Nominal) Cost Unit:  USD (Nominal) Cost Unit:  per participant per year of pilot life  [ (for each pilot analysis year)  f CO2 is computed from the GCCI report. It is most  (via GC 270,0) 0,0:  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77,300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M and diesel fuel O&M.  Est. 309 trips/year needed for CO2 quantity captured at single facility (Size A), given truck full load weight of commodity of 22,482 kg, 781 kg/m' density of CO2 in pressurized tanks at -1,750 psi trailer tank water vol. 28,770 L.  USD (Nominal) Cost Unit:	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  By made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the QCCSI study from which the cost algorithm was created.
NON-ENERGY	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate  Non fuel consumables VOM costs for carbon capture Fixed O&M for carbon capture  O&M for compression:  O&M for trucking the CO2 (2-way Transport 250 Miles per Trip -1 way, 125 mi. trip with CO2; 1 way empty as return)  Covers insurance, staff, overhead, licenses and permits, tire replacement, and fuel O&M costs (at \$0.92/liter, or -\$0.75/mile) for	Assuming too small for IRA for now, If in Additional CAPEX: replacements CQ2 Transportation's Truck Tractor with 7.5 year life (2 replacements) over 20 ye pilot life  Year 1  Year 1  \$  \$  Year 1  \$  \$  \$  Year 1  \$  \$  \$  \$  Year 1  \$  \$  \$  \$  Year 1  \$  \$  \$  \$  \$  \$  \$  \$  \$  \$  \$  \$  \$	Size A   S	Size B   S	y for 30% investment could qualify (fut:  Size C \$ 900,000  Year 4 \$ 832,278 \$ 832,278 \$ 832,278  Year 4 \$ 376,432 \$ 1,29,297 \$ 1,882,161 \$ 1,882,161 \$ 1,862,163 \$ 1,862,163 \$ 1,862,163 \$ 1,863,163 \$ 1,863,163 \$ 1,863,163	Year 5 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072 \$ 864,072  Year 5 \$ 3,82%  22/ metric ton of  Year 5 \$ 1,129,2161  Year 5 \$ 1,129,6161  Year 5 \$ 1,129,6161  Year 5 \$ 1,129,6161  Year 5 \$ 1,129,6161  Year 5	to 28 USC 48E as an energy storage facility (which includes as to explore)  DOC tractor replacements needed for 7.5 year tract  USD (Nominal) Cost Unit:  per participant per year of pilot life  [for each pilot analysis year]  f CO2 is computed from the GCCI report. It is most  \$ 270.0  CO2  Assumes 125-mile 1-way trips (all return trips are empty) which translates to -77.300 miles annually for all 2-way round-trips needed based on CO2 production and truck capacity. Non-fuel O&M adiesel fuel O&M.  Est. 309 trips/year needed for CO2 quantity captured at single facility (Size A), given truck full load weight of commodity of 22,48½ kg. 781 kg/m/density of CO2 in pressurized tarks at -1,750 psi duraler tank water vol. 28,770 L.	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we  By made up of chemicals and other consumables.  CSI)  OD Fixed QSM of 270,000/ year plus 0.0568 * Capex is based on the QCCSI study from which the cost algorithm was created.

PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size B Participant Non-Energy Savings, Size C Calculations & Other Explanation:	\$ - \$ -	\$ -	\$ - \$ \$ - \$	- \$ - \$	per participant per year of p     per participant per year of p	
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:		years years years				
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	(23,633) (23,633)	Dth/Participant  MMBtu fuel needed/n	netric ton of CO2 captured stion saved; carbon intensity of pro	ocess just reduced.		
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	0.00	kWh/Participant kWh/Participant kWh/Participant	Units are kWh; could technically be othe	er non-NG. Avg. Non-Gas Fue	Units/Part. Saved will be used in the Partici	ricipant Cost tests for the NSIA evaluation criteria.
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	757,662 757,662	kWh/Participant kWh/Participant kWh/Participant	Avg. Additional Non-Gas Fuel Units/Part.	. Used will be used in the Par	icipant Cost tests for the NGIA evaluation c	n criteria
	Calculations & Other Explanation:	Compression electricity use kWh/year (at expected % capacity utilization)					
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year 1	Year 2	Year 3 (23,633) (47,267) (70,900)	(47,267) (4	5 (3.633) Dth (7.267) Dth (900) Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
GRID MIX SCENARIO	Grid Mix Scenario  Calculations & Other Explanation:	NREL	I	Select one of the listed grid mix scenario  -Dtilities shall use electric-utility-specific  -Renewable Franco Laboratory (NRF) 1 Str.	c generation mix information	for the renewable natural gas facility when it with a natural one facility is usine a higher on	en it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation mix taken from National amountain of cashon fine electricity than is available by default from their electric utility—either from on—site generation by subscribing to a Commission—accordance
	This section does not apply to all pilot types. The GHG changes to participation).	rom decreased natural gas and/or electricity o	consumption will be ca	lculated based on values above. H	lowever, for pilots whe	re NGIA requires lifecycle GHG sa	savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG emissions (per unit of
	Lifecycle GHG Intensity, Size A Low Expected High	Year1	Year 2	Year 3 (0.00) 4,170,616 6,951,027		5 0.00 kg CO2e/participant 0.616 kg CO2e/participant kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumption for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will be used in cost- benefic acclustations and when determining the expected greenhouse gas reduction of policy rogarams and fully plans.
	Lifecycle GHG intensity, Size B Low Expected High	Year 1	Year 2	Year 3 (0.00) 4,170,616 6,951,027		5 0.00 kg CO2e/participant Vg CO2e/participant Vg CO2e/participant Vg CO2e/participant	delican concounts and man occurring an expected great mouse gas reduced to price program and train parties
	Lifecycle GHG Intensity, Size C Low Expected High	Year 1	Year 2	0.00 4,170,616		5.0.00 kg CO2e/participant 0.616 kg CO2e/participant 51,027 kg CO2e/participant	
LIFECYCLE GHG INTENSITY BY PROJECT SIZE	Calculations & Other Explanation:	This pilot assumes CO2 is captured from C O2 sent to concrete production, only -60% is ab m concrete's GHG improvement. etter reflect GHG impact.	NP industrial client, the sorbed in the concrete	oically be used to permanently seq n utilized in concrete. In traditional There are potentially large GHG sa	quester carbon, so indu concrete production, c avings if the utilization a	strial facilities looking to capture CC ement is cured with water, causing pproach is an emissions improvme	CO2 would likely be looking for another process that would utilize that CO2.  Ing the calcium to react with the CO2 in the surrounding air and turning it back into strengthened calcium carbonate.  In the calcium to react with the CO2 in the surrounding air and turning it back into strengthened calcium carbonate.  In the calcium to react with the CO2 in the surrounding air and turning it back into strengthened calcium carbonate.  In the calcium to react with the CO2 in the surrounding air and turning it back into strengthened calcium carbonate.  In the calcium to react with the CO2 in the surrounding air and turning it back into strengthened calcium carbonate.

	Default Geologic Gas Emissions Factor Geologic Gas Combustion Emissions Factor		kg CO2e/Dth	66.14 Size / 53.74 Size (	B 13,90	51	83,412,320,32 4,170.6 Fo	r a Centerpoint facility capturing 6,951 metric	tons per year of CO2, about 60% would be a	absorbed into concrete; 60% based on Carbon Cure findings.
THER PILOT-SP	PECIFIC PARAMETERS (formerly 'General Parameters' in C	CIP Calculator):								
PEAK REDUCTION FACTOR	Peak Reduction Factor Calculations & Other Explanation:			1% The estimated average annu tests for the NGIA evaluation	ial effect of the project on syste n criteria.	em peak. It is estimated to b	e 1% for energy efficiency	y pilots. The method for other innovative resources should	I be considered in the context of specific utility propos	sals. Peak Reduction Factor will be used in the Utility Cost and Non Participant Cost
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  E	\$ Escalation rate	Year 1 Year 1	Year 2 0.05 \$ 0.05  Year 2 -5.250% -5.2509	Year 3	Year 4  Year 4  Year 4  -5.250%	\$ 0.04 pe	5D (Nominal) Cost Unit: rr Dth or each pilot analysis year)	context of specific utility proposals. For exampl also need to be transported to customers on th Participant Cost tests for the NGIA evaluation c	ncy. However, the value for other innovative resources should be considered in the fix, resources like power-to-hydrogen and RNG may not decrease. QSM costs as they destribution system. Variable OSM will be used in the Utility Cost and Non riteria.
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost Calculations & Other Explanation:	\$		USD (Nominal) Cost Unit: 44.14 per MWh				. The method for strategic electrification should be considered by the Minnesota Hub from January (, 2022 to December).		em Operator (MISO)
NON-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor  Calculations & Other Explanation:			8.22%	The CIP methodology is used reported by Minnesota Powe	d for all resources other that er, Xcel Energy, and Otter Ta	n strategic electrification. Il Power's reported 2021 i	The method for strategic electrification should be considerensemission and distribution loss factors and weighting b	ered in the context of specific utility pilot proposals. In y the utilities '2017-2019 average retail sales	s the most recent CIP, Staff used the weighted average of the most recent loss factor
THER QUANTIT	ATIVE CRITERIA:									
	Other Non-GHG Pollutants, Size A			USD Cost Unit:	_					
OTHER NON- GHG POLLUTANTS	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	\$		0.37 per Dth 0.37 per Dth 0.37 per Dth	Commission's approved doll populations. For example, an	ar per ton environmental co energy efficiency project to plans if they can provide just	st values using escalation nat targets an urban area	n rate to adjust by observed inflation between 2014 and 2 might use the urban value rather than the metropolitan fri	221. Stakeholders expressed a preference for allowing u nge value. Similarly, a project targeting a low-income p	reported in 2021 dollars in Table 2 below, which were calculated by inflating the trillies to select different ostermality values for pilots targeting specific geographies copulation might use a high value rather than the median Unities can make deviation of the Commission's January 3, 2018 Order in Docket No. E1999/C:-14-643, utilities m
GHG	Other Non-GHG Pollutants, Size C	\$	Year1	0.37 per Dth	Commission's approved doll populations. For example, an such as these in their NGIA p	ar per ton environmental co energy efficiency project to plans if they can provide just	st values using escalation nat targets an urban area	n rate to adjust by observed inflation between 2014 and 2 might use the urban value rather than the metropolitan fri	221 Stakeholders expressed a preference for allowing inge value. Similarly, a project trageting a low-income prakes for all non-GHG pollutants, as shown in Table I o  Remainder of project  life  16 # of jobs  14 30 # of jobs	utilities to select different externality values for pilots targeting specific geographies opulation might use a high value rather than the median. Utilities can make deviation
GHG	Other Non-GHG Pollutants, Size C <u>Calculations &amp; Other Explanation:</u> Net Direct Job Creation, Size A  Net Direct Job Creation, Size B	\$ \$	Year1 Year1	0.37 per Dth 0.37 per Dth	Commission's approved doll populations. For example, and such as these in their NGIA pure use the value most applicable use the value most applicable.	ar per ton environmental co energy efficiency project ti plans if they can provide just le for the pilot or measure.	st values using escalation aftiargers an urban arge. II fication for the change. II	rate to adjust by Observed Inflation between 2014 and 2 might use the urban value rather than the metropolism in might use the urban value rather than the metropolism finishes do I requiring the use of median metropolitan fringe	221 Stakeholders expressed a preference for allowing inge value. Similarly, a project trageting a low-income prakes for all non-GHG pollutants, as shown in Table I o  Remainder of project  life  16 # of jobs  14 30 # of jobs	utilities to select different externality values for pilots targeting specific geographies in population inghit use a high valuer staffer than the mediau Litilities cam make deviation of the Commission's January 3, 2018 Order in Docket No. E0999/CH-14-643, utilities mu the Commission's January 3, 2018 Order in Docket No. E0999/CH-14-643, utilities mu Utilities should consider both jobs created by proposed pilots and
GHG	Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C  Net Indirect Job Creation, Size A Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B	\$ \$		0.37 per Dth  0.37 per Dth  Year 2  1	Commission's approved doll of populations. For example, an auch as these in their NOIA fuse the value most applicable use the value most applicable.	Year 4 5 1 9 2 4 4 4 4	values using escalation at rapes and unit regrets an unaban area edification for the change. It	nate to adjust by observed inflation between 2014 and 2 might use the usher wake rather than the metropolism in stated of requiring the use of median metropolism fringe that the state of	221 Stakeholders expressed a preference for allowing inger value. Similarly, a project trageting a low-income prakes for all non-GHG pollutants, as shown in Table 1 or life	utilities to select different externality values for pilots targeting specific geographies opposition implits use a high valuer start than the median Utilities can make deviation if the Commission's January 3, 2018 Order in Docket No. E0999/CI-14-643, utilities m Utilities should consider both jobs created by proposed pilots and jobs that may be eliministed by proposed pilots.  Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots.
GHG POLLUTANTS	Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:  Net Direct Job Creation, Size A  Net Direct Job Creation, Size B  Net Direct Job Creation, Size C  Net Indirect Job Creation, Size A  Net Indirect Job Creation, Size B  Net Indirect Job Creation, Size B  Net Indirect Job Creation, Size B  Net Indirect Job Creation, Size A  Net Indirect Job Creation, Size A  Net Induced Job Creation, Size A	\$ \$ \$ and are rounded off.	Year1	0.37 per Dth  0.37 per Dth  Year 2  1	Commission's approved doll of populations. For example, an auch as these in their NGIA function and the street of		Year 5  Year 5  Year 2  2  2  2	rate to adjust by observed inflation between 2014 and 2 might use the urban value rather than the metropolitan franstead of requiring the use of median metropolitan fringe  Total during 5 program years  Total during 5 program years	Remainder of project	utilities to select different externality values for pilots targeting specific geographies opposition implies use a high values rather than the median Utilities can make deviation if the Commission's January 3, 2018 Order in Docket No. E0999/CI-14-6-43, utilities m Utilities in the Commission's January 3, 2018 Order in Docket No. E0999/CI-14-6-43, utilities m Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and

	Public Co-Benefits, Size A	\$ -	\$ -	\$ -	\$ -	\$ -	per year	Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative
PUBLIC CO-	Public Co-Benefits, Size B Public Co-Benefits, Size C	\$ - \$	\$ - \$ -	\$ - \$ -	\$ -	\$ -	per year per year	Considerations section below.
BENEFITS		¥	•	•	•	•	por your	
	Calculations & Other Explanation:							
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Water Pollution, Size A	\$ -					per year	The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the
WATER	Water Pollution, Size B Water Pollution, Size C	\$ -	\$ -	\$ -	\$ -	\$ -	per year per year	projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.
POLLUTION		Ψ		Ψ	•	•	per year	
	Calculations & Other Explanation:							
ADDITIONAL OUR	LITATIVE CONSIDERATIONS:							
NGIA Utility	LITATIVE CONSIDERATIONS:		_	_				
Perspective Notes:								
Notes:								
	It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the							
Definition:	structural values and CIP quantification methods.							
NGIA								
NGIA Participants'								
Perspective Notes:								
Definition:	It is expected that many of the elements of the participant perspect				alues. Add here an	y information rela	ted to some direct effects of pilots on participa	ints that may not be easily quantifiable. For example,
	increased comfort in a home and health benefits from pilots that imp May assist MN businesses in achieving GHG goals	prove indoor air quality are two examples of ber	nefits that may be difficu	t to quantify.				
	·, ····							
NOIA								
NGIA Nonparticipating								
Customers'								
Perspective Notes:								
	As with the utility perspective, the direct effects of pilot programs or							
	non-participating customers should be quantified in most cases and							
Definition:	can be heavily informed by structural values.							
Effects on Other Energy Systems								
and Energy								
Security: Definition:								
	NGIA invites the Commission to consider how innovative resources f							Commission to avoid negative effects on the electric
	system. Further, the NGIA empowers the Commission to consider a v	wide variety or costs and benefits that may be	expected under a plan,	one or which is a reduct.	on or reliance on i	mportea resource	es and national fuel markets.	
GHG Emissions								
Notes: Definition:	An innovation plan must include the total lifecycle GHG emissions th	hat the utility projects will be reduced or avoide	d through implementing t	he plan. This benefit sho	uld be generally a	uantifiable using t	he Commission-approved GHG accounting fran	nework and GHG externality values. Note that this row
Berminete.	also calls for discussion of any environmental justice effects of the p			no pian. This benefit one	ala ba ganarany q	administration downs t	ne commission approved and accounting nar	nevick and and occurrency values. Note that the for
Other Pollution								
Notes: Definition:	Include any additional non-GHG environmental costs and benefits. F	For example, effects on water pollution that may	not be quantifiable or si	pecific air quality benefit	s to a low income	community. Note	that this also calls for discussion of any enviror	nmental justice effects of the pilot related to non-GHG
	pollution.	por mater position that may		- quality bollene	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		allocation of any environ	

Waste_	
Reduction and	
Reuse Notes:	
	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Policy Notes:	
	NGIA is intended to help the state achieve certain environmental
	policy goals including geologic gas throughput reduction and
Definition:	increased use of renewable resources.
Net Job Creation	
Notes:	
	An innovation plan must include, as applicable, "projected local job
	impacts resulting from implementation of the plan." Utilities should consider the plan." Utilities about consider both lobs created by revooused aids and lobs that may be
Definition:	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Economic Development	
Notes: Definition:	
	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.
	Likely that many projects will satisfy IRA labor requirements; will help MN build carbon capture workforce as carbon capture poised for growth due to IRA
Bublio Co	
Public Co- Benefits Notes:	
Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor problems.
Market	
<u>Development</u> <u>Notes:</u>	
Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
	May help MN businesses appeal to customers interested in sustainability, carbon capture may produce by-products for resale
Direct Innovation Support Notes:	
Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce significant
	benefits on their own but are intended to lead to future opportunities.  Opportunity for customers to learn about novel options for reducing GHGs from their systems
Resource	
Scalability and Role in a	
Decarbonized System Notes:	
Definition:	
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.
	Carbon capture poised to become more affordable and scalable as a result of IRA; carbon capture may be best decarb options for high heat load processes; carbon capture can be used in conjunction with RNG to drive net negative emissions

RIPTION	CNP13 - Carbon Capture Rebates for Commercial Buildings  Pilot Project Code:  Pilot Project Name:  Customer Class/ Sector:  Low-Income Community Benefit?  Target Area:  Primary Innovative Resource Category:  Pilot Description:  CenterPoint Energy proposes to provide rebates to commercial co	Click here to go back to the list  CNP13 Carbon Capture Rebates for Callidings C&I N Territory-wide Carbon Capture	Commercial						NGIA Pilot Profiles Workbook	
RIPTION	Pilot Project Code: Pilot Project Name:  Customer Class/ Sector: Low-Income Community Benefit? Target Area: Primary Innovative Resource Category: Pilot Description:	Carbon Capture Rebates for C Buildings C&I N Territory-wide Carbon Capture								
RIPTION	Customer Class/ Sector: Low-Income Community Benefit? Target Area: Primary Innovative Resource Category: Pilot Description:	Buildings C&I N Territory-wide Carbon Capture								
RIPTION	Customer Class/ Sector: Low-Income Community Benefit? Target Area: Primary Innovative Resource Category: Pilot Description:	C&I N Territory-wide Carbon Capture								
RIPTION	Low-Income Community Benefit? Target Area: Primary Innovative Resource Category: Pilot Description:	N Territory-wide Carbon Capture								
RIPTION	Target Area: Primary Innovative Resource Category: Pilot Description:	Carbon Capture								
RIPTION	Pilot Description:									
RIPTION			Sel	lect primary Innovation	n Category. Others	can be list	ted here:			
		ustomers that install CarbinX carbo	n capture systen	ns manufactured by th	he Canadian comp	oany CleanC	O2.			
	Overview of Program/Implementation Approach: Customer would own and operate CarbinX Unit with standard sup	port from CleanO2. In addition to th	ne manufacturer i	maintaining the units, t	they arrange for th	ne potassiur	ım carbonate	e by-produc	t to be collected on a regular basis, with customers earning revenue for its sa	le.
	Other Comments / Information: CenterPoint Energy is currently piloting CarbinX units through CIP	R&D. Pending results of those test,	CIP may offer a r	ebate for the energy e	efficiency compon	ent of the C	CarbinX savir	ngs (which c	ould reduce NGIA incentive levels).	
OT-SPECIFI	FIC INPUTS:									
	Pilot Year	Year 1		Year 2	Year 3	Ye	ear 4	Year 5		
	Calendar Year		2024		025 20	26	2027	2028		
	Participating Units, Size A		37			72	72 147	72 147	Incremental units added, annual (not cumulative).	
	Participating Units, Size B Participating Units, Size C		72 147			147	297	297		
	Unit of Participation	n = CarbinX systems installed								
1	Calculations & Other Explanation:									
BER OF SIPANTS	CarbinX Units assumed to be installed in (Size A) of Pilot	20.	3		3	3	3	2		
	Carbina Units assumed to be installed in (Size A) of Pilot	20:	3		3	3	3	3	Since the equivalent incentives would be offered directly through pilot #20,	reducing participation here to reflect (a portion) of that par
	Total Participation Scenarios for Carbin X Unit Installs									
	Participating Units, Siz		40			75	75	75		
	Participating Units, Siz Participating Units, Siz		75 150			150 00	150 300	150 300		
		Year 1		Year 2	Year 3	Ye	ear 4	Year 5	USD (Nominal) Cost Unit:	
	Annual Total Utility Incremental Cost, Size A	\$	276,000 \$		70 \$ 488,9			204,150	total cost per year These incremental utility costs are what will co	unt against the NGIA budget cap for this measure and will be used in the
	Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C	\$	491,000 \$ 979,000 \$		170 \$ 943,9 310 \$ 1,883,68		357,544 \$		incentive funding to support project deployme	ilA evaluation criteria. This is the sum of utility admin costs to run pilot, a nt, and/or the utility's annual revenue requirement for capital investment:
1	Annual Total Othicy incremental Cost, Size C	Ψ	979,000 \$	1,001,0	310 g 1,883,88	99 Q	030,140   \$	700,004	on select pilots.	
		Year 1		Year 2	Year 3		ear 4		USD (Nominal) Cost Unit:	
	Fixed O&M Cost, Size A	\$	54,000 \$				58,544 \$			l Project Delivery, Advertising and Promotions, Utility Administration, Trade thet Transformation Cost
	Fixed O&M Cost, Size B Fixed O&M Cost, Size C	\$	59,000 \$ 97,000 \$	60,4 99,3	170 \$ 61,98 310 \$ 101,68		63,544 <b>\$</b> 104,140 <b>\$</b>	65,150 106,664	total cost per year Incentives, and Workforce Development of Mail total cost per year	nes transformation ( COSt
	Tatal Decises Delivery Circ A	Year 1	49,000 \$	Year 2	Year 3 170 \$ 51,98		53,544 \$		USD (Nominal) Cost Unit:  per year	
	Total Project Delivery, Size A Total Project Delivery, Size B	\$	49,000 \$				53,544 \$ 53,544 \$	55,150 55,150	per year Total internal and external project delivery per year	
	Total Project Delivery, Size B	\$	77,000 \$			39 \$	84,140 \$		per year	
		Year 1		Year 2	Year 3	Ye	ear 4	Year 5	USD (Nominal) Cost Unit:	
	Internal Project Delivery, Size A	\$	49,000 \$	50,4	170 \$ 51,98		53,544 \$	55,150	per year CNP staff. These costs are sub-set of the Utilit	y "Fixed O&M Cost" category above.
	Internal Project Delivery, Size B Internal Project Delivery, Size C	\$	49,000 \$ 77,000 \$	50,4 79,3		84 \$ 89 \$	53,544 \$ 84,140 \$	55,150 86,664	per year per year	
	, , ,	V		Year 2	Year 3		ear 4			
	External Project Delivery, Size A	Year 1	- \$			- \$	- \$		USD (Nominal) Cost Unit:  per year External vendor costs would include direct inst	all costs where CNP reimburses the vendor. These costs are sub-set of th
	External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C	Year 1	- \$ - \$ - \$		- \$ - \$			-		all costs where CNP reimburses the vendor. These costs are sub-set of th

Year 1

Year 3

Year 2

Year 4 Year 5 USD (Nominal) Cost Unit:

	Advertising and Promotions, Size A	4	5,000 \$	5,000	5,000	\$ 5,000	\$ 5,000	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B	\$	10,000 \$		10,000		\$ 10,000	per year	
	Advertising and Promotions, Size C	\$	20,000 \$		20,000			per year	
	-			<u>.                                    </u>				12 -	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Allocation of General Portfolio Costs, Size A							per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B							per year	
	Allocation of General Portfolio Costs, Size C							per year	
		Year 1		Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	\$	- \$	- 3	-	\$ -	\$ -	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	- \$ - \$	- 3	-	\$ -	\$ -	per year	
	Trade Ally Incentives, Size C	Φ	- 5	-	-	Φ -	Φ -	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
UTILITY PILOT	Workforce Development or Market Transformation Cost, Size A	¢	- \$		rears	e -		per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
COSTS	Workforce Development or Market Transformation Cost, Size B	4	- \$		-	\$ -	\$ _	per year per vear	
COSIS	Workforce Development or Market Transformation Cost, Size C	\$	- \$		-	\$ -	\$ -	per year	
						-		h - 7	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A	\$	- \$	- 5	-		\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$	- \$	- \$	-	\$ -	\$ -	per year	
	Other Fixed O&M Cost, Size C	\$	- \$	- \$	-	\$ -	\$ -	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Total utility capital investment, Size A	\$	- \$	- \$	-	\$ -	\$ -	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly
	Total utility capital investment, Size B	\$	- \$	- \$	-	\$ -	\$ -	per year	feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$	- \$	- 5	-	\$ -	\$ -	per year	requirement resulting from these cupital investments (shown below).
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$		-	\$ -	\$ -	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$			-	\$ -	\$ -	per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$	-   3	-	\$ -	\$ -	per year	well as the utility's return on investment
		Total		SD (Nominal) Cost Unit:					
		Iotai							The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size A			er year					expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C			er year					reference, it's not used to calculate any of the NGIA evaluation criteria.
	EST. Total Revenue Requirement for Capital Projects, Size C								
			pe	er year					Total role, to not add to calculate any of the Hairt Grandation officers.
		Vear 1	Į pe	,	Vear 3	Vear 4	Vear 5	USD (Nominal) Cost Unit	colorine, A o not deed to existince only or the real condition should
		Year 1		Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:	
	Incentives, Size A	Year 1	222,000 \$	Year 2 432,000	432,000	\$ 144,000	\$ 144,000	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size A Incentives, Size B	Year 1	222,000 <b>\$</b> 432,000 <b>\$</b>	Year 2				per year per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(HGH audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size A	Year1 \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$	Year 2 432,000 \$ 882,000 \$	432,000	\$ 144,000 \$ 294,000	\$ 144,000 \$ 294,000	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size A Incentives, Size B	Year1 \$ \$ \$ \$ \$ \$ Year1	222,000 \$ 432,000 \$ 882,000 \$	Year 2 432,000 \$ 882,000 \$ 1,782,000 \$  Year 2	432,000	\$ 144,000 \$ 294,000	\$ 144,000 \$ 294,000	per year per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(HGH audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size A Incentives, Size B	\$ \$	222,000 <b>\$</b> 432,000 <b>\$</b>	Year 2 432,000 \$ 882,000 \$ 1,782,000 \$  Year 2	432,000 8 882,000 1,782,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4	\$ 144,000 \$ 294,000 \$ 594,000 Year 5	per year per year per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(HGH audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B	\$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$	Year 2  432,000 \$ 882,000 \$ 1,782,000 \$  Year 2  6,000 \$	432,000 8 882,000 1,782,000 Year 3 6 6,000 6 6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A	\$ \$	222,000 \$ 432,000 \$ 882,000 \$	Year 2  432,000 \$ 882,000 \$ 1,782,000 \$  Year 2  6,000 \$	432,000 8 882,000 1,782,000 Year 3 6 6,000 6 6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$  6,000 \$ 6,000 \$	Year 2  432,000   882,000   1782,000   9  Year 2  6,000   6,000   9  6,000   1	432,000 8 882,000 1,782,000 Year 3 6 6,000 6 6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B	\$ \$ \$ Year1 \$ \$ \$ Plan for NGIA incentives is to sup	222,000 \$ 432,000 \$ 882,000 \$  6,000 \$ 6,000 \$	Year 2	432,000 882,000 1,782,000 Year 3 6,000 6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$	Year 2	432,000 882,000 1,782,000 Year 3 6,000 6,000 Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ port the insta	Year 2	\$ 432,000 \$ 882,000 \$ 1,782,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 0,000 \$	Year 2	\$ 432,000 \$ 882,000 \$ 1,782,000 Year 3 \$ 6,000 \$ 6,000 \$ 6,000 Year 3 \$ 6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$ 2,000	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ port the instead	Year 2	\$ 432,000 \$ 882,000 \$ 1,782,000 Year 3 \$ 6,000 \$ 6,000 Year 3 \$ 6,000	\$ 144,000 \$ 294,000 \$ 594,000 <b>Year 4</b> \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 for a stallations,	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint roustomer's subsequent installationand 40% to subsequent installationand 40% to subsequent installation.	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ cport the instance of the constant of th	Year 2	432,000 882,000 1,782,000 Year 3 6,000 6,000 74 43 86,000 9,	\$ 144,000 \$ 294,000 \$ 594,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 3,000 rebate go first time in irrst time in interst image in increase.	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$2,000 for a \$2,000 these	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	Year 1  S S S Plan for NGIA incentives is to sup Year 1  Note, in years 1 - 3, CenterPoint r customer's subsequent installati and 40% to subsequent installati incentives might be varied over r	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ cport the instance of the constant of the cons at additions, resulting	Year 2	432,000 882,000 1,782,000 Year 3 6,000 6,000 74 43 86,000 9,	\$ 144,000 \$ 294,000 \$ 594,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 3,000 rebate go first time in irrst time in interst image in increase.	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$2,000 for a \$2,000 these	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint roustomer's subsequent installationand 40% to subsequent installationand 40% to subsequent installation.	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ cport the instance of the constant of the cons at additions, resulting	Year 2	432,000 882,000 1,782,000 Year 3 6,000 6,000 74 43 86,000 9,	\$ 144,000 \$ 294,000 \$ 594,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 3,000 rebate go first time in irrst time in interst image in increase.	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$2,000 for a \$2,000 these	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	Year 1  S S S Plan for NGIA incentives is to sup Year 1  Note, in years 1 - 3, CenterPoint r customer's subsequent installati and 40% to subsequent installati incentives might be varied over r	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ cport the instance of the constant of the cons at additions, resulting	Year 2	432,000 882,000 1,782,000 Year 3 6,000 6,000 74 43 86,000 9,	\$ 144,000 \$ 294,000 \$ 594,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 3,000 rebate go first time in irrst time in interst image in increase.	\$ 144,000 \$ 294,000 \$ 594,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$2,000 for a \$2,000 these	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold enuinment ownership incentives will be used in the Participant Cost tests for the NGIA evaluation
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	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation	Year 1  S S S Plan for NGIA incentives is to sup Year 1  Note, in years 1 - 3, CenterPoint r customer's subsequent installati and 40% to subsequent installati incentives might be varied over r	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$	Year 2	432,000 8 882,000 8 882,000 Year 3 6 6,000 9 6 6,000 Year 3 \$6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 Year 4 \$2,000 rebate go to first time in ion. Additionally, led down overtim	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 Tear 5 \$ 2,000 \$ 3,000 \$ 2,000 \$ 3,000 \$	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year USD (Nominal) Cost Unit:	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(HGR audits or direct install measures), or making a capital investment in a customer's project when the customer diseast in hold environment numerabin Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ cport the instance of the constant of the cons at additions, resulting	Year 2	432,000 8 882,000 8 882,000 Year 3 6 6,000 9 6 6,000 Year 3 \$6,000	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 Year 4 \$2,000 rebate go to first time in ion. Additionally, led down overtim	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 Tear 5 \$ 2,000 \$ 3,000 \$ 2,000 \$ 3,000 \$	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project when the customer riosen't hold equinment numerable incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  The represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$	Year 2	432,000 8 82,000 1,782,000 1,782,000 6 6,000 6 6,000 1,782,000 1,7	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 Year 4 \$2,000 rebate go to first time in ion. Additionally, led down overtim	\$ 144,000 \$ 294,000 \$ 594,000 \$ 594,000 \$ 2,000 \$ 2,00	per year per year per year USD (Nominal) Cost Unit: per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(JHGB audits or direct install measures), or making a capital investment in a customer's project when the customer diseast in hold environment numerabin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives, Size A Incentives, Size B Incentives, Size B Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Total Pilot Upfront Costs, Size A	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 5,000 \$	Year 2	432,000 8 83,000 Year 3 6 6,000 6 6,000 Year 3 \$6,000 Section 1,000 Section 2,000 Section 3,000 Section 3,000 Secti	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642	\$ 144,000 \$ 294,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 Tor a stallations, these e) or by	per year per year per year USD (Nominal) Cost Unit: per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project when the customer riosen't hold equinment numerable incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  The represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
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	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000 \$	Year 2	432,000 8 83,000 Year 3 6 6,000 6 6,000 Year 3 \$6,000 Section 1,000 Section 2,000 Section 3,000 Section 3,000 Secti	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642	\$ 144,000 \$ 294,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 Tor a stallations, these e) or by	per year per year per year USD (Nominal) Cost Unit: per participant per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(JRGB audits or direct install measures), or making a capital investment in a customer's project where the customer diseast in hold environment numershin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  The represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C Third Party Funding, Size A	S S S Year 1 S S Plan for NGIA incentives is to sup Year 1 Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.  Year 1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000 \$	Year 2	432,000 8 882,000 8 882,000  Year 3 8 6,000 8 6,000  Year 3 \$6,000  Second Seco	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642	\$ 144,000 \$ 294,000 \$ 594,000 Vear 5 \$ 2,000 \$ 2,000 Year 5 \$ 2,000 Tear 5 \$ 2,000 For a stallations, these lee) or by	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(AIFA audits or direct install measures), or making a capital investment in a customer's project where the customer chaen't hold equipment ownershin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here
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DIRECT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Incentive per installation  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	S S S Year 1 S S Plan for NGIA incentives is to sup Year 1 Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.  Year 1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$	Year 2	432,000 8 882,000 8 882,000  Year 3 8 6,000 8 6,000  Year 3 \$6,000  Second Seco	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642	\$ 144,000 \$ 294,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$ 2,000 Year 5 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(AIFA audits or direct install measures), or making a capital investment in a customer's project where the customer chaen't hold equipment ownershin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Incentive per installation  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	S S S Year 1 S S Plan for NGIA incentives is to sup Year 1 Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.  Year 1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$	Year 2	432,000 8 882,000 8 882,000  Year 3 8 6,000 8 6,000  Year 3 \$6,000  Second Seco	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642	\$ 144,000 \$ 294,000 Year 5 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 Year 5 \$ 2,000 Year 5 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(AIFA audits or direct install measures), or making a capital investment in a customer's project where the customer chaen't hold equipment ownershin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here
DIRECT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Incentive per installation  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint recustomer's subsequent installation and 40% to subsequent installation incentives might be varied over redifferent types/sizes of facility.  Year1 S S S S Year1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$	Year 2	432,000 8 882,000 8 882,000  Year 3 8 6,000 8 6,000  Year 3 \$6,000  Second Seco	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642	\$ 144,000 \$ 294,000 \$ 294,000  Year 5 \$ 2,000  Year 5 \$ 2,000  Year 5 \$ 2,000  Year 5 \$ 3,000  Year 5 \$ 45,309 \$ 45,309  Year 5 \$ - \$ - \$ -	per year per year per year per year VSD (Nominal) Cost Unit: per participant per year VSD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(AIFA audits or direct install measures), or making a capital investment in a customer's project where the customer chaen't hold equipment ownershin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Incentive per installation  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:	S S S Year 1 S S Plan for NGIA incentives is to sup Year 1 Note, in years 1 - 3, CenterPoint p customer's subsequent installati and 40% to subsequent installati incentives might be varied over p different types/sizes of facility.  Year 1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 7,000 \$	Year 2	432,000   882,000   1,782,00	\$ 144,000 \$ 294,000 \$ 594,000 Vear 4 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additional, led down overtine	\$ 144,000 \$ 294,000 \$ 594,000 Vear 5 \$ 2,000 \$ 2,000 Year 5 \$ 2,000 Tor a stallations, these le) or by Year 5 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309	per year per year per year per year USD (Nominal) Cost Unit: per participant per year USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of engry(JKF) and the engineers of engry engran vendor (paying for the cost of engry(JKF)) and the engineers of engry engrant in a customer's project where the customer closes in hold environment ownership incentives will be used in the Participant Cost tests for the NGIA avaluation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NSIA evaluation criteria.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Incentive per installa	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint recustomer's subsequent installation and 40% to subsequent installation incentives might be varied over redifferent types/sizes of facility.  Year1 S S S S Year1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000	Year 2	### ##################################	\$ 144,000 \$ 294,000 \$ 594,000 Vear 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtim Vear 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 7	\$ 144,000 \$ 294,000 \$ 294,000 Year 5 \$ 2,000 Year 5 \$ 2,000  Year 5 \$ 2,000  Year 5 \$ 45,309 Year 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 6 \$ 6 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of ensures benefits delivered directly to the customer by a program vendor (paying for the cost of ensuring/IGHB audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold environment ownership incentives will be used in the Participant Cnet tests for the NGIA availuation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criterie.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation Incen	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint recustomer's subsequent installation and 40% to subsequent installation incentives might be varied over redifferent types/sizes of facility.  Year1 S S S S Year1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 44,642 \$ 44,642 \$ 44,642 \$ 44,642 \$ 41,642	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 45,000 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309 \$ 43,309 \$ 5 \$ 5 \$ 5 \$ 7 \$ 5	per year per year per year per year year VSD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of ensures benefits delivered directly to the customer by a program vendor (paying for the cost of ensuring GMG) directly incentives applied to the customer by a program vendor (paying for the customer chaes) hold environment ownershin incentives will be used in the Participant Cost tests for the NGIA avaluation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NSIA evaluation criterie.  This represents the upfront costs to participants who participant in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation  Incentive per installa	S S S Plan for NGIA incentives is to sup Year1  S S S Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint recustomer's subsequent installation and 40% to subsequent installation incentives might be varied over redifferent types/sizes of facility.  Year1 S S S S Year1 S S S	222,000 \$ 432,000 \$ 882,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 3,000 rebate go to first time in ion. Additionally, led down overtim Year 4 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 44,642 \$ 44,642 \$ 44,642 \$ 44,642 \$ 41,642	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 45,000 \$ 45,309 \$ 45,309 \$ 45,309 \$ 45,309 \$ 43,309 \$ 5 \$ 5 \$ 5 \$ 7 \$ 5	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of ensures benefits delivered directly to the customer by a program vendor (paying for the cost of ensuring/IGHB audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold environment ownership incentives will be used in the Participant Cnet tests for the NGIA availuation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criterie.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation:  Incentive per in	S S S Plan for NGIA incentives is to sup Year1  Plan for NGIA incentives is to sup Year1  Note, in years 1 - 3, CenterPoint recustomer's subsequent installation and 40% to subsequent installation incentives might be varied over redifferent types/sizes of facility.  Year1  S S S Year1  S S S S Year1  S S S S S S S S S S S S S S S S S S	222,000 \$ 432,000 \$ 882,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtime Year 4 \$ 43,642 \$ 43,642 Year 4 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 144,000 \$ 294,000 \$ 294,000 Year 5 \$ 2,000  Year 5 \$ 2,000  Year 5 \$ 2,000  Year 5 \$ 45,309  Year 5 \$ 45,309 \$ 45,309  Year 5 \$ 45,309 \$ 44,309 \$ 43,309 \$ 43,309	per year per year per year per year year VSD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of ensures benefits delivered directly to the customer by a program vendor (paying for the cost of ensuring/IGH3 audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold environment ownership incentives will be used in the Participant Cnet tests for the NGIA availuation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criterie.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost test for the NGIA evaluation criteria.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation Incen	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 7,000 \$	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 33,000 rebate go to first time in ion. Additionally, led down overtim \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 44,642 Year 4	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 45,000 \$ 45,300 \$ 45,3	per year per year per year per year year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of engry(MGR audits or direct install measures), or making a capital investment in a customer's project where the cost of engry(MGR audits or direct install measures), or making a capital investment in a customer's project where the customer chaen't hold environment ownershin incentives will be used in the Participant Cost tests for the NGIA availuation needs to per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evailuation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note 1 some pilots taking a Direct Install approach may see the utility covering all costs, with no unfront financial contribution from the narticipant.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation:  Incentive per in	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 1,000	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 a \$3,000 rebate go to first time in ion. Additionally, led down overtime Year 4 \$ 43,642 \$ 43,642 Year 4 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 45,000 \$ 45,300 \$ 45,3	per year per year per year per year year VSD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy(AIGA audis or direct install measures), or making a capital investment in a customer's project where the customer closen's hold environment numershin incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria knot a some costs. Sincer Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria knot a some pilot costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria knot a some pilot costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria knot a some pilot costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation Incen	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 7,000 \$	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 33,000 rebate go to first time in ion. Additionally, led down overtim \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 44,642 Year 4	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 45,000 \$ 45,300 \$ 45,3	per year per year per year per year year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of engry(MGR audits or direct install measures), or making a capital investment in a customer's project where the cost of engry(MGR audits or direct install measures), or making a capital investment in a customer's project where the customer chaen't hold environment ownershin incentives will be used in the Particinant Cost tests for the NGIA evaluation nocentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. RA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note is some pilots taking a Direct Installi approach may see the utility covering all costs, with no unfront financial contribution from the narticipant.
DIRECT PARTICIPANT	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive per installation Incen	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	222,000 \$ 432,000 \$ 882,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 7,000 \$	Year 2	Year 3	\$ 144,000 \$ 294,000 \$ 594,000 Year 4 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 33,000 rebate go to first time in ion. Additionally, led down overtim \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 43,642 \$ 44,642 Year 4	\$ 144,000 \$ 294,000 \$ 594,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 2,000 \$ 45,000 \$ 45,300 \$ 45,3	per year per year per year per year year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of ensures benefits delivered directly to the customer by a program vendor (paying for the cost of ensuring/IGH3 audits or direct install measures), or making a capital investment in a customer's project where the customer closen's hold environment ownershin incentives will be used in the Particinant Cnet tests for the NGIA availuation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteris.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria knot a some cost and in the Participant Cost tests for the NGIA evaluation criteria knot a some costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria.

		Year 1	Year 2	Year 3	V 4	Year 5	USD (Nominal) Cost Unit:	
	Participant Non-Energy Costs, Size A	\$ -		- \$ - \$	Year 4	\$ -		This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs
	Participant Non-Energy Costs, Size B	\$	4	_			per participant per year of pilot life	will be used in the Participant Cost tests for the NGIA evaluation criteria.
		φ -	9	- 6 - 4	_	φ -		
PARTICIPANT	Participant Non-Energy Costs, Size C	\$ -	\$	- \$ - \$	-	\$ -	per participant per year of pilot life	
NON-ENERGY	Calculations & Other Explanation:	Year 1	Year 2	Year 3	Year 4	Year 5	<b>¬</b>	
COSTS	Escalation rate	3.82%	3.8	82% 3.82%	3.82%	3.82%	(for each pilot analysis year)	For an escalation rate, we
		Note, there are on-going costs for the unit						
		replenished for the capture unit to function already by CleanO2 under the on-going se						
		revenue that customers receive from Clear maintenance costs.	nO2 for the by-product ha	as been reduced to cov	er raw material	s and		
		maintenance costs.						
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
								This includes any operating savings like water savings.
	Participant Non-Energy Savings, Size A	\$ 2,000	\$ 2,0	2,000 \$	2,000	\$ 2,000	per participant per year of pilot life	-
PARTICIPANT	Participant Non-Energy Savings, Size B	\$ 2,000	\$ 2,0	000 \$ 2,000 \$	2,000	\$ 2,000	per participant per year of pilot life	_
NON-ENERGY	Participant Non-Energy Savings, Size C	\$ 2,000	\$ 2,0	000 \$ 2,000 \$	2,000	\$ 2,000	per participant per year of pilot life	
SAVINGS	Calculations & Other Explanation:							
	Total Annual CO2 Captured		kg CO2 / year					
	By-product generated per kg of CO2 captured Revenue customer receives per year from sale of by-product		kg of carbonate / kg CO2 per kg of carbonate	2 TI	he balanced ch	emical equati	on says that 112 kg of KOH will react with	h 44 kg of CO2 to form 138 kg of K2CO3 plus 18 kg of H2O.
			1					
	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B		years years					
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size C		years					
FILOT LIFE	Calculations & Other Explanation:							
	Calculations & Other Explanation.							
	Avg. Dth/Participant Saved, Size A		Dth/Participant	Estimated savings	based on manı	facturer expe	ctations for overall GHG reduction and	assumed split between carbon capture savings and demand reduction savings
	Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C		Dth/Participant Dth/Participant					
	Calculations & Other Explanation:  GHG Emissions results vary based on installation, and depend on a va	riety of factors including boiler size and runt	ime. Analysis here is largel	ly based on work done b	v University of	British Columb	nia researchers, studying a system con	Link to summary: https://staticl.squarespace.com/static/622f8140267a852825e spected to a 250,000 BTU domestic hot water boiler in a 30,000 square foot office located in Calgary,
	Alberta, Canada, which is smaller than the expected average boiler ap	plication.	-					
NATURAL GAS ENERGY	using the ratio between the LCA GHG reduction (2905 kg CO2E/yr) ar							hey would expect systems to operate for 8 months of the year. For the purposes of this analysis, we are
SAVINGS: AVG. Dth/		LCA System - 250,000 BTU DHW Boiler						·
PARTICIPANT	Total Reduction in Natural Gas Emissions:	in Office Building 2,905	kg CO2 / year	oinX Installation on Expe		kg CO2 / year		
SAVED	Baseline scenario natural gas emissions: Natural gas emissions with unit in place:		kg CO2 / year kg CO2 / year					
	Savings from captured emissions:		kg CO2 / year		708	kg CO2 / year		
	Savings from boiler efficiency improvement (heat recovery):	3000	kg CO2 / year			kg CO2 / year		
	Savings from boiler efficiency improvement (neat recovery).		-		4,756	kg CO2 / year		
	Default Geologic Gas Emissions Factor Implied Gas Savings		kg CO2e/Dth Dth/year		90.2	Dth/year		
	implied das Saviligs	50.2	Diliyeal		09.5	Dtil/year		
	Avg. Non-Gas Fuel Units/Part. Saved, Size A	0.00	kWh/Participant	Units are kWh: could te	chnically be other	non-NG. Avg. No	n-Gas Fuel Units/Part. Saved will be used in the	Participant Cost tests for the NGIA evaluation criteria.
	Avg. Non-Gas Fuel Units/Part. Saved, Size B	0.00	kWh/Participant					
	Avg. Non-Gas Fuel Units/Part. Saved, Size C	0.00	kWh/Participant					
			ו					
AVG. NON-GAS FUEL UNITS/	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A	993	kWh/Participant	Avg. Additional Non-Ga	s Fuel Units/Part. l	lsed will be used	in the Participant Cost tests for the NGIA evalua	ation criteria.
PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B		-	-				
		993	kWh/Participant					
	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	993	kWh/Participant					
	Calculations & Other Explanation:							

TOTAL ANI		Year1	6,430 13	Year 3 ,430 6,430 3,128 13,128 ,523 26,523	Year 4 6,430 13,128 26,523	Year 5 6,430 Dth 13,128 Dth 26,523 Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
GRID M SCENAR		NREL		•Dtilities shall use ele	ed grid mix scenarios ta xctric-utility-specific gen nix taken from National F	reration mix information for the renewable n	atural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state- ord Scenarios. If the renewable natural was facility is usine a higher removing of carbon free electricity than is available by default from their
LIFECYCLE INTENSITY PROJECT	emissions (per unit of participation).  Lifecycle GHG Intensity, Size A Low Expected High  Lifecycle GHG Intensity, Size B Low Expected High  Lifecycle GHG Intensity, Size C Low Expected High  Lifecycle GHG Intensity, Size C Low Expected High  BY	Year 1  Year 1  Year 1  LCA Results* : : : : : : : : : : A savings are from how the by-pro- ffecycle savings for the larger units	Year 2  2,662 2  Year 2  2,662 2  20,466 kg CO2e / year  15,066 kg CO2e / year  2,000 kg CO2e / year  2,662 kg CO2e / year	Year 3  Section 1997  Year 3  Year 3  Year 3  Year 3  Year 3  * Lifecyle Analys product, increas required by capt The LCA approac The 2000 kg CO because the spr	Year 4  Year 4  Year 4  Year 4  Year 4  2,662  Year 6  It is (LCA) factors in A in production of K ure unit, transporte this consistent with the consistent with 23 / year reduction addsheet these nun	Year 5    Recommendation   Recommendatio	
OTHER PILO PEAK REDUCTI FACTO		r):	1% The estimated average annua Utility Cost and Non Particips	al effect of the project on sy ant Cost tests for the NGIA e	stem peak. It is estimate valuation criteria.	d to be 1% for energy efficiency pilots. The	method for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the
VARIABLE	Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	Year1		Year 3 0.05 \$ 0.04 250% -5.250%	Year 4 \$ 0.04 \$ -5.250%	Year 5 USD (Nominal) Cost U	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources life power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.
NON-GAS COST	IUEL Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	\$	USD (Nominal) Cost Un	The CIP methodolog	r is used for all resource of daily real-time final n	s other than strategic electrification. The m narket locational marginal prices (LMP) at th	sthod for strategic electrification should be considered in the context of specific utility pilot proposals.  e Minnesota Hub from January 1 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)

The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales

8.22%

Non-Gas Fuel Loss Factor

NON-GAS FUEL

#### LOSS FACTOR Calculations & Other Explanation: OTHER QUANTITATIVE CRITERIA: USD Cost Unit: Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission (Commission). The factors are reported in 2021 dollars in Table 2 below, 0.37 per Dth Other Non-GHG Pollutants, Size A which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing utilities to select different externality values for pilots targeting specific geographies or populations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe 0.37 per Dth OTHER NON-Other Non-GHG Pollutants, Size B value. Similarly, a project targeting a low-income population might use a high value rather than the median. Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of requiring the use of median metropolitan fringe values for all non-GHG pollutants, as shown in Table I of the Commission's January 3, 2018 Order in Docket No. E1999/CI-14-643, utilities may use the value most applicable for the pilot or 0.37 per Dth Other Non-GHG Pollutants, Size C **POLLUTANTS** Calculations & Other Explanation: Remainder of project Year 1 Year 2 Year 3 Year 4 Year 5 Total during 5 program years life 50 # of jobs Net Direct Job Creation, Size A Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots. Net Direct Job Creation, Size B 95 # of jobs Net Direct Job Creation, Size C 193 # of jobs Remainder of project Year 1 Year 2 Year 3 Year 4 Year 5 Total during 5 program years life 30 # of jobs Utilities should consider both jobs created by proposed pilots and Net Indirect Job Creation, Size A jobs that may be eliminated by proposed pilots. Net Indirect Job Creation, Size B 57 # of jobs Net Indirect Job Creation, Size C 116 # of jobs Remainder of project **NET JOB** Year 1 Total during 5 program years Year 2 Year 3 Year 4 Year 5 CREATION Net Induced Job Creation, Size A 31 # of jobs Net Induced Job Creation, Size A 60 # of jobs Net Induced Job Creation, Size A 121 # of iobs Calculations & Other Explanation: Job numbers are estimated as Full Time Equivalents (FTE) and are rounded off. Year 2 USD (Nominal) Cost Unit: Year 4 Public Co-Benefits, Size A Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional per year Public Co-Benefits, Size B per year PUBLIC CO-Public Co-Benefits, Size C per year BENEFITS Calculations & Other Explanation: USD (Nominal) Cost Unit: Water Pollution, Size A The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of per year Water Pollution, Size B the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative per vear WATER nsiderations section below. Water Pollution, Size C per year POLLUTION Calculations & Other Explanation:

### DDITIONAL QUALITATIVE CONSIDERATIONS:

NGIA Utility
Perspective

It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.

Definition:

NGIA Participants'	
Participants'	
Perspective Notes:	
Definition:	It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that may not be easily
	quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.
	May assist MN businesses in achieving GHG goals
NGIA_	
Nonparticipating Customers'	
Perspective	
Notes:	
	As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases
	and can be heavily informed by structural values.
ffects on Other	
Energy Systems and Energy	
Security:	
Definition:	
	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.
	regative effects on the electric system. Further, the Naia empowers the Commission to consider a wide variety or costs and benefits that may be expected under a pian, one of which its a reduction or reliance on imported resources and national fuel markets.  Reduces overall energy consumption
	treated a contraction of the con
GHG Emissions	
Notes: Definition:	
	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution	
Notes: Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the
Jennidon.	pilot related to non-GHB pollution.
<u>Waste</u>	
Reduction and Reuse Notes:	
	Waste reduction, reuse, and anaerobic digestion are goals of the
Definition:	NGIA. Includes reduction of water use.
N. P M	
Policy Notes:	
	NGIA is intended to help the state achieve certain environmental
	policy goals including geologic gas throughput reduction and
Definition:	increased use of renewable resources.
	Reduces fossil gas throughput
Net Job Creation	
Notes:	

	An innovation plan must include, as applicable, "projected local job
	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
Definition:	eliminated by proposed pilots.
Economic Development	
Notes: Definition:	
Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.
	Manufacturer intends to establish MN office in 2023
Public Co-	
Benefits Notes: Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor
Deminion.	There had be public benefits for certain phots, no example, the roak is interface to help support wasteward dearment and organics recycling. This category could also include odor effects on minimesora continuinties — either reductions in displeasant odors of incleased odor problems.
<u>Market</u> <u>Development</u>	
Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where
	benefits are realized  May help MN businesses appeal to customers interested in sustainability; carbon capture will produce by-products for resale
	may rielp mit dustriesses appear to customers interested in sustainability, carbon capture will produce by products for resale
<u>Direct</u> <u>Innovation</u>	
Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA4O are unlikely
	to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity for customers to learn about novel options for reducing GHGs from their systems; version 4 unit is forthcoming with expected larger carbon capture percentages and application to more building types
Resource	
Scalability and Role in a	
Decarbonized System Notes:	
Definition:	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas
	utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.  Carbon capture may be used in conjunction with RNG to drive net negative emissions
	San Superior Hay Se Sacci in Conjunction Millimet to differ inclinations



Click here to go back to the list of all pilots NGIA Pilot Profiles Workhook

## CNP14 - New Networked Geothermal Systems Pilot

Pilot Project Code:	CNP14
Pilot Project Name:	New Networked Geothermal Systems
Pilot Project Name:	Pilot
Customer Class/ Sector:	C&I & Res
	Y - preference for location in a low
Low-Income Community Benefit?	income community
Target Area:	Urban
Primary Innovative Resource Category:	District Energy

Select primary Innovation Category. Others can be listed here:

### Pilot Description:

CenterPoint Energy proposes to develop a new networked geothermal system to provide building heat and cooling for a neighborhood currently served by the Company. This involves installation of a new 'distributed' geothermal system where individual customers would have a heat pump accessing a common water loop (instead of their own geothermal wells or air source heat pumps). The pilot begins with a feasibility study, planning and modeling, and site selection, prior to design and construction.

### DESCRIPTION

#### Overview of Program/ Implementation Approach:

The proposed approach follows pilots being planned by gas utilities, including National Grid, in Massachusetts. CenterPoint Energy would own and operate the geothermal shared loop system, which would be installed in phases over the 5-year program period. Entire sections of the neighborhood(s) would be shifted off the natural gas distribution system at the same time. In addition to converting gas space and water heating to ground source heat pumps drawing on the shared loop, any other gas appliances would be converted to electric appliances. The pilot program would cover all of these upfront costs for customers, requiring only a roughly 5% co-payment / participant fee from customers in the participating neighborhood.

#### Other Comments / Information:

Metrics are applied on a per-ton basis, with different size assumptions (200 tons, 500 tons, 500 tons, and 1,000 tons of total heating/cooling capacity, installed in phases over a 5 year period). A neighborhood including a low-income community with varied loads (residential, retail, office, grocery) is preferred.

There is significant uncertainty in the costs and savings that would result from this pilot, and a more detailed engineering study, neighborhood selection, and system design is required to better understand the opportunity for CenterPoint Energy.

## KEY PILOT-SPECIFIC INPUT

Pilot Year		Year 1	Year 2	Year 3	Year 4	Year 5
Calendar Year		2024	2025	2026	2027	2028
Size A: 200 Ton Heating/Cooling Capacity		0	0	100	100	O Ur
Size B: 500 Ton Heating/Cooling Capacity		0	0	200	300	0 be
Size C: 1000 Ton Heating/Cooling Capacity		0	0	200	400	400
	Unit of Participation =	Tons Heating/Cooling Capacity				

Units: Tons, shown as the incremental tons installed each year (not cumulative total); Includes a rough approximation of how capital investment for large pilot options might be spread over multiple years

#### Calculations & Other Explanation:

#### NUMBER OF **PARTICIPANTS**

	Year 1	Year 2	Year 3	Year 4	Year 5
Cumulative Networked Geothermal System Size (Tons Capacity),					
Size A	-	=	100	200	200
Cumulative Networked Geothermal System Size (Tons Capacity),					
Size B	-	=	200	500	500
Cumulative Networked Geothermal System Size (Tons Capacity),					
Size B	=	-	200	600	1,000

Annual Total Utility Incremental Cost, Size A
Annual Total Utility Incremental Cost, Size B
Annual Total Utility Incremental Cost, Size C

Fixed O&M Cost, Size A	
Fixed O&M Cost, Size B	
Fixed O&M Cost, Size C	
Total Project Delivery Size A	

Total Project Delivery, Size B Total Project Delivery, Size C

Internal Project Delivery, Size A Internal Project Delivery, Size B Internal Project Delivery, Size C

External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C Advertising and Promotions, Size A

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 410,000 \$	483,827	\$ 515,050	\$ 637,928	\$ 751,28	total cost per year	These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility
\$ 449,189 \$	1,074,381	\$ 1,161,828	\$ 1,463,807	\$ 1,707,17	O total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
\$ 638,378 \$	2,182,511	\$ 2,269,958	\$ 2,628,161	\$ 3,163,0	72 total cost per year	incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.

	Year 1		Year 2		Year 3		Year 4		Year 5	USD (Nominal) Cost Unit:	
\$	410,000	\$	483,827	\$	458,827	\$	494,121	\$	579,415	total cost per year	ĺ
\$	449,189	\$	1,074,381	\$	1,049,381	\$	1,119,969	\$	1,275,851	total cost per year	[
-	000.000	•	0.400.544	4	0.455.544	4	0.000.400	φ.	0.440.000	and the second s	ſ

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally ncentives, and Workforce Development of Market Transformation Cost 2,419,276 total cost per year

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 385,000 \$ 458.827 \$ 458.827 \$ 494.121 \$ 579,415 per year Total internal and external project delivery 424.189 \$ 1.049.381 \$ 1.049.381 \$ 1.119.969 \$ 1,275,851 per year 613 378 \$ 2 157 511 \$ 2 157 511 \$ 2.228.100 \$ 2,419,276 per year

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 150,000	\$ 150,000	\$ 150,000	\$ 185,294	\$ 220,588	per year	CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.
\$ 189,189	\$ 189,189	\$ 189,189	\$ 259,777	\$ 365,660	per year	
\$ 378.378	\$ 378.378	\$ 378.378	\$ 448.967	\$ 590.143	per vear	

Year I	Year 2	Year 3	Year 4	year 5	USD (Nominal) Cost Unit:
\$ 235,000	\$ 308,827	\$ 308,827	\$ 308,827	\$ 358,827	per year
\$ 235,000	\$ 860,191	\$ 860,191	\$ 860,191	\$ 910,191	per year
\$ 235,000	\$ 1,779,133	\$ 1779133	\$ 1,779.133	\$ 1829133	per year

Year 1 Year 4 Year 5 USD (Nominal) Cost Unit: \$25,000 \$25,000 \$ \$ per year

External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Itility "Fixed O&M Cost" category above.

These costs are sub-set of the Utility "Fixed O&M Cost" category above.

This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are authoracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the KGIA evaluation criteria. Note: some clioits stained in Direct Install anononach may see the utility covering all costs with no the KGIA evaluation criteria. Note: Some clioits stained in Direct Install anononach may see the utility covering all costs with no

	Advertising and Promotions, Size B	\$25,000			- \$		per year	
	Advertising and Promotions, Size C	\$25,000		*	-   \$		per year	
	Allocation of General Portfolio Costs. Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B	\$ -	\$ - :	- \$	- \$		per year	
	Allocation of General Portfolio Costs, Size C	\$ -	\$ - :	- \$	- \$		per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	\$ -	\$ - :	- \$			per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B Trade Ally Incentives, Size C	\$ -	\$ - :	- \$ - \$	- \$ - \$		per year per year	<del>- </del>
	Trade Ally incentives, size C	-	-	- J	- y		per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size A Workforce Development or Market Transformation Cost, Size B	Ψ	\$ - :	, ,	- \$ - \$		per year per year	These costs are sub-set of the builty Tixed data cost category above.
	Workforce Development or Market Transformation Cost, Size C	\$ -	\$ - :	- \$	- \$		per year	
UTILITY PILOT		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
COSTS	Other Fixed O&M Cost, Size A	\$ -	\$ - :	- \$	- \$		per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$ -	\$ - !	- \$	- \$		per year	
	Other Fixed O&M Cost, Size C	-	\$ - !	-  \$	-  \$	_	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A Total utility capital investment, Size B	-	\$ - :	617,647 \$ 1,235,294 \$			per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B Total utility capital investment, Size C	\$ -	\$ - :			2,470,588	per year per year	requirement resulting from these capital investments (shown below).
	, , , , , , , , , , , , , , , , , , , ,			·				<del></del>
	Est. Annual Revenue Requirement for Capital Projects, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$ -	\$ - :	112,447 \$	343,838 \$	431,318	per year per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$ -	\$ - !	112,447 \$	400,062 \$		per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
		Total	USD (Nominal) Cost Unit:					
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B		total cost total cost					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B		total cost					reference, it's not used to calculate any of the NGIA evaluation criteria.
		Year 1	Year 2	Year 3	Year 4	Year 5	1100 (11 1) 0 11	
	Incentives, Size A	\$ -	\$ - :	Year 3	Year 4		USD (Nominal) Cost Unit:	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	-	\$ - !	- \$	- \$	-	per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size C	-	-	-   \$	-  \$	-	per year	customer doesn't hold equinment ownership Incentives will be used in the Participant Cost tests for the NGIA evaluation
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A Incentives per Participant, Size B	#DIV/0! #DIV/0!	#DIV/0! :	s - \$	=	#DIV/0! #DIV/0!	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size C	#DIV/0!		- \$		-	per participant per year	<del> </del>
							, , , , , , , , , , , , , , , , , , ,	<del>_</del>
	Calculations & Other Explanation:	Feasibility Study Cost		M&V - Total Cos		\$50,000		
		One of the more comprehensive cost esting.  This breakdown has been pasted into cells.						to estimate costs for different pilot sizes here.
		One update made to the National Grid Nun						ld as part of the 'Future of Gas' study in Massachussets. More specifically using the base cost option for me
	CapEx (HEET/BuroHappold):	\$ 8,824	per ton				Total \$ per to	
	GSHPs (National Grid): CapEx (National Grid):	\$ \$	\$967 \$1.717	\$1,934 \$3,433	\$967 \$1.717	\$0 \$0		67 67 see row 140 instead)
	Captx (National Grid): OpEx- Internal Project Delivery (National Grid):	•				\$0 378	\$6,86 <b>\$1,94</b>	
	OpEx- External Project Delivery (National Grid):		\$ 1,052		1,025 \$	173	\$4,16	
	Customer Co-pay (National Grid):	\$0	,	(\$153)	(\$276)	(\$218)	-\$67	79
	Size A		O Tons O Tons				410.10	24 4 ( 10 )
	<u>Size B</u> Size C		) Tons					64 per ton (after customer co-pay) 43 per ton (total cost without customer co-pay)
	<u> </u>			Annual O&M Cost	s as % of CAPEX: 4%		<del></del>	
	Total Pilot Upfront Costs, Size A	Year 1 \$ 28,504	Year 2 \$ 28,504 \$	Year 3 28,504 \$	Year 4 28,504 \$	Year 5 28.504	USD (Nominal) Cost Unit: per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Total Pilot Upfront Costs, Size B	\$ 28,504		28,504 \$	28,504 \$		per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Total Pilot Upfront Costs, Size C	\$ 28,504	\$ 28,504	28,504 \$	28,504 \$		per participant	-,, anothers, for monor starty program constit 60818.
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Naminal) C+ U-:4-	
	Third Party Funding, Size A	Year 1 2,647		Year 3	2,647 \$		USD (Nominal) Cost Unit: per participant	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here
	Third Party Funding, Size B	\$ 2,647		2,647 \$	-, +		per participant	for reference, it's not used to calculate any of the NGIA evaluation criteria. In this case we are assuming project would qualify for 30% investment tax credit pursuant to 26 USC 48E as an energy storage facility (which includes thermal energy storage
	Third Party Funding, Size C	\$ 2,647	\$ 2,647	2,647 \$	2,647 \$	2,647	per participant	property as defined in 26 USC 48); assume labor requirements will be satified so as to qualify for 30% as opposed to 6%; do
			and the second					
	Description of source of external funding:	IRA funding shown above assumed to redu	ice CNP capital costs, does	not reduce participan	ts' direct costs.			
	Description of source of external funding:	IRA funding shown above assumed to redu Year 1	ce CNP capital costs, does  Year 2	not reduce participan Year 3	ts' direct costs.	Year 5	USD (Nominal) Cost Unit:	

679 per participant 679 per participant

Direct Participant Pilot Costs, Size A

Direct Participant Pilot Costs, Size B

PARTICIPANT	Direct Participant Pilot Costs, Size C	\$ 679	\$ 679 \$	\$ 679 \$	679 \$	670	per participant	
PILOT COSTS	Direct i ai dicipant Filot Costs, 3128 C	6/9   3	6/9   3	0/9   \$	0/9 \$	6/9	per participant	upfront financial contribution from the participant.
	Calculations & Other Explanation: Escalation rate	Year 1 3.82%	Year 2 3.82%	Year 3 3.82%	Year 4 3.82%	Year 5 3.82%	(for each pilot analysis year)	For an escalation rate, we
	IRA Discount on Capital Costs:	s	assuming project would qualify torage facility (which includes equirements will be satified so satalled in an energy communit	thermal energy storage prop as to quaify for 30% as oppo	erty as defined in 26 USC osed to 6%; do not assum	48); assume labor		
	Participant Non-Energy Costs, Size A	Year 1	Year 2 -   \$	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:  per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note to calculate this metric, you can make one cost
	Participant Non-Energy Costs, Size B  Participant Non-Energy Costs, Size C	\$ -	s - s	s - s	- \$		per participant per year of pilot life per participant per year of pilot life	estimate for year I and then use the escalation rate to estimate each remaining year.
PARTICIPANT NON-ENERGY COSTS	Calculations & Other Explanation: Escalation rate	Year 1 3.82%	Year 2 3.82%	Year 3 3.82%	Year 4 3.82%	Year 5 3.82%	(for each pilot analysis year)	For an escalation rate, we
PARTICIPANT NON-ENERGY	Participant Non-Energy Savings, Size A Participant Non-Energy Savings, Size B	Year 1 \$ - :	Year 2 \$ - \$	Year 3	Year 4  - \$	Year 5	USD (Nominal) Cost Unit:  per participant per year of pilot life per participant per year of pilot life	This includes any operating savings like water savings.
SAVINGS	Participant Non-Energy Savings, Size C <u>Calculations &amp; Other Explanation:</u>	<b>s</b> -	\$ -   \$	\$ - \$	- \$	-	per participant per year of pilot life	
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	40 40 40 40	/ears					
	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	41.9		earticipants are tons, so epresents annual savin			r 4)	
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Calculations & Other Explanation:  Geothermal Heating capacity factor Btu/hr, Size A Btu/hr, Size C Annual Dth, size C Annual Dth, size A Annual Dth, size A Annual Dth, size C Replaced Boiler / Furnace Efficiency	2,823,529 7,058,824 14,17,647 8,157 20,392 40,784	40.78 40.78 40.78 40.78	ow much heating energ	y is used throughout		Heating capacity factors for these sit Minnesota TRM 3.0 Residential Space 1932 FLHE / 8760 hours/year = 22% c But there is also the impact of loads in For now we are basing geothermal ca	ork (NYSEG/RG&E) were heating-dominant as expected in Minnesota  se were approximately 33% (Rochester), 50% (Ithaca), and 66% (Norwich)  Heating Hours per year, for Zone 3 (Southern MN / Twin Citibes): 1932 Equivalent Full Load Heating Hours  apacity factor for just space heating, not accounting for water heating (and commercial buildings served in  not always being co-incident, letting the system provide heat to more buildings given that heating needs in  pacity factor off the lowest value observed in New York analyses above, 33% (the total savings still seem in  ty study and planning for this pilot would need to assess this value and the gas savings more precisely
	Additional savings from converted cooking/drying appliances:	1.11 E	Oth/ton (participant) F	or Midwest region, REC	S survey data shows	that gas consum	option for cooking and drying is equal t	o 2.72% of gas consumption for space heating and water heating (expected to be displaced by geotherm
	Avg. Non-Gas Fuel Units/Part. Saved, Size A	0.00 k	:Wh/Participant U	nits are kWh; could technica	ally be other non-NG. Avg.	Non-Gas Fuel Units	Part. Saved will be used in the Participant Cost	t tests for the NGIA evaluation criteria.

Avg. Non-Gas Fuel Units/Part. Saved, Size B 0.00 kWh/Participant Avg. Non-Gas Fuel Units/Part. Saved, Size C 0.00 kWh/Participant AVG. NON-GAS Avg. Additional Non-Gas Fuel Units/Part.Used. Size A 1,407 kWh/Participant FUEL UNITS/ Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria. PART Avg. Additional Non-Gas Fuel Units/Part.Used, Size B kWh/Participant 1,407 Avg. Additional Non-Gas Fuel Units/Part.Used, Size C 1.407 kWh/Participant Rochester pilot geothermal project (residential/office/retail mixed use loads) showed an increase of 1,407 kWh electricity consumption per ton of geothermal capacity primarily due to increased electricity consumption for space heating in Winter months Calculations & Other Explanation: Year 4 Year 1 Year 2 Year 3 Year 5 Total Annual Dth Saved, Size A 4.189 4.189 Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year Total Annual Dth Saved Size R 8.379 12 568 OTAL ANNUA 16 757 Dth Total Annual Dth Saved Size C 8 379 16 757 Calculations & Other Explanation: Grid Mix Scenario Select one of the listed grid mix scenarios taking into account that: GRID MIX SCENARIO •Dtilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation Calculations & Other Explanation: This section does not apply to all pilot types. The GHG changes from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG en (per unit of participation). Lifecycle GHG Intensity, Size A Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will 0.00 0.00 0.00 kg CO2e/participant Expected 0.00 0.00 kg CO2e/participant High be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and Lifecycle GHG Intensity, Size B Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant 0.00 kg CO2e/participant Expected kg CO2e/participant High LIFECYCLE GHG INTENSITY BY PROJECT SIZE Lifecycle GHG Intensity, Size C Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant kg CO2e/participant Expected High kg CO2e/participant Calculations & Other Explanation: OTHER PILOT-SPECIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator) The estimated average annual effect of the project on system peak. It is estimated to be 1% for energy efficiency pilots. The method for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Peak Reduction Factor Cost and Non Participant Cost tests for the NGIA evaluation criteria. REDUCTION Calculations & Other Explanation: USD (Nominal) Cost Unit: Year 3 Year 4 The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in Variable O&M Cost, Applies to all project sizes 0.05 \$ 0.05 \$ 0.04 \$ 0.04 \$ 0.04 per Dth the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M VARIABLE O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. Calculations & Other Explanation: -5.250% -5.250% -5.250% -5.250% -5.250% (for each pilot analysis year) Annual Escalation Rate calculated using the average percent change in the price of natural gas between  $2\,$ USD (Nominal) Cost Unit: The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. NON-GAS FUEL Non-Gas (i.e., Electric) Fuel Cost 44.14 per MWh equal to the average of daily real-time final market locational marginal prices (LMP) at the Minnesota Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO) Calculations & Other Explanation:

8.22% Non-Gas Fuel Loss Factor The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales NON-GAS FUEL LOSS FACTOR Calculations & Other Explanation: OTHER QUANTITATIVE CRITERIA: **USD Cost Unit:** Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission (Commission). The factors are reported in 2021 dollars in Table 2 below, which were 0.37 per Dth Other Non-GHG Pollutants, Size A calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing utilities to select different 0.37 per Dth externality values for pilots targeting specific geographies or populations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe value. Similarly, a project targeting a low-income population might use a high value rather than the median Utilities can make deviations such as these in their MGA plans if they can provide justification for the charge, instead of requiring the use of median metropolitan fringe values for all non-GHG pollutants, as shown in Table I of the Commission's Jeauway 3, 2018 Order in Docket No. E1999/CH-16-43, utilities may use the value most applicable for the pilot or measure. OTHER NON-Other Non-GHG Pollutants, Size B GHG POLLUTANTS 0.37 per Dth Other Non-GHG Pollutants, Size C Calculations & Other Explanation: Remainder of project Total during 5 program years Year 1 Year 5 life Utilities should consider both jobs created by proposed pilots and 16 # of jobs Net Direct Job Creation, Size A jobs that may be eliminated by proposed pilots. Net Direct Job Creation, Size B 34 # of jobs Net Direct Job Creation, Size C 64 # of jobs Remainder of project life Year 1 Year 2 Year 3 Year 4 Year 5 Total during 5 program years Utilities should consider both jobs created by proposed pilots and 27 # of jobs Net Indirect Job Creation, Size A jobs that may be eliminated by proposed pilots. Net Indirect Job Creation, Size B 50 # of jobs Net Indirect Job Creation, Size C 88 # of jobs Remainder of project NET JOB Year 1 Year 2 Year 3 Year 4 Year 5 Total during 5 program years life CREATION 34 # of jobs Net Induced Job Creation, Size A Net Induced Job Creation, Size A 74 # of jobs Net Induced Job Creation, Size A 142 # of jobs Calculations & Other Explanation: Job numbers are estimated as Full Time Equivalents (FTE) and are rounded off. Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: Public Co-Benefits, Size A per year Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Public Co-Benefits, Size B Qualitative Considerations section below. per year Public Co-Benefits, Size C per year Calculations & Other Explanation: Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: Water Pollution, Size A The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of per year he projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Water Pollution Size R per year WATER onsiderations section below. Water Pollution, Size C per year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS

NGIA Utility Perspective

It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.

. . . . .

NGIA		
Participants'		
Perspective Perspective		
Notes:		
Definition:	It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that may not be easily	
	quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.	
,		
NGIA .		
Nonparticipating		
Customers'		
Perspective Notes:		
	As with the utility perspective, the direct effects of pilot programs on	
	non-participating customers should be quantified in most cases and	
Definition:	can be heavily informed by structural values.	
Effects on Other		
Effects on Other Energy Systems		
and Energy		
Security:		
Definition:		
	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.	
	System will also support cooling reducing demand on electric system	
GHG Emissions		
Notes:		
Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values.  Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.	
1	wate that this row also caus for discussion or any environmental justice effects of the pilot related to GHO emissions, these may not be quantifiable.	
Other Pollution		
Notes:		
	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot	
	related to non-GHG pollution.	
Waste Reduction and		
Reuse Notes:		
0.6.22	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.	
Definition:	Nuia: Includes reduction or water use.	
D.F. N.		
Policy Notes:		
	NGIA is intended to help the state achieve certain environmental	
	policy goals including geologic gas throughput reduction and	
Definition:	increased use of renewable resources.	
	Reduces fossil gas throughput; increases use of renewable energy	
Net Job Creation		
Notes:		

	An innovation plan must include, as applicable, "projected local job
	impacts resulting from implementation of the plan." Utilities should
	consider both jobs created by proposed pilots and jobs that may be
Definition:	eliminated by proposed pilots.
Economic	
Development	
Notes:	
Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training
	opportunities would provide additional economic benefits.
	Will pay prevailing wages; will seek apprentices; will seek to hire from local community; will take advantage of higher IRA credits due to labor practices; networked geothermal projects represent clean energy opportunity for workers from traditional fossil fuel jobs; locally produced
	technologies will be considered
Public Co-	
Benefits Notes:	
Definition:	
	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor problems.
<u>Market</u>	
Development	
Notes:	
Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits
	are realized
<u>Direct</u>	
Innovation	
Support Notes:	
Definition:	This category is intended to answer how the proposed pilot support is the development of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA,40 are unlikely to
	produce significant benefits on their own but are intended to lead to future opportunities.  Major opportunity for gas utility to learn about delivering energy in a new way
	יישטי טאַטיינטייני ווא פּפּפּ טיייני טיייני שטעי טפויים שעיע טפויים שעיע טפויים שעיע טפויים שעיע טפויים אייני
Resource	
Scalability and	
Role in a	
Decarbonized	
System Notes:	
Definition:	
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and
	regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

جاٰد ۲ICF Click here to go back to the list of all pilots

Unit of Participation = District energy system implementing GHG reduction projects

NGIA Pilot Profiles Workbook

CNP15 - Decarbonizing Existing District Energy Systems

Pilot Project Code:	CNP15	Ē
Pilot Project Name:	Decarbonizing Existing District Energy	ı
Pilot Project Name:	Systems	ı
Customer Class/ Sector:	C&I	ı
Low-Income Community Benefit?	N	ı
Target Area:	Urban	l
Primary Innovative Resource Category:	District Energy	3

Select primary Innovation Category. Others can be listed here:

renewable natural gas, biogas, power-to-hydrogen, carbon capture, strategic electrific

nn select nilats

#### Pilot Description:

CenterPoint Energy proposes a two-part pilot to help existing district energy systems that currently use geologic gas, to identify opportunities to reduce the lifecycle GHG impact of their systems. First, CenterPoint Energy proposes to support customers who hire expert engineering firms, or similar, to complete feasibility studies to identify decarbonization opportunities. Second, CenterPoint Energy would support customers in implementing GHG reduction projects.

### DESCRIPTION

### Overview of Program/ Implementation Approach:

CenterPoint energy would provide an incentive in support of feasibility/engineering studies looking at opportunities to reduce emissions from existing district energy customers, with the utility planning to cover 20% of the total study cost up to a cap of \$30,000. While incentive approaches/structures to encourage customers to adopt the findings of these studies are still under consideration, CenterPoint is considering leveraging a similar approach to CIP custom programs, with incentives determined based on the minimum of several cost caps (in CIP, this is 1 year payback, 50% of incremental costs, or \$5/Dth annual gas savings). CenterPoint expects the \$/Dth cap to be the limiting factor for most projects considered under NGIA, and is considering higher incentive levels than the \$5/Dth for NGIA incentives. CenterPoint also plans to be a cap on the incentive for any given project at a maxium of \$1.5 million. Projects that are eligible for rebates in CIP would not be eligible for these NGIA rebates.

### Other Comments / Information:

Note – for now this pilot has been based on high-level assumptions surrounding a potential opportunity at a large district energy customer. This customer is already conducting and engineering study of decarbonization options, and however the final results were not ready before the NGIA plan filing.

Sizes B and C of this pilot will be based on the same savings assumptions, but are an opportunity to set aside funding to support additional district energy customers over the 5-year period covered by the first NGIA plan.

# KEY PILOT-SPECIFIC INPUTS

# NUMBER OF PARTICIPANTS

Pilot Year Calendar Year Participating Units, Size A Participating Units, Size B Participating Units, Size C 
 Year1
 Year 2
 Year 3
 Year 4
 Year 5

 2024
 2025
 2026
 2027
 2028

 0
 1
 0
 0
 0

 0
 1
 1
 1
 0
 0

 0
 1
 1
 1
 0
 0

Incremental units added, annual (not cumulative).

Calculations & Other Explanation:

Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C

Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Internal Project Delivery, Size A Internal Project Delivery, Size B Internal Project Delivery, Size C

External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C

Advertising and Promotions, Size A Advertising and Promotions, Size B Advertising and Promotions, Size C

Allocation of General Portfolio Costs, Size A Allocation of General Portfolio Costs, Size B Allocation of General Portfolio Costs, Size C

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 39,800	\$ 1,260,094	\$ 10,397	\$ 10,709	\$ 61,030	total cost per year
\$ 39,800	\$ 1,290,094	\$ 1,260,397	\$ 10,709	\$ 61,030	total cost per year
\$ 39.800	\$ 1,290,094	\$ 1.290.397	\$ 1,260,709	\$ 61.030	total cost per year

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 9.800 \$ 10.094 \$ 10.709 \$ 61,030 total cost per year 10.397 \$ 9,800 \$ 10.094 10.709 total cost per year 10.709 total cost per year

Year 1 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 9.800 \$ 10.094 \$ 10.397 \$ 10,709 \$ 61,030 per year Total internal and external project delivery 9.800 \$ 10.094 \$ 10.397 \$ 10.709 \$ 61,030 per year 9,800 \$ 10,094 \$ 10,397 \$ 10,709 \$ 61,030 per year

Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 9,800 \$ 10,094 \$ 10,397 \$ 10,709 \$ 11,030 per year 9,800 \$ 10,094 \$ 10,397 \$ 10.709 \$ 11,030 per year 9,800 \$ 10,094 \$ 10,709 \$ 11,030 per year

\$ - \$ - \$ - \$ - \$ 50,000 per year
\$ - \$ - \$ - \$ 50,000 per year

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:

 Year1
 Year2
 Year3
 Year4
 Year5
 USD (Nominal) Cost Unit:

 \$
 \$
 \$
 \$
 per year

 \$
 \$
 \$
 \$
 per year

 \$
 \$
 \$
 \$
 per year

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
					per year
					per year
					per year

External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

nese incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility

Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any ncentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally

These costs are sub-set of the Utility "Fixed O&M Cost" category above.

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs

	Trade Ally Incentives, Size A	Year 1 - \$	Year 2 Year		Year 5	USD (Nominal) Cost Unit: per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B Trade Ally Incentives, Size C	\$ - \$ \$ - \$	- \$ - \$	- \$ - - \$ -	\$ - \$ -	per year per year	
		Year 1	Year 2 Year	r 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$ - \$	- \$	- \$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
UTILITY PILOT	Workforce Development or Market Transformation Cost, Size B Workforce Development or Market Transformation Cost, Size C	\$ - \$ \$ - \$	- \$ - \$		\$ - \$ -	per year per year	
COSTS		Year 1	Year 2 Year	r3 Year4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size B	\$ - \$ \$ - \$	- \$ - \$	- \$ - - \$ -	\$ - \$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B Other Fixed O&M Cost, Size C	\$ - \$	- \$		·	per year per year	
		Year 1	Year 2 Year	· 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$ - \$	- \$ - \$	- \$ -	\$ -	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B Total utility capital investment, Size C	\$ - \$	- \$	- \$ -	\$ -	per year per year	requirement resulting from these capital investments (shown below).
		Year 1	Year 2 Year	·3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$ - \$	- \$	- \$ -		per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B Est. Annual Revenue Requirement for Capital Projects, Size C	\$ - \\$ \$ - \\$	- \$ - \$	- \$ -	\$ - \$ -	per year per year	ragnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	,	116	D (Naminal) Cont			,	swall as the utilitive ratum on invastment
		Total Un	D (Nominal) Cost it:				
	Est. Total Revenue Requirement for Capital Projects, Size A Est. Total Revenue Requirement for Capital Projects, Size B		r year r year				The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B		r year				reference, it's not used to calculate any of the NGIA evaluation criteria.
		Year 1	Year 2 Year	· 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$ 30,000 \$	1,250,000 \$	- \$ -	\$ -	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size B Incentives, Size C	\$ 30,000 \$ \$ 30,000 \$	1 1 1 1 1 1 1 1	50,000 \$ - 80,000 \$ 1,250,000	\$ -	per year per year	cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
		Year 1	Year 2 Year	· 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	#DIV/0! \$	1,250,000 #DIV	/O! #DIV/O!	#DIV/0!	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/0! \$ #DIV/0! \$	1	50,000 #DIV/0! 80,000 \$ 1,250,000	#DIV/O! #DIV/O!	per participant per year per participant per year	
	Calculations & Other Explanation:						
		s incentives based on the minimum of several car.	s Limited to project reaching a 1	year payback limited to co	wering 50% o	f incremental costs limited to an incenti	ive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million.
	For this project, based on the economics, expect the \$/Dth to be the						
	Incentive Ca	ip: \$ 25 \$/!	Oth annual gas	Note CIP custom	incentive is b	ased on \$5/Dth annual savings	
	Support for Feasibility/Engineering Stud Engineering Study Total Cos		IP plans to cover 20% of total stu IP expects these costs to be in the		-		
	Total Project Cos						
	Baseline Upgrade Optio Total Incremental Project Cos	st: 2,475,000	suming baseline option would be	to keep performing routing	e maintenanc	e and make existing boilers and steam c	hillers last as long as possible. This would not improve efficiency, and it would not add anything to their c
	M&V - Total Cost for Whole Pilo						
		Year 1	Year 2 Year		Year 5	USD (Nominal) Cost Unit:	
	Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	\$ 2,675,000 \$ \$ 2,675,000 \$		75,000 \$ 2,675,000 75,000 \$ 2,675,000			This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Total Pilot Upfront Costs, Size C	\$ 2,675,000 \$		75,000 \$ 2,675,000			covered by utility incentives, nor include utility program admin costs.
		Year 1	Year 2 Year	· 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
TOTAL AND	Third Party Funding, Size A Third Party Funding, Size B					per participant per participant	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
DIRECT	Third Party Funding, Size C					per participant per participant	
PARTICIPANT PILOT COSTS	Description of source of external funding:	IRA, etc					
	Direct Participant Pilot Costs, Size A	Year 1 \$ 2,645,000 \$	Year 2 Year 1,425,000 \$ 2,6	73 Year 4 75,000 \$ 2,675,000	Year 5	USD (Nominal) Cost Unit:	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
	Direct Participant Pilot Costs, Size B	\$ 2,645,000 \$	1,395,000 \$ 1,4	25,000 \$ 2,675,000	\$ 2,675,000	per participant	are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for
	Direct Participant Pilot Costs, Size C	\$ 2,645,000   \$	1,395,000 \$ 1,3	95,000 \$ 1,425,000	\$ 2,675,000	per participant	the NGIA evaluation criteria. Note 1: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no unfront financial contribution from the participant
	Calculations & Other Explanation:	Year 1	Year 2 Year		Year 5		5
	Escalation rat	3.82%	3.82%	3.82% 3.82%	3.829	(for each pilot analysis year)	For an escalation rate, we
		Year 1	Year 2 Year	·3 Year 4	Year 5	USD (Nominal) Cost Unit:	
DADTIGUE	Participant Non-Energy Costs, Size A	\$ - \$	- \$	- \$ -	\$ -	per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
PARTICIPANT	Participant Non-Energy Costs, Size B	-  \$	-  \$	- \$ -	\$ -	per participant per year of pilot life	тин во восо и вло тытиран совтево на на мала еманивной CRETIE.

NON-ENERGY COSTS	Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalation rate	\$ - \$ Year1 3.82%	- \$ - : Year 2 Year 3 3.82% 3.82%	Year 4 Year 5 3.82% 3.82% (f		For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A Participant Non-Energy Savings, Size B Participant Non-Energy Savings, Size C Calculations & Other Explanation:	Year 1  \$	Year 2	\$ - \$ - po	SD (Nominal) Cost Unit: or participant per year of pilot life or participant per year of pilot life or participant per year of pilot life or participant per year of pilot life	This includes any operating savings like water savings.
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	20 years 20 years 20 years				
	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	50,000   Dth/P 50,000   Dth/P 50,000   Dth/P	articipant	potential reduction in gas consur	mption, based on current levels of ga	is use for steam production used in steam chillers, and a separate project being considered at a district
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Current District Energy System Gas Consumption:  This district energy system is currently undergoing a study of decarbo proceeding with a placeholder project for now, based roughly on some electrification project in the end.  New Electric Chiller Capacity.  Cost for New Chillers:		of projects the customer looks to pursu is to show representative costs and em			
	Chiller Electricity Consumption: Estimated Cooling Load:	0.61 kWh/t 4,000,000 ton-h	con-hr ours			
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	0.00 kWh/f 0.00 kWh/f 0.00 kWh/f	Participant	ically be other non-NG. Avg. Non-Gas Fu	el Units/Part. Saved will be used in the Partici,	ipant Cost tests for the NGIA evaluation criteria.
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C Calculations & Other Explanation:	2,440,000 kWh/f 2,440,000 kWh/f 2,440,000 kWh/f	Participant	uel Units/Part. Used will be used in the Pa	rticipant Cost tests for the NGIA evaluation c	riteria.
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year 1	Year 2         Year 3           50,000         -           50,000         50,000           50,000         50,000	Year 4 Year 5 D 50,000 - D	th	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given yea.
GRID MIX SCENARIO	Calculations & Other Explanation:	NREL	•Utilities shall use electric- eeneration mir taken from	National Renewable Energy I aboratory (N	RFI ) Standard Scenarios If the renewable na	t is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific nural was facility is usine a hister pronoution of carbon free electricity than is available by default from their electric
	This section does not apply to all pilot types. The GHG changes from emissions (per unit of participation).	decreased natural gas and/or electricity consu	mption will be calculated based on val	ues above. However, for pilots w	nere NGIA requires lifecycle GHG sa	avings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity, Size A Low Expected	Year 1	Year 2         Year 3           0.00         0.00		; CO2e/participant ; CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at feast low and high

LIFECYCLE GHG INTENSITY BY PROJECT SIZE  OTHER PILOT-SPE  PEAK REDUCTION FACTOR	High  Lifecycle GHG Intensity, Size B Low Expected High  Lifecycle GHG Intensity, Size C Low Expected High  Calculations & Other Explanation:  CIFIC PARAMETERS (formerly "General Parameters" in CIP Calculato Peak Reduction Factor  Calculations & Other Explanation:		Year 2	Year 3  Vear 3  O.00  Year 3  O.00  al effect of the project on ant Cost tests for the NGI/	Year 4  O.OO  Year 4  O.OO  system peak. It is estit evaluation criteria.	Year 5  0.00  Year 5  0.00	kg CO2e/participant	be used in cost-benefit cal NGIA plans.	culations and when determ	une resource's interpoie. Expected greenhouse gas internsity values will ining the expected greenhouse gas reduction of pilot programs and a second greenhouse gas reduction of pilot programs and greenhouse gas reduction green
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u>	Year 1 \$ 0.08				0.04	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)	the context of specific utilit costs as they also need to Cost and Non Participant C	y proposals. For example, r be transported to custome ost tests for the NGIA evalu	wever, the value for other innovative resources should be considered in securces like power-to-hydrogen and RNG may not decrease O.SM rs on the distribution system. Variable O.SM will be used in the Utility attion criteria. average percent change in the price of natural gas betwee
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation:</u>		USD (Nominal) Cost Unit: 3 per MWh	The CIP methodology is a lequal to the average of o	used for all resources ( laily real-time final ma	other than strategi ket locational mar	c electrification. The method for strategic ele gignal prices (LMF) at the Minnesota Hub from	ctrification should be conside January I 2022 to December	red in the context of specifi 31, 2022 using data from N	e utility pilot proposals. didiwest Independent System Operator (MISO)
NON-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor <u>Calculations &amp; Other Explanation:</u>	8.22	%	The CIP methodology is a average of the most rece	used for all resources ant loss factors reporte	other than strategi ed by Minnesota Pi	c electrification. The method for strategic ele ower, Xcel Energy, and Otter Tail Power's rep	ctrification should be conside orted 2021 transmission and o	red in the context of specifi istribution loss factors and	c utility pilot proposals. In the most recent CIP, Staff used the weighted weighting by the utilities' 2017–2019 average retail sales
OTHER QUANTITA  OTHER NON- GHG POLLUTANTS	TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:	\$ 0.3	USD Cost Unit: 7 per Dth 7 per Dth 7 per Dth	which were calculated by to select different extern a project targeting a low-	y inflating the Commis ality values for pilots t income population mi	sion's approved do argeting specific g ght use a high valu	ollar per ton environmental cost values using a eographies or populations. For example, an e ue rather than the median. Utilities can make	escalation rate to adjust by ob energy efficiency project that to deviations such as these in th	served inflation between 2 argets an urban area might eir NGIA plans if they can p	mission). The factors are reported in 2021 dollars in Table 2 below, 014 and 2021. Stakeholders expressed a preference for allowing utilities set the urban value rather than the metropolitan fringe value. Similarly, ovide justification for the change. Instead of requiring the use of y use the value most applicable for the pilot or measure.
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year 1	Year 2 0 11 0 6 0 11	Year 3 2 7 10	Year 4  2  3 11	Year 5 2 4 5	Total during 5 program years 1 8	4 58 7 89	# of jobs # of jobs # of jobs	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
	Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C		Year 2 0 5 0 3 0 5	Year 3 1 4 6	Year 4	Year 5  1 2 3		9 34 21 53	# of jobs # of jobs # of jobs	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
NET JOB CREATION	Net Induced Job Creation, Size A Net Induced Job Creation, Size A Net Induced Job Creation, Size A	Year 1	Year 2 0 7 0 4 0 7	Year 3 1 4 6	Year 4	Year 5  1 2 3	Total during 5 program years  10 5 2	3	# of jobs # of jobs # of jobs	

Calculations & Other Explanation: rounded off.

Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C BENEFITS

Year 1 USD (Nominal) Cost Unit: Year 2 Year 3 Year 4 Year 5 per year per year per year

Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.

Calculations & Other Explanation:

WATER POLLUTION Water Pollution, Size A Water Pollution, Size B Water Pollution, Size C

Calculations & Other Explanation:

USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 4 Year 5 per year per year per year

The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative onsiderations section below.

ADDITIONAL QUALITATIVE CONSIDERATIONS

erspective lotes:

It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.

efinition:

<u>NGIA</u> Participants' lotes:

It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that may not be easily quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.

lonparticipating erspective lotes:

on non-participating customers should be quantified in most cases and can be heavily informed by structural values.

ffects on Other nergy Systems nd Energy ecurity:

NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.

May promote strategic electrification; may reduce overall energy use

GHG Emissions	
Notes: Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality
Dennicon.	values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution	
Notes: Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the
	oilot related to non-GHG pollution.
Waste .	
Reduction and Reuse Notes:	
	Waste reduction, reuse, and anaerobic digestion are goals of the
Definition:	NGIA. Includes reduction of water use.
Policy Notes:	
	NGIA is intended to help the state achieve certain environmental
Definition:	oolicy goals including geologic gas throughput reduction and increased use of renewable resources.
Deminion.	Reduces fossil gas throughput; may increase use of renewable energy
Net Job Creation Notes:	An innovation plan must include, as applicable, "projected local job Impacts resulting from implementation of the plan." Utilities should
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
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Notes:  Definition:  Economic	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
Notes:  Definition:  Economic  Development Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Notes:  Definition:  Economic  Development Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.
Notes:  Definition:  Economic  Development Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
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Notes:  Definition:  Economic. Development Notes: Definition:  Public Co- Benefits Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of higher tax credits
Notes:  Definition:  Economic. Development Notes: Definition:  Public Co- Benefits Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of higher tax credits  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor
Notes:  Definition:  Economic Development Notes: Definition:  Public Co- Benefits Notes: Definition:	impacts resulting from implementation of the plan. 'Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of higher tax credits  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include oder effects on Minnesota communities — either reductions in unpleasant odors or increased odor
Definition:  Economic Development Notes: Definition:  Public Co- Benefits Notes: Definition:  Market Development	impacts resulting from implementation of the plan. 'Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of higher tax credits  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor
Notes:  Definition:  Economic Development Notes: Definition:  Public Co- Benefits Notes: Definition:	impacts resulting from implementation of the plan. 'Utilities should consider both Jobs created by proposed pilots and jobs that may be eliminated by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation pilen 'promotes local economic development.' Creation of jobs is a form of economic development but economic development is broader. For example, pilots that pay workers a fiving wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA libbor requirements to take advantage of higher tax credits  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor problems.  The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where
Definition:  Economic Development Notes: Definition:  Public Co- Benefits Notes: Definition:  Market Development Notes:	impacts resulting from implementation of the plan" Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of higher tax credits  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.
Definition:  Economic Development Notes: Definition:  Public Co- Benefits Notes: Definition:  Market Notes:	impacts resulting from implementation of the plan." Utilities should consider both Jobs created by proposed pilots and jobs that may be eliminated by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation pilen "promotes local economic development." Creation of jobs is a form of economic development but economic development is broader. For example, pilots that pay workers a fiving wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA libbor requirements to take advantage of higher tax credits  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor problems.  The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where

<u>Direct</u>	
Innovation	
Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA40 are
	unlikely to produce significant benefits on their own but are intended to lead to future opportunities.
Resource	
Scalability and	
Role in a	
<u>Decarbonized</u>	
System Notes: Definition:	
Dennition.	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas
	utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA policy should be information to the Commission as it considers the energy future of the state.
	, , , , , , , , , , , , , , , , , , , ,

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Click here to go back to the list of all pilots

NGIA Pilot Profiles Workbook

## CNP16 - New District Energy System

Pilot Project Code:	CNP16
Pilot Project Name:	New District Energy S
Customer Class/ Sector:	C&I & Res
Low-Income Community Benefit?	Υ
Target Area:	Territory-wide
Primary Innovative Resource Category:	District Energy

elect primary Innovation Category. Others can be listed here:

Electrification, Energy Efficiency

remental units added, annual (not cumulative).

#### Pilot Description:

CenterPoint Energy proposes a two-part pilot to help current natural gas customers considering developing district energy systems. First, CenterPoint Energy proposes to support customers who hire expert engineering firms, or similar, to complete feasibility studies for new district energy systems. Second, CenterPoint Energy would support customers in developing new district energy systems

#### DESCRIPTION

#### Overview of Program/ Implementation Approach:

CenterPoint energy would provide an incentive in support of feasibility/engineering studies looking at opportunities to reduce emissions from existing district energy customers, with the utility planning to cover 20% of the total study cost up to a cap of \$30,000. While incentive approaches/structures to encourage customers to adopt the findings of these studies are still under consideration, CenterPoint is considering leveraging a similar approach to CIP custom programs, with incentives determined based on the minimum of three cost caps (1 year payback, 50% of incremental costs, or \$5/Dth annual gas savings). Generally speaking CenterPoint expectations the \$/Dth cap to be the limiting factor for most projects considered under NGIA, and is considering higher incentive levels than the \$5/Dth for NGIA incentives. Projects that are eligible for rebates in CIP would not be eligible for these NGIA rebates.

#### Other Comments / Information:

Program budget would be sized to support 1-3 new systems.

## KEY PILOT-SPECIFIC INPUTS:

## NUMBER OF PARTICIPANTS

Pilot Year Calendar Year Participating Units, Size A Participating Units, Size B Participating Units, Size C

Unit of Participation = District Energy system constructed

Year 1

2024

Calculations & Other Explanation:

2025

Year 2

Year 1

Size A would represent the RFI respondent's project, while sizes B and C assume additional projects of this nature.

Year 3

2026

Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C

Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost. Size C

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Internal Project Delivery, Size A nternal Project Delivery, Size B Internal Project Delivery, Size C

External Project Delivery, Size A External Project Delivery, Size B External Project Delivery, Size C

Advertising and Promotions, Size A Advertising and Promotions, Size B Advertising and Promotions, Size C

Year 1	Year 2	Year 3		Year 4			Year 5	USD (Nominal) Cost Unit:
\$ 9,800	\$ 271,729	\$	10,397	\$	10,709	\$	61,030	total cost per year
\$ 9,800	\$ 271,729	\$	282,032	\$	10,709	\$	61,030	total cost per year
\$ 9,800	\$ 271,729	\$	282,032	\$	282,344	\$	61,030	total cost per year

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: total cost per year total cost per year

total cost per year USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 4 Year 5 otal internal and external project delivery

Year 4

2027

Year 5

2028

9.800 10.094 \$ 10.397 \$ 10,709 \$ 61,030 per year 9.800 10.094 10.397 \$ 10.709 \$ 61,030 per vear 9,800 10,094 10,397 \$ 10,709 \$ 61,030 per year

Year 5 USD (Nominal) Cost Unit: Vear 1 Year 2 Vear 3 Year 4 9,800 10,094 10,397 \$ 10,709 \$ 11,030 per year 9,800 10,094 10,397 10,709 \$ 11,030 per vear

9.800 10.397 \$ 10.709 \$ 11.030 per year

Year 4 Year 5 USD (Nominal) Cost Unit: \$ 50,000 per year \$ 50,000 50,000 per year

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: per year per vear per vear

Year 3

Year 4

Year 5 USD (Nominal) Cost Unit:

hese costs are sub-set of the Utility "Fixed O&M Cost" category above.

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any

ncentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally

xternal vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the

tility "Fixed O&M Cost" category above.

ncentives, and Workforce Development of Market Transformation Cost

on select pilots.

	Allocation of General Portfolio Costs. Size A					1	per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size A						per year per year	and a comportation level costs, including plan development costs, regulatory costs, and general portation costs
	Allocation of General Portfolio Costs, Size C						per year	
	,						. ,	<b>_</b>
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>-</b>
	Trade Ally Incentives, Size A	\$ -	\$ -	\$ -	\$ -	\$ -	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B Trade Ally Incentives, Size C	Ψ	\$ - \$ -	\$ -	\$ -	\$ -	per year per vear	
	Trade Ally Incentives, Size C	<b>a</b> -	<b>a</b> -	\$ -	<b>a</b> –	\$ -	per year	_
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$ -	\$ -	\$ -	\$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$ -	\$ -	\$ -	\$ -	\$ -	per year	
UTILITY PILOT	Workforce Development or Market Transformation Cost, Size C	\$ -	\$ -	\$ -	\$ -	\$ -	per year	
COSTS								
	Other Fixed O&M Cost, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size R	\$ -	\$ -	\$ -	\$ -	\$ -	per year per year	These costs are sub-set of the offility Fixed Odin Cost Category above.
	Other Fixed O&M Cost, Size C	\$ -	\$ -	\$ -	\$ -	\$ -	per year	
			-	•	1 *		F /	_
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u>_</u>
	Total utility capital investment, Size A	\$ -	\$ -	\$ -	\$ -	\$ -	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly
	Total utility capital investment, Size B	\$ -	\$ -	\$ -	\$ -	\$ -	per year	feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$ -	\$ -	\$ -	\$ -	\$ -	per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	¢ _	¢ _	tear 3	Year 4	Year 5	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$ -	\$ -	\$ -	\$ -	\$ -	per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$ -	\$ -	\$ -	\$ -	\$ -	per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	The state of the s			•			. ,	well se the Hillity's ratirn on investment
			USD (Nominal) Cost					
			Unit:					
	Est. Total Revenue Requirement for Capital Projects, Size A		per year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B		per year					reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$ -	per year					
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$ -	\$ 261,635	\$ -	\$ -	\$ -	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	•				<b>.</b>	per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost
	incentives, size b	\$ -	\$ 261,635	\$ 271,635	\$ -	<b>a</b> –	per year	(0.10 - 10.10 -
	Incentives, Size B	\$ -	\$ 261,635 \$ 261,635	\$ 271,635 \$ 271,635	\$ 271,635	\$ -	per year per year	of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer  doesn't hold equipment ownership, Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.
		\$ - \$ -	\$ 261,635	\$ 271,635	27,,000	\$ -	per year	
	Incentives, Size C	Year 1	\$ 261,635 Year 2	\$ 271,635 Year 3	Year 4	Year 5	per year  USD (Nominal) Cost Unit:	doesn't hold equioment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Incentives, Size C Incentives per Participant, Size A	#DIV/0!	\$ 261,635 Year 2 \$ 261,635	\$ 271,635 Year 3 #DIV/O!	Year 4 #DIV/0!	#DIV/0!	per year  USD (Nominal) Cost Unit: per participant per year	
	Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B	#DIV/0! #DIV/0!	\$ 261,635 Year 2 \$ 261,635 \$ 261,635	\$ 271,635  Year 3  #DIV/O! \$ 271,635	Year 4 #DIV/O! #DIV/O!	#DIV/0! #DIV/0!	per year  USD (Nominal) Cost Unit: per participant per year per participant per year	doesn't hold equioment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Incentives, Size C Incentives per Participant, Size A	#DIV/O! #DIV/O!	\$ 261,635 Year 2 \$ 261,635	\$ 271,635 Year 3 #DIV/O!	Year 4 #DIV/0!	#DIV/0!	per year  USD (Nominal) Cost Unit: per participant per year	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B	#DIV/0! #DIV/0!	\$ 261,635 Year 2 \$ 261,635 \$ 261,635	\$ 271,635  Year 3  #DIV/O! \$ 271,635	Year 4 #DIV/O! #DIV/O!	#DIV/0! #DIV/0!	per year  USD (Nominal) Cost Unit: per participant per year per participant per year	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	#DIV/0! #DIV/0!	\$ 261,635 Year 2 \$ 261,635 \$ 261,635	\$ 271,635  Year 3  #DIV/O! \$ 271,635	Year 4 #DIV/O! #DIV/O!	#DIV/0! #DIV/0!	per year  USD (Nominal) Cost Unit: per participant per year per participant per year	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation: In line with approaches used in CIP custom programs, plan to assess in	#DIV/O! #DIV/O! #DIV/O!	\$ 261635  Year 2 \$ 261635 \$ 261635 \$ 261635	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635	Year 4 #DIV/O! #DIV/O! \$ 271,635	#DIV/O! #DIV/O! #DIV/O!	per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:	#DIV/O! #DIV/O! #DIV/O!	\$ 261635  Year 2 \$ 261635 \$ 261635 \$ 261635	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635	Year 4 #DIV/O! #DIV/O! \$ 271,635	#DIV/O! #DIV/O! #DIV/O!	per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line.	#DIV/O! #DIV/O! #DIV/O! #DIV/O!	\$ 261,635  Year 2  \$ 261,635 \$ 261,635 \$ 261,635  minimum of several caps. ves. This capped incentive	\$ 271,635  Year 3 #DIV/O! \$ 271,635 \$ 271,635	Year 4 #DIV/O! #DIV/O! \$ 271,635	#DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given th	per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year ed to covering 50% of incremental coste need for additional support on emergence.	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation: In line with approaches used in CIP custom programs, plan to assess in	#DIV/O! #DIV/O! #DIV/O! #DIV/O!	\$ 261635  Year 2 \$ 261635 \$ 261635 \$ 261635	\$ 271,635  Year 3 #DIV/O! \$ 271,635 \$ 271,635	Year 4 #DIV/O! #DIV/O! \$ 271,635	#DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given th	per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line.	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the remiting factor for incentiting factor for incenti	\$ 261635  Year 2  \$ 261635 \$ 261635 \$ 261635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per performance of the performance of	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line.	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the remiting factor for incentiting factor for incenti	\$ 261635  Year 2  \$ 261635 \$ 261635 \$ 261635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per performance of the performance of	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line.	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the remiting factor for incentiting factor for incenti	\$ 261635  Year 2  \$ 261635 \$ 261635 \$ 261635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per performance of the performance of	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r niting factor for incenti \$ 25 \$10,000	\$ 261635  Year 2  \$ 261635 \$ 261635 \$ 261635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per performance of the performance of	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r mitting factor for incenti \$ 25 \$10,000 \$ \$12,375,000 \$ \$2,110,000	\$ 261635  Year 2  \$ 261635 \$ 261635 \$ 261635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per per det of additional support on emergians of the per per per per per per per per per pe	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost  Baseline Upgrade Option Total Incremental Project Cost	#DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the remiting factor for incenti \$ \$ 25 \$10,000 \$ \$ 2,110,000 \$ 10,265,000	\$ 261,635  Year 2  \$ 261,635  \$ 261,635  \$ 261,635  which is a series of the series of	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635  Limited to project we level is planned to defer the first participation of the fi	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per per det of additional support on emergians of the per per per per per per per per per pe	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option	#DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the remiting factor for incenti \$ \$ 25 \$10,000 \$ \$ 2,110,000 \$ 10,265,000	\$ 261635  Year 2  \$ 261635 \$ 261635 \$ 261635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635  Limited to project we level is planned to defer the first participation of the fi	Year 4 #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo	#DIV/OI #DIV/O! #DIV/O! #DIV/O!  payback, limit in CIP, given the mincentive is	per year  USD (Nominal) Cost Unit: per participant per year per det to covering 50% of incremental cost per per det of additional support on emergians of the per per per per per per per per per pe	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost  Baseline Upgrade Option Total Incremental Project Cost	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r miting factor for incenti \$ 25 \$10,000 \$ \$10,265,000 \$ \$50,000	\$ 261,635  Year 2  \$ 261,635  \$ 261,635  \$ 261,635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings This funding not included the following several caps. This funding not included the following several caps.	\$ 271,635  Year 3  #DIV/OI  \$ 271,635  \$ 271,635  . Limited to project we level is planned to defend the first participation of t	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu	per year  USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year ed to covering 50% of incremental coste need for additional support on emery based on \$5/Dth annual savings dy has already been completed), but for	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation: In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r niting factor for incenti \$ 25 \$10,000 \$ 2,10,000 \$ 2,10,000 \$ 50,000  Year 1	\$ 261,635  Year 2 \$ 261,635 \$ 261,635 \$ 261,635  This capped incentive sylves. This capped incentive sylves. This funding not included the flat rate assumed, regard Year 2	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to define the first participation of the	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year to be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu	per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  per do covering 50% of incremental coste need for additional support on emer, based on \$5/Dth annual savings  dy has already been completed), but for the period of the pe	doesn't hold equiament ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million ging technology options not cost-effective through CIP.  or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost  Baseline Upgrade Option  Total Incremental Project Cost  M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A	#DIV/OI #DIV/O	\$ 261,635  Year 2  \$ 261,635 \$ 261,635 \$ 261,635  S 261,635  Minimum of several caps, ves. This capped incentive strong of the several caps. This funding not included flat rate assumed, regard Year 2 \$ 10,265,000	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635  . Limited to project we level is planned to define the first participation of the	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is engineering stu  Year 5 \$ 10,265,000	per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  ed to covering 50% of incremental coste need for additional support on emergibased on \$5/Dth annual savings  dy has already been completed), but for the saving service of the saving service	Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation: In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin  Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r niting factor for incenti \$ 25 \$10,000 \$ 2,10,000 \$ 2,10,000 \$ 50,000  Year 1	\$ 261,635  Year 2 \$ 261,635 \$ 261,635 \$ 261,635  This capped incentive sylves. This capped incentive sylves. This funding not included the flat rate assumed, regard Year 2	\$ 271,635  Year 3  #DIV/O! \$ 271,635 \$ 271,635  . Limited to project we level is planned to define the first participation of the	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year to be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu	per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  per do covering 50% of incremental coste need for additional support on emer, based on \$5/Dth annual savings  dy has already been completed), but for the period of the pe	doesn't hold equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r miting factor for incenti \$ 25 \$10,000 \$ 2,110,000 \$ 10,265,000  Year 1 \$ 10,265,000 \$ 10,265,000	\$ 261,635  Year 2 \$ 261,635 \$ 261,635 \$ 261,635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings This funding not included the series of the	\$ 271,635  Year 3  #DIV/OI  \$ 271,635  \$ 271,635  . Limited to project we level is planned to be first participation of the first	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit: per participant per year ed to covering 50% of incremental cost to eneed for additional support on emery based on \$5/Dth annual savings dy has already been completed), but for the complete of the com	doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering so a participant and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  centives based on the r miting factor for incenti \$ 25 \$10,000 \$ 2,110,000 \$ 10,265,000  Year 1 \$ 10,265,000 \$ 10,265,000	\$ 261,635  Year 2 \$ 261,635 \$ 261,635 \$ 261,635  minimum of several caps. ves. This capped incentive \$/Dth annual gas savings This funding not included the series of the	\$ 271,635  Year 3  #DIV/OI  \$ 271,635  \$ 271,635  . Limited to project we level is planned to be dependent of the first participation of the first participa	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit: per participant per year ed to covering 50% of incremental cost to eneed for additional support on emery based on \$5/Dth annual savings dy has already been completed), but for the complete of the com	Incentives per participant is a function of total incentives will be used in the Participant Cost tests for the NGIA evaluation criteria.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s are represented as the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin Incentive Cap Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	#DIV/OI #DIV/O	\$ 261,635  Year 2  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  This indimum of several caps, ves. This capped incentive sylves. This capped incentive sylves. This funding not included flat rate assumed, regard Year 2  \$ 10,265,000 \$ 10,265,000  Year 2	\$ 271,635  Year 3  #DIV/0I \$ 271,635 \$ 271,635  . Limited to project we level is planned to defend the control of the control	Year 4 #DIV/O! #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  per do covering 50% of incremental cost to covering 50% of incremental cost to eneed for additional support on emergians and the support on the support on the support on the support of t	Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s are presents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line Incentive Cap  Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	#DIV/OI #DIV/O	\$ 261,635  Year 2  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  Minimum of several caps, ves. This capped incentives and the several caps. This funding not included and the several caps. The several caps are several caps are several caps. The several caps are several caps are several caps. The several caps are several caps are several caps. The several caps are several caps are several caps. The several caps are several caps. The several caps are several caps are several caps. The several caps are several caps are several caps are several caps. The several caps are several caps are several caps are several caps. The several caps are several caps are several caps are several	\$ 271,635  Year 3  #DIV/0I \$ 271,635 \$ 271,635  . Limited to project we level is planned to defend the control of the control	Year 4 #DIV/O! #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit: per participant per year per do to covering 50% of incremental cost eneed for additional support on emergians of the support on emergians of the support on the support of	Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria. In this case we are assuming project would qualify for
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin Incentive Cap Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	#DIV/OI #DIV/O	\$ 261,635  Year 2  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  \$ 261,635  This indimum of several caps, ves. This capped incentive sylves. This capped incentive sylves. This funding not included flat rate assumed, regard Year 2  \$ 10,265,000 \$ 10,265,000  Year 2	\$ 271,635  Year 3  #DIV/0I \$ 271,635 \$ 271,635  . Limited to project we level is planned to defend the control of the control	Year 4 #DIV/O! #DIV/O! #DIV/O! \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  per do covering 50% of incremental cost to covering 50% of incremental cost to eneed for additional support on emergians and the support on the support on the support on the support of t	Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria. In this case we are assuming project would qualify for 30% investment tax credit pursuant to 26 USC A82 as an energy storage facility (which includes thermal energy storage property as defined in 26 USC A82 assume labor requirements will be satified so as to qualify for 30% as opposed to 6% do not
	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the line Incentive Cap Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	#DIV/OI #DIV/O	\$ 261,635  Year 2 \$ 261,635 \$ 261,635 \$ 261,635 \$ 261,635 \$ 261,635 \$ 261,635  This capped incentive street in the second of the	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635  Limited to project we level is planned to be level in the level in the level in the level is planned to be level in the level	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e  Year 4 \$ 10,265,000 \$ 10,265,000 Year 4 \$ - \$ -	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit: per participant per year per participant support on emer, based on \$5/Dth annual savings dy has already been completed), but for the per participant	Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria. In this case we are assuming project would qualify for 30% investment tax credit pursuant to 26 USC storage.
TOTAL AND DIRECT	Incentives, Size C  Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation: In line with approaches used in CIP custom programs, plan to assess in For this project, based on the economics, expect the \$/Dth to be the lin Incentive Cap Support for Engineering Study  Total Project Cost Baseline Upgrade Option Total Incremental Project Cost M&V - Total Cost for Whole Pilot  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	#DIV/OI #DIV/O	\$ 261,635  Year 2 \$ 261,635 \$ 261,635 \$ 261,635 \$ 261,635 \$ 261,635 \$ 261,635  This provides the several caps. The sever	\$ 271,635  Year 3  #DIV/OI \$ 271,635 \$ 271,635  Limited to project we level is planned to define the first participation of the f	Year 4 #DIV/OI #DIV/OI \$ 271,635  reaching a 1 year o be higher than Note CIP custo pant (where an e  Year 4 \$ 10,265,000 \$ 10,265,000 Year 4 \$ - \$ 1,665,600	#DIV/OI #DIV/OI #DIV/OI  payback, limit in CIP, given th m incentive is ngineering stu  Year 5 \$ 10,265,000 \$ 10,265,000	per year  USD (Nominal) Cost Unit:  per participant per year  per participant per year  per participant per year  per participant per year  per do covering 50% of incremental cost eneed for additional support on emer, based on \$5/Dth annual savings dy has already been completed), but for the second per participant per participant per participant  USD (Nominal) Cost Unit:  per participant  USD (Nominal) Cost Unit:  per participant	Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Incentives per participant is a function of total incentives paid directly to customers.  Its, limited to an incentive of \$X/Dth annual gas savings, and with a maximum incentive capped at \$1.5 million. ging technology options not cost-effective through CIP.  Or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects of this nature CenterPoint could cover a portion of costs for an engineering s or sizes with additional projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria. In this case we are assuming project would qualify for 30% investment tax credit pursuant to 26 USC A82 as an energy storage facility (which includes thermal energy storage property as defined in 26 USC A82 assume labor requirements will be satified so as to qualify for 30% as opposed to 6% do not

Year 1

Year 2

Year 3

Year 4

Year 5 USD (Nominal) Cost Unit:

PARTICIPANT NON-ENERGY COSTS	Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:  Refund from IRA Portion of Costs IRA incentive applicable  Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:  Escalation rate	: 30% IR. : \$ 5,552,000 (n)  Year 1  \$ - \$ \$ - \$  Year 1	8,337,765 \$ 8,337,765 \$ 8,337,765 \$  Year 2  3,82%  A Discount on Capital Costs of all of the costs involved in the costs in the costs in the costs involved in the costs in the cos		\$ 10,265,000 \$ 8,327,765 Year 4 3.82%	30% investment A incentives)  Year 5 \$ - \$ - Year 5	per participant per participant per participant  (for each pilot analysis year)  t tax credit pursuant to 26 USC 48E as an of the second pilot life  USD (Nominal) Cost Unit: per participant per year of pilot life per participant per year of pilot life per participant per year of pilot life  (for each pilot analysis year)	This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note I: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no unfront financial contribution from the narticinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the most recently available data.  energy storage facility (which includes thermal energy storage property as defined in 26 USC 48); assume labor required in the participant costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available.
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C  Calculations & Other Explanation:	Year 1 \$ - \$ \$ - \$ \$ - \$	Year 2  - \$ - \$	Year 3	Year 4 \$ - \$ -	Year 5  \$ - \$ -	USD (Nominal) Cost Unit:  per participant per year of pilot life  per participant per year of pilot life  per participant per year of pilot life	This includes any operating savings like water savings.
PILOT LIFE  NATURAL GAS ENERGY SAVINGS: AVG. Dth/	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C <u>Calculations &amp; Other Explanation:</u> Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C	10,465 Dt	ars ars	acted savings provide	d by RFI responden	rt		
PARTICIPANT SAVED	Calculations & Other Explanation:  Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	kv	Vh/Participant Vh/Participant	s are kWh; could tech	nically be other nor	n-NG. Avg. Non-G	as Fuel Units/Part. Saved will be used in the Parti	icipant Cost tests for the NGIA evaluation criteria.
FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A  Avg. Additional Non-Gas Fuel Units/Part.Used, Size B  Avg. Additional Non-Gas Fuel Units/Part.Used, Size C  Calculations & Other Explanation:	116,117 kV	/h/Participant This	is the net increase in	electricity consum	ption (summer co	oling electricity requirements will decrease, but	there is a larger increase in electricity consumption for new space heating loads), provided by the RFI respondent.
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year 1	Year 2 10,465 10,465 10,465	Year 3 - 10,465 10,465	Year 4 - - - 10,465	Year 5	Dth Dth Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year

Grid Mix Scenario Select one of the listed grid mix scenarios taking into account that •Dtilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific GRID MIX generation mix taken from National Renewable Energy Laboratory (NREL) Standard Scenarios. If the renewable natural gas facility is using a higher proportion of carbon free electricity than is available by default from their electric SCENARIO utility—either from on-site generation, by subscribing to a Commission-approved electric utility green tariff with renewable energy credits retired on the facility's behalf, or, for approval on a case-by-case basis, using other carbon-free Calculations & Other Explanation: This section does not apply to all pilot types. The GHG changes from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycl change in GHG emissions (per unit of participation). Lifecycle GHG Intensity, Size A Year 1 Year 2 Year 3 Year 4 Year 5 Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural kg CO2e/participant Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will Expected 0.0 0.00 0.00 0.00 kg CO2e/participant High g CO2e/participant be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA Lifecycle GHG Intensity, Size B Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant Expected kg CO2e/participant kg CO2e/participant High Lifecycle GHG Intensity, Size C Year 1 Year 2 Year 3 Year 4 Year 5 kg CO2e/participant LIFECYCLE GHG kg CO2e/participant Expected INTENSITY BY kg CO2e/participant PROJECT SIZE Calculations & Other Explanation: GHG Intensity Using this calculation structure is optional; if modifications are needed, please use the hidden rows or raise with project leads Size A Size B Size C kg CO2e/Dth Low Scenario Expected Scenario High Scenario kg CO2e/Dth Default Geologic Gas Emissions Factor OTHER PILOT-SPECIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculator) eak Reduction Factor The estimated average annual effect of the project on system peak. It is estimated to be 1% for energy efficiency pilots. The method for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the EAK REDUCTIO Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. FACTOR Calculations & Other Explanation: Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in Variable O&M Cost, Applies to all project sizes per Dth the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M VARIABLE O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Calculations & Other Explanation: Cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost -5 250% -5 250% -5 250% -5 250% -5.250% (for each pilot analysis year) Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027 to all USD (Nominal) Cost Unit: The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. NON-GAS FUEL Non-Gas (i.e., Electric) Fuel Cost 44.14 per MWh equal to the average of daily real-time final market locational marginal prices (LMP) at the Minnesota Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO) Calculations & Other Explanation:

The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales

8.22%

Non-Gas Fuel Loss Factor

LOSS FACTOR Calculations & Other Explanation:

NON-GAS FUEL

#### OTHER QUANTITATIVE CRITERIA **USD Cost Unit:** Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission (Commission). The factors are reported in 2021 dollars in Table 2 below, 0.37 per Dth Other Non-GHG Pollutants, Size A which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing utilities to select different externality values for pilots targeting specific geographies or populations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe value. Similarly, a project targeting a low-income population might use a high value rather than the median. Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of requiring the use of median OTHER NONper Dth Other Non-GHG Pollutants, Size B 0.37 per Dth netropolitan fringe values for all non-GHG pollutants, as shown in Table 1 of the Commission's January 3, 2018 Order in Docket No. E1999/CI-14-643, utilities may use the value most applicable for the pilot or measure. Other Non-GHG Pollutants, Size C POLLUTANTS Calculations & Other Explanation: Remainder of project Total during 5 program years life Net Direct Job Creation, Size A 3 # of jobs Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots. Net Direct Job Creation, Size B # of iobs Net Direct Job Creation, Size C # of jobs Remainder of project Year 2 Year 3 Total during 5 program years Net Indirect Job Creation, Size A 2 # of jobs Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots. Net Indirect Job Creation, Size B 4 # of jobs Net Indirect Job Creation, Size C 6 # of jobs Remainder of project NET JOB Year 5 Total during 5 program years CREATION Net Induced Job Creation, Size A 9 # of jobs Net Induced Job Creation, Size A 18 # of jobs Net Induced Job Creation, Size A 27 # of jobs Calculations & Other Explanation: Job numbers are estimated as Full Time Equivalents (FTE) and are rounded USD (Nominal) Cost Unit: Year 2 Year 3 Year 4 Year 5 Public Co-Benefits, Size A per year Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Public Co-Benefits, Size B Qualitative Considerations section below. oer year Public Co-Benefits, Size C per year BENEFITS Calculations & Other Explanation: Year 2 Year 3 Year 5 USD (Nominal) Cost Unit: Year 1 Year 4 Water Pollution Size A per year The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Water Pollution, Size B per year considerations section below. Water Pollution, Size C er year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS:

NGIA Utility Perspective Notes:

Cofinition

It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.

NGIA Participants'	
Participants'	
Perspective	
Notes: Definition:	It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that
	may not be easily quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.
NGIA_	
Nonparticipating Customers'	
Perspective	
Notes:	
	As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases and
Definition:	non-participating customers should be quantized in most cases and can be heavily informed by structural values.
Effects on Other	
Effects on Other Energy Systems and Energy Security:	
and Energy	
Definition:	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the
	Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources
	and national fuel markets.
	System will also support cooling reducing demand on electric system
GHG Emissions	
GHG Emissions Notes:	
GHG Emissions Notes: Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework
GHG Emissions Notes: Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
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let Job Creation.  Lotes:  An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  Coenomic	
An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.	
conomic	
Development.    Object	or support
apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of higher tax credits	Подрогс
tublic Co- tenefits Notes:  lenefits Notes:  Pefinition:  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unplease or increased odor problems.	ant odors
larket evelopment otes; efinition: The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographi of the state where benefits are realized	nic areas
Direct Innovation  Example: Import Notes:  Standard Notes:  Direct Innovation  Direct Innovation  Direct Innovation  Direct Innovation  Direct Innovation  Direct Innovation  Direct Innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted un NGIA.40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.	inder the
resource calability and coloie in a decarbonized system Notes: lefinition:  While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider the potential importance of each resource in a decarbonized energy system.	der

<b>.</b> L.		Click here to go back to the list of all pilots				NGIA Pilot Pro	files Workbook	
FICF		Click here to go back to the list of all phots				NaiATIIOCTTO	THES WORKBOOK	
*ICF	CNP17 - Industrial Electrification Incentive Program							
	Pilot Project Code:	CNP17						
	Pilot Project Name:	Industrial Electrification Incentive Program						
	Customer Class/Sector:	C&I						
	Low-Income Community Benefit?	N						
	Target Area:	Territory-wide	0.1		. b . Februal b			1
	Primary Innovative Resource Category:	Strategic Electrification	Select primary Innovation C	ategory. Otners ca	n be listea nere:			
	Pilot Description:							Ī
	CenterPoint Energy proposes to provide support for industrial custo	mers to electrify low-to-medium heat processes	using heat pump technolog	gies.				
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DESCRIPTION								
	0							T
	Overview of Program/ Implementation Approach:		identification of material o		lal a:las bass a saal	haalaaisa		
	Phase 1: The program would begin with a study looking at technical p Phase 2: Installation at 3 - 9 facilities, including system design, install		identification of potential c	customers who cou	ia pilot neat pump teci	nnologies.		
	Phase 3: Measurement and verification of system performance, and							
	Phase 1 would take up to 1 year. Phases 2 and 3 may take up to 2 year	rs.						
								· T
	Other Comments / Information:							
KEY PILOT-SPECII	FIC INPUTS:							
	Pilot Year	Year 1	Year 2	Year 3	Year 4 Year	-		
	Calendar Year	Year 1 2024	Year 2 2025	Year 3 2026		2028		
	Participating Units, Size A	0	3	0	0		s added, annual (not cumulative).	
NUMBER OF	Participating Units, Size B	0	3	3	0	0		
PARTICIPANTS	Participating Units, Size C	0	3	6	0	0		
	Unit of Participation	n = Facility	·	Ÿ	Ÿ	Ÿ		
	Calculations & Other Explanation:							
		Year 1	Year 2	Year 3	Year 4 Year			
	Annual Total Utility Incremental Cost, Size A	\$ 149,000				1,030 total cost per	7	the NGIA budget cap for this measure and will be used in the Util. on criteria. This is the sum of utility admin costs to run pilot, any
	Annual Total Utility Incremental Cost, Size B	\$ 149,000 \$ 149,000	\$ 502,970 \$ \$ 502,970 \$	454,484 854.484	Ψ 10,700 Ψ 1	1,030 total cost per 1,030 total cost per	inconting funding to support project deployment and/or	the utility's annual revenue requirement for capital investments
	Annual Total Utility Incremental Cost, Size C	\$ 149,000	\$ 502,970 \$	854,484	\$ 10,709 \$ 1	1,030 total cost per	year made on select pilots.	
		Year 1	Year 2	Year 3	Year 4 Year	5 USD (Nominal	I) Cost Unit:	
	Fixed O&M Cost, Size A	\$ 149,000				1,030 total cost per	year Fixed O&M Cost is the result of adding up Total Project D	elivery, Advertising and Promotions, Utility Administration, Trade A
	Fixed O&M Cost, Size B	\$ 149,000	\$ 502,970 \$	454,484		1,030 total cost per		rmation Cost
	Fixed O&M Cost, Size C	\$ 149,000	\$ 502,970 \$	854,484	\$ 10,709 \$ 1	1,030 total cost per	year	
		V4	V 2	V2	V 4	5 USD (Nominal	N Cont Units	
	Total Project Delivery, Size A	Year 1 149,000	Year 2 \$ 500,470 \$	Year 3 10,397	Year 4 Year \$ 10,709 \$ 1	1,030 per year	Total internal and external project delivery	
	Total Project Delivery, Size B	\$ 149,000	\$ 500,470 \$			1,030 per year	Total memal and external project delivery	
	Total Project Delivery, Size C	\$ 149,000				1,030 per year		
	4					, , , , , , , , , , , , , , , , , , , ,	<u></u>	
		Year 1	Year 2	Year 3	Year 4 Year			
	Internal Project Delivery, Size A	\$ 49,000				1,030 per year	CNP staff. These costs are sub-set of the Utility "Fixed O8	M Cost" category above.
	Internal Project Delivery, Size B	\$ 49,000		0,,001	\$ 10,709 \$ 1	1,030 per year		
	Internal Project Delivery, Size C	\$ 49,000	\$ 50,470 \$	51,984	\$ 10,709 \$ 1	1,030 per year		
		Year 1	Year 2	Year 3	Year 4 Year	5 USD (Nominal	I) Cost Unit:	
	External Project Delivery, Size A	\$ 100,000				- per year	External vendor costs would include direct install costs w	nere CNP reimburses the vendor. These costs are sub-set of the
	External Project Delivery, Size B	\$ 100,000	\$ 450,000 \$	400,000		- per year	Utility "Fixed O&M Cost" category above.	
	External Project Delivery, Size C	\$ 100,000	\$ 450,000 \$	800,000	\$ - \$	- per year		
		Versit.	V2	V2	V 4 V	E USD (Name)	N Cont Units	
	Advertising and Promotions, Size A	Year 1 -	Year 2 \$ 2,500 \$	Year 3	Year 4 Year	5 USD (Nominal	1) Cost Unit:  These costs are sub-set of the Utility "Fixed O&M Cost" c	ategory above.
	Advertising and Promotions, Size A Advertising and Promotions, Size B		\$ 2,500 \$	2,500		- per year - per year	The sale set of the starty rived out in cost	
	Advertising and Promotions, Size B Advertising and Promotions, Size B		\$ 2,500 \$	2,500		- per year		
				,				
		Year 1	Year 2	Year 3	Year 4 Year			
	Allocation of General Portfolio Costs, Size A					per year	Share of portfolio level costs, including plan development	costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B			-		per year		
	Allocation of General Portiollo Costs, Size C					per year		

		Year 1	Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	\$ -	*	\$ - \$ -	\$ -	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
/	Trade Ally Incentives, Size B	\$ -	\$ -	\$ - \$ -	\$ -	per year	
	Trade Ally Incentives, Size C	\$ -	\$ -	\$ - \$ -	\$ -	per year	
PILOT		Year 1	Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
STS	Workforce Development or Market Transformation Cost, Size A	\$ -	Ψ	Ψ	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
0.0	Workforce Development or Market Transformation Cost, Size B	\$ -			\$ -	per year	
	Workforce Development or Market Transformation Cost, Size C	\$ -	\$ -	\$ - \$ -	\$ -	per year	
		Year 1	Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A	\$ -	\$ -			per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$ -	\$ -	\$ - \$ -	\$ -	per year	
	Other Fixed O&M Cost, Size C	\$ -	\$ -	\$ - \$ -	\$ -	per year	
		Year 1	Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$ -	\$ -	\$ - \$ -	\$ -	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This wi
	Total utility capital investment, Size B	\$ -	\$ -	\$ - \$ -	\$ -	per year	directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$ -	\$ -	\$ - \$ -	\$ -	per year	requirement resulting from these capital investments (shown below).
		Year 1	Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$ -	\$ -	\$ - \$ -	\$ -	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$ -	\$ -	\$ - \$ -	\$ -	per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated in magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$ -	\$ -	\$ - \$ -	\$ -	per year	well as the utility's return on investment
		Total	USD (Nominal) Cost Un	it:			
	Est. Total Revenue Requirement for Capital Projects, Size A		per year	1			The total revenue requirement is calculated from the magnitude & timing of total capital investment captured about
	Est. Total Revenue Requirement for Capital Projects, Size B		per year				on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is
	Est. Total Revenue Requirement for Capital Projects, Size C		per year				for reference, it's not used to calculate any of the NGIA evaluation criteria.
		Year 1	V 0	Year 3 Year 4	V	HOD (Newstern) Constitution	
	Incentives, Size A		Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit: per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible p
	Incentives, Size B	\$ -	\$ -	\$ - \$ -	\$ -	per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (payir
	Incentives, Size C	\$ -	\$ -	\$ - \$ -	\$ -	per year	cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project when customer doesn't hold equipment ownership, incentives will be used in the Participant Cost tests for the NGIA eva
							castomer acestit nota equipment ownership, incentives will be used in the Participant Cost tests for the MaiA eva
		Year 1	Year 2	Year 3 Year 4	Year 5	USD (Nominal) Cost Unit:	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size A	#DIV/O!	\$ -	#DIV/O! #DIV/O! \$ - #DIV/O!	#DIV/0! #DIV/0!	per participant per year	incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	#DIV/U!	\$ -				
	Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u>	#DIV/0!	\$ -	\$ - #DIV/O!	#DIV/O!	per participant per year per participant per year	
		Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations:	\$800,000	\$ - #DIV/0!  pilot)  Fixed for all pilot sizes  Variable, increase/decrease this b	#DIV/O!	per participant per year	
		Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump	\$100,000	\$ - #DIV/OI  pilot)  Fixed for all pilot sizes	#DIV/O!	per participant per year	
	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333	\$ - #DIV/OI    pilot	#DIV/0!  #DIV/0!  ased on pilot six  Year 5  \$ 133,333	per participant per year  ze  USD (Nominal) Cost Unit:  per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (spec
	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333 \$ 133,333	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333	\$ - #DIV/OI    pilot       pilot	#DIV/O!  #DIV/O!  ased on pilot si:  Year 5 \$ 133,333 \$ 133,333	per participant per year  2e  USD (Nominal) Cost Unit: per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs
	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333	\$ - #DIV/OI    pilot	#DIV/O!  #DIV/O!  ased on pilot si:  Year 5 \$ 133,333 \$ 133,333	per participant per year  ze  USD (Nominal) Cost Unit:  per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (spec utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.
	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333 \$ 133,333	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333	\$ - #DIV/OI    pilot       pilot	#DIV/O!  #DIV/O!  ased on pilot si:  Year 5 \$ 133,333 \$ 133,333	per participant per year  2e  USD (Nominal) Cost Unit: per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs
	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations:  Measurement and validation:  Year 1  \$ 133,333 \$ 133,333 \$ 133,333	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333 Year 2	\$ - #DIV/OI   pilot	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333	per participant per year  USD (Nominal) Cost Unit:  per participant per participant per participant per participant DUSD (Nominal) Cost Unit:	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is referred to the contract of the contract o
	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333 \$ 133,333 \$ Year 1	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333 Year 2	\$ - #DIV/OI   pilot   Fixed for all pilot sizes	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333	per participant per year  ZE  USD (Nominal) Cost Unit:  per participant per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.
L AND	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1  \$ 133,333 \$ 133,333  Year 1  \$ - \$ -	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333 Year 2	\$ - #DIV/OI   pilot   Fixed for all pilot sizes	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333	vsb (Nominal) Cost Unit:  per participant per participant per participant per participant usb (Nominal) Cost Unit: per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is:
L AND ECT	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333 \$ 133,333 \$ Year 1	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333 Year 2	\$ - #DIV/OI   pilot   Fixed for all pilot sizes	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333	ze  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant uSD (Nominal) Cost Unit: per perticipant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is referred to the contract of the contract o
L AND ECT CIPANT	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1  \$ 133,333  \$ 133,333  Year 1  \$ - \$  IRA, etc	\$100,000 \$800,000 \$50,000  Year 2  \$ 133,333 \$ 133,333  Year 2  \$ - \$ - \$ -	\$ - #DIV/OI   pilot     Fixed for all pilot sizes     Variable, increase/decrease this because     Fixed for all pilot sizes     Year 3	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333  Year 5 \$ - \$ -	per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is n
L AND ECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1  \$ 133,333 \$ 133,333  Year 1  \$ - \$ -	\$100,000 \$800,000 \$50,000 Year 2 \$ 133,333 \$ 133,333 Year 2	\$ - #DIV/OI   pilot   Fixed for all pilot sizes	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333	vsb (Nominal) Cost Unit:  per participant per participant per participant per participant vsb (Nominal) Cost Unit:  per participant per participant per participant per participant vsb (Nominal) Cost Unit: vsb (Nominal) Cost Unit:	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is not reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility that the property of the participants is a calculated value, where utility the property of the
L AND ECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Description of source of external funding:	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1  \$ 133,333  \$ 133,333  Year 1  \$ - \$  IRA, etc	\$800,000 \$800,000 \$50,000  Year 2  \$ 133,333 \$ 133,333  Year 2  \$ -  \$ -  \$ -  Year 2	\$ - #DIV/OI   pilot     Fixed for all pilot sizes     Variable, increase/decrease this because     Fixed for all pilot sizes     Year 3	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333  Year 5 \$ - \$ -	vsp (Nominal) Cost Unit:  per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is not reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utilit incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participants who perticipate in this pilot.
L AND ECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1  \$ 133,333  \$ 133,333  Year 1  \$ - \$  IRA, etc	\$800,000 \$800,000 \$50,000  Year 2  \$ 133,333 \$ 133,333  Year 2  \$ -  \$ -  \$ -  Year 2	\$ - #DIV/OI   pilot     Fixed for all pilot sizes     Variable, increase/decrease this because     Fixed for all pilot sizes     Year 3	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333  Year 5 \$ - \$ -	vsb (Nominal) Cost Unit:  per participant per participant per participant per participant vsb (Nominal) Cost Unit:  per participant per participant per participant per participant vsb (Nominal) Cost Unit: vsb (Nominal) Cost Unit:	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is a for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utili incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant
L AND ECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333 \$ 133,333  Year 1 \$ - \$ - \$ - IRA, etc	\$800,000 \$800,000 \$50,000  Year 2 \$ 133,333 \$ 133,333  Year 2 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ -	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333  Year 5 \$ - \$ - \$ - \$ - \$ - \$ - \$ -	per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is r for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utili incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Pail Cost tests for the NGIA evaluation criteria Note is some pilots taking a Direct hatful approach may see the utility.
L AND ECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation: Measurement and validation: Year 1  \$ 133,333  Year 1  \$ -  \$ -  RA, etc  Year 1  \$ -  Year 1	\$800,000 \$800,000 \$50,000  Year 2  \$ 133,333 \$ 133,333  Year 2  \$ -  \$ -  Year 2  \$ -  Year 2  \$ -  Year 2	\$ - #DIV/OI   pilot     Fixed for all pilot sizes     Variable, increase/decrease this because     Fixed for all pilot sizes     Year 3	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333  Year 5 \$ - \$ - \$ - Year 5	per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is a for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct project costs will be used in the Participant Polic tosts will be used in the Participant that the NGIA evaluation criteria. Note is some pilots taking a Direct Install approach may see the utility of costs with no unfront financial contribution from the natricipant.
IL AND LECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation: Measurement and validation: Year 1  \$ 133,333  Year 1  \$ -  \$ -  RA, etc  Year 1  \$ -  Year 1	\$800,000 \$800,000 \$50,000  Year 2  \$ 133,333 \$ 133,333  Year 2  \$ -  \$ -  Year 2  Year 2  Year 2	\$ - #DIV/OI   pilot     Fixed for all pilot sizes     Variable, increase/decrease this builder     Fixed for all pilot sizes     Variable, increase/decrease this builder     Fixed for all pilot sizes     Year 3	#DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333  Year 5 \$ - \$ - \$ - Year 5	USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc) account for those values here. This funding is not reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Particottes with no unfront financial contribution from the nearticipant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price inc
AL AND RECT CIPANT COSTS	Calculations & Other Explanation:  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:	Pilot Equipment survey and estimation of Pilot testing phase: industrial heat pump installation costs for demonstrations: Measurement and validation:  Year 1 \$ 133,333 \$ 133,333  Year 1 \$ - \$ - RA, etc  Year 1 \$ - TRA, etc  Year 1	\$100,000 \$800,000 \$50,000  Year 2  \$ 133,333  Year 2  \$ -  \$ -  Year 2  \$ -  Year 2  Year 2  Year 2	\$ - #DIV/OI   pilot     Fixed for all pilot sizes     Variable, increase/decrease this bear increase     Fixed for all pilot sizes     Vear 3	#DIV/O!  #DIV/O!  #DIV/O!  Year 5 \$ 133,333 \$ 133,333 \$ 133,333 Year 5 \$ -  Year 5 \$ -  Year 5 \$ -  \$ -  \$ -  \$ -  \$ -  \$ -  \$ -  \$	per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is not for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utilit incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Part Cost tests for the NGIA evaluation criteria. Note 1 some pilots taking a Direct install approach may see the utility of costs with no unfront financial contribution from the natricinant.  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price ind available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years.

NON-ENERGY COSTS  PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u> Escalation  Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C <u>Calculations &amp; Other Explanation:</u>	Year1 Year2 Year3 Year4 Year5  Year1 Year2 Year3 Year4 Year5  Year1 Year2 Year3 Year4 Year5  Year1 Year2 Year3 Year4 Year5 USD (Nominal) Cost Unit:  Year1 Year2 Year3 Year4 Year5 USD (Nominal) Cost Unit:  This includes any operating savings like water savings.  This includes any operating savings like water savings.
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	20 years 20 years 20 years
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	3135 Dth/Participant 3135 Dth/Participant 3135 Dth/Participant 3135 Dth/Participant 3135 Dth/Participant 3135 Dth/Participant  In the above estimates we match match the level of expected gas savings to the level of expected electricity consumption from the heat pump. We assume an average COP of 3.5 for the heat pump, and that heat from an 80% efficient gas boiler is being displaced.  Ultimatally, there is a lot of uncertainty in the savings that will be achieved, given how site and application specific these will be.
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	O.00 kWh/Participant O.00 kWh/Participant O.00 kWh/Participant O.00 kWh/Participant O.00 kWh/Participant O.00 kWh/Participant
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	210,000  kWh/Participant  Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria.  210,000  kWh/Participant  210,000  kWh/Participant
	Calculations & Other Explanation:	Calculated potential electricity consumption based on 70 kW heat pump (RFI respondent suggested 40-IO0kW range might be targeted), 4000 hours per year operation (e.g. 16 hours/day * 5 days/week* 50 weeks/year), and assume running at average of 75% load fa Ultimitately, there is a lot of uncertainty in the electricity consumption that will be added, given how site and application specific this will be.
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year1     Year2     Year3     Year4     Year5       -     9,404     -     -     Dth       -     9,404     9,404     -     -     Dth       -     9,404     18,809     -     -     Dth       Oth     Oth     Oth     Oth     Oth
GRID MIX SCENARIO	Grid Mix Scenario  Calculations & Other Explanation:	Select one of the listed grid mix scenarios taking into account that:  **Ptillties shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-specific generation mix taken from National Renewable Energy Laboratory (NRFL) Standard Scenarios If the renewable natural eas facility is using a higher proportion of carbon free electricity then is available by default from their
	This section does not apply to all pilot types. The GHG changes emissions (per unit of participation).	from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity, Size A Low Expected	Year 1 Year 2 Year 3 Year 4 Year 5    Separation   Separa

	High						kg CO2e/participant	assumptions for electricity use and other ruers used in the resource's inecycle, expected greenhouse gas intensity values be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs a
	Lifecycle GHG Intensity, Size B	Year 1	Year 2	Year 3	Year 4	Year 5		NGIA plans.
	Low Expected		0.00	0.00	0.00	0.00	kg CO2e/participant kg CO2e/participant	
ECYCLE GHG	High		0.00	0.00	0.00	0.00	kg CO2e/participant	
NTENSITY BY ROJECT SIZE	Lifecycle GHG Intensity, Size C	Year 1	Year 2	Year 3	Year 4	Year 5		
.00207 0.22	Low Expected		0.00	0.00	0.00	0.00	kg CO2e/participant kg CO2e/participant	
	High						kg CO2e/participant	
	Calculations & Other Explanation:							
		Size A	GHG Intensity Size B	Size C	Using this calculat	ion structure is o	ptional; if modifications are needed, pleas	se use the hidden rows or raise with project leads.
		3126 A	kg CO2e/Dth	5126 0				
	Low Scenario Expected Scenario				+			
	High Scenario							
IER PILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato	or):						
	Peak Reduction Factor						% for energy efficiency pilots. The metho	d for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will b
AK REDUCTION FACTOR	Calculations & Other Explanation:	-	in the Utility Cost and Non	Participant Cost tests for	the NGIA evaluation	criteria.		
TACTOR	Galculations & Other Explanation.							
_								
		Year 1	Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be consid
	Variable O&M Cost, Applies to all project sizes	\$	0.05 \$ 0.05	5 \$ 0.05	\$ 0.06	0.06	per Dth	the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O
RIABLE O&M	Calculations & Other Explanation:			1			1	costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the U Cost and Non Participant Cost tests for the NGIA evaluation criteria.
			-5.250% -5.2509	% -5.250%	6 -5.250%	-5.250%	(for each pilot analysis year)	Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2
			-5.250% -5.250	% -5.250%	-5.250%	-5.250%	(for each pilot analysis year)	Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2
			USD (Nominal) Cost	-5.250%	-5.250%	-5.250%	(for each pilot analysis year)	Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2
			USD (Nominal) Cost Unit:	.,				
ON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost	\$	USD (Nominal) Cost	The CIP methodology is	s used for all resourc	es other than str	rategic electrification. The method for stra	Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2 are price of the price of natural gas between 2023 through 2 are given as a series of the price of natural gas between 2023 through 2 are given as a series of the price of natural gas between 2023 through 2 are given as a series of the price of natural gas between 2023 through 2 are given as a series of the price of natural gas between 2023 through 2 are given 2024 through 2 are given 2 are giv
	Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	\$	USD (Nominal) Cost Unit:	The CIP methodology is	s used for all resourc	es other than str	rategic electrification. The method for stra	ategic electrification should be considered in the context of specific utility pilot proposals.
		\$	USD (Nominal) Cost Unit:	The CIP methodology is	s used for all resourc	es other than str	rategic electrification. The method for stra	ategic electrification should be considered in the context of specific utility pilot proposals.
	Calculations & Other Explanation:	\$	USD (Nominal) Cost Unit: 44.14 per MWh	The CIP methodology is equal to the average of	s used for all resourc daily real-time final	es other than str market locations	rategic electrification. The method for stra Il marginal prices (LMP) at the Minnesota	ategic electrification should be considered in the context of specific utility pilot proposals. Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
COST ON-GAS FUEL		\$	USD (Nominal) Cost Unit:	The CIP methodology is equal to the average of	s used for all resourc f daily real-time final sused for all resourc	es other than str market locations	rategic electrification. The method for strr Il marginal prices (LMP) at the Minnesota at the method for strrategic electrification. The method for strrategic electrification.	ategic electrification should be considered in the context of specific utility pilot proposals.
COST ON-GAS FUEL	Calculations & Other Explanation:	\$	USD (Nominal) Cost Unit: 44.14 per MWh	The CIP methodology is equal to the average of	s used for all resourc f daily real-time final sused for all resourc	es other than str market locations	rategic electrification. The method for strr Il marginal prices (LMP) at the Minnesota at the method for strrategic electrification. The method for strrategic electrification.	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to
COST ON-GAS FUEL	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor	\$	USD (Nominal) Cost Unit: 44.14 per MWh	The CIP methodology is equal to the average of	s used for all resourc f daily real-time final sused for all resourc	es other than str market locations	rategic electrification. The method for strr Il marginal prices (LMP) at the Minnesota at the method for strrategic electrification. The method for strrategic electrification.	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to
ON-GAS FUEL OSS FACTOR	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	\$	USD (Nominal) Cost Unit: 44.14 per MWh	The CIP methodology is equal to the average of	s used for all resourc f daily real-time final sused for all resourc	es other than str market locations	rategic electrification. The method for strr Il marginal prices (LMP) at the Minnesota at the method for strrategic electrification. The method for strrategic electrification.	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to
ON-GAS FUEL OSS FACTOR	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	\$	USD (Nominal) Cost Unit: 44.14 per MWh	The CIP methodology is equal to the average of	s used for all resourc f daily real-time final sused for all resourc	es other than str market locations	rategic electrification. The method for strr Il marginal prices (LMP) at the Minnesota at the method for strrategic electrification. The method for strrategic electrification.	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to
ON-GAS FUEL OSS FACTOR	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:	\$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %	The CIP methodology is equal to the average of the The CIP methodology is weighted average of the Generally no change fire	s used for all resource f daily real-time final sused for all resource te most recent loss for	es other than str market locations es other than str octors reported i	rategic electrification. The method for strain and an argument of the Minnesota at the Minnesota Power, Xeel Energy, and Ott by Minnesota Power, Xeel Energy, and Ott Minnesota Power, Xeel Energy, All Minnesota Power, Xeel Energy, Minnesota Power, Minneso	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I, 2022 to December 3I, 2022 using data from Miclwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the refail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retains a proposal of the staff of the
ON-GAS FUEL DOSS FACTOR HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A	\$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit: 0.37 per Dth	The CIP methodology is equal to the average of the average of the the average of the the thickness of the th	s used for all resource f daily real-time final sused for all resource te most recent loss for om CIP methodology by inflating the Com ent externality value	es other than str market locations es other than str cottors reported i The factor is ca mission's approv	rategic electrification. The method for strain and an argument of the Minnesota at the Minnesota Power, Xeal Energy, and Ott with the Minnesota Power, Xeal Energy, and Minnesota Power, All Minnesota Power	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I, 2022 to December 3I, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CP, Staff used ter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities and transmission and transmi
ON-GAS FUEL DSS FACTOR HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B	\$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit:  0.37 per Dth per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the Generally no change fire which were calculated tutilities to select differ value. Similarly, a project.	s used for all resource daily real-time final s used for all resource most recent loss fi  om CIP methodology by inflating the Com ent externality value ct targeting a low-in-	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target	rategic electrification. The method for strain arginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain y Minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to the Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain the Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors are reported in 2021 dollars in Table 2 se using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allow For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan full risk roughly sufficient for the change, Instead of distinction for the change, Instead of the Instea
COST  DN-GAS FUEL DSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A	\$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit: 0.37 per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the Generally no change fire which were calculated tutilities to select differ value. Similarly, a project.	s used for all resource daily real-time final s used for all resource most recent loss fi  om CIP methodology by inflating the Com ent externality value ct targeting a low-in-	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target	rategic electrification. The method for strain arginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain y Minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I, 2022 to December 3I, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CP, Staff used ter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities and transmission and transmi
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COST  DN-GAS FUEL DSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C	\$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit:  0.37 per Dth per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the Generally no change fire which were calculated tutilities to select differ value. Similarly, a project.	s used for all resource daily real-time final s used for all resource most recent loss fi  om CIP methodology by inflating the Com ent externality value ct targeting a low-in-	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target	rategic electrification. The method for strain arginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain y Minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to the Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain the Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors are reported in 2021 dollars in Table 2 se using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allow For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan full risk roughly sufficient for the change, Instead of distinction for the change, Instead of the Instea
COST  DN-GAS FUEL DSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C	\$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit:  0.37 per Dth per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the Generally no change fire which were calculated tutilities to select differ value. Similarly, a project.	s used for all resource daily real-time final s used for all resource most recent loss fi  om CIP methodology by inflating the Com ent externality value ct targeting a low-in-	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target	rategic electrification. The method for strain arginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain y Minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1: 2022 to December 31: 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to er Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain Power's reported 2021 transmission and 2021 transmission and 2021 transmission and 2021 transmission and 2021 trans
COST  DN-GAS FUEL DSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C	\$ \$ \$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit:  0.37 per Dth per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the Generally no change fire which were calculated tutilities to select differ value. Similarly, a project.	s used for all resource daily real-time final s used for all resource most recent loss fi  om CIP methodology by inflating the Com ent externality value ct targeting a low-in-	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target	rategic electrification. The method for strain arginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain y Minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I, 2022 to December 3I, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the reliable of the respect of the proposals of the most recent CIP, Staff used the reliable of the respect of the proposals of the staff used the reliable of the respect of the proposals. In the most recent CIP, Staff used the reliable of the respect of the proposals of the respect to the respect of
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COST  DN-GAS FUEL DSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit: 0.37 per Dth 0.37 per Dth 0.37 per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the weighted average of the which were calculated utilities to select differ value. Similarly, a projection and the control of the calculated in the calcula	s used for all resource daily real-time final sused for all resource most recent loss for the final sused for all resource of the first final sused for all resource of the first final sused for all resource of the first final sused final sused for all resource of the first final sused final su	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target prome population inge values for al	rategic electrification. The method for strain arranginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain you minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I. 2022 to December 3I, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used to re Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retal power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retal power's reported 2021 transmission and distribution for said weighting by the utilities' 2017-2019 average retal power's reported in 2021 dollars in Table 2 see using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allow For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitant for diad. Utilities annalse deviations such as these in their NGIA plans if they can provide justification for the change, Institute of the Commission's January 3, 2018 Order in Docket No. E1999/CI-14-643, utilities may use the value most applicable for the Remainder of project  Remainder of project  6   # of jobs   Utilities should consider both jobs created by proposed pilot.
COST  DN-GAS FUEL COSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:  Net Direct Job Creation, Size A  Net Direct Job Creation, Size B	\$ \$ \$ \$ \$ \$ \$	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit: 0.37 per Dth 0.37 per Dth 0.37 per Dth	The CIP methodology is equal to the average of the CIP methodology is weighted average of the weighted average of the which were calculated utilities to select differ value. Similarly, a projection and the control of the calculated in the calcula	s used for all resource daily real-time final sused for all resource most recent loss for the final sused for all resource of the first final sused for all resource of the first final sused for all resource of the first final sused final sused for all resource of the first final sused final su	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target prome population inge values for al	rategic electrification. The method for strain arranginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain you minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I, 2022 to December 3I, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the re Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities '2017-2019 average retain the values approved by Minnesota Public Utilities Commission (Commission). The factors are reported in 2021 dollars in Table 2 as using secalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allow for example, an energy efficiency project that targets a ruchan area might use the utah value arbot than the metropolitan from Carlon and
COST  DN-GAS FUEL OSS FACTOR  HER QUANTITA	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size B Net Direct Job Creation, Size C	\$ \$ \$ \$ Year1	USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit:  0.37 per Dth  0.37 per Dth  0.37 per Dth  1 1 1 1 1 Year 2	The CIP methodology is equal to the average of the CIP methodology is weighted average of the weighted average of the which were calculated utilities to select differ value. Similarly, a projection and the control of the calculated in the calcula	s used for all resource daily real-time final sused for all resource most recent loss for the final sused for all resource of the first final sused for all resource of the first final sused for all resource of the first final sused final sused for all resource of the first final sused final su	es other than str market locations es other than str actors reported is . The factor is ca mission's approv for pilots target prome population inge values for al	rategic electrification. The method for strain arranginal prices (LMP) at the Minnesota at agic electrification. The method for strain at agic electrification. The method for strain you minnesota Power, Xcel Energy, and Ott	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January 1: 2022 to December 31; 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the reliable of the proposal of the proposal of the proposal of the staff used the reliable of the proposal of t
	Calculations & Other Explanation:  Non-Gas Fuel Loss Factor  Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:  Net Direct Job Creation, Size A  Net Direct Job Creation, Size B		USD (Nominal) Cost Unit:  44.14 per MWh  8.22% %  USD Cost Unit: 0.37 per Dth 0.37 per Dth per Dth 1 1 1	The CIP methodology is equal to the average of the	s used for all resource daily real-time final faily real-time final sussed for all resource to most recent loss for all re	es other than str market locations es other than str scotors reported i.  The factor is co mission's approv for pilots target come population nge values for al  Year 5  0  1  1	rategic electrification. The method for strain arginal prices (LMP) at the Minnesota Power, Xcel Energy, and Ott and Minnesota Power, Xcel Energy, and X	ategic electrification should be considered in the context of specific utility pilot proposals.  Hub from January I, 2022 to December 3I, 2022 using data from Midwest Independent System Operator (MISO)  ategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used it er fall Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retain the values approved by Minnesota Public Utilities Commission (Commission). The factors are reported in 2021 dollars in Table 2 as using secalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allow For example, an energy efficiency project that targets an urban area might use the utaha value rather than the metropolitan fredian. Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of of the Commission's January 3, 2018 Order in Docket No. E1999/CI-14-643, utilities may use the value most applicable for the life.  Remainder of project    Remainder of project   Ifie   Utilities should consider both jobs created by proposed pilots   Jobs   Jobs that may be eliminated by proposed pilots.    Remainder of project   Ifie   Utilities should consider both jobs created by proposed pilots   Ifie

Remainder of project NET JOB life Year 1 Year 2 Year 5 Total during 5 program years Year 3 CREATION Net Induced Job Creation, Size A 3 # of jobs Net Induced Job Creation, Size A 8 # of jobs Net Induced Job Creation, Size A 12 # of jobs Calculations & Other Explanation: Job numbers are estimated as Full Time Equivalents (FTE) and are rounded off. USD (Nominal) Cost Unit: Year 4 Public Co-Benefits, Size A per year Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Public Co-Benefits, Size B Dualitative Considerations section below. per year Public Co-Benefits, Size C per year BENEFITS Calculations & Other Explanation: Year 4 Year 1 Year 2 Year 3 Year 5 USD (Nominal) Cost Unit: Water Pollution, Size A The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of per year the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Water Pollution, Size B per year WATER onsiderations section below. Water Pollution, Size C per year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS: NGIA Utility Perspective Notes: May assist MN businesses in achieving GHG goals lonparticipating <u>Customers'</u> Perspective Notes: non-participating customers should be quantified in most cases and can be heavily informed by structural values. Effects on Other nergy Systems nd Energy ecurity:

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consider both jobs created by proposed pilots and jobs that may be Definition: eliminated by proposed pilots.  Economic
Definition: eliminated by proposed pilots.  Economic.
<u>Economic</u>
<u>Notes:</u>
Definition: The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or
training opportunities would provide additional economic benefits.
<u>Public Co-</u>
<u>zuone to-</u> Benefits Notes:
Definition: There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor
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Market	
Develo	pment
Market	

The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized.

May help MN businesses appeal to customers interested in sustainability

### Direct Innovation

Support Notes: Definition:

This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA, 40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.

Opportunity for customers to learn about novel options for reducing GHGs from their systems

# Resource Scalability and Role in a Decarbonized System Notes: Definition:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Strategic electrification necessary part of net zero strategy

Click here to go back to the list of all pilots NGIA Pilot Profiles Workbook NCF CNP18 - Commercial hybrid heating pilot Pilot Project Code: Pilot Project Name: Commercial hybrid heating pilot Customer Class/ Sector: ow-Income Community Benefit? Target Area: Territory-wide Primary Innovative Resource Category: Strategic Electrification Select primary Innovation Category. Others can be listed here: Pilot Description: CenterPoint Energy proposes to provide support for commercial buildings interested in replacing existing Heating, Ventilation, and Air Conditioning ("HVAC") systems with hybrid system using electric heat pumps and gas backup. DESCRIPTION Overview of Program/ Implementation Approach: The programmatic approach used here is based on a similar program run by ConEd in New York. This would be a direct install program from the perspective of vendor handling all aspects of the equipment installation, but the customer would pay the bulk of the vendor costs (60%), with CenterPoint Energy covering the remaining portion of installation costs (40%) and some program administration costs. A significant budget for monitoring/metering, analysis, and reporting on the system results is also included in the pilot funding. This pilot would be conducted in coordination with ETA, which has chosen hybrid rooftop units as one of its focus technologies. ETA is focused on driving market transformation, but does not have the ability to offer customer incentives such as those included in this NGIA pilot, so there is a lot of natural synergy between both efforts. Other Comments / Information: Pilot sizes differ depending on number of participants. KEY PILOT-SPECIFIC INPUTS: Pilot Year Year 1 Year 3 Year 4 Year 5 Calendar Year 2024 2025 2026 2027 2028 articipating Units, Size A remental units added, annual (not cumulative). Participating Units, Size B PARTICIPANTS Participating Units, Size C Unit of Participation = Facility Calculations & Other Explanation:

Annual Total Utility Incremental Cost, Size A

Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C

Fixed O&M Cost, Size A Fixed O&M Cost Size B Fixed O&M Cost, Size C

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Internal Project Delivery, Size A Internal Project Delivery, Size B Internal Project Delivery, Size C

External Project Delivery, Size A External Project Delivery, Size B. External Project Delivery, Size C

Advertising and Promotions, Size A Advertising and Promotions, Size B Advertising and Promotions, Size C

Allocation of General Portfolio Costs, Size A

	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
ſ	\$ 696,000	\$ 895,310 \$	\$ 902,689 \$	740,140 \$	742,664	total cost per year	These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility
ſ	\$ 913,000	\$ 1,546,310 \$	\$ 1,553,689 \$	1,391,140 \$	1,393,664	total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
	\$ 1,130,000	\$ 2,197,310 \$	\$ 2,204,689 \$	2,042,140 \$	2,044,664	total cost per year	incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.
-	•						a made on select pilots.

USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 5 Year 4 372,000 \$ 409.310 \$ 416,689 \$ 254,140 \$ 256,664 total cost per year 427,000 574,310 \$ 581.689 419140 421,664 total cost per year

741.689 \$

USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 4 Year 5 249,140 \$ 251,664 per year Total internal and external project delivery 367,000 \$ 404.310 \$ 411.689 \$ 422.000 \$ 569.310 \$ 576 689 \$ 414,140 \$ 416,664 per year

579.140 \$

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 81,689 \$ 84,140 \$ 86,664 per year 77,000 \$ 79,310 \$ 79.310 \$ 81.689 \$ 86,664 per year 77,000 \$ 84,140 \$ 77.000 \$ 79.310 \$ 81,689 \$ 84.140 \$ 86,664 per year

734,310 \$

477,000 \$

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

581,664 per year

Year 1 Year 3 Year 5 USD (Nominal) Cost Unit: Year 2 Year 4 290,000 \$ 325,000 \$ 330,000 \$ 165,000 \$ 165,000 per year External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the 330,000 \$ 330,000 per year Utility "Fixed O&M Cost" category above. 345,000 \$ 495,000 \$ 490,000 \$ 400.000 \$ 655,000 \$ 660.000 \$ 495,000 \$ 495,000 per year

Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 5,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 5,000 per year 5.000 \$ 5.000 \$ 5.000 \$ 5.000 \$ 5,000 per year 5.000 \$ 5.000 \$ 5.000 \$ 5.000 \$ 5,000 per year

Year 1 Year 2 USD (Nominal) Cost Unit: per year

These costs are sub-set of the Utility "Fixed O&M Cost" category above.

Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally

	Allocation of General Portfolio Costs, Size B							per year	
	Allocation of General Portfolio Costs, Size C							per year per year	
			V4	Year 2	V0	V4	V 5	1100 (11 12 0 11 - 12	
	Trade Ally Incentives, Size A	\$	Year 1		Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	- \$	7		\$ -	•	per year	
	Trade Ally Incentives, Size C	\$	- \$	- \$	-	\$ - :	\$ -	per year	
	Workforce Development or Market Transformation Cost, Size A	٠	Year 1 - \$	Year 2 - \$	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above. Note, while not planning workforce development /
	Workforce Development or Market Transformation Cost, Size A Workforce Development or Market Transformation Cost, Size B	\$	- \$		-	\$ -	• -	per year per year	market transformation costs here, plan to work in partnership with ETA, who are targeting their market transformation
	Workforce Development or Market Transformation Cost, Size C	\$	- \$	- \$	-	\$ -	\$ -	per year	support on this technology.
UTILITY PILOT		,	•	•	•				
COSTS			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size B	\$	- \$ - \$			\$ - :	•	per year per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size C	\$	- \$					per year	
				1*		-	•	P /	
		_	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$	- \$	- \$	-	\$ - :	-	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B Total utility capital investment, Size C	\$	- \$ - \$			\$ -	• -	per year per year	requirement resulting from these capital investments (shown below).
	Total utility capital investment, size C	φ	- 9	- 0		·	р –	per year	
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$			\$ - :		per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility 'Fixed O&M Costs' captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$	- \$			\$ - :		por your	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$	- \$	-	\$ -	\$ <u>-</u>	per year	well as the utility's return on investment
			US	SD (Nominal) Cost					
				nit:					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$		er year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	\$	- pe						for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$	- pe	er year					
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	324,000 \$						This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	\$	486,000 \$	972,000 \$	972,000	\$ 972,000	972,000	<u> </u>	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size C	\$	648,000 \$	1,458,000 \$	1,458,000	\$ 1,458,000	1,458,000	per year	customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	\$	Year 1 32,400 \$	Year 2 32,400 \$	Year 3 32,400	Year 4 \$ 32,400	Year 5	USD (Nominal) Cost Unit:	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	\$ \$	32,400 \$ 32,400 \$	32,400 \$ 32,400 \$	32,400 32,400	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
		\$ \$ \$	32,400 \$	32,400 \$ 32,400 \$	32,400 32,400	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$	32,400 \$ 32,400 \$	32,400 \$ 32,400 \$	32,400 32,400	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	\$ \$ \$	32,400 \$ 32,400 \$	32,400 \$ 32,400 \$	32,400 32,400	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$	32,400 \$ 32,400 \$ 32,400 \$	32,400 \$ 32,400 \$ 32,400 \$	32,400 32,400	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat	\$ \$ \$ ion and Capital Costs	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$	32,400 \$ 32,400 \$ 32,400 \$	32,400 32,400 32,400 er participant	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat	\$ \$ \$ ion and Capital Costs	32,400 \$ 32,400 \$ 32,400 \$	32,400 \$ 32,400 \$ 32,400 \$	32,400 32,400 32,400	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat Exp	\$ \$ \$ ion and Capital Costs ected External Progra	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  7  8  9  1) for Hybrid Heat Pumps:  Im Implementation Cost:	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt	32,400 32,400 32,400 32,400 er participant	\$ 32,400 \$ 32,400	32,400 32,400	per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat	\$ \$ \$ ion and Capital Costs ected External Progra	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt	32,400 32,400 32,400 er participant er participant	\$ 32,400     \$ 32,400     \$ 32,400	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year per participant per year per participant per year per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
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	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat Exp	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  7) for Hybrid Heat Pumps:  Im Implementation Cost:  Year 1  180,000 \$	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt	32,400 32,400 32,400 er participant er participant	\$ 32,400     \$ 32,400     \$ 32,400	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year per participant per year per participant per year per participant per year	
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	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat Exp	\$ \$ sion and Capital Costs ected External Progra	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  7  8  9  1 or Hybrid Heat Pumps:  Im Implementation Cost:  Year 1  180,000 \$  180,0	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pi \$11,000 pi  Year 2 160,000 \$ 60% 40%	32,400 32,400 32,400 32,400 or participant or participant Year 3	\$ 32,400   \$ 32,400   \$ 32,400   \$	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat <u>Exp</u> <u>Monitoring &amp; Reporting Budget</u> Assur	\$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  ) for Hybrid Heat Pumps:  Im Implementation Cost:  Year 1  180,000 \$  of Costs:  osts (incentive):  End of Life Replacements:	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt \$11,000 pt  Year 2  160,000 \$ 40%  bte above are total costs \$60,000	32,400 32,400 32,400 32,400 or participant or participant Year 3	\$ 32,400   \$ 32,400   \$ 32,400   \$	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year per participant per year per participant per year per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat <u>Exp</u> <u>Monitoring &amp; Reporting Budget</u> Assur	\$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C	32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pr \$11,000 pr  Year 2 160,000 \$ 60% 40% bite above are total costs	32,400 32,400 32,400 32,400 or participant or participant Year 3	\$ 32,400   \$ 32,400   \$ 32,400   \$	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat <u>Exp</u> <u>Monitoring &amp; Reporting Budget</u> Assur	\$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  ) for Hybrid Heat Pumps:  Im Implementation Cost:  Year 1  180,000 \$  of Costs:  osts (incentive):  End of Life Replacements:	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt \$11,000 pt  Year 2  160,000 \$ 40%  bte above are total costs \$60,000	32,400 32,400 32,400 32,400 or participant or participant Year 3	\$ 32,400   \$ 32,400   \$ 32,400   \$	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat <u>Exp</u> <u>Monitoring &amp; Reporting Budget</u> Assur	\$ \$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C ned Baseline Cost for t eplacements that are f	32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  ) for Hybrid Heat Pumps:  Im Implementation Cost:  Year 1  180,000 \$  of Costs:  osts (incentive):  End of Life Replacements:	32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt \$11,000 pt  Year 2  160,000 \$ 40%  bte above are total costs \$60,000	32,400 32,400 32,400 32,400 or participant or participant Year 3	\$ 32,400   \$ 32,400   \$ 32,400   \$	\$ 32,400 \$ 32,400 \$ 32,400	per participant per year	
	Incentives per Participant, Size B Incentives per Participant, Size C <u>Calculations &amp; Other Explanation:</u> Average Total Project Costs (Implementat <u>Exp</u> <u>Monitoring &amp; Reporting Budget</u> Assur	\$ \$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C ned Baseline Cost for t eplacements that are f	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  (In this implementation Cost: 180,000 \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pt \$11,000 pt  Year 2  160,000 \$ 60% 40% bite above are total costs \$60,000 72,00%	32,400 32,400 32,400 32,400 32,400 ar participant ar participant Year 3 165,000 so customer incre	\$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 32,40C \$ 32,40C \$ 32,40C would be low	per participant per year l respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit:	bring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B	\$ \$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C ned Baseline Cost for t eplacements that are f	32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pr \$11,000 pr  Year 2 160,000 \$ 40%  bte above are total costs \$60,000 72,00%  Year 2 21,000 \$	32,400 32,400 32,400 32,400 ar participant ar participant Year 3 165,000 Year 3 21,000 21,000	\$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400      Wear 4     \$ 21,000     \$ 21,000	\$ 32,400 \$ 32,400 \$ 32,400 would be low \$ 21,000 \$ 21,000	per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assured Portion of Re  Total Pilot Upfront Costs, Size A	\$ \$ \$ \$ ion and Capital Costs ected External Progra  \$ Customer Portion Utility Portion of C ned Baseline Cost for t eplacements that are f	32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pr \$11,000 pr  Year 2 160,000 \$ 60% 40%  40%  Year 2 21,000 \$	32,400 32,400 32,400 32,400 ar participant  Per participant  Year 3 165,000  Year 3 21,000	\$ 32,400   1	\$ 32,400 \$ 32,400 \$ 32,400  would be low	per participant per year per participant per year per participant per year per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant	bring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Customer Portion Utility Portion of C ned Baseline Cost for 6 seplacements that are f	32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  \$11,000 pr  Year 2  160,000 \$  40%  ote above are total costs \$60,000 72,00%  Year 2  21,000 \$ 21,000 \$	32,400 32,400 32,400 32,400 32,400 ar participant  Year 3 165,000  Year 3 21,000 21,000 21,000	\$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400     \$ 32,400     \$ 21,000     \$ 21,000	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 would be low  Year 5 \$ 21,000 \$ 21,000	per participant per year per participant per year per participant per year per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant per participant per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B  Total Pilot Upfront Costs, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Customer Portion Utility Portion of C ned Baseline Cost for 6 seplacements that are f	32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  S11,000 pr  Year 2  160,000 \$  40%  ote above are total costs \$60,000  72,00%  Year 2  21,000 \$ 21,000 \$  Year 2	32,400 32,400 32,400 32,400 32,400 er participant  Year 3 165,000  Year 3 21,000 21,000 21,000 Year 3	\$ 32,400   : \$ 32,400   : \$ 32,400   :  \$ 32,400   :  \$ 32,400   :  ### Year 4  \$ 21,000   : \$ 21,000   :  Year 4	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit:	pring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Customer Portion Utility Portion of C ned Baseline Cost for 6 seplacements that are f	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  () for Hybrid Heat Pumps:    m Implementation Cost:    Year 1	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr \$11,000 pr  Year 2  160,000 \$  60%  40%  560,000  72,000  Year 2  21,000 \$ 21,000 \$  Year 2	32,400 32,400 32,400 32,400 32,400 ar participant  Year 3 165,000  Year 3 21,000 21,000 21,000 Year 3 250	\$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 21,000 \$ 2	per participant per year per participant per year per participant per year per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant per participant per participant	oring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B  Total Pilot Upfront Costs, Size C  Third Party Funding, Size A  Third Party Funding, Size B  Third Party Funding, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  \$11,000 pr  Year 2  21,000 \$ 21,000 \$  Year 2  250 \$ \$60 \$	32,400 32,400 32,400 32,400 32,400 ar participant  Year 3 165,000  Year 3 21,000 21,000 21,000 Year 3 250 250	\$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 21,000   \$ \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	per participant per year le respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant per participant	pring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
TOTALAND	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of Re  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Customer Portion Utility Portion of C ned Baseline Cost for 6 seplacements that are f	32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  \$11,000 pr  Year 2  21,000 \$ 21,000 \$  Year 2  250 \$ \$60 \$	32,400 32,400 32,400 32,400 32,400 ar participant  Year 3 165,000  Year 3 21,000 21,000 21,000 Year 3 250 250	\$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 21,000   \$ \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000   \$ \$ 21,000	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant	pring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
DIRECT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B  Total Pilot Upfront Costs, Size C  Third Party Funding, Size A  Third Party Funding, Size B  Third Party Funding, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ Ion and Capital Costs    Customer Portion	32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ \$81,000 pr    Year 2	32,400 32,400 32,400 32,400 32,400 32,400  Per participant  Year 3 165,000 21,000 21,000 21,000 Year 3 250 250 250	\$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ 32,000	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 21,000 \$ 21,000 \$ 21,000 \$ 25,000 \$ 25,000 \$ 25,000 \$ 25,000 \$ 25,000	per participant per year  I respondent (covers detailed monitor per for end of life replacements  USD (Nominal) Cost Unit: per participant	pring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size C  Description of source of external funding:	\$ \$ \$ \$ \$ \$ \$ \$ \$ Ion and Capital Costs    Customer Portion	32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  \$11,000 pr  Year 2  21,000 \$ 21,000 \$  Year 2  250 \$ \$60 \$	32,400 32,400 32,400 32,400 32,400 32,400 32,400 21,000 21,000 21,000 22,000 250 250 250 Year 3	\$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 21,000 \$ 21,000 \$ 21,000 \$ 25,000 \$ 2	per participant per year per for end of life replacements  USD (Nominal) Cost Unit: per participant	pring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
DIRECT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C  Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ Ion and Capital Costs    Customer Portion	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  32,400 \$  // Common text	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  Year 2  160,000 \$  40%  ote above are total costs \$60,000 72,00%  Year 2  21,000 \$ 21,000 \$  Year 2  250 \$ 250 \$  250 \$  Year 2  5,150 \$  5,150 \$	32,400 32,400 32,400 32,400 32,400 32,400 32,400 ar participant  Year 3 165,000 21,000	\$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	32,400   3	per participant per year  I respondent (covers detailed monitor per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant
DIRECT PARTICIPANT	Incentives per Participant, Size B Incentives per Participant, Size C  Calculations & Other Explanation:  Average Total Project Costs (Implementat  Exp  Monitoring & Reporting Budget  Assumed Portion of R  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C  Description of source of external funding:  Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ Ion and Capital Costs    Customer Portion	32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   32,400   \$   \$   32,400   \$   \$   \$   \$   \$   \$   \$   \$   \$	32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$ 32,400 \$  \$81,000 pr  Year 2  160,000 \$  40%  ote above are total costs \$60,000 72,00%  Year 2  21,000 \$ 21,000 \$  Year 2  250 \$ 250 \$  250 \$  Year 2  5,150 \$  5,150 \$	32,400 32,400 32,400 32,400 32,400 32,400 32,400 ar participant  Year 3 165,000 21,000	\$ 32,400   \$ 32,400   \$ 32,400   \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ 32,400   \$ \$ \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ 32,400   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	32,400   3	per participant per year  I respondent (covers detailed monitor per participant	pring and analysis of 3-4 systems per year, simple monitoring packages on 50% of the systems, and reporting o  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.

Year 2 Year 3 Year 4 Year 5

Year 1

Calculations & Other Explanation:

	Esc	calation rate		3.82%	3.82%	3.82%	3.82%	3.829	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last five years. Using the
	Assume		Participants that Qualify for IRA inc Assumed per customer IRA incent							orgy savings for the facility. The archetype project included in this profile would result in a 72% reduction in s % savings (higher savings qualify for higher deductions); assumes 10% top marginal tax bracket; assumes 10,0
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Participant Non-Energy Costs, Size A		\$	- \$	-	\$ -	\$ -	\$ -	per participant per year of pilot life	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
PARTICIPANT NON-ENERGY	Participant Non-Energy Costs, Size B		\$	- \$	-	\$ -	\$ -	\$ -	per participant per year of pilot life	
COSTS	Participant Non-Energy Costs, Size C		\$	- \$	-	\$ -	\$ -	\$ -	per participant per year of pilot life	
	Calculations & Other Explanation:	calation rate	Year 1	3.82%	Year 2 3.82%	Year 3 3.82%	Year 4 3.82%	Year 5	(for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
	Lau	calation rate		0.0270	0.02 %	5.02%	0.02%	0.027	(Tor each pilot analysis year)	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	This includes any operating savings like water savings.
	Participant Non-Energy Savings, Size A		\$	- \$		\$ -	\$ -	\$ -	per participant per year of pilot life	This includes any operating savings like water savings.
PARTICIPANT NON-ENERGY	Participant Non-Energy Savings, Size B		\$	- \$	-	\$ -	\$ -	\$ -	per participant per year of pilot life	
SAVINGS	Participant Non-Energy Savings, Size C		\$	- \$	_	\$ -	\$ -	\$ -	per participant per year of pilot life	
	Calculations & Other Explanation:									
	Average Lifetime for Savings/Pilot Tech, Size A			15 yea	rs					
	Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C			15 yea 15 yea						
PILOT LIFE	Calculations & Other Explanation:									
	galedations a Street Explanation.									
NATURAL GAS	Avg. Dth/Participant Saved, Size A			108 Dth	/Participant					
ENERGY SAVINGS: AVG.	Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size B			198 Dth.	/Participant /Participant /Participant					
Dth/				198 Dtn.	/Participant					
PARTICIPANT SAVED	Calculations & Other Explanation:									
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B				h/Participant h/Participant	Units are kWh; could ted	hnically be other no	n-NG. Avg. Non-C	Gas Fuel Units/Part. Saved will be used in the Pa	rticipant Cost tests for the NGIA evaluation criteria.
	Avg. Non-Gas Fuel Units/Part. Saved, Size C				h/Participant					
AVG. NON-GAS FUEL UNITS/	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A			10,600 kWI	h/Participant	Avg. Additional Non-Gas	Fuel Units/Part. Use	d will be used in	the Participant Cost tests for the NGIA evaluation	on criteria.
PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B			10,600 kW	h/Participant					
	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C			10,600 kWh	h/Participant					
	Calculations & Other Explanation:									
			Year 1		Year 2	Year 3	Year 4	Year 5	_	
TOTAL ANNUAL	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B			1,980 2,970	2,970 5,940	5,940	2,970 5,940	2,970 5,940	Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
Dth SAVED	Total Annual Dth Saved, Size C			3,960	8,910	8,910	8,910	8,910	Dth	
	Calculations & Other Explanation:									
	Grid Mix Scenario		NREL wind 50/50			Select one of the listed (	,	•		
GRID MIX SCENARIO						•Dtilities shall use electri specific generation mix	c-utility-specific ger taken from National	neration mix infor Renewahle Fnerø	rmation for the renewable natural gas facility wh v I aboratory (NRFI ) Standard Scenarios. If the r	en it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state- enewahle natural aas facility is usina a hisher proportion of carbon free electricity than is available by default from their
_ GOENAMO	Calculations & Other Explanation:									

This section does not apply to all pilot types. The GHG	changes from decreased natural gas and/or electrici	ity consumption will be calc	ulated based on value	s above. However, fo	pilots where NGIA requires lifecycle GHG	savings (e.g. RNG, hydrogen, carbon capture) ti	nis section accounts for the lifecycle change in GHG
emissions (per unit of participation).							
Lifecycle GHG Intensity, Size A	Year 1	Year 2	Year 3	Year 4 Y	ear 5	Utilities shall file a high law and expected grouphed	use gas intensity for innovative resources included in a proposed N
Low Expected		0.00	0.00	0.00	kg CO2e/participant  0.00 kg CO2e/participant	Gas Innovation Act innovation (NGIA) plan, where a	isse gas intensity for initiovative resources initiotical in a piposeau vi policable. High and low scenarios shall incorporate at least low and I in the resource's lifecycle. Expected greenhouse gas intensity valu
High					kg CO2e/participant	be used in cost-benefit calculations and when dete NGIA plans.	rmining the expected greenhouse gas reduction of pilot programs
VCLE GHG Lifecycle GHG Intensity, Size B Low	Year 1	Year 2	Year 3		kg CO2e/participant		
EXPECT SIZE Expected High		0.00	0.00	0.00	0.00 kg CO2e/participant kg CO2e/participant		
Lifecycle GHG Intensity, Size C	Year 1	Year 2	Year 3	Year 4 Y	ear 5		
Low Expected		0.00	0.00	0.00	kg CO2e/participant  O.00 kg CO2e/participant		
High					kg CO2e/participant		
Calculations & Other Explanation:							
PILOT-SPECIFIC PARAMETERS (formerly 'General Parameters' in C	P Calculator):						
Peak Reduction Factor		1% The estimated average annu	ual effect of the project on	system peak. It is estimate	ed to be 1% for energy efficiency pilots. The method	for other innovative resources should be considered in the	context of specific utility proposals. Peak Reduction Factor will be
CTOR Calculations & Other Explanation:		the Utility Cost and Non Par	articipant Cost tests for the N	IGIA evaluation criteria.			
·							
	Year 1	Year 2	Year 3	Year 4 Y	ear 5 USD (Nominal) Cost Unit:		
Variable O&M Cost, Applies to all project sizes		0.05 \$ 0.05			0.06 per Dth	the context of specific utility proposals. For examp	However, the value for other innovative resources should be conse, resources like power-to-hydrogen and RNG may not decrease
Calculations & Other Explanation:						Cost and Non Participant Cost tests for the NGIA e	ners on the distribution system. Variable O&M will be used in the valuation criteria. Note, to calculate this metric, you can make one
	-5.2	.250% -5.250%	% -5.250%	-5.250%	-5.250% (for each pilot analysis year)	Annual Escalation Rate calculated using the average	percent change in the price of natural gas between 2023 through
		USD (Nominal) Cost					
GAS FUEL Non-Gas (i.e., Electric) Fuel Cost	\$ 4	Unit: 44.14 per MWh				egic electrification should be considered in the context of	
OST  Calculations & Other Explanation:			→ equal to the average of d	ally real-time final market	locational marginal prices (LMP) at the Minnesota H	ub from January 1, 2022 to December 31, 2022 using data f	om Midwest Independent System Operator (MISO)
Non-Gas Fuel Loss Factor		8.22% %	The CIP methodology is a	read for all resources other	r than strategic electrification. The method for strate	egic electrification should be considered in the context of	pecific utility pilot proposals. In the most recent CIP, Staff used th
AS FUEL	· ·	3.2270 76	weighted average of the	nost recent loss factors r	eported by Minnesota Power, Xcel Energy, and Otter	Tail Power's reported 2021 transmission and distribution I	oss factors and weighting by the utilities' 2017-2019 average retail
Calculations & Other Explanation:							
QUANTITATIVE CRITERIA:							
Other Non-GHG Pollutants, Size A	6	USD Cost Unit:  O.37 per Dth					(Commission). The factors are reported in 2021 dollars in Table 2 &
NON-GHG Other Non-GHG Pollutants, Size B		0.37 per Dth	utilities to select differen	t externality values for pilo	ots targeting specific geographies or populations. Fe	or example, an energy efficiency project that targets an urb	een 2014 and 2021. Stakeholders expressed a preference for allowi an area might use the urban value rather than the metropolitan frii A plans if they can provide justification for the change. Instead of i
Other Non-GHG Pollutants, Size C	\$	0.37 per Dth	the use of median metrop	olitan fringe values for all	non-GHG pollutants, as shown in Table 1 of the Com	mission's January 3, 2018 Order in Docket No. E0999/CI-14-	643, utilities may use the value most applicable for the pilot or me
Calculations & Other Explanation:							
						Remainder of project	
		Year 2	Year 3	Year 4 Y	ear 5 Total during 5 program year	s life 14 5 # of jobs	Utilities should consider both jobs created by proposed p.
Net Direct Job Creation, Size A	Year 1	21				28 12 # of jobs	
Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year 1	4 (	6 6	6	6		jobs that may be eliminated by proposed pilots.
	Year 1	4	6 6 9 9	8	6 9	38 17 # of jobs	jobs that may be eliminated by proposed pilots.
Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year 1	4	9 9 9 Year 3	6 8 Year 4 Y	ear 5 Total during 5 program year	Remainder of project s life	
Net Direct Job Creation, Size B		Year 2	Year 3 2 2 4 4	Year 4 Y	ear 5 Total during 5 program year 2 3	38 17 # of jobs  Remainder of project	jobs that may be eliminated by proposed pilots.  Utilities should consider both jobs created by proposed pilots.

Remainder of project **NET JOB** Year 1 Year 3 Year 5 Total during 5 program years life Year 4 CREATION 3 # of jobs Net Induced Job Creation, Size A Net Induced Job Creation, Size A 8 # of jobs Net Induced Job Creation, Size A # of jobs Calculations & Other Explanation: Job numbers are estimated as Full Time Equivalents (FTE) and are rounded off. Year 1 Year 5 USD (Nominal) Cost Unit: Public Co-Benefits, Size A per year Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below. Public Co-Benefits, Size B per year PUBLIC CO-Public Co-Benefits, Size C per year BENEFITS Calculations & Other Explanation: Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Water Pollution, Size A per year Water Pollution, Size B per year WATER Considerations section below. Water Pollution, Size C per year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS: NGIA Utility Perspective | structural values and CIP quantification methods. Participants' <u>Perspective</u> May assist MN businesses in achieving GHG goals onparticipating Perspective | As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases and can be heavily informed by structural values. Effects on Other Energy Systems and Energy

Definition:	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.  Promotes strategic electrification
GHG Emissions Notes: Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution Notes: Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.
Waste Reduction and Reuse Notes:	
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
Policy Neter	
	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and increased use of renewable resources.  Reduces fossil gas throughput; increases use of renewable energy
Net Job Creation Notes:  Definition:	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Economic Development Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  Projects may follow IRA labor requirements to take advantage of tax benefits
	Frugesia irray routow inch radion requirements to case advantage or cas defibilits
Public Co- Benefits Notes: Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.

Mar	ket		
Dev	elo	om	en

ne NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where

May help MN businesses appeal to customers interested in sustainability

### Direct Innovation

### Support Notes:

This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA,40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.

Opportunity for customers to learn about novel options for reducing GHGs from their systems

# Resource Scalability and Role in a Decarbonized System Notes:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Strategic electrification necessary part of net zero strategy

Click here to go back to the list of all pilots NGIA Pilot Profiles Workbook 블 CNP19 - Residential deep energy retrofit + electric ASHP pilot (with gas backup) Pilot Project Code: esidential deep energy retrofit + electric Pilot Project Name: ASHP pilot (with gas backup) Customer Class/ Sector: C&I & Res Low-Income Community Benefit? arget Area: Primary Innovative Resource Category: Strategic Electrification Select primary Innovation Category. Others can be listed here: Energy efficiency Pilot Description: CenterPoint Energy proposes a three-phase pilot program to test a combination of deep energy retrofits and air-source electric heat pumps with gas back-up in a variety of residential building types. DESCRIPTION Overview of Program/ Implementation Approach: The phase 1 building modelling would be used to develop a more detailed 'pilot program design' for phase, deciding on things like the different tiers of measures that the pilot should test (e.g. different levels of energy efficiency retrofit), the types of buildings to target, and recruiting articipants. Phase 2 field testing would see contractors engaged to perform the different tiers of retrofits, install the ASHPs (with gas back-up remaining in place), and setting up the metering equipment. Phase 3 would also leverage external vendors to implement the program, with the genera expectation that this would shift from a direct install program to an incentive program (targetting a higher number of customers), but the programmatic approach would be not settled until after phase 2. Plan currently targets both single family homes and multi-family homes, and would consider a mix of 'conventional' building shell retrofit technologies as well as a few emerging technology options. Other Comments / Information: Participation shown for years 4 and 5, for phase 3, is currently just a placeholder. CenterPoint will use phases 1 and 2 to inform what makes sense for phase 3 (e.g. level of insulation, level of incentives, etc.). But we are planning for the budget included below, based on the assumptions specified for phase 3 and the amount of NGIA budget CenterPoint estimates might make sense to focus here. Need these estimates in order to set aside some level of funding for phase 3. KEY PILOT-SPECIFIC INPUTS: Pilot Year Year 1 Year 2 Year 3 Year 4 Year 5 Calendar Year 2024 2025 2027 2028 Participating Units, Size A Participating Units, Size B Participating Units, Size C Unit of Participation = Buildings retrofitted Calculations & Other Explanation: hase 1 - Scoping Study, Program Design, & Recruitment NUMBER OF Size A 0 0 PARTICIPANTS Size B 0 0 Size C 0 0 0 0 Phase 2 - Pilot Testing & Phase 3 Broader Roll Out Phase 2 Phase 3 Size A - Single Family Homes 6 6 30 60 Size B - Single Family Homes 12 12 60 120 Size C - Single Family Homes 90 0 18 18 180 Size A - Multi Family Homes 0 5 10 Size B - Multi Family Homes 10 20 Size C - Multi Family Homes 30 USD (Nominal) Cost Year 1 Year 2 Year 3 Year 4 Annual Total Utility Incremental Cost, Size A 197,000 \$ 1,104,690 \$ 1,107,069 \$ 1,462,115 \$ 2,792,614 total cost per year These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any incentive Annual Total Utility Incremental Cost, Size B 197,000 2,047,449 5,448,564 total cost per year funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select Annual Total Utility Incremental Cost, Size C 8,104,514 total cost per year USD (Nominal) Cost Year 1 Year 2 Year 3 Year 4

## 1,116,664 total cost per year 1,606,664 total cost per year USD (Nominal) Cost

626,664 total cost per year

Total internal and external project delivery

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally

Incentives, and Workforce Development of Market Transformation Cost

Fixed O&M Cost, Size B Fixed O&M Cost, Size C

Fixed O&M Cost, Size A

otal Project Delivery, Size A Total Project Delivery, Size B otal Project Delivery, Size C Year 1 Year 3 Unit: Year 2 Year 4 197,000 \$ 1,094,690 \$ 1,097,069 \$ 329,140 \$ 576,664 per year 1,066,664 per year 197,000 \$ 2,035,070 \$ 2,037,449 \$ 574,140 \$ 1,556,664 per year 197,000 \$ 819,140 \$

1,107,069

2,047,449

2,987,829

379,140 \$

624,140

869,140

1,104,690

2,045,070

2,985,450

197,000

197,000

197,000

								USD (Nominal) Cost	
	i	Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	
	Internal Project Delivery, Size A Internal Project Delivery, Size B	\$	77,000 \$ 77,000 \$	79,310 \$ 79.310 \$		\$ 84,140 \$ \$ 84.140 \$	86,664	per year per year	CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Internal Project Delivery, Size B	\$	77,000 \$	79,310 \$	81,689		86,664	per year	
									_
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	External Project Delivery, Size A	\$	120.000 \$	1,015,380 \$			490,000		External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Utility
	External Project Delivery, Size B	\$	120,000 \$	1,955,760 \$	1,955,760		980,000		"Fixed O&M Cost" category above.
	External Project Delivery, Size C	\$	120,000 \$	2,896,140 \$	2,896,140	\$ 735,000 \$	1,470,000	per year	
								USD (Nominal) Cost	
		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	
	Advertising and Promotions, Size A	\$	- \$	10,000 \$	10,000			per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size B Advertising and Promotions, Size C	\$	- \$	10,000 \$	10,000		50,000	per year per year	
	Advertising and Promotions, Size C	•	- 9	10,000   4	10,000	ş 50,000 ş	30,000	per year	1
								USD (Nominal) Cost	
		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size A Allocation of General Portfolio Costs, Size B							per year per year	Share of portrollo level costs, including plan development costs, regulatory costs, and general portrollo costs
	Allocation of General Portfolio Costs, Size C							per year	
			•	·	<u> </u>				<del>-</del>
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	\$	- \$	- \$	rear 3	\$ - \$		per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	- \$	- \$	-	\$ - \$		per year	
	Trade Ally Incentives, Size C	\$	- \$	- \$	-	\$ - \$	=	per year	
								USD (Nominal) Cost	
		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	
	Workforce Development or Market Transformation Cost, Size A							per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B							per year	
	Workforce Development or Market Transformation Cost, Size C							per year	
UTILITY PILOT COSTS								USD (Nominal) Cost	
00010		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size B	\$	- \$ - \$	- \$ - \$	-	\$ - \$ \$ - \$	-	per year per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size C	\$	- \$	- \$	-	\$ - \$		per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$	- \$	- \$	rear 3			per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed
	Total utility capital investment, Size B	\$	- \$	- \$	-	\$ - \$	-	per year	into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$	- \$	- \$	-	\$ - \$		per year	Total diese capital artestricito (silomi selon).
								USD (Nominal) Cost	
		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	_
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$	- \$	- \$	-	\$ - \$		per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the magnitude &
	Est. Annual Revenue Requirement for Capital Projects, Size B Est. Annual Revenue Requirement for Capital Projects, Size C	\$	- \$	- 3	-	\$ - \$		per year per year	timing of capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's
									a retilim on investment
		Total		(Nominal) Cost Unit:					
	Est. Total Revenue Requirement for Capital Projects, Size A	e I otal	- per						The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size B	\$	- per y						expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per y	year					reference, it's not used to calculate any of the NGIA evaluation criteria.
								USD (Nominal) Cost	
		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	
	Incentives, Size A	\$	- \$	- \$	-	\$ 1,082,975 \$	2,165,950	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of
	Incentives, Size B Incentives, Size C	\$	- \$	- \$	-	\$ 2,165,950 \$ \$ 3,248,925 \$	4,331,900 6,497,850	per year	energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't
	11.551.11.55, 5125 5	•		Ψ		Φ 0,240,020   Φ	0,407,000	poi you	hold aguinment ownership. Incentives will be used in the Particinant Cost tests for the NGIA evaluation criteria
								USD (Nominal) Cost	
		Year 1		Year 2	Year 3	Year 4	Year 5	Unit:	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size A	#DIV/O!	\$	- \$	-	\$ 30,942.14 \$	30,942.14	per participant per year	
	Incentives per Participant, Size B	#DIV/0!	\$	- \$	=	\$ 30,942.14 \$	30,942.14	per participant per year	
	Incentives per Participant, Size C	#DIV/O!	\$	- \$	-	\$ 30,942.14 \$	30,942.14	per participant per year	
		*	1.	1.					<u>-</u>
	Calculations & Other Explanation:  Cost for Scoping Study & Program Design:		\$120,000						
	Cost for acoping attudy & Program Design:		ψ120,000			Initial	estimates for the		
		Dh 0 /5 !! 0 5		h 2 (l :: : )				Danier Las I	Portion of Total
		Phase 2 (Full Cost Cover	red) P	hase 3 (Incentive)		TIER		Design Load	Estimated Retrofit Costs Retrofits in this Tier

	_								
	Average Cost per Participating Single Family Home	s: \$ 67,730	\$ 16,933			Tier 1	44 btu/sq ft	\$ 29,600	25%
	Average Cost per Participating Multi Family Building	g: \$ 460,000	\$ 115,000			Tier 2	22 btu/sq ft	\$ 36,690	25%
						Tier 3 - Conventional Tech	n 10 btu/sq ft	\$ 55,630	25%
	Program Delivery & Management (Per Participant)	): \$7,00	0			Tier 4 - R&D Tech	10 btu/sq ft	\$ 149,000	25%
		Year 1	∸⊣ Year 2	Year 3	Year 4	Year 5	12 22,24	Note, similar to Tier 3 cost abo deep energy retrofit cost (also	ove, ACEEE estimated
	Performance Monitoring, Size A	A: \$0	0 \$ 100,000	\$ 100,000	\$0		\$O	ASHP) of \$52,657 for cold region	on 1970's home, in
	Performance Monitoring, Size B Performance Monitoring, Size C		0 \$125,000 0 \$150,000	\$125,000 \$150,000	\$0 \$0		\$O \$O	their Deep Energy Pathways Re	eport (Amann, et al).
					•	1			
							USD (Nominal) Cost		
	Total Pilot Upfront Costs, Size A	Year 1	Year 2 \$ 123,769	Year 3 \$ 123,769 \$	Year 4 123,769	Year 5	Unit: 69 per participant	This represents the total equipment a	and installation costs for technologies implemented as part of this pilot (specifically non-utility
	Total Pilot Upfront Costs, Size B	\$ -	\$ 123,769	\$ 123,769 \$	123,769	\$ 123,76	69 per participant	capital projects that were captured se utility incentives, nor include utility pr	eparately above). This cost does not account for what portion of costs may be covered by rogram admin costs.
	Total Pilot Upfront Costs, Size C	-	\$ 123,769	\$ 123,769 \$	123,769	\$ 123,76	69 per participant	1	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:		
	Third Party Funding, Size A	\$ -	\$ -	\$ - \$		\$	- per participant	If there are expectations for external	funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for
TOTAL AND DIRECT	Third Party Funding, Size B Third Party Funding, Size C	\$ -	\$ -	\$ - \$	-	\$	per participant     per participant	reference, it's not used to calculate ar	ny of the NGIA evaluation criteria.
PARTICIPANT	Description of source of external funding:	IRA, etc	<b>y</b> -	Φ -   4		φ	per participant	1	
PILOT COSTS							USD (Nominal) Cost		
		Year 1	Year 2	Year 3	Year 4	Year 5	Unit:	<del>-</del>	
	Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B	\$ - \$ -	\$ - \$ -	\$ - \$ \$ - \$	92,826 92,826		26 per participant 26 per participant	subtracted from the total upfront pro	participants who participate in this pilot. This is a calculated value, where utility incentives are pject costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA
	Direct Participant Pilot Costs, Size C	\$ -	\$ -	\$ - \$	92,826		26 per participant	evaluation criteria. Note 1: some pilots	s taking a 'Direct Install' approach may see the utility covering all costs, with no upfront financial
		In this pilot for phase 2 CenterPoint would	cover all costs, while in phase	3 customers would st	art to cover cost	(although the final phase 3	measure packages could lo	ook different)	
	Calculations & Other Explanation:	Year 1	Year 2	Year 3	Year 4	Year 5	<u> </u>		
	Escalation rate	e 3.829	% 3.82%	3.82%	3.82%	3.8	(for each pilot analysis	For an escalation rate, we use	
		V	V 0	V 0	V 4	V5	1100 (11 1) 0		
	Participant Non-Energy Costs, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost  per participant per year	This includes any increased in costs li	ike equipment operating costs or increased water costs. Participant Non-Energy Costs will be
								used in the Participant Cost tests for	the NGIA evaluation criteria.
PARTICIPANT	Participant Non-Energy Costs, Size B	-	\$ -	\$ - \$	-	\$	per participant per year of pilot life	r	
NON-ENERGY COSTS							per participant per year		
333.3	Participant Non-Energy Costs, Size C	-	\$ -	\$ - \$	=	\$	of pilot life	<u> </u>	
	Calculations & Other Explanation:	Year 1	Year 2	Year 3	Year 4	Year 5			
	Escalation rate	e 3.829	% 3.82%	3.82%	3.82%	3.8	(for each pilot analysis	For an escalation rate, we use the ave	erage of the 12-month percentage change in the "all items" consumer price index available from
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost	This includes any operating savings lik	ke water savings.
							per participant per year		
	Participant Non-Energy Savings, Size A	-	\$ -	\$ - \$	-	\$	- of pilot life	+	
PARTICIPANT							per participant per year	r	
NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size B	-	\$ -	\$ - \$	-	\$	- of pilot life	+	
							per participant per year	r	
	Participant Non-Energy Savings, Size C	\$ -	\$ -	\$ -   \$	=	\$	- of pilot life	1	
	Calculations & Other Explanation:								
	A								
	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B	3	2 years 2 years	Weighted avg based o	n savings 40 yea	s building shell, 15 years for	ASHPs.		
	Average Lifetime for Savings/Pilot Tech, Size C	3	years						
	Calculations & Other Explanation:								
PILOT LIFE									
- TIEOTEITE			Building Shell	ASHP					
		Gas Savings	s: 45	20					
		Portion of Gas Saving Measure Life	s 69%	31% 15					
		Measure Life	40	ĊI					
	l								

	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C	135	Dth/Participant Dth/Participant Dth/Participant	Taking weighted ave	erage of single family	homes and multi-family.				
NATURAL GAS	Calculations & Other Explanation:	Approx % Load Reduction	Design Load	Portion of Total Retrofits in this Tier	Space Heating load shifted to electric after retrofit	Gas savings due to retrofit (Dth/yr)	Remaining gas load if no ASHP (Dth/yr)	Gas savings from ASHP installation (with Gas back-up) (Dth/yr)	Total Estimated Gas Savings (Dth/yr)	Remaining Gas Space Heating Load (Dth/yr)
ENERGY	Tier 1		44 btu/sq ft	25.0%	50%	15	60			30
SAVINGS: AVG.	Tier 2 Tier 3 - Conventional Tech		22 btu/sq ft 10 btu/sq ft	25.0% 25.0%	75% 90%	45 60				7.5 1.5
Dth/	Tier 4 - R&D Tech		10 btu/sq ft	25.0%						1.5
PARTICIPANT SAVED			-			1		•	1	
	Avg. Annual Gas Savings per Participating Single Family Home:	65		129.75	2,076					
	Avg. Annual Gas Savings per Participating Multi Family Building:	555	-	1,110.20	17,763					
	Avg. Electric kWh increase per Participating Single Family Home:	2,025		4,050.50	64,808					
	Avg. Electric kWh increase per Participating Multi Family Building:	20,447		40,893.17	654,291					
	Base case gas consumption (per single family home):	75	Dth/yr							
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	0.00	kWh/Participant kWh/Participant kWh/Participant	Units are kWh; could tec	hnically be other non-No	3. Avg. Non-Gas Fuel Units/Part. Saved	will be used in the Participan	t Cost tests for the NGIA evaluation	o criteria.	
AVC NON CAS	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B		kWh/Participant	Avg. Additional Non-Gas	Fuel Units/Part. Used wi	ll be used in the Participant Cost tests	for the NGIA evaluation criter	ria.		
FUEL UNITS/	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B	4,007	kwn/Participant							
PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	4,657	kWh/Participant							
	<u>Calculations &amp; Other Explanation:</u>					TIER Tier 1 Tier 2 Tier 3 – Conventional Tech Tier 4 – R&D Tech	2,879 2,460 1,381			
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C  Calculations & Other Explanation:	Year 1	Year 2 944 1,889 2,833	1,889	Year 4 4,722 9,444 14,165	Year 5 9,444 18,887 28,331	Dth	Natural gas energy savings that res	ult from multiplying savings per pa	rticipant times the total number of new participants in a given year
GRID MIX SCENARIO	Grid Mix Scenario	NREL wind 50/50	I	Select one of the listed g *Utilities shall use electric mix taken from National	c-utility-specific generat	ion mix information for the renewable	natural gas facility when it is r a ranawahle natural sas facilit	reasonably available. When electric v is using a higher proportion of ca	utility-specific information is not than free electricity then is availe	available, the filing gas utility will use a state-specific generation his hv default from their electric utility—either from on-site
	This section does not apply to all pilot types. The GHG changes from (per unit of participation).	decreased natural gas and/or electricity	consumption will be calc	ulated based on valu	es above. However,	for pilots where NGIA require	s lifecycle GHG savings	(e.g. RNG, hydrogen, carbo	n capture) this section ac	counts for the lifecycle change in GHG emissions
	Lifecycle GHG Intensity, Size A	Year 1	Year 2	Year 3	Year 4	Year 5				
	Low	1901 1	10012	Teal 5	1001 7	Teal o	kg CO2e/participant	Innovation Act innovation (NGIA) for electricity use and other fuels	plan, where applicable. High and used in the resource's lifecycle.	ty for innovative resources included in a proposed Natural Gas low scenarios shall incorporate at least low and high assumptions Expected greenhouse gas intensity values will be used in cost-
	Expected	0.00	0.00	0.00	0.00	0.00	kg CO2e/participant	benefit calculations and when de	termining the expected greenho	use gas reduction of pilot programs and NGIA plans.
		0.00	0.00			0.00				
	High						kg CO2e/participant			
	Lifecycle GHG Intensity, Size B	Year 1	Year 2	Year 3	Year 4	Year 5	-			
INTENSITY BY	Low						kg CO2e/participant			

0.00 kg CO2e/participant

INTENSITY BY PROJECT SIZE

							_			
	High						kg CO2e/participant			
	Lifecycle GHG Intensity, Size C	Year 1	Year 2	Year 3	Year 4	Year 5	¬			
	Low						kg CO2e/participant			
	Expected	O	.00 0.00	0.00	0.00	0.00	kg CO2e/participant			
	High						kg CO2e/participant			
	Calculations & Other Explanation:									
OTHER PILOT-SPE	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Calculato	or):								
PEAK REDUCTION FACTOR	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>		1% The estimated average annual eff and Non Participant Cost tests fo	ect of the project on syst or the NGIA evaluation crite	em peak. It is estimated to be oria.	1% for energy efficiency pilots	. The method for other innova	ive resources should be considered in	the context of specific utilit	r proposals. Peak Reduction Factor will be used in the Utility Cost
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u>	Year 1 \$ 0.0	Year 2 05 \$ 0.05	Year 3 \$ 0.05 -5.250%	Year 4 \$ 0.06 \$ -5.250%	Year 5 0.06 -5.250	USD (Nominal) Cost Unit: per Dth  (for each pilot analysis year)	context of specific utility proposals. also need to be transported to cust Participant Cost tests for the NGIA	For example, resources like omers on the distribution sy evaluation criteria. Note, to c	e value for other innovative resources should be considered in the power-to-hydrogen and RNG may not decrease O&M costs as the stem. Variable O&M will be used in the Utility Cost and Non alculate this metric, you can make one cost estimate for year I and inge in the price of natural gas between 2023 through 2027 to all u
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation</u>	\$ 44	USD (Nominal) Cost Unit: i.i.4 per MWh	The CIP methodology is u	sed for all resources other th	an strategic electrification. The attional marginal prices (LMP) at	method for strategic electrific the Minnesota Hub from Janu	iation should be considered in the con ary 1, 2022 to December 31, 2022 using	ext of specific utility pilot p data from Midwest Indeper	oposals. dent System Operator (MISO)
ION-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor <u>Calculations &amp; Other Explanation:</u>	8.2	%	The CIP methodology is u the most recent loss fact	used for all resources other the ors reported by Minnesota Po	an strategic electrification. The wer, Xcel Energy, and Otter Tai	method for strategic electrific I Power's reported 2021 transi	ation should be considered in the con mission and distribution loss factors an	ext of specific utility pilot p d weighting by the utilities' 2	oposals. In the most recent CIP, Staff used the weighted average of O17-2019 average retail sales
THER QUANTITA	TIVE CRITERIA:									
OTHER NON- GHG	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B	\$ 0.	USD Cost Unit: 37 per Dth	calculated by inflating the externality values for pilos income population might	e Commission's approved dol ts targeting specific geograpl use a high value rather than t	lar per ton environmental cost nies or populations. For examp he median. Utilities can make d	values using escalation rate to le, an energy efficiency projec leviations such as these in the	adjust by observed inflation between : t that targets an urban area might use t ir NGIA plans if they can provide justific	2014 and 2021. Stakeholders he urban value rather than t eation for the change. Instead	actors are reported in 2021 dollars in Table 2 below, which were expressed a preference for allowing utilities to select different emetropolitan fringe value. Similarly, a project targeting a low- lof requiring the use of median metropolitan fringe values for all no
POLLUTANTS	Other Non-GHG Pollutants, Size C <u>Calculations &amp; Other Explanation:</u>	\$ 0	97 per Dth	GHG pollutants, as shown	in Table I of the Commission	's January 3, 2018 Order in Doc	ket No. ED999/CI-14-643, utilit	ies may use the value most applicable :	or the pilot or measure.	
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B	Year 1	Year 2 1 4 3 7	Year 3 4 7	Year 4 5 9	Year 5		4 0 #	≠ of jobs ≠ of jobs	Utilities should consider both jobs created by proposed pilots an jobs that may be eliminated by proposed pilots.
	Net Indirect Job Creation, Size C  Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B	Year 1	Year 2 0 3 1 5	Year 3 3 5	Year 4 3 6	Year 5		Remainder of project life  5 0 #	¢ of jobs ¢ of jobs ¢ of jobs	Utilities should consider both jobs created by proposed pilots an jobs that may be eliminated by proposed pilots.
NET JOB CREATION	Net Indirect Job Creation, Size C  Net Induced Job Creation, Size A  Net Induced Job Creation, Size A  Net Induced Job Creation, Size A  Net Induced Job Creation, Size A	Year 1	Vear 2  0 2  1 4  0 7	Year 3 2 5 7	9 Year 4 3 7	Year 5	Total during 5 program years 7 3 0 4	Remainder of project life 5 32 # 31 65 #	# of jobs # of jobs # of jobs # of jobs	
	Calculations & Other Explanation:									

Job numbers are estimated as Full Time Equivalents (FTE) and are rounded USD (Nominal) Cost Unit: Public Co-Benefits, Size A per year Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Public Co-Benefits, Size B onsiderations section below. PUBLIC COper year BENEFITS Public Co-Benefits, Size C per vear Calculations & Other Explanation: USD (Nominal) Cost Year 1 Year 4 Year 5 Unit: Water Pollution, Size A per year The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations Water Pollution, Size B WATER per year POLLUTION Water Pollution, Size C per year Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS: IGIA Utility erspective lotes: It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods. May improve thermal comfort lonparticipating lustomers' Perspective Notes: As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases and can be heavily informed by structural values. ffects on Other nergy Systems nd Energy ecurity: Definition: NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets. Promotes strategic electrification **GHG Emissions** Notes: Definition: An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.

Other Pollution Notes: Definition:		
Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.	
Waste Reduction and Reuse Notes:		
Reuse Notes:		
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.	
Domination.	Training accordance for Materia Cock.	
Policy Notes:		
	NGIA is intended to help the state achieve certain environmental	
Definition:	policy goals including geologic gas throughput reduction and increased use of renewable resources.	
	Reduces fossil gas throughput; increases use of renewable energy	
Net Job Creation Notes:		
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should	
	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.	
<u>Economic</u>		
Development Notes: Definition:		
Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.	
Public Co-		
Benefits Notes: Definition:		
Demilition.	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor problems.	
Market Development		
Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are	
	realized	
Direct Innovation		
Direct Innovation Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA.40 are unlikely to produce	
	significant benefits on their own but are intended to lead to future opportunities.  Opportunity to collaborate with ETA program	
	Opportunity to commonate man Ern program	

Resource
Scalability and
Role in a
Decarbonized
System Notes:
Definition:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Strategic electrification necessary part of net zero strategy

		Click here to go back to the list of all pilots						NGIA Pilot Profiles Workbook		
	CNP20 - Small/medium business GHG audit pilot	Chick here to go back to the list of all pilots						NGIA PIIOT PROTIES WORKDOOK		
	Pilot Project Code:	CNP20								
	Pilot Project Name:	Small/medium business GHG audit pilot								
	Customer Class/ Sector:	C&I								
	Low-Income Community Benefit?	N T								
	Target Area: Primary Innovative Resource Category:	Territory-wide Energy Efficiency	Sel	ect primary Innovation	Category Others o	an he listed he	ore:	Strategic	electrification, carbon capture	
	Timaly imovative resource category.	Life gy Efficiency	oo.	oc primary innovacion	outogory. outlore o	an be noted ne		otratogic	o cootimoutor, our por captaro	
	Pilot Description:									
	CenterPoint Energy proposes to expand its existing Natural Gas Ener	rgy Analysis ("NGEA") CIP offering to include i	dentification o	f non-CIP GHG reducir	ng opportunities for	r small and me	dium business	es.		
RIPTION										
	Overview of Program/ Implementation Approach:									
	This NGIA pilot is envisioned as a supplement to the existing CIP NG	EA audit program, so that all small/medium bus	sinesses partic	ipating in the NGEA als	o receive additions	al context relat	ed to GHG en	nissions and reduction opportuni	ties (and businesses do not need to undergo a	
	separate second audit for GHG information). In addition to recognizi						d receive an i	ncentive payment from this pilot	. If the GHG information and/or recognition offered	
	through this pilot leads to a higher adoption rate of NGEA energy eff	iciency recommendations by addit recipients,	triose savings	would be captured uni	der CIP (NOT NGIA).					
	Other Comments / Information:									
	Participant levels for pilot size B chosen here align with CIP NGEA aud	dit participation planned for the next Triennial,	which average	es 240/year (220 in 20	24, 240 in 2025, 26	60 in 2026). Pilo	ot A is slightly	smaller, Pilot C slightly higher.		
OT-SPECI	FIC INPUTS:									
	Pilot Year	V		Year 2	V0	V 4	V			
	Calendar Year	Year 1	2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	ī		
	Participating Units, Size A		176	192	208	208		Incremental units added, annual (not c	umulative).	
	Participating Units, Size B		220	240	260	260	260			
	Participating Units, Size C									
		E 200 11 0000 1 00	264	288	312	312	312			
	Unit of Participation	= Facility receiving GHG Audit	264	288	312	312	312			
		= Facility receiving GHG Audit  This pilot is designed to supplement Center		•			312			
BER OF	Unit of Participation		Point's existin	g NGEA audit program	with additional GH(	G context.		) in 2025, 260 in 2026)		
MBER OF	Unit of Participation Calculations & Other Explanation:	This pilot is designed to supplement Center As such participant levels chosen here align	Point's existin	g NGEA audit program i	with additional GHO	G context. s 240/year (22)	O in 2024, 240			
IBER OF	Unit of Participation	This pilot is designed to supplement Center As such participant levels chosen here align	Point's existin	g NGEA audit program	with additional GH(	G context.				
IBER OF CIPANTS	Unit of Participation Calculations & Other Explanation:	This pilot is designed to supplement Center As such participant levels chosen here align n: tifying customers that would qualify for incer	Point's existing with CIP parti	g NGEA audit program ocipation for next Trienr 240 her NGIA pilots, to be	with additional GH0 nial, which averages 260 directly incented l	G context. s 240/year (22) 260 here instead.	0 in 2024, 240 260			
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align n: Lifying customers that would qualify for ince As such, we are making the high level assur	Point's existing with CIP partion 220 Intives from otaption for now	g NGEA audit program icipation for next Trienr 240 her NGIA pilots, to be a that 3% of audit recipie	with additional GH0 nial, which averages 260 directly incented I ents will want to im	G context. s 240/year (22) 260 here instead. aplement an NG	0 in 2024, 240 260 31A pilot, with	:hose evenly split between comr	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align n: tifying customers that would qualify for incer	Point's existing with CIP partion 220 Intives from otaption for now	g NGEA audit program icipation for next Trienr 240 her NGIA pilots, to be a that 3% of audit recipie	with additional GH0 nial, which averages 260 directly incented l	G context. s 240/year (22) 260 here instead. aplement an NG	0 in 2024, 240 260 31A pilot, with	:hose evenly split between comr	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align n: Lifying customers that would qualify for ince As such, we are making the high level assur	Point's existing with CIP partiful 220 natives from ot aption for now measure:	g NGEA audit program icipation for next Trienr 240 her NGIA pilots, to be that 3% of audit recipie 3% as	with additional GH0 ial, which averages 260 directly incented I ents will want to im ssume half commer	G context. s 240/year (220 260 here instead. aplement an NG rcial hybrid hea	O in 2024, 240 260 GIA pilot, with sting, half Clea	chose evenly split between comm	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF EIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align in:  Lifying customers that would qualify for incer As such, we are making the high level assurtion of audit recipients implementing NGIA	Point's existin n with CIP parti 220  ntives from ot nption for now measure: he cells in this	g NGEA audit program (cipation for next Trienr 240 her NGIA pilots, to be that 3% of audit reciping 3% as tab reference other tal	with additional GHG nial, which averages 260 directly incented I ents will want to im sume half commer os (taking an avera	G context. s 240/year (22) 260 here instead. splement an NC rcial hybrid hea	O in 2024, 240 260 GIA pilot, with sting, half Clea articipant val	chose evenly split between comm nO2 ues from pilots #18 and #13).	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align in:  Lifying customers that would qualify for incer As such, we are making the high level assurtion of audit recipients implementing NGIA	Point's existing with CIP partiful 220 natives from ot aption for now measure:	g NGEA audit program icipation for next Trienr 240 her NGIA pilots, to be that 3% of audit recipie 3% as	with additional GH0 ial, which averages 260 directly incented I ents will want to im ssume half commer	G context. s 240/year (220 260 here instead. aplement an NG rcial hybrid hea	O in 2024, 240 260 GIA pilot, with sting, half Clea	chose evenly split between comm nO2 ues from pilots #18 and #13).	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align in:  Lifying customers that would qualify for incer As such, we are making the high level assurtion of audit recipients implementing NGIA	Point's existin n with CIP parti 220  ntives from ot nption for now measure: he cells in this	g NGEA audit program (cipation for next Trienr 240 her NGIA pilots, to be that 3% of audit reciping 3% as tab reference other tal	with additional GHG nial, which averages 260 directly incented I ents will want to im sume half commer os (taking an avera	G context. s 240/year (22) 260 here instead. splement an NC rcial hybrid hea	O in 2024, 240 260 GIA pilot, with sting, half Clea articipant val	chose evenly split between comm nO2 ues from pilots #18 and #13).	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident	This pilot is designed to supplement Center As such participant levels chosen here align in:  Lifying customers that would qualify for incer As such, we are making the high level assurtion of audit recipients implementing NGIA	Point's existin n with CIP parti 220  ntives from ot nption for now measure: he cells in this	g NGEA audit program (cipation for next Trienr 240 her NGIA pilots, to be that 3% of audit reciping 3% as tab reference other tal	with additional GHG nial, which averages 260 directly incented I ents will want to im sume half commer os (taking an avera	G context. s 240/year (22) 260 here instead. splement an NC rcial hybrid hea	O in 2024, 240 260 SIA pilot, with Iting, half Clea articipant val	chose evenly split between comm nO2 ues from pilots #18 and #13).	nercial hybrid heating (pilot 18) and commercial carbon	ı capture (pilot 13).
BER OF	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po Annual Total Utility Incremental Cost, Size A	This pilot is designed to supplement Center As such participant levels chosen here align in:  tifying customers that would qualify for incer As such, we are making the high level assumention of audit recipients implementing NGIA  The implication of this is that a number of the implication of the i	Point's existin n with CIP parti 220  ntives from ot nption for now measure: he cells in this	g NGEA audit program (cipation for next Trienr 240 her NGIA pilots, to be that 3% of audit reciping 3% as tab reference other tal	with additional GHd nial, which averages 260 directly incented I ents will want to im sume half commer os (taking an avera 3 Year 3	G context. s 240/year (22) 260 here instead. plement an NC roial hybrid hea ge of the per p	O in 2024, 240 260 SIA pilot, with thing, half Cleararticipant val	chose evenly split between comm nO2 ues from pilots #18 and #13).	These incremental utility costs are what will count against t	the NGIA budget cap for this measure and will be used in
SER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B	This pilot is designed to supplement Center As such participant levels chosen here align to:  Lifying customers that would qualify for incer As such, we are making the high level assurution of audit recipients implementing NGIA  The implication of this is that a number of to  Year 1 \$ \$	Point's existin with CIP particular value of the CIP val	g NGEA audit program (cipation for next Trienr 240) her NGIA pilots, to be that 3% of audit recipie 3% as tab reference other tal 3  Year 2  341,742 \$ 413,310 \$	with additional GHd nial, which averages 260  directly incented lents will want to im sume half commer as (taking an avera 3  Year 3  367,112 444,644	G context. s 240/year (22) 260 here instead. splement an NG roial hybrid hee ge of the per p 3 Year 4 \$ 356,192 \$ 430,604	260 SIA pilot, with string, half Clear articipant val	chose evenly split between commo2 ues from pilots #18 and #13).  USD (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count against t  Cost, and Non Participant Cost tests for the NGIA evaluation	the NGIA budget cap for this measure and will be used in n criteria. This is the sum of utility admin costs to run pilo
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BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B	This pilot is designed to supplement Center As such participant levels chosen here align in:  It with the content of the conte	Point's existin with CIP particles from ot approximation of crown measure:  1316.416 \$ 382.020 \$ 447.624 \$ 255.300 \$ 295.560 \$ 20.040 \$ 250.300 \$	g NGEA audit program (cipation for next Trienr 240) her NGIA pilots, to be that 3% of audit reciping 3% as tab reference other tal 413,310 \$ 484,878 \$ 484,8	with additional GH/d inial, which averages 260 directly incented I ants will want to im sume half commer os (taking an avera 3 367.112 444,644 522,176 Year 3 247,304 294,884 342,464 Year 3 242,304 289,884 337,464 Year 3 51,984	G context. 260 260 here instead. 260 here instead. 3  Year 4 \$ 356,192 \$ 430,604 \$ 505,016  Year 4 \$ 248,864 \$ 298,644 \$ 344,024  Year 4 \$ 248,864 \$ 344,024 \$ 248,864 \$ 344,024	D in 2024, 244  260  silA pilot, with titing, half Clea articipant val  Year 5  407,798  482,210  556,622  Year 5  300,470  348,050  395,630  Year 5  395,630  Year 5  390,630  Year 5  555,50	usb (Nominal) Cost Unit: total cost per year	These incremental utility costs are what will count against t Cost and Non Participant Cost tests for the NGIA evaluation incentive funding to support project deployment, and/or th on select pilots.  Fixed O&M Cost is the result of adding up Total Project Del incentives, and Workforce Development of Market Transfon	the NGIA budget cap for this measure and will be used in n criteria. This is the sum of utility admin costs to run plot e utility's annual revenue requirement for capital investme livery, Advertising and Promotions, Utility Administration, Ti mation Cost
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size B Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C  Internal Project Delivery, Size A	This pilot is designed to supplement Center As such participant levels chosen here align in:  It with the content of the conte	Point's existin with CIP particles from ot application of the particles from ot application of the particles from ot application of the particles from other particles from other particles from the partic	g NGEA audit program- cipation for next Trienr 240 her NGIA pilots, to be e that 3% of audit recipi 3% as tab reference other tal 413,310 \$ 484,878 \$  Year 2 231,150 \$ 275,070 \$ 318,990 \$  Year 2 270,070 \$ 313,990 \$  Year 2 50,470 \$	with additional GHI nial, which averages 260  directly incented I ents will want to im ssume half commer os (taking an avera 3  Year 3  367,112 444,644 552,176  Year 3 247,304 294,884 342,464  Year 3 242,304 289,884 337,464  Year 3 51,984 51,984	G context.  240/year (222 260 here instead. plement an NC ricial hybrid heas ge of the per p 3  Year 4 \$ 356,192 \$ 430,604 \$ 505,016  Year 4 \$ 248,864 \$ 296,444 \$ 344,024  Year 4 \$ 243,864 \$ 344,024  Year 4 \$ 339,024  Year 4 \$ 53,544 \$ 339,024	260 in 2024, 244 260 261A pilot, with thing, half Clear articipant val  7	usb (Nominal) Cost Unit: total cost per year  USD (Nominal) Cost Unit: per year per year USD (Nominal) Cost Unit: per year	These incremental utility costs are what will count against t Cost, and Non Participant Cost tests for the NGIA evaluation incentive funding to support project deployment, and/or th on select pilots.  Fixed O&M Cost is the result of adding up Total Project Del Incentives, and Workforce Development of Market Transfon  Total internal and external project delivery	the NGIA budget cap for this measure and will be used in in criteria. This is the sum of utility admin costs to run plot e utility's annual revenue requirement for capital investme livery. Advertising and Promotions, Utility Administration, Transition Cost
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size C  Internal Project Delivery, Size A Internal Project Delivery, Size B	This pilot is designed to supplement Center As such participant levels chosen here align in:  It with the content of the conte	Point's existin with CIP particles from ot approximation of the cells in this and a second se	g NGEA audit program- cipation for next Trienr 240 her NGIA pilots, to be that 3% of audit recipi 3% as tab reference other tal 413,310 \$ 484,878 \$  Year 2 231,50 \$ 275,070 \$ 318,990 \$  Year 2 226,150 \$ 270,070 \$ 313,990 \$  Year 2 50,470 \$ 50,470 \$ 50,470 \$	with additional GH( iial, which averages  260  directly incented I ents will want to im ssume half commer  3  Year 3  367,II2  444,644  522,I76  Year 3  247,304  294,884  342,464  Year 3  242,304  283,884  337,464  Year 3  51,984  51,984  51,984	G context.  240/year (22)  260  here instead.  3  Year 4  \$ 356,192  \$ 430,604  \$ 505,016  Year 4  \$ 248,864  \$ 298,644  \$ 340,024  Year 4  \$ 248,864  \$ 298,644  \$ 390,044  \$ 390,024  Year 4  \$ 336,192  Year 4  \$ 248,864  \$ 505,016	260 in 2024, 244 260 silA pilot, with titing, half Cles articipant val  Year 5 \$ 407,798 \$ 482,210 \$ 556,622  Year 5 \$ 300,470 \$ 348,050 \$ 395,630  Year 5 \$ 295,470 \$ 343,050 \$ 390,630  Year 5 \$ 55,150 \$ 55,150	usb (Nominal) Cost Unit: total cost per year  USD (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year per year per year per year	These incremental utility costs are what will count against t Cost, and Non Participant Cost tests for the NGIA evaluation incentive funding to support project deployment, and/or th on select pilots.  Fixed O&M Cost is the result of adding up Total Project Del Incentives, and Workforce Development of Market Transfon  Total internal and external project delivery	the NGIA budget cap for this measure and will be used in in criteria. This is the sum of utility admin costs to run plot e utility's annual revenue requirement for capital investme livery. Advertising and Promotions, Utility Administration, Transition Cost
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size A Internal Project Delivery, Size A Internal Project Delivery, Size B Internal Project Delivery, Size C	This pilot is designed to supplement Center As such participant levels chosen here align in:  It with the content of the conte	Point's existin with CIP particles from ot apption for now measure:  a 36,416 \$ 382,020 \$ 447,624 \$ 255,300 \$ 255,300 \$ 290,560 \$ 449,000 \$ 449,000 \$ 449,000 \$	g NGEA audit program (cipation for next Trienr 240) her NGIA pilots, to be that 3% of audit reciping 3% as tab reference other tal 413,310 \$ 484,878 \$ 413,310 \$ 275,070 \$ 318,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 270,070 \$ 313,990 \$ 484,878 \$ 284,070 \$ 313,990 \$ 484,070 \$ 313,990 \$ 313,990 \$ 484,070 \$ 313,990 \$ 313,9	with additional GHd inial, which averages 260 directly incented I ents will want to im sume half commer os (taking an avera 3 367.112 444.644 522.176 Year 3 247.304 298,884 342,464 Year 3 15,984 51,984 51,984 Year 3	G context.  240/year (22' 260 here instead.  30 Year 4 \$ 356,192 \$ 356,192 \$ 356,192 \$ 505,016  Year 4 \$ 248,864 \$ 296,444 \$ 344,024  Year 4 \$ 339,024  Year 4 \$ 53,544 \$ 53,544 \$ 53,544 \$ 53,544 \$ 53,544 \$ 53,544	260 in 2024, 244 260 261A pilot, with tiring, half Clear articipant val  7	usb (Nominal) Cost Unit: total cost per year USD (Nominal) Cost Unit: per year per year per year per year per year per year USD (Nominal) Cost Unit:	These incremental utility costs are what will count against toost, and Non Participant Cost tests for the NGIA evaluation incentive funding to support project deployment, and/or the on select pilots.  Fixed O&M Cost is the result of adding up Total Project Delincentives, and Workforce Development of Market Transford  Total internal and external project delivery  CNP staff. These costs are sub-set of the Utility Fixed O&M	the NGIA budget cap for this measure and will be used in in criteria. This is the sum of utility admin costs to run plot e utility's annual revenue requirement for capital investme livery, Advertising and Promotions, Utility Administration, Trimation Cost  M Cost* category above.
BER OF CIPANTS	Unit of Participation Calculations & Other Explanation:  Participant levels aligned with CIP participation In terms of incentives paid out through this pilot the focus is ident Po  Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C  Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C  Total Project Delivery, Size A Total Project Delivery, Size C  Internal Project Delivery, Size A Internal Project Delivery, Size B	This pilot is designed to supplement Center As such participant levels chosen here align in:  Itifying customers that would qualify for incer As such, we are making the high level assuration of audit recipients implementing NGIA  The implication of this is that a number of to the implication of th	Point's existin with CIP particles from ot approximation of the cells in this and a second se	g NGEA audit program- cipation for next Trienr 240 her NGIA pilots, to be that 3% of audit recipi 3% as tab reference other tal 413,310 \$ 484,878 \$  Year 2 231,50 \$ 275,070 \$ 318,990 \$  Year 2 226,150 \$ 270,070 \$ 313,990 \$  Year 2 50,470 \$ 50,470 \$ 50,470 \$	with additional GH/d inial, which averages 260 directly incented I ants will want to im sume half commer os (taking an avera 3 367.112 444,644 522,176 Year 3 247,304 294,884 342,464 Year 3 242,304 289,884 337,464 Year 3 51,984 51,984 51,984 51,984 51,984 51,984 Year 3 190,320	G context.  240/year (22)  260  here instead.  3  Year 4  \$ 356,192  \$ 430,604  \$ 505,016  Year 4  \$ 248,864  \$ 298,644  \$ 340,024  Year 4  \$ 248,864  \$ 298,644  \$ 390,044  \$ 390,024  Year 4  \$ 336,192  Year 4  \$ 248,864  \$ 505,016	D in 2024, 244  260  silA pilot, with titing, half Cles articipant val  Year 5  407,798  4402,710  300,470  348,050  395,630  Year 5  395,630  Year 5  555,150  \$55,150  Year 5  240,320	usb (Nominal) Cost Unit: total cost per year  USD (Nominal) Cost Unit: per year per year  USD (Nominal) Cost Unit: per year USD (Nominal) Cost Unit: per year USD (Nominal) Cost Unit: per year	These incremental utility costs are what will count against t Cost, and Non Participant Cost tests for the NGIA evaluation incentive funding to support project deployment, and/or th on select pilots.  Fixed O&M Cost is the result of adding up Total Project Del Incentives, and Workforce Development of Market Transfon  Total internal and external project delivery	the NGIA budget cap for this measure and will be used in in criteria. This is the sum of utility admin costs to run plot e utility's annual revenue requirement for capital investme livery, Advertising and Promotions, Utility Administration, Trimation Cost  M Cost* category above.

	_								
	Advertising and Promotions, Size A	¢	Year 1	5,000	Year 2 5,000	Year 3 \$ 5,000	Year 4 \$ 5,000	Year 5 USD (Nominal) Cost Unit: \$ 5,000 per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Advertising and Promotions, Size A Advertising and Promotions, Size B	\$		5,000	5,000	\$ 5,000		\$ 5,000 per year	These costs are sub-set of the offinty Trived cost category above.
	Advertising and Promotions, Size C	\$		5,000		\$ 5,000		\$ 5,000 per year	
	Allocation of General Portfolio Costs, Size A		Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit: per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B							per year	and a portion level code, mondaing plant development codes, regulatory codes, and general portions codes
	Allocation of General Portfolio Costs, Size C							per year	
		,							
	Trade Ally Incentives, Size A	<b>*</b>	Year 1	- !	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size A Trade Ally Incentives, Size B	\$		- :		•	\$ -	\$ - per year \$ - per year	in applicable, include tiele the annual amount of dade any incertures (e.g. midsdeam program)
	Trade Ally Incentives, Size C	\$		- :			-	\$ - per year	
UTILITY PILOT									
COSTS			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size A Workforce Development or Market Transformation Cost, Size B	\$		- :	*	-	\$ - \$ -	\$ - per year \$ - per year	Inese costs are sub-set of the Utility. Fixed OWM Cost. Category above.
	Workforce Development or Market Transformation Cost, Size B Workforce Development or Market Transformation Cost, Size C	\$		- :	*	•	\$ -	\$ - per year	
							-	,,,	
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A	\$		- 3	-	\$ -	\$ -	s – per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B Other Fixed O&M Cost, Size C	\$		- 3	- t	\$ -	\$ -	\$ - per year \$ - per year	
	Other Fixed Odd-1 Cost, Size C	*			,	•	Ť	por your	
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	<u></u>
	Total utility capital investment, Size A	\$		- :	-	\$ -	\$ -	\$ - per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B	\$		- 5	-	\$ -	\$ -	\$ - per year	requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	Φ		- ,	-	<b>.</b>	Φ -	\$ - per year	
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$		- :	-	\$ -	\$ -	\$ - per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size B	\$		- :	-	\$ -	\$ -	\$ - per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		- !	-	\$ -	\$ -	\$ - per year	wall se the utility's return on investment
			Total	ι	JSD (Nominal) Cost Uni	t:			
	Est. Total Revenue Requirement for Capital Projects, Size A	\$			er year	-			The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size B	\$			er year				expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$		- p	er year				reference, its not used to calculate any of the NOIM evaluation of terms.
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	Teal T	101.376			\$ 107.328	\$ 107,328 per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	\$		126,720	138,240	\$ 149,760	\$ 134,160	\$ 134,160 per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size C	\$		152,064	165,888	\$ 179,712	\$ 160,992	\$ 160,992 per year	cost or energy/GHG audits or direct install measures ,, or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	\$	Teari	576				\$ 516 per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	\$		576				\$ 516 per participant per year	
	Incentives per Participant, Size C	\$		576	576	\$ 576	\$ 516	\$ 516 per participant per year	
	Outer testings C. Outers Employee's an								
	Calculations & Other Explanation:								
		Incremental Cos	st (per Audit) for NGEA	contractor	\$750				
			*						
	M&V - Total Cost for Whole Pilo	t:		\$50,000 f	at rate assumed, regard	lless of pilot size			
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Total Pilot Upfront Costs, Size A	\$		1,650.00			\$ 1,650.00	\$ 1,650.00 per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Total Pilot Upfront Costs, Size B	\$		1,650.00	\$ 1,650.00	\$ 1,650.00	\$ 1,650.00	\$ 1,650.00 per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Total Pilot Upfront Costs, Size C	\$		1,650.00	1,650.00	\$ 1,650.00	\$ 1,650.00	\$ 1,650.00 per participant	corona by annly incontrol, nor include annly program during costs.
			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Third Party Funding, Size A	\$	Teal I	3.75					If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here
TOTAL AND	Third Party Funding, Size B	\$		3.75	3.75	\$ 3.75		\$ 3.75 per participant	for reference, it's not used to calculate any of the NGIA evaluation criteria.
DIRECT	Third Party Funding, Size C	\$		3.75	3.75	\$ 3.75	\$ 3.75	\$ 3.75 per participant	
PARTICIPANT PILOT COSTS	Description of source of external funding:	IRA, etc							
PILOT COSTS			Year 1		Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	
	Direct Participant Pilot Costs, Size A	\$	10011	572.25			\$ 701.88		This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
	Direct Participant Pilot Costs, Size B	\$		572.25	594.60	\$ 617.80	\$ 701.88	\$ 726.89 per participant	are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for
	Direct Participant Pilot Costs, Size C	\$		572.25	594.60	\$ 617.80	\$ 701.88	\$ 726.89 per participant	the NGIA evaluation criteria. Note I: some pilots taking a 'Direct Install' approach may see the utility covering all costs, with no unfront financial contribution from the narticipant
	Calculations & Other Explanation:		Year 1		Year 2	Year 3	Year 4	Year 5	
	Calculations & Other Explanation:  Escalation rat	e	rear r	3.82%	Year 2 3.82%	3.82%		3.82% (for each pilot analysis year)	For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
		-			5.0270	2.0270	2.22.0		
	Participant Non-Energy Costs, Size A	¢	Year 1	- 1:	Year 2	Year 3	Year 4	Year 5 USD (Nominal) Cost Unit:	ife This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs
					-	· -	¥ -	per participant per year of pilot	me and a second of the second
	a delpart Non-Energy Costs, Size A	-							

	•	will be used in the Participant Cost tests for the NGIA evaluation criteria.
PARTICIPANT	Participant Non-Energy Costs, Size B	\$ - \$ - \$ - per participant per year of pilot life
NON-ENERGY COSTS	Participant Non-Energy Costs, Size C	\$ - \$ - \$ - per participant per year of pilot life
	Calculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5
	Escalation rate	e 3.82% 3.82% 3.82% 3.82% (for each pilot analysis year) For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
		Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:
	Participant Non-Energy Savings, Size A	\$ 30 \$ 30 \$ 30 \$ 30 per participant per year of pilot life
PARTICIPANT	Participant Non-Energy Savings, Size B	\$ 30 \$ 30 \$ 30 per participant per year of pilot life
NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size C	\$ 30 \$ 30 \$ 30 per participant per year of pilot life
	Calculations & Other Explanation:	The state of the s
	Average Lifetime for Savings/Pilot Tech, Size A	17.5   years
	Average Lifetime for Savings/Pilot Tech, Size B	17.5 years 17.5 years
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size C	II.5 years
	Calculations & Other Explanation:	
NATURAL GAS ENERGY	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B	4.31 Dth/Participant 4.31 Dth/Participant
SAVINGS: AVG. Dth/	Avg. Dth/Participant Saved, Size C	4.31 Dth/Participant
PARTICIPANT SAVED	Calculations & Other Explanation:	
	Avg. Non-Gas Fuel Units/Part. Saved, Size A	39 kWh/Participant Units are kWh; could technically be other non-NG. Avg. Non-Gas Fuel Units/Part. Saved will be used in the Participant Cost tests for the NGIA evaluation criteria. 39 kWh/Participant
	Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	39 kWh/Participant
AVG. NON-GAS FUEL UNITS/	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A	174 kWh/Participant Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria.
PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B	174 kWh/Participant
	Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	174 kWh/Participant
	Calculations & Other Explanation:	
		Year1 Year2 Year3 Year4 Year5
TOTAL ANNUAL	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B	758 827 896 896 BDth Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year 948 1,034 1,120 1,120 1,120 Dth
Dth SAVED	Total Annual Dth Saved, Size C	1,138 1,241 1,345 1,345 0th
	Calculations & Other Explanation:	
		NREL Select one of the listed grid mix scenarios taking into account that:
GRID MIX	Grid Mix Scenario	Utilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-
SCENARIO		snecific peneration mix taken from National Renewable Energy Laboratory (NRFL) Standard Scenarios. If the renewable natural was facility is using a higher proportion of carbon free electricity than is available by default from their
	Calculations & Other Explanation:	
	This section does not apply to all pilot types. The GHG changes fro	om decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	emissions (per unit of participation). Lifecycle GHG Intensity, Size A	
	Low	Year 1 Year 2 Year 3 Year 4 Year 5  kg CO2e/participant Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural
	Expected High	39.9 39.9 39.9 39.9 39.9 39.9 39.9 39.9
	Lifecycle GHG Intensity, Size B	Year 1 Year 2 Year 3 Year 4 Year 5
	=	

	Low Expected		39.9	39.9	39.9	39.9	20	kg CO2e/participant 9 kg CO2e/participant			
LIFECYCLE GHG	Expected High		39.9	39.9	39.9	39.9	39.1	kg CO2e/participant kg CO2e/participant			
INTENSITY BY PROJECT SIZE	Lifecycle GHG Intensity, Size C	Ye	ear 1	Year 2	Year 3	Year 4	Year 5				
PROJECT SIZE	Low Expected		30.0	30.0	300	30.0	30	kg CO2e/participant 9 kg CO2e/participant			
	High		00.0	00.0	00.0	00.0		kg CO2e/participant			
	Calculations & Other Explanation:										
			GHG Intensi	ity Size B	Size C	Using this calcula	ition structure is	optional; if modifications are needed, please us	e the hidden rows or raise wit	h project leads.	
		SIZ	kg CO2e/Di		Size C	Ì					
	Low Scenario Expected Scenario					-					
	High Scenario		-			İ					
OTHER PILOT-SPE	ECIFIC PARAMETERS (formerly 'General Parameters' in CIP Cal	ulator):									
PEAK	Peak Reduction Factor		1%	The estimated average annu the Utility Cost and Non Part	al effect of the project or	system peak. It is	estimated to be	1% for energy efficiency pilots. The method for	other innovative resources sh	ould be considered in the	context of specific utility proposals. Peak Reduction Factor will be used in
REDUCTION FACTOR	Calculations & Other Explanation:			trie otility cost and Nori Part	cipant cost tests for the	NGIA EVALUATION CI	iteria.				
FACTOR	,										
	Variable O&M Cost, Applies to all project sizes	Ye \$	ear 1 0.05	Year 2 \$ 0.05	Year 3 \$ 0.04	Year 4 \$ 0.04	Year 5	USD (Nominal) Cost Unit:	The CIP methodology is use	ed for energy efficiency. I	However, the value for other innovative resources should be considered in
VARIABLE O&M		-			-			per buil	costs as they also need to	be transported to custor	, resources like power-to-hydrogen and RNG may not decrease O&M ners on the distribution system. Variable O&M will be used in the Utility
	Calculations & Other Explanation:  Escalati		ear 1 -5.250%	Year 2 -5.250%	Year 3 -5.250%	Year 4 -5.250%	Year 5	(for each pilot analysis year)	Cost and Non Participant C Annual Escalation Rate cald		aluation criteria.  percent change in the price of natural gas between 2023 through 2027
	255414.1		0.200%	0.200%	0.200%	0.200%	0.200	(ior cacir pliot analysis year)			
				USD (Nominal) Cost							
				Unit:	The CIR mathed delegation			trategic electrification. The method for strategic	-1	:	
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost	\$	44.14	per MWh							from Midwest Independent System Operator (MISO)
	Calculations & Other Explanation:										
	Non-On-Fuell and Fuele		0.00%	1							
NON-GAS FUEL	Non-Gas Fuel Loss Factor		8.22%		weighted average of the	most recent loss	ses other than si factors reported	trategic electrification. The method for strategic by Minnesota Power, Xcel Energy, and Otter Ta	electrification should be con- il Power's reported 2021 trans	mission and distribution	specific utility pilot proposals. In the most recent CIP, Staff used the oss factors and weighting by the utilities' 2017-2019 average retail sales
LOSS FACTOR	Calculations & Other Explanation:										
OTHER QUANTITA	ATIVE CRITERIA-										
O ITIER QUARTITA	ATTVE GRITERIA.	,			-						
				USD Cost Unit:							
				por Dth	Generally no change fro	m CIP methodolog	γ. The factor is c	alculated using the final environmental cost va	ues approved by Minnesota P	ublic Utilities Commission	(Commission). The factors are reported in 2021 dollars in Table 2 below,
OTHER NON-	Other Non-GHG Pollutants, Size A	\$		per Dth	which were calculated b	by inflating the Con	nmission's appro	ved dollar per ton environmental cost values us	ing escalation rate to adjust b	y observed inflation betw	(Commission). The factors are reported in 2021 dollars in Table 2 below, een 2014 and 2021 Stakeholders expressed a preference for allowing an area might us the urban value rather than the metropolitan fringe
OTHER NON- GHG	Other Non-GHG Pollutants, Size B	\$	0.37	per Dth	which were calculated butilities to select different value. Similarly, a project	by inflating the Con nt externality value at targeting a low-ir	mmission's appro es for pilots targe ncome populatior	ved dollar per ton environmental cost values us ting specific geographies or populations. For e n might use a high value rather than the mediar	ing escalation rate to adjust b xample, an energy efficiency p . Utilities can make deviations	y observed inflation betw roject that targets an urb such as these in their NO	reen 2014 and 2021. Stakeholders expressed a preference for allowing ian area might use the urban value rather than the metropolitan fringe GIA plans if they can provide justification for the change. Instead of
	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C	\$ \$	0.37		which were calculated butilities to select different value. Similarly, a project	by inflating the Con nt externality value at targeting a low-ir	mmission's appro es for pilots targe ncome populatior	ved dollar per ton environmental cost values us ting specific geographies or populations. For e n might use a high value rather than the mediar	ing escalation rate to adjust b xample, an energy efficiency p . Utilities can make deviations	y observed inflation betw roject that targets an urb such as these in their NO	reen 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe
GHG	Other Non-GHG Pollutants, Size B	\$ \$	0.37	per Dth	which were calculated butilities to select different value. Similarly, a project	by inflating the Con nt externality value at targeting a low-ir	mmission's appro es for pilots targe ncome populatior	ved dollar per ton environmental cost values us ting specific geographies or populations. For e n might use a high value rather than the mediar	ing escalation rate to adjust b xample, an energy efficiency p . Utilities can make deviations	y observed inflation betw roject that targets an urb such as these in their NO	reen 2014 and 2021. Stakeholders expressed a preference for allowing ian area might use the urban value rather than the metropolitan fringe GIA plans if they can provide justification for the change. Instead of
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C	\$ \$	0.37	per Dth	which were calculated butilities to select different value. Similarly, a project	by inflating the Con nt externality value at targeting a low-ir	mmission's appro es for pilots targe ncome populatior	ved dollar per ton environmental cost values us ting specific geographies or populations. For e n might use a high value rather than the mediar	ing escalation rate to adjust b xample, an energy efficiency p . Utilities can make deviations	y observed inflation betw roject that targets an urb such as these in their NO	reen 2014 and 2021. Stakeholders expressed a preference for allowing ian area might use the urban value rather than the metropolitan fringe GIA plans if they can provide justification for the change. Instead of
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C	\$ \$	0.37	per Dth	which were calculated butilities to select different value. Similarly, a project	by inflating the Con nt externality value at targeting a low-ir	mmission's appro es for pilots targe ncome populatior	ved dollar per ton environmental cost values us ting specific geographies or populations. For e n might use a high value rather than the mediar	ing escalation rate to adjust b kample, an energy efficiency p . Utilities can make deviations e Commission's January 3, 20	y observed inflation betw roject that targets an urt such as these in their NC 8 Order in Docket No. EU	reen 2014 and 2021. Stakeholders expressed a preference for allowing ian area might use the urban value rather than the metropolitan fringe GIA plans if they can provide justification for the change. Instead of
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C <u>Calculations &amp; Other Explanation</u> :	\$ \$ \$	0.37	per Dth	which were calculated butilities to select different value. Similarly, a project	by inflating the Con nt externality value at targeting a low-ir	mmission's appro es for pilots targe ncome populatior	ved dollar per ton environmental cost values us ting specific geographies or populations. For e n might use a high value rather than the mediar	ing escalation rate to adjust b kample, an energy efficiency, b. Utilities can make deviations e Commission's January 3, 20 Remainder of project life	y observed inflation betw roject that raggets an urk such as these in their NC 8 Order in Docket No. ED	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe IIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C	\$ \$ \$	0.37 0.37	per Dth per Dth	which were calculated tutilities to select difference value. Similarly, a projectequiring the use of med	oy inflating the Con nt externality value it targeting a low-ir dian metropolitan fi	nmission's appro- es for pilots targe- recome population iringe values for a	ved dollar per ton environmental cost values u ing specific geographies or populations. For e n might use a high value rather than the mediar Ill non-GHG pollutants, as shown in Table I of th	ing escalation rate to adjust brample, an energy efficiency, p. Utilities can make deviations e Commission's January 3, 20  Remainder of project life 9 4	y observed inflation betw roject that ragges an urt urt such as these in their NC 8 Order in Docket No. EU # of jobs	reen 2014 and 2021. Stakeholders expressed a preference for allowing ian area might use the urban value rather than the metropolitan fringe GIA plans if they can provide justification for the change. Instead of
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A	\$ \$ \$	0.37 0.37	per Dth per Dth	which were calculated tutilities to select difference value. Similarly, a projectequiring the use of med	oy inflating the Con nt externality value it targeting a low-ir dian metropolitan fi	nmission's appro- es for pilots targe- recome population iringe values for a	ved dollar per ton environmental cost values u ing specific geographies or populations. For e n might use a high value rather than the mediar Ill non-GHG pollutants, as shown in Table I of th	ing escalation rate to adjust brample, an energy efficiency pc. Utilities can make deviations of Commission's January 3, 20  Remainder of project life 9 1 1 5	y observed inflation betw roject that raggets an urk such as these in their NC 8 Order in Docket No. ED	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe IIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B		0.37 0.37 ear1 2 2 2	per Dth  Year 2  2 2 3	which were calculated to utilities to select different value. Similarly, a project requiring the use of med Year 3	yy inflating the Con the testerality value to the testerality value to targeting a low-inflation metropolitan for the testerality value of testerality value of the testerality value of testerality value of the testerality value of testerality va	mnission's appro ss for pilots targe scome population ringe values for a Year 5	wed dollar per ton environmental cost values us intig specific geographies or populations. For en might use a high value rather than the median ill non-GHG pollutants, as shown in Table 1 of the Total during 5 program years 2 2 2 3 3	ing escalation rate to adjust by ample, an energy efficiency pc. Utilities can make deviations of Commission's January 3, 20  Remainder of project life    Page	y observed inflation betw roject that targets an urt such as these in their NC 8 Order in Docket No. EU # of jobs # of jobs # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe IIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C		0.37 0.37	per Dth per Dth	which were calculated tutilities to select difference value. Similarly, a projectequiring the use of med	oy inflating the Con nt externality value it targeting a low-ir dian metropolitan fi	nmission's appro- es for pilots targe- recome population iringe values for a	ved dollar per ton environmental cost values u ing specific geographies or populations. For e n might use a high value rather than the mediar Ill non-GHG pollutants, as shown in Table I of th	ing escalation rate to adjust by ample, an energy efficiency p. Utilities can make deviations e Commission's January 3, 20  Remainder of project life 9 4 4 11 5 6  Remainder of project life	y observed inflation betw roject that targets an urt such as these in their NC 8 Order in Docket No. EU # of jobs # of jobs # of jobs # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe IIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C  Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B		0.37 0.37 ear1 2 2 2	per Dth  Year 2  2 2 3	which were calculated to utilities to select different value. Similarly, a project requiring the use of med Year 3	yy inflating the Con the testerality value to the testerality value to targeting a low-inflation metropolitan for the testerality value of testerality value of the testerality value of testerality value of the testerality value of testerality va	mnission's appro ss for pilots targe scome population ringe values for a Year 5	wed dollar per ton environmental cost values us intig specific geographies or populations. For en might use a high value rather than the median ill non-GHG pollutants, as shown in Table 1 of the Total during 5 program years 2 2 2 3 3	ing escalation rate to adjust by ample, an energy efficiency pc. Utilities can make deviations of Commission's January 3, 20  Remainder of project life    11	y observed inflation betw roject that targets an urt such as these in their NC 8 Order in Docket No. EU # of jobs # of jobs # of jobs # of jobs # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe IIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or the pilot of the pilot of Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
GHG	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C		0.37 0.37 ear1 2 2 2	per Dth  Year 2  2 2 3	which were calculated to utilities to select different value. Similarly, a project requiring the use of med Year 3	yy inflating the Con the testerality value to the testerality value to targeting a low-inflation metropolitan for the testerality value of testerality value of the testerality value of testerality value of the testerality value of testerality va	mnission's appro ss for pilots targe scome population ringe values for a Year 5	wed dollar per ton environmental cost values us intig specific geographies or populations. For en might use a high value rather than the median ill non-GHG pollutants, as shown in Table 1 of the Total during 5 program years 2 2 2 3 3	ing escalation rate to adjust by ample, an energy efficiency pc. Utilities can make deviations of Commission's January 3, 20  Remainder of project life    11	y observed inflation betw roject that targets an urt such as these in their NC 8 Order in Docket No. ED # of jobs # of jobs # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe iIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and
GHG POLLUTANTS	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C  Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B	Ye	0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.37	per Dth  Year 2  2 2 3  Year 2	which were calculated to utilities to select difference value. Similarly, a project requiring the use of median selection of the selection of	y inflating the Con the state of the state o	minision's appropriate solution of the control of t	Ved dollar per ton environmental cost values us tring specific geopraphies or populations. For en might use a high value rather than the mediar ill non-GHG pollutants, as shown in Table 1 of the Total during 5 program years 2 2 2 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ing escalation rate to adjust to any ample, an energy efficiency pc. Utilities can make deviations of Commission's January 3, 20  Remainder of project life 9 4 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	# of jobs  # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe iIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and
GHG POLLUTANTS	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C  Net Indirect Job Creation, Size B Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C	Ye	0.37 0.37 ear1 2 2 2	per Dth  Year 2  2 2 3	which were calculated to utilities to select different value. Similarly, a project requiring the use of med Year 3	yy inflating the Con the testerality value to the testerality value to targeting a low-inflation metropolitan for the testerality value of testerality value of the testerality value of testerality value of the testerality value of testerality va	mnission's appro ss for pilots targe scome population ringe values for a Year 5	wed dollar per ton environmental cost values us intig specific geographies or populations. For en might use a high value rather than the median ill non-GHG pollutants, as shown in Table 1 of the Total during 5 program years 2 2 2 3 3	ing escalation rate to adjust be ample, an energy efficiency pc. Utilities can make deviations of Commission's January 3, 20  Remainder of project life   y observed inflation between circlet that targets an urt such as these in their NC 8 Order in Docket No. ED # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe iIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and	
GHG POLLUTANTS	Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:  Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C  Net Indirect Job Creation, Size A Net Indirect Job Creation, Size B Net Indirect Job Creation, Size B Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C	Ye	0.37 0.37 0.37 0.37 0.37 0.37 0.37 0.37	per Dth  Year 2  2 2 3  Year 2	which were calculated to utilities to select difference value. Similarly, a project requiring the use of median selection of the selection of	y inflating the Con the state of the state o	minision's appropriate solution of the control of t	Ved dollar per ton environmental cost values us tring specific geopraphies or populations. For en might use a high value rather than the mediar ill non-GHG pollutants, as shown in Table 1 of the Total during 5 program years 2 2 2 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ing escalation rate to adjust by ample, an energy efficiency pc. Utilities can make deviations of commission's January 3, 20  Remainder of project life   y observed inflation between circle that targets an urt such as these in their NC 8 Order in Docket No. ED # of jobs	een 2014 and 2021. Stakeholders expressed a preference for allowing an area might use the urban value rather than the metropolitan fringe iIA plans if they can provide justification for the change. Instead of 999/CI-M-643, utilities may use the value most applicable for the pilot or Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  Utilities should consider both jobs created by proposed pilots and Utilities should consider both jobs created by proposed pilots and	

Calculations & Other Explanation: Job numbers are estimated as Full Time Equivalents (FTE) and are rounded off.

PUBLIC CO-BENEFITS Public Co-Benefits, Size A Public Co-Benefits, Size B Public Co-Benefits, Size C

Year 4 USD (Nominal) Cost Unit: Year 1 Year 2 Year 3 Year 5 per year per year per year

Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.

WATER POLLUTION Water Pollution, Size A Water Pollution, Size B Water Pollution, Size C Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: per year per year

The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.

Calculations & Other Explanation:

Calculations & Other Explanation:

### ADDITIONAL QUALITATIVE CONSIDERATIONS

will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.

## erspective

It is expected that many of the elements of the participant perspective, with respect to the direct effect of pilots, will be quantifiable and will rely on the structural values. Add here any information related to some direct effects of pilots on participants that may not be easily quantifiable. For example, increased comfort in a home and health benefits from pilots that improve indoor air quality are two examples of benefits that may be difficult to quantify.

May assist MN businesses in achieving GHG goals

on non-participating customers should be quantified in most cases and can be heavily informed by structural values.

### Effects on Other Energy Systems ecurity:

Reduces overall energy consumption

GHG Emissions Notes: Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values.  Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution Notes: Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot
ennuon.	included any acution as not related environmental costs and deficitis. For example, effects on water policition that may not be quarkinable, or specific an quality benefits to a low recome community, note that this associates for discussion or any environmental justice effects of the pilot related to non-GHG pollution.
<u>Vaste</u> Reduction and Reuse Notes:	
Definition:	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.
	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and
Definition:	increased use of renewable resources. Reduces fossil gas throughput
let Job Creation lotes:	
	An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
	impacts resulting from implementation of the plan." Utilities should
Definition:  conomic Development	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Definition:  Sconomic Development lotes: Definition:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be
Definition:  Scenomic Development Jotes: Definition:  Public Co- Benefits Notes:	impacts resulting from implementation of the plant. Vullities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.
Definition:  Scenomic Development Jotes: Definition:  Public Co- Benefits Notes:	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or
definition:    Conomic	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor problems.
conomic tevelopment lotes: lefinition:  ublic Co- lenefits Notes: lefinition:	impacts resulting from implementation of the plant. 'Utilities should' consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.  The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.  There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities — either reductions in unpleasant odors or increased odor

<u>Direct</u>
nnovation
Support Notes:
Definition:

This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA,40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.

Opportunity for customers to learn about novel options for reducing GHGs from their systems

Resource Scalability and
Role in a
Decarbonized System Notes: Definition:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

N	/
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Click here to go back to the list of all pilots

NGIA Pilot Profiles Workbook

CNP21 - Residential Gas Heat Pump

Pilot Project Code:	CNP21
Pilot Project Name:	Residential Gas Heat Pump
Customer Class/ Sector:	Residential
Low-Income Community Benefit?	N
Target Area:	Territory-wide
Primary Innovative Resource Category:	Energy Efficiency

Select primary Innovation Category. Others can be listed here:

### Pilot Description:

CenterPoint Energy proposes to fund the deployment and testing of 'combi' space and water heating gas heat pump systems in Minnesota homes to evaluate the technology's performance.

### DESCRIPTION

### Overview of Program/ Implementation Approach:

For the different pilot sizes envisioned here, CenterPoint would fund the deployment and testing of between 6 and 20 'combi' space and water heating gas heat pump systems in Minnesota homes, to evaluate the technology's performance. An initial phase would include market research and analysis to prioritize which gas heat pump units should be included in the field testing. Outreach would be conducted to recruit CenterPoint customers to participate in the pilot, and contractors would be engaged to train them to install and maintain the heat pumps, with support from equipment manufacturers. The installations would be metered and trial data analyzed to develop reporting metrics that would better inform the opportunity for gas heat pumps to be part of future CIP or NGIA programs.

### Other Comments / Information:

A minimum of 10 participants (size B) would be ideal to develop more robust performance data.

### KEY PILOT-SPECIFIC INPUTS

NUMBER OF	

Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
Calendar Year	2024	2025	2026	2027	2028	]
Participating Units, Size A	0	3	3	0	0	Incremental units added, annual (r
Participating Units, Size B	0	5	5	0	0	
Participating Units, Size C	0	10	10	0	0	

Unit of Participation = Gas Heat Pumps Installed

Calculations & Other Explanation:

		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Annual Total Utility Incremental Cost, Size A	\$		19,800 \$	127,594 \$	127,897	\$ 60,709	\$ 11,030	total cost per year	These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility
Annual Total Utility Incremental Cost, Size B	\$		36,000 \$	214,130 \$				total cost per year	Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
Annual Total Utility Incremental Cost, Size C	\$		41,000 \$	394,130 \$	394,779	\$ 72,947	\$ 23,636	total cost per year	incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made on select pilots.
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Fixed O&M Cost, Size A	\$		19,800 \$	127,594 \$				total cost per year	Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally
Fixed O&M Cost, Size B	\$		36,000 \$	214,130 \$				total cost per year	Incentives, and Workforce Development of Market Transformation Cost
Fixed O&M Cost, Size C	\$		41,000 \$	394,130 \$	394,779	\$ 72,947	\$ 23,636	total cost per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Total Project Delivery, Size A	\$		19,800 \$	125,094 \$				per year	Total internal and external project delivery
Total Project Delivery, Size B	\$		36,000 \$	211,630 \$				per year	
Total Project Delivery, Size C	\$		41,000 \$	391,630 \$	392,279	\$ 72,947	\$ 23,636	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Internal Project Delivery, Size A	\$		9,800 \$	10,094 \$	10,397	\$ 10,709	\$ 11,030	per year	CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.
Internal Project Delivery, Size B	\$		21,000 \$	21,630 \$	22,279	\$ 22,947	\$ 23,636	per year	
Internal Project Delivery, Size C	\$		21,000 \$	21,630 \$	22,279	\$ 22,947	\$ 23,636	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
External Project Delivery, Size A	\$	Teari	10.000 \$	115.000 \$				per year	External vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the
External Project Delivery, Size B	\$		15,000 \$	190,000 \$			\$ -	per year	Utility "Fixed O&M Cost" category above.
External Project Delivery, Size C	\$		20,000 \$	370,000 \$			\$ -	per year	
Advertising and Promotions, Size A	•	Year 1	- \$	Year 2 2,500 \$	Year 3 2,500	Year 4	Year 5	USD (Nominal) Cost Unit:	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
Advertising and Promotions, Size A Advertising and Promotions, Size B	\$ ¢		- \$	2,500 \$			\$ -	per year per vear	meet contract out of the only fined can door category above.
Advertising and Promotions, Size B Advertising and Promotions, Size C	•		- \$	2,500 \$			\$ -	per year	
Advertising and Promotions, Size C	Φ		-   4	2,500 4	2,500	Φ -	Ψ -	per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
Allocation of General Portfolio Costs, Size A								per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
Allocation of General Portfolio Costs, Size B								per year	
Allocation of General Portfolio Costs, Size C								per year	
		Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	

	Trade Ally Incentives, Size A	\$	-	\$ -	\$ -	\$ -	\$ -	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	=	\$ -	\$ -	\$ -	\$ -	per year	
	Trade Ally Incentives, Size C	\$	-	\$ -	\$ -	\$ -	\$ -	per year	
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	\$	-	\$ -		\$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B	\$	-	\$ -	\$ -	\$ -	\$ -	per year	
UTILITY PILOT COSTS	Workforce Development or Market Transformation Cost, Size C	\$	-	\$ -	\$ -	\$ -	\$ -	per year	
33313			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A	\$	-	\$ -	\$ -	\$ -	\$ -	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$	-	\$ -	\$ -	\$ -	\$ -	per year	
	Other Fixed O&M Cost, Size C	\$	-	\$ -	\$ -	<b>3</b> -	\$ -	per year	
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$	-	\$ -	\$ -	\$ -	\$ -	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B	\$		7	\$ -	\$ -	\$ -	per year per year	reed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	D.	=	Φ -	Φ -	Φ -	<b>5</b> -	per year	]
			Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$		\$ -	7	\$ -	\$ -	per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size B Est. Annual Revenue Requirement for Capital Projects, Size C	\$		\$ -	\$ -	\$ -	\$ -	per year per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Est. Affidal Revenue Requirement for Capital Projects, Size C	Φ	=	Φ -	<b>a</b> -	Φ -	<b>3</b> -	per year	wall se the utility's return on investment
				USD (Nominal) Cost Un	it:				
	Est. Total Revenue Requirement for Capital Projects, Size A	\$		per year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for
	Est. Total Revenue Requirement for Capital Projects, Size B Est. Total Revenue Requirement for Capital Projects, Size C	\$		per year					reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	Φ	-	per year	I				
		,	/ear1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	-	\$ -	\$ -	\$ -	\$ -	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B Incentives, Size C	\$	-	\$ -	\$ -	\$ -	\$ -	per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size C	\$	-	\$ -	\$ -	\$ -	\$ -	per year	customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
		,	/ear1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	\$	-			\$ -	\$ -	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B Incentives per Participant, Size C	\$		\$ - \$ -	•	\$ - \$ -	\$ -	per participant per year	<u> </u>
	incentives per Participant, Size C	Φ		φ -	φ -	φ –	Φ -	per participant per year	_
	Calculations & Other Explanation:								
		,	·	V0	V0	V 4	V		
	Project Mgmt - Size A		/ear 1	Year 2 \$ 10,000	Year 3 \$ 10.000	Year 4	Year 5		
	Project Mgmt - Size B		15,000						
				\$ 15,000	\$ 15,000	\$ -	\$	-	
	Project Mgmt - Size C		20,000	\$ 20,000	\$ 20,000	\$ -	\$	-	
	Equipment Installation - Size A	\$		\$ 20,000 \$ 90,000	\$ 20,000 \$ 90,000	\$ - \$ -	\$	-	
	Equipment Installation - Size A Equipment Installation - Size B	\$		\$ 20,000 \$ 90,000 \$ 150,000	\$ 20,000 \$ 90,000 \$ 150,000	\$ -	\$ \$	- - - - -	
	Equipment Installation - Size A	\$ \$ \$		\$ 20,000 \$ 90,000	\$ 20,000 \$ 90,000 \$ 150,000	\$ - \$ - \$ -	\$	- - - - - - - -	
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C M&V data collection - Size A M&V data collection - Size A	\$ \$ \$ \$		\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000	\$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$		
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size C MEV data collection - Size A MEV data collection - Size B MEV data collection - Size B	\$ \$ \$ \$ \$		\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$		
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C M&V data collection - Size A M&V data collection - Size A	\$ \$ \$ \$ \$		\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000	\$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$		
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size C MEV data collection - Size A MEV data collection - Size B MEV data collection - Size B	\$ \$ \$ \$ \$ \$	20,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$50,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$ 50,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C M&V data collection - Size A M&V data collection - Size A M&V data collection - Size B M&V data collection - Size C Analysis and Reporting (All Sizes)	\$ \$ \$ \$ \$ \$	20,000 - - - - - - -	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$ -	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$ 50,000	\$ \$ \$ \$ \$ 50,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	USD (Nominal) Cost Unit:	This represents the total equipment and installation costs for technologies implemented as part of this play (
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size C MEV data collection - Size A MEV data collection - Size B MEV data collection - Size B	\$ \$ \$ \$ \$ \$	20,000 - - - - - - - - - - - - - - - - -	\$ 20,000 \$ 90,000 \$ 150,000 \$15,000 \$25,000 \$50,000 \$ 50,000 \$ 50,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$15,000 \$ \$25,000 \$ 50,000 \$ \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ 50,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant	This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C May data collection - Size A Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A	\$ \$ \$ \$ \$ \$	20,000 - - - - - - - - - - - - - - - - -	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$ \$50,000 \$ \$	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ 15,000 \$ 25,000 \$ 50,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 50,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant	
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C  Equipment Installation - Size C  MSV data collection - Size A  MSV data collection - Size B  MSV data collection - Size B  Total Pilot Upfront Costs, Size A  Total Pilot Upfront Costs, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 550,000 \$ \$ 50,000 \$ \$ 50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$70,000 \$ 30,000 \$ 30,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ 50,000 Year 4 \$ 30,000 \$ 30,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C  MEV data collection - Size C  MEV data collection - Size A MEV data collection - Size B  MEV data collection - Size B  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B  Total Pilot Upfront Costs, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000            	\$ 20,000 \$ 90,000 \$ 150,000 \$15,000 \$25,000 \$50,000 \$ 50,000 \$ 50,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ 15,000 \$ 25,000 \$ 50,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 50,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit:	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C  MEV data collection - Size A MEV data collection - Size A MEV data collection - Size A MEV data collection - Size C  Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 550,000 \$ \$ 50,000 \$ \$ 50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$70,000 \$ 30,000 \$ 30,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ 50,000 Year 4 \$ 30,000 \$ 30,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
TOTAL AND	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size A MEV data collection - Size B MEV data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size C Third Party Funding, Size B Third Party Funding, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 550,000 \$ \$ 50,000 \$ \$ 50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$70,000 \$ 30,000 \$ 30,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ 50,000 Year 4 \$ 30,000 \$ 30,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit:	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here
TOTAL AND DIRECT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size A MEV data collection - Size B MEV data collection - Size B Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 550,000 \$ \$ 50,000 \$ \$ 50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$70,000 \$ 30,000 \$ 30,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ 50,000 Year 4 \$ 30,000 \$ 30,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here
DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size A MEV data collection - Size B MEV data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size C Third Party Funding, Size B Third Party Funding, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$15,000 \$ \$25,000 \$ \$50,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$ 225,000 \$ 30,000 \$	\$ \$ \$ \$ \$ \$ \$ 50,000 Year 4 \$ 30,000 \$ 30,000 \$ 30,000 Year 4 \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here
DIRECT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C M6V data collection - Size A M6V data collection - Size A M6V data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 550,000 \$ \$ 50,000 \$ \$ 50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$70,000 \$ 30,000 \$ 30,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ 50,000 Year 4 \$ 30,000 \$ 30,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit:	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size A MEV data collection - Size A MEV data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Third Party Funding, Size C Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$15,000 \$ \$25,000 \$ \$50,000 \$ \$30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$15,000 \$25,000 \$ 225,000 \$ 30,000 \$	\$ \$ \$ \$ \$ \$ \$ 50,000 Year 4 \$ 30,000 \$ 30,000 \$ 30,000 Year 4 \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	) per participant ) per participant ) per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for
DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C MSV data collection - Size A M&V data collection - Size B M6V data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size C Description of source of external funding:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$15,000 \$ \$25,000 \$ \$50,000 \$ \$30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$25,000 \$ \$50,000 \$ \$70,00	\$ \$ \$ \$ \$ \$ \$ 50,000 Year 4 \$ 30,000 \$ 30,000 \$ 30,000 Year 4 \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives
DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C M6V data collection - Size B M6V data collection - Size B M6V data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ \$15,000 \$ \$25,000 \$ \$30,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 7 ear 2 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 150,000 \$ 150,000 \$ 225,000 \$ 50,000 \$ 30,000 \$ 30,000 \$ 30,000  Year 3 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ 50,000 Year 4 \$ 30,000 \$ 30,000 Year 4 \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	) per participant ) per participant ) per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (a.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note It some pilots stating a Direct install approach may see the utility covering all costs, with no
DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C MEV data collection - Size A MEV data collection - Size A MEV data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Third Party Funding, Size C Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000 	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$25,000 \$ \$50,000 \$ 30,000  \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000  Year 3 \$ 3,000  Year 3 \$ - \$ -  Year 3 \$ -  Year 3	\$ \$ \$ \$ \$ \$ \$ 50,000 Year 4 \$ 30,000 \$ 30,000 \$ 30,000 Year 4 \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	per participant per participant per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant usD (Nominal) Cost Unit: per participant per participant per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (a.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note Is a some pilots sking a 'Direct Install' approach may see the utility covering all costs, with no unfront financial contribution from the narticipant.  For an escalation rate, we use the average of the 12-month percentage change in the 'all items' consumer price index
DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C M6V data collection - Size A M6V data collection - Size A M6V data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$25,000 \$ \$50,000 \$ 30,000  \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 300,000 \$ \$50,000 \$ \$50,000 \$ \$50,000 \$ \$ 30,000 \$ \$ 30,000 \$ \$ 30,000  Year 3 \$ 3,000  Year 3 \$ - \$ -  Year 3 \$ -  Year 3	\$ \$ \$ \$ \$ \$ \$ 50,000 Year 4 \$ 30,000 \$ 30,000 Year 4 \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	) per participant ) per participant ) per participant USD (Nominal) Cost Unit: per participant per participant per participant per participant USD (Nominal) Cost Unit: per participant	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note is some pilots taking a Direct histall approach may see the utility covering all costs, with no unifront financial contribution from the narticipant.
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DIRECT PARTICIPANT	Equipment Installation - Size A Equipment Installation - Size B Equipment Installation - Size B Equipment Installation - Size C M6V data collection - Size A M6V data collection - Size A M6V data collection - Size C Analysis and Reporting (All Sizes)  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C  Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	20,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ \$15,000 \$ \$25,000 \$ \$25,000 \$ 30,000 \$ 30,000	\$ 20,000 \$ 90,000 \$ 150,000 \$ 150,000 \$ 300,000 \$ \$25,000 \$ 30,000 \$ 30,000  Year 3 \$ - \$ - \$ -  Year 3	\$ \$ \$ \$ \$ 50,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Der participant Der participant Der participant USD (Nominal) Cost Unit: Der participant Der p	utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (a.g. IRA, etc.) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant Cost tests for the NGIA evaluation criteria. Note Is a some pilots sking a 'Direct Install' approach may see the utility covering all costs, with no unfront financial contribution from the narticipant.  For an escalation rate, we use the average of the 12-month percentage change in the 'all items' consumer price index

PARTICIPANT NON-ENERGY COSTS	Participant Non-Energy Costs, Size B  Participant Non-Energy Costs, Size C  S  Calculations & Other Explanation:  Escalation rate	- \$ - \$ - per participant per year of pilot life - \$ - \$ - \$ - per participant per year of pilot life  Year 1 Year 2 Year 3 Year 4 Year 5 3.82% 3.82% 3.82% 3.82% (for each pilot analysis year)  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C  Saculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  - \$ - \$ - \$ - per participant per year of pilot life - \$ - \$ - \$ - per participant per year of pilot life - \$ - \$ - \$ - per participant per year of pilot life - per participant per year of pilot life
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C  Calculations & Other Explanation:	15 years 15 years 15 years
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Actual savings will depend on factors such as the baseline equipment in place, size of h	39.5 Dth/Participant  Defended by Participant
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C  Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C  Calculations & Other Explanation:	O.00 kWh/Participant
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year 1         Year 2         Year 3         Year 4         Year 5           0.00         118.37         118.37         0.00
	Grid Mix Scenario No Electricity Im	Select one of the listed grid mix scenarios taking into account that:  ##filities shall use alectric-utility-energific concretion mix information for the renewable natural ase facility when it is resembly available. When alectric utility-energific information is not available the filing ase utility will use a state-

GRID MIX SCENARIO	<u>Calculations &amp; Other Explanation:</u>		LL S.F	runues snan use electric necific øeneration mix ta	:uuncyspecinc g aken from Nationa	eneration mix inic   Renewable Eneri	mmeuon ror the renewathe natural gas racin zv I ahoratorv (NRFI ) Standard Scenarios. I	ny mieri is, a reasonauny avanause, virent esecuru uuniy-specinic niurimaturi is ino, avanause, ure ining gas uuniy mii user a suster Tha mnewahlie nahunil ose facility is usina a hidher connocition of carbon free electricity than is availiable by default from their
	This section does not apply to all pilot types. The GHG chaemissions (per unit of participation).	anges from decreased natural gas and/or electric	ity consumption will be calcula	ated based on valu	ies above. Hov	vever, for pilot	ts where NGIA requires lifecycle (	3HG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	_	
	Low Expected		0.00	0.00	0.00	0.00	kg CO2e/participant kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural  Gas Innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall incorporate at least low and high
	High						kg CO2e/participant	assumptions for electricity use and other fuels used in the resource's lifecycle. Expected greenhouse gas intensity values will be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and
	Lifecycle GHG Intensity, Size B	Year 1	Year 2	Year 3	Year 4	Year 5	7	NGIA plans.
	Low Expected		0.00	0.00	0.00	0.00	kg CO2e/participant kg CO2e/participant	
LIFECYCLE GHG INTENSITY BY	High						kg CO2e/participant	
PROJECT SIZE	Lifecycle GHG Intensity, Size C Low	Year 1	Year 2	Year 3	Year 4	Year 5	kg CO2e/participant	
	Expected		0.00	0.00	0.00	0.00		
	High						kg CO2e/participant	
	Calculations & Other Explanation:	GH	IG Intensity	L	Jsing this calculati	on structure is op	ntional; if modifications are needed, please	use the hidden rows or raise with project leads.
		Size A	Size B	Size C				
	Low Scenario Expected Scenario							
	High Scenario							
OTHER PILOT-SP	ECIFIC PARAMETERS (formerly 'General Parameters' in CIP C	Calculator):						
PEAK	Peak Reduction Factor		1% The estimated average annual e	effect of the project on s	system peak. It is	estimated to be 1	% for energy efficiency pilots. The method	for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in
REDUCTION FACTOR	Calculations & Other Explanation:		the starty desicand normanicip	ant oost tools for the re	ion evaluation on	corru.		
77.5151								
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Variable O&M Cost, Applies to all project sizes		0.05 \$ 0.05 \$				per Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M
VARIABLE O&M	Calculations & Other Explanation:	Year 1	Year 2	Year 3	Year 4	Year 5		costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility  Cost and Non Participant Cost tests for the NGIA evaluation criteria. Note, to calculate this metric, you can make one cost
		lation rate -5.2	250% -5.250%	-5.250%	-5.250%	-5.250%	(for each pilot analysis year)	Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027
			USD (Nominal) Cost Unit:					
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost	\$						agic electrification should be considered in the context of specific utility pilot proposals. lub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
0001	Calculations & Other Explanation:							
	Non-Gas Fuel Loss Factor		3.22% TF	no CIR mathodolomy in u	used for all resource	on other than etr	ntagin algorification. The method for strat-	egic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the
NON-GAS FUEL				eighted average of the i	most recent loss f	actors reported b	y Minnesota Power, Xcel Energy, and Otter	Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales
LOSS FACTOR	Calculations & Other Explanation:							
OTHER QUANTITA	TIVE CRITERIA:							
			USD Cost Unit:					
	Other Non-GHG Pollutants, Size A	\$	ner Dth G					values approved by Minnesota Public Utilities Commission (Commission). The factors are reported in 2021 dollars in Table 2 below, susing escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing
OTHER NON- GHG	Other Non-GHG Pollutants, Size B		O.37 per Dth	tilities to select different alue. Similarly, a project	t externality value: targeting a low-in	for pilots targeti come population	ng specific geographies or populations. Fo might use a high value rather than the med	or example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe dian. Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of
POLLUTANTS	Other Non-GHG Pollutants, Size C	\$	0.37 per Dth	quiring the use of media	an metropolitan fr	nge values for all	non-GHG pollutants, as shown in Table 1 o	f the Commission's January 3, 2018 Order in Docket No. E0999/CI-14-643, utilities may use the value most applicable for the pilot or
	Calculations & Other Explanation:							
								Remainder of project
	Not Direct Job Creation Size A	Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	

	Net Direct Job Creation, Size B			0	1	1 0	С			0 # of jobs	jobs that may be eliminated by proposed pilots.
	Net Direct Job Creation, Size C			0	2	2 0	С	)		0 # of jobs	
			Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	Remainder of proje life	ct	
	Net Indirect Job Creation, Size A Net Indirect Job Creation. Size B			0	0 (		C			0 # of jobs 0 # of jobs	Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
	Net Indirect Job Creation, Size C			0	1	1 0	Č	)	2	0 # of jobs	
NET JOB									Remainder of proje	ct	
CREATION	Net Induced Job Creation, Size A		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years	life 1	0 # of jobs	
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A			0	1	1 0	C		2	0 # of jobs 1 # of jobs	
				- 1	<u> </u>						
	Calculations & Other Explanation:										
	Job numbers are estimated as Full Time Equivalents (FTE) and are rounded off.										
_											
	Public Co-Benefits, Size A	\$	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	Quantifiable in some cas	es. If this metric isn't quanti	fiable, there is space for any qualitative comments in the Additional
PUBLIC CO-	Public Co-Benefits, Size B Public Co-Benefits, Size C	\$		- \$	- \$ -	\$ -	\$ - \$ -	per year per year	Qualitative Consideration	ns section below.	
BENEFITS	·	•				ų.	•	por your			
	Calculations & Other Explanation:										
	W. L. and D. Harding Charles		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>-</b>		
WATER	Water Pollution, Size A Water Pollution, Size B	\$		- \$ - \$	- \$ -	\$ -	\$ -	per year per year		ic isn't quantifiable, there is	sts and benefits on water pollution. This might be quantifiable for some or space for any qualitative comments in the Additional Qualitative
POLLUTION	Water Pollution, Size C	\$		- \$	- \$ -	\$ -	\$ -	per year	Considerations section b	serow.	
	Calculations & Other Explanation:										
ADDITIONAL QUA	ALITATIVE CONSIDERATIONS:										
NGIA Utility Perspective											
Notes:											
	It is expected that most of the utility perspective costs and benef.										
Definition:	will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.										
NGIA_											
Participants' Perspective											
Notes:	It is expected that many of the elements of the participant perspe	ective with respect	to the direct effect of pilot	ts will be quantifiable ar	nd will rely on the struct	rural values. Add	here anv infori	mation related to some direct effects	of pilots on participan	its that may not be eas	
Definition:									, , , , , , , , , , , , , , , , , , , ,	,	
Definition:	quantifiable. For example, increased comfort in a home and health		s that improve indoor air qu	,							
Definition:			s that improve indoor air qu								
Definition:			s that improve indoor air qu								
Oefinition:			s that improve indoor air qu								
<u>NGIA</u> Nonparticipating	quantifiable. For example, increased comfort in a home and health		s that improve indoor air qu								
<u>NGIA</u> Nonparticipating Customers' Perspective	quantifiable. For example, increased comfort in a home and health		s that improve indoor air qu								
<u>NGIA</u> Nonparticipating Customers' Perspective	quantifiable. For example, increased comfort in a home and health	n benefits from pilot	s that improve indoor air qu								
<u>NGIA</u> Nonparticipating Customers' Perspective	quantifiable. For example, increased comfort in a home and health	n benefits from pilot.	s that improve indoor air qu								
NGIA Nonparticipating Customers' Perspective Notes:	quantifiable. For example, increased comfort in a home and health  L.  As with the utility perspective, the direct effects of pilot programs	n benefits from pilot.	s that improve indoor air qu								
NGIA Nonparticipating Customers Perspective Notes: Definition:	quantifiable. For example, increased comfort in a home and health  L  As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most case	n benefits from pilot.	s that improve indoor air qu								

	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.
	Reduces fossil gas throughput; may reduce electric build out needs
	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.  Use refrigerants with lower global warming potential
	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.
Waste Reduction and Reuse Notes:	
	Waste reduction, reuse, and anaerobic digestion are goals of the NGIA. Includes reduction of water use.

# Policy Notes: Definition:

NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and increased use of renewable resources.

Reduces fossil gas throughput

## Net Job Creation Notes:

An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.

# conomic Development

## Public Co-

# enefits Notes: Definition:

Market Development Notes; Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA 40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.  Opportunity to collaborate with ETA program
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Click here to go back to the list of all pilots

NGIA Pilot Profiles Workbook

cremental units added, annual (not cumulative).

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CNP22 - Gas Heat Pump for Commercial Buildings

Pilot Project Code:	CNP22
Pilot Project Name:	Gas Heat Pump for Commercial Buildings
Customer Class/ Sector:	C&I
Low-Income Community Benefit?	Υ
Target Area:	Territory-wide
Primary Innovative Resource Category:	Energy Efficiency

Select primary Innovation Category. Others can be listed here:

## Pilot Description:

CenterPoint Energy proposes to fund the deployment and testing of engine-driven and/or absorption gas heat pump systems in Minnesota commercial buildings, to evaluate the technologies' performance.

## DESCRIPTION

## Overview of Program/ Implementation Approach:

As the technology is new to market and is not yet considered cost effective for CIP, this pilot involves demonstration site installations with equipment monitoring, energy savings documentation, understanding of costs and benefits and a resulting case study. Some sites could be available for site walkthroughs so that contractors, design firms and other technology specifiers can gain first-hand experience and exposure to the technology.

GAHPs are included in the Minnesota Efficient Technology Accelerator's (ETA) starter portfolio. That is a market transformation initiative that will work to accelerate adoption of emerging technologies. This NGIA pilot field demonstration would complement the strategy and planning work that will be completed within the ETA program, and could be completed in coordination with ETA.

## Other Comments / Information:

Target candidates for the pilot will depend on the size of pilot ultimately selected, but for the base proposal (three customer installations) the initial plan would be to target a multifamily building with gas boiler heat, a small commercial with gas boiler heat, and a recreational facility with high hot water usage.

## EY PILOT-SPECIFIC INPUTS:

Pilot Year Calendar Year Participating Units, Size A NUMBER OF Participating Units, Size B ARTICIPANTS Participating Units, Size C Year 1 Year 2 Year 3 Year 4 Year 5 2024 2025 2027 2028 2026

Unit of Participation = Number of Facilities installing gas heat pumps

Calculations & Other Explanation:

Annual Total Utility Incremental Cost, Size A Annual Total Utility Incremental Cost, Size B Annual Total Utility Incremental Cost, Size C

Yeari	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 108,500	\$ 461,630	\$ 109,779	\$ 22,947	\$ 23,636	total cost per year	These incremental utility costs are what will count against the
\$ 154,333	\$ 507,463	\$ 508,112	\$ 22,947	\$ 23,636		in the Utility Cost, and Non Participant Cost tests for the NGI/
\$ 221,000	\$ 574,130	\$ 924,779	\$ 22,947	\$ 23,636	total cost per year	costs to run pilot, any incentive funding to support project de requirement for capital investments made on select pilots.
						requirement for capital investments made on select photo.

Fixed O&M Cost, Size A Fixed O&M Cost, Size B Fixed O&M Cost, Size C

Year 1	Year	2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 108,500	\$	461,630	\$ 109,779	\$ 22,947	\$ 23,636	total cost per year
\$ 154,333	\$	507,463	\$ 508,112	\$ 22,947	\$ 23,636	total cost per year
\$ 221,000	\$	574,130	\$ 924,779	\$ 22,947	\$ 23,636	total cost per year

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost

These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin

costs to run pilot, any incentive funding to support project deployment, and/or the utility's annual revenue

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Year 1		Year 2		Year 3		Year 4	Year 4		USD (Nominal) Cost Unit:	
\$ 108,500	\$	459,130	\$	109,779	\$	22,947	\$	23,636	per year	Total internal and external project delivery
\$ 154,333	\$	504,963	\$	505,612	\$	22,947	\$	23,636	per year	
\$ 221.000	\$	571.630	\$	922.279	\$	22.947	\$	23.636	per year	i

Internal Project Delivery, Size A Internal Project Delivery, Size B Internal Project Delivery, Size C

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 23,636	per year
\$ 21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 23,636	per year
\$ 21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 23,636	per year

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

External	Project	Delivery,	Size	Α
External	Project	Delivery,	Size	В
External	Project	Delivery,	Size	С

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 87,500	\$ 437,500	\$ 87,500	\$ -	\$ -	per year
\$ 133,333	\$ 483,333	\$ 483,333	\$ -	\$ -	per year
\$ 200,000	\$ 550,000	\$ 900,000	\$ -	\$ -	per year

ternal vendor costs would include direct install costs where CNP reimburses the vendor. These costs are subset of the Utility "Fixed O&M Cost" category above.

Advertising and Promotions, Size A
Advertising and Promotions, Size B
Advertising and Promotions, Size C

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ -	\$ 2,500	\$ -	\$ -	\$ -	per year
\$ -	\$ 2,500	\$ 2,500	\$ -	\$ -	per year
\$ -	\$ 2,500	\$ 2,500	\$ -	\$ -	per year

These costs are sub-set of the Utility "Fixed O&M Cost" category above

		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A						per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B						per year	
	Allocation of General Portfolio Costs, Size C						per year	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Trade Ally Incentives, Size A	\$	- \$ -	\$ - 5	\$ - \$		- per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$	- \$ -	\$ - 5			- per year	
UTILITY PILOT	Trade Ally Incentives, Size C	\$	- \$ -	\$ - 5	\$ - \$		- per year	
costs								
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Workforce Development or Market Transformation Cost, Size A	\$	- \$ -	\$ - 5			- per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size B Workforce Development or Market Transformation Cost, Size C	\$	- \$ - - \$ -	\$ - S			- per year - per year	_
	Workforce Development or Market Transformation Cost, Size C	Ψ	- <b>\$</b>	Ψ -	φ -   φ		- pei yeai	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Other Fixed O&M Cost, Size A Other Fixed O&M Cost, Size B	\$	- \$ - - \$ -	\$ - 5	\$ - \$ \$ - \$		- per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B Other Fixed O&M Cost, Size C	\$	- \$ -	\$ - 3	5 - S \$ - \$		- per year - per year	-
	Strict Fixed Salm Sout, Size S	Ţ.	¥		•		por your	
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A Total utility capital investment, Size B	\$	- \$ - - \$ -	\$ - S	Ψ		- per year - per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level
	Total utility capital investment, Size C	\$	- \$ -	\$ - 5			- per year	of annual revenue requirement resulting from these capital investments (shown below).
	, , ,		-				100	
	Est. Annual Revenue Requirement for Capital Projects, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$		\$ - 5			- per year - per year	of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		\$ - 5			- per year	calculated from the magnitude & timing of capital investment captured above, based on expected measure life  (and depreciation time period) as well as the utility's return on investment
				<u>.</u>			·	
		Total	USD (Nominal) Cost Unit:					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$	- per year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured
	Est. Total Revenue Requirement for Capital Projects, Size B	\$	- per year					above, based on expected measure life (and depreciation time period), as well as the utility's return on
	Est. Total Revenue Requirement for Capital Projects, Size C	\$	- per year					investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	- \$ -				- per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible
	Incentives, Size B	\$	- \$ -	\$ - 5	\$ - \$		- per year	payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a
	Incentives, Size C	\$	- \$ -	\$ - 5	\$ -  \$		- per year	customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the
		Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Incentives per Participant, Size A	#DIV/O!	\$ -	#DIV/O!	#DIV/0!	#DIV/O!	per participant per year	Incentives per participant is a function of total incentives paid directly to customers.
	Incentives per Participant, Size B	#DIV/0!	\$ -	\$ -	#DIV/0!	#DIV/O!	per participant per year	
	Incentives per Participant, Size C	#DIV/0!	\$ -	\$ -	#DIV/O!	#DIV/0!	per participant per year	
	Calculations & Other Explanation:							
	Equipment and installation costs (for 3 participant							
		n and monitoring, analysis (for 3 particip						
		n and monitoring, analysis (for 6 particip n and monitoring, analysis (for 9 particip						
	one selection, phot data conscitor	mand monitoring, analysis (for 5 particip	unta).	•				
	Total Bilat Unfront Costs Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	This represents the total equipment and installation costs for technologies implemented as part of this pilot
	Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B		5,667 \$ 116,667 5,667 \$ 116,667				per participant per participant	(specifically non-utility capital projects that were captured separately above). This cost does not account for
	Total Pilot Upfront Costs, Size C		6,667 \$ 116,667	\$ 116,667		116,6		what portion of costs may be covered by utility incentives, nor include utility program admin costs.
								<del>_</del>
		Year 1	V	Year 3	V 4	V	USD (Nominal) Cost Unit:	
	Third Party Funding, Size A	Year 1	Year 2		Year 4	Year 5	USD (Nominal) Cost Unit:  per participant	If there are expectations for external funding sources (e.g. IRA, etc) account for those values here. This funding is
TOTAL AND	Third Party Funding, Size A Third Party Funding, Size B	\$	- \$ -	\$ - 5			per participant     per participant	noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
DIRECT	Third Party Funding, Size C	\$	- \$ -	\$ - 5	\$ - \$		- per participant	
PARTICIPANT	Description of source of external funding:	IRA, etc						
PILOT COSTS								

Direct Participant Pilot Costs, Size A

Direct Participant Pilot Costs, Size B

USD (Nominal) Cost Unit:

per participant

This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Database Cost test for the MAIDA ambining orders Mater Is because allows a "Moreal benefit" approach.

	Direct Participant Pilot Costs, Size C	e e e or posticionat un resulpant cost tests or on more evaluation criteria more a source protos dating a criect insida approach
	•	The participant may eas the utility crusains all notes with an unfront financial contribution from the naticinant
	Calculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5  Scalation rate 3.82% 3.82% 3.82% 3.82% (for each pilot analysis year)  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index available from the United States Bureau of Labor Statistics, as reported in December for each of the last
PARTICIPANT NON-ENERGY COSTS	Participant Non-Energy Costs, Size A Participant Non-Energy Costs, Size B Participant Non-Energy Costs, Size C Calculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:    S
	,	scalation rate 3.82% 3.82% 3.82% 3.82% 3.82% for each pilot analysis year) For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer pr
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A Participant Non-Energy Savings, Size B Participant Non-Energy Savings, Size C Calculations & Other Explanation:	Year1         Year2         Year3         Year4         Year5         USD (Nominal) Cost Unit:           \$         -         \$         -         \$         -         \$         -         per participant per year of pilot II This includes any operating savings like water savings.           \$         -         \$         -         \$         -         \$         -         per participant per year of pilot I           \$         -         \$         -         \$         -         \$         -         per participant per year of pilot I
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	15 years 16 years 17 years 18 years
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	T24 Dth/Participant T24 Dth/Participant Dth/Pa
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C Avg. Additional Non-Gas Fuel Units/Part.Used, Size A	O.00 kWh/Participant O.00 kWh/
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C	
	Calculations & Other Explanation:	Note: some gas heat pumps can also provide space cooling (this would provide electricity savings, but then would increase gas consumption). The quantification of this pilot is currently based on the assumption that units would not serve space cooling loads, but in the heat pump technology selection and participant recruitment phases it could be determined that some installations provide cooling (to also test such parameters).
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C	Year1         Year2         Year3         Year 4         Year 5           -         2,171         -         -         -         Dth         Natural gas energy savings that result from multiplying savings per participant times the total number of new participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the total number of new participant times. The participant times the participant times the participant times. The participant times the participant times the participant times the participant times. The participant times t

	Calculations & Other Explanation:											
	Grid Mix Scenario	No Electricity Impac	o+		Select one of the listed of	rrid mix scenarios taking into acco	unt that:					
	and Mix Scenario	No Electricity Impac	Ct			,		vahla natural gas facility when it is reasona	oly available. When electric utility-specific information is not available, the filing gas utility will use a state-specific			
GRID MIX SCENARIO	generation miv taken from National Renewable Feerev I shoratory (NRFI ) Standard Scanarios. If the renewable natural eas facility is usine a higher reconcision of carbon free electricity than is available by default from their electric utility—either											
	Calculations & Other Explanation:											
	This section does not apply to all pilot types. The GHG char	anges from decreased natural	I gas and/or electricity	y consumption will b	e calculated based on v	alues above. However, for p	oilots where NGIA r	equires lifecycle GHG savings (e.	g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG			
	emissions (per unit of participation).											
	Lifecycle GHG Intensity, Size A	Υ	/ear1	Year 2	Year 3	Year 4	Year 5					
	Low		0.00		0.00	0.00	0	kg CO2e/participant 00 kg CO2e/participant	Utilities shall file a high, low, and expected greenhouse gas intensity for innovative resources included in a proposed Natural Gas innovation Act innovation (NGIA) plan, where applicable. High and low scenarios shall			
	Expected High		0.00		0.00	0.00	0.	kg CO2e/participant	incorporate at least low and high assumptions for electricity use and other fuels used in the resource's lifecycle.  Expected greenhouse gas intensity values will be used in cost-benefit calculations and when determining the			
	Lifecycle GHG Intensity, Size B		/ear 1	Year 2	Year 3	Year 4	Year 5	<u> </u>	expected greenhouse gas intensity values will be used in cost-benefit calculations and when determining the expected greenhouse gas reduction of pilot programs and NGIA plans.			
	Low							kg CO2e/participant				
	Expected High		0.00	0	0.00	0.00	0.	00 kg CO2e/participant kg CO2e/participant				
LIFECYCLE GHG INTENSITY BY								ing 0020/participant				
PROJECT SIZE	Lifecycle GHG Intensity, Size C Low	Y	/ear 1	Year 2	Year 3	Year 4	Year 5	kg CO2e/participant				
	Expected		0.00	0	0.00	0.00	0.	00 kg CO2e/participant				
	High							kg CO2e/participant				
	Calculations & Other Explanation:					lustrate de la companya de la compa			and the state of			
		S	GHG Size A	Intensity Size B	Size C	Using this calculation structure is	optional; ir modificatior	ns are needed, please use the hidden rows	or raise with project leads.			
			kg Ci	O2e/Dth								
	Low Scenario Expected Scenario											
	High Scenario											
OTHER PILOT-SPE	ECIFIC PARAMETERS (formerly 'General Parameters' in CIP Ca	Calculator):										
	CIFIC PARAMETERS (formerly 'General Parameters' in CIP Co Peak Reduction Factor	Calculator):	19	% The estimated average	annual effect of the project on	system peak. It is estimated to be	1% for energy efficienc	y pilots. The method for other innovative re	sources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the			
PEAK REDUCTION	Peak Reduction Factor	Calculator):	19	The estimated average Utility Cost and Non Pa	annual effect of the project on rticipant Cost tests for the NGU	system peak. It is estimated to be A evaluation criteria.	1% for energy efficienc	y pilots. The method for other innovative re	sources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the			
PEAK		Calculator):	19	The estimated average Utility Cost and Non Pa	annual effect of the project on rticipant Cost tests for the NGU	system peak. It is estimated to be A evaluation criteria.	1% for energy efficienc	y pilots. The method for other innovative re	sources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the			
PEAK REDUCTION	Peak Reduction Factor	Calculator):	19	76 The estimated average Utility Cost and Non Pa	annual effect of the project on rticipant Cost tests for the NGI/	system peak. It is estimated to be evaluation criteria.	1% for energy efficienc	y pilots. The method for other innovative re	sources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the			
PEAK REDUCTION	Peak Reduction Factor			Utility Cost and Non Pa	rticipant Cost tests for the NGI	A evaluation criteria.			sources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the			
PEAK REDUCTION FACTOR	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u>		/ear 1	Utility Cost and Non Pa	rticipant Cost tests for the NGI/ Year 3	A evaluation criteria.  Year 4	Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be			
PEAK REDUCTION	Peak Reduction Factor <u>Calculations &amp; Other Explanation:</u> Variable O&M Cost, Applies to all project sizes	¥ \$	/ear1 0.05	Year 2	Year 3	Year 4 \$ 0.04 \$	<b>Year 5</b>		The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease C&M costs at they also need to be transported to customers on the distribution system.			
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	\$ Y	/ear1 0.05 /ear1	Year 2 Year 2	Year 3   0.04   Year 3   Yea	Year 4 \$ 0.04 \$ Year 4	Year 5	USD (Nominal) Cost Unit:  USD (Por Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.			
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	¥ \$	/ear1 0.05	Year 2 Year 2	Year 3	Year 4 \$ 0.04 \$ Year 4	Year 5	USD (Nominal) Cost Unit:	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease C&M costs at they also need to be transported to customers on the distribution system.			
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	\$ Y	/ear1 0.05 /ear1	Year 2  Year 2  Year 2  Year 2  Year 2	Year 3   0.04   Year 3   50%   -5.250%	Year 4 \$ 0.04 \$ Year 4	Year 5	USD (Nominal) Cost Unit:  USD (Por Dth	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease OSM costs as they also need to be transported to customers on the distribution system. Variable OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.			
PEAK REDUCTION FACTOR  VARIABLE O&M	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:	\$ Y	/ear1 0.05 /ear1 -5.2509	Year 2 Year 2	Year 3	Year 4   \$ 0.04   \$   Year 4     -5.250%	Year 5  Vear 5  -5.25	USD (Nominal) Cost Unit:  D4 per Dth  Ow (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NSIA evaluation criticals. Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through the considered in the context of specific utility pilot proposals.			
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escala  Non-Gas (i.e., Electric) Fuel Cost	\$ Y	/ear1 0.05 /ear1 -5.2509	Year 2	Year 3	Year 4   \$ 0.04   \$   Year 4     -5.250%	Year 5  Vear 5  -5.25	USD (Nominal) Cost Unit:  D4 per Dth  Ow (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 thro			
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escala	\$ Y	/ear1 0.05 /ear1 -5.2509	Year 2	Year 3	Year 4   \$ 0.04   \$   Year 4     -5.250%	Year 5  Vear 5  -5.25	USD (Nominal) Cost Unit:  D4 per Dth  Ow (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NSIA evaluation criticals. Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through the considered in the context of specific utility pilot proposals.			
PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL	Peak Reduction Factor  Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes  Calculations & Other Explanation:  Escala  Non-Gas (i.e., Electric) Fuel Cost	\$ Y	/ear1 0.05 /ear1 -5.2509	Year 2	Year 3	Year 4   \$ 0.04   \$   Year 4     -5.250%	Year 5  Vear 5  -5.25	USD (Nominal) Cost Unit:  D4 per Dth  Ow (for each pilot analysis year)	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs as they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NSIA evaluation criticals. Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through the considered in the context of specific utility pilot proposals.			
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PEAK REDUCTION FACTOR  VARIABLE O&M  NON-GAS FUEL COST  NON-GAS FUEL LOSS FACTOR  OTHER QUANTITA  OTHER NON-GHG	Peak Reduction Factor Calculations & Other Explanation:  Variable O&M Cost, Applies to all project sizes Calculations & Other Explanation:  Escala  Non-Gas (i.e., Electric) Fuel Cost Calculations & Other Explanation:  Non-Gas Fuel Loss Factor Calculations & Other Explanation:  TIVE CRITERIA:  Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B	\$ Y	/ear1 0.05 /ear1 -5.2509 44.14 8.229	Vear 2   Year 3	Year 4  \$ 0.04 \$  Year 4  \$ 0.04 \$  Year 4  -5.250%  Used for all resources other than stability real-time final market location and for all resources other than stability real-time final market location.  Used for all resources other than stability real-time final market location.  If the control of the	Year 5 O.0 Year 5 -5.25  trategic electrification. all marginal prices (LMS trategic electrification. sota Power, Xeal Energy advaluated using the final lilar per ton environmer graphies or population arber than the median.	USD (Nominal) Cost Unit:    14	The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered in the context of specific utility proposals. For example, resources like power-to-hydrogen and RNG may not decrease O&M costs at they also need to be transported to customers on the distribution system. Variable O&M will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria. Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through the proposals of the NGIA evaluation criteria. Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through the proposals. The proposals of the price of natural gas between 2023 through the proposals. The proposals of the proposals				
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			Year 1	Year 2			Year 4	Year 5	Total during 5 program years			
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B			0	2	2	0		0 2		# of jobs # of jobs	Utilities should consider both j created by proposed pilots an
	Net Direct Job Creation, Size C			1	2	3	0		0		1 # of jobs	jobs that may be eliminated by proposed pilots
			Year 1	Year 2	. Ve:	ar 3	Year 4	Year 5	Total during 5 program years	Remainder of project life	<u>.</u>	
	Net Indirect Job Creation, Size A			0	1	0	0		0 2		0 # of jobs	Utilities should consider both j created by proposed pilots an
	Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C			0	1	2	0		0 3		# of jobs # of jobs	jobs that may be eliminated by proposed pilots.
											_	
NET JOB CREATION	Net leduced leb Creeties Circ A		Year 1	Year 2	Yea		Year 4	Year 5	Total during 5 program years		0 # of jobs	
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A			0	1	0	0		0 2		1 # of jobs	
	Net Induced Job Creation, Size A			0	1	2	0		0	•	1 # of jobs	
	Calculations & Other Explanation:											
	Job numbers are estimated as Full Time Equivalents (FTE) and are											
	rounded off.											
	Public Co-Benefits, Size A	\$	Year 1	Year 2	Yea	ar 3 -   \$	Year 4	Year 5	USD (Nominal) Cost Unit: per year	Ouantifiable in some cases. If th	is metric isn't quantifiable, ther	e is space for any qualitative comments in the
PUBLIC CO-	Public Co-Benefits, Size B	\$		- \$	- \$	- \$	- :		per year	Additional Qualitative Considera	tions section below.	, , ,
BENEFITS	Public Co-Benefits, Size C	\$		- \$	- \$	-  \$	-	•	per year	]		
	Calculations & Other Explanation:											
	Water Pollution, Size A	\$	Year 1	Year 2	Yea	ar 3 - \$	Year 4	Year 5	USD (Nominal) Cost Unit:	The legislation left the door ope	n to quantify any costs and be	nefits on water pollution. This might be quantif
WATER POLLUTION	Water Pollution, Size B Water Pollution, Size C	\$		- \$	- \$	- \$	- :		- per year	for some of the projects. If this Additional Qualitative Considers	metric isn't quantifiable, there i	s space for any qualitative comments in the
POLLUTION		\$		- 5	- 5	- 5	-	•	per year			
	Coloulations & Other Evalenation:											
	Calculations & Other Explanation:											
	Calculations & Other Explanation.											
	ALITATIVE CONSIDERATIONS:											
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GIA Utility prespective otes:  afinition:  GIA priticipants' prespective otes:	ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.  It is expected that many of the elements of the participant perspecting	tive, with respect to t	the direct effect of p. lity are two examples	ilots, will be quantifii of benefits that ma	ble and will rely on / be difficult to qua	the structural valu	es. Add here any	information related to	o some direct effects of pilots on p	articipants that may not be	easily quantifiable. For ex	ample,
GIA Utility prespective otes:  afinition:  GIA priticipants' prespective otes:	ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit: will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.	tive, with respect to t	the direct effect of pi lity are two examples	ilots, will be quantifii t of benefits that ma	able and will rely on y be difficult to que	the structural valu	es. Add here any	information related to	o some direct effects of pilots on p	articipants that may not be	easily quantifiable. For ex	ample,
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SIA Utility respective tess:  elinition:  SIA urticipants' respective tess: elinition:	ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.  It is expected that many of the elements of the participant perspecting	tive, with respect to t	the direct effect of p lity are two examples	ilots, will be quantific to of benefits that ma	able and will rely on y be difficult to que	the structural valu	es. Add here any	information related to	o some direct effects of pilots on p.	articipants that may not be	easily quantifiable. For ex	ample,
GIA Utility or spective otes:  sfinition:  GIA writicipants' respective otes:  sfinition:	ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit: will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.  It is expected that many of the elements of the participant perspecincreased comfort in a home and health benefits from pilots that im May assist MN businesses in achieving GHG goals	tive, with respect to t	the direct effect of p lity are two examples	ilots, will be quantifit of benefits that ma	able and will rely on y be difficult to que	the structural valu	es. Add here any	information related to	o some direct effects of pilots on p	articipants that may not be	easily quantifiable. For ex	ample,
GIA Utility erspective otes:	ALITATIVE CONSIDERATIONS:  It is expected that most of the utility perspective costs and benefit: will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.  It is expected that many of the elements of the participant perspecincreased comfort in a home and health benefits from pilots that im May assist MN businesses in achieving GHG goals	tive, with respect to t	the direct effect of p. lity are two examples	ilots, will be quantifit t of benefits that me	ible and will rely on y be difficult to que	the structural valu	es. Add here any	information related to	o some direct effects of pilots on p.	articipants that may not be	easily quantifiable. For ex	ample,

	As with the utility perspective, the direct effects of pilot programs	
Definition:	on non-participating customers should be quantified in most cases and can be heavily informed by structural values.	
Effects on Other Energy Systems		
and Energy Security:		
Definition:	NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the electric	
	system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.  Reduces fossil gas throughput; may reduce electric build out needs	
	Reduces rossil gas throughput; may reduce electric dulla out needs	
GHG Emissions Notes:		
	An innovation plan must include the total liftecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.	
	Use refrigerants with lower global warming potential	
Other Pollution		
Notes:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG	
Dennidon.	anchard any additional non-drive environmental costs and benefits. For example, enects on water poliution trial may not be quantificate, or specific an quality benefits to a low income community, note that this also cans not discussion or any environmental justice enects or the prior related to non-driving poliution.	
<u>Waste</u>		
Reduction and Reuse Notes:		
	Waste reduction, reuse, and anaerobic digestion are goals of the	
Definition:	NGIA. Includes reduction of water use.	
Delies Netes		
Policy Notes:		
	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and	
Definition:	increased use of renewable resources. Reduces fossil gas throughput	
Net Job Creation		
Notes:		
	An innovation plan must include, as applicable, "projected local job	
	impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be	
Definition:	eliminated by proposed pilots.	
<u>Economic</u>		
Development Notes:		
Notes: Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities	
the second second		
	would provide additional economic benefits.	

Public Co- Benefits Notes: Definition:	
Definition.	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.
Market Development Notes: Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
	The Nous supports the development of new thatkets of expansion or markets in minnesota. For example, unlines are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe whether proposed plans support to the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe whether proposed plans support to the development of alternative agricultural products, as well as the geographic areas or the state where benefits are required to describe a support to the development of alternative agricultural products, as well as the geographic areas or the state where the proposed plants are required to describe a support to the development of alternative agricultural products, as well as the geographic areas or the state where the proposed plants are required to develop a support to the proposed plants are required to develop a support to alternative agricultural products, as well as the proposed plants are required to develop and the proposed plants are required to develop a support to the proposed plants are required to develop and the proposed plants are required to the proposed plants are required to the proposed plants are required to the proposed p
<u>Direct</u>	
Innovation Support Notes: Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA 40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.
Resource Scalability and	
Role in a Decarbonized System Notes: Definition:	
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

Click here to go back to the list of all pilots

NGIA Pilot Profiles Workbook

CNP24 - Solar Thermal Heating for C&I

Pilot Project Code:	CNP24
Pilot Project Name:	Solar Thermal Heating for C&I
Customer Class/ Sector:	C&I
Low-Income Community Benefit?	N
Target Area:	Territory-wide
Primary Innovative Resource Category:	Energy Efficiency

Select primary Innovation Category. Others can be listed here:

## Pilot Description:

This pilot would offer incentives for customers who install transpired solar air systems, which help facilities that have large make-up air loads reduce their energy consumption. The pilot would offer commercial and industrial customers an incentive to partially offset the cost to nstall the solar wall. This assumes that the projects in question, which have relatively high upfront costs, would not be cost-effective enough to qualify for any CIP incentives (if any projects did qualify for CIP they would be directed to that program instead of NGIA). Support for initial feasibility study is also included.

## DESCRIPTION

#### Overview of Program / Implementation Approach:

While incentive approaches/structures to encourage customers to adopt the findings of these studies are still under consideration, CenterPoint is considering leveraging a similar approach to CIP custom programs, with incentives determined based on the minimum of three cost caps (in CIP, this is 1 year payback, 50% of incremental costs, or \$5/Dth annual gas savings). CenterPoint expects the \$/Dth cap to be the limiting factor for most projects considered under NGIA, and is considering higher incentive levels than the \$5/Dth for NGIA incentives. Projects that are eligible for rebates in CIP would not be eligible for these NGIA rebates.

### Other Comments / Information:

The level of participating units included here was based on a scan of CenterPoint customers that would seem to be potential candidates for the technology (e.g., facilities with large make-up air loads that can't use energy recovery wheels because of concerns of crosscontamination between inlet and exhaust air streams). It is unclear how successful the pilot would be in recruiting participants and/or how impactful the incentives envisioned here would be at influencing customers to install these systems. Ultimately, participation could also nclude larger or smaller solar walls than the archetype assumed here (2000 sqft).

## EY PILOT-SPECIFIC INPUTS:

Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
Calendar Year	2024	2025	2026	2027	2028	
Participating Units, Size A	2	2	2	2	2	Incremental units added, annual (not cumulative
Participating Units, Size B	3	3	3	3	3	
Participating Units, Size C	5	5	5	5	5	

2000 Square Foot Solar Wall Project Unit of Participation = installed

## NUMBER OF PARTICIPANTS

Calculations & Other Explanation:

Assumptions for Archetype Project (knowing that project size and savings will be highly site-specific)

Size of Solar Collector: 2000 square feet **Annual Gas Savings:** 581.1 MMBtu/year Percent Gas Savings for HVAC: 17 % System Cost: \$ 160,000 \$

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Annual Total Utility Incremental Cost, Size A
Annual Total Utility Incremental Cost, Size B
Annual Total Utility Incremental Cost, Size C

Fixed O&M Cost, Size A

ixed O&M Cost, Size B Fixed O&M Cost, Size C

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Internal Project Delivery, Size A nternal Project Delivery, Size B Internal Project Delivery, Size C

External Project Delivery, Size A xternal Project Delivery, Size B xternal Project Delivery, Size C

Advertising and Promotions, Size A

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 70,105	\$ 70,399	\$ 90,702	\$ 91,014	\$ 91,335	total cost per year
\$ 99,633	\$ 99,927	\$ 130,229	\$ 130,541	\$ 130,862	total cost per year
\$ 158,688	\$ 158,982	\$ 209.284	\$ 209,596	\$ 209.917	total cost per year

Year 1 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: 41.050 \$ 11311 ¢ 41,647 \$ 41,959 \$ 42,280 total cost per year Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally 56.050 56.344 56.647 \$ 56,959 57,280 total cost per year total cost per year

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 39,800	\$ 40,094	\$ 40,397	\$ 40,709	\$ 41,030	per year	Total internal and external project delivery
\$ 54,800	\$ 55,094	\$ 55,397	\$ 55,709	\$ 56,030	per year	
\$ 84,800	\$ 85,094	\$ 85,397	\$ 85,709	\$ 86,030	per year	

	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
I	\$ 9,800	\$ 10,094	\$ 10,397	\$ 10,709	\$ 11,030	per year	CN
I	\$ 9,800	\$ 10,094	\$ 10,397	\$ 10,709	\$ 11,030	per year	ĺ

'NP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above. 9,800 \$ 10,094 \$ 10,397 \$ 10,709 \$ 11,030 per year

UCD (Naminal) Cast Unit

Year I	Year 2	Year 3	Year 4	year 5	USD (Nominal) Cost Unit:	
\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000		External vendor costs wo
\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	per year	Utility "Fixed O&M Cost"
\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	per year	

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	per year

These costs are sub-set of the Utility "Fixed O&M Cost" category above.

t" category above.

centives, and Workforce Development of Market Transformation Cost

made on select pilots.

These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any ncentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments

would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the

	Advertising and Promotions, Size B	\$		1,250 \$	1,250 \$	1,250	\$ 1,250	1.250	per year	1
	Advertising and Promotions, Size C	\$		1,250 \$	1,250 \$	1,250		1,250	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A				70012	100.0	100. 4	100.0	per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B								per year	
	Allocation of General Portfolio Costs, Size C								per year	1
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<u>_</u>
	Trade Ally Incentives, Size A	\$		- \$		-	\$ - :	-	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B Trade Ally Incentives, Size C	\$		- \$ - \$			\$ - :	-	per year per year	-
	11000 7.117 11001111700, 0120 0	¥			,			,	por your	-
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	True de la companya d
	Workforce Development or Market Transformation Cost, Size A Workforce Development or Market Transformation Cost, Size B	\$		- \$			\$ - :	· -	per year per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
UTILITY PILOT	Workforce Development or Market Transformation Cost, Size C	\$		- \$		-	\$ -	-	per year	
COSTS			V		V0	V 0	V 4	V	1100 (11	
	Other Fixed O&M Cost, Size A	\$	Year 1	- \$	Year 2 - \$	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$		- \$		-	\$ - ;	-	per year	
	Other Fixed O&M Cost, Size C	\$		- \$	- \$	-	\$ -	-	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Total utility capital investment, Size A	\$		- \$		_	\$ - :	-	per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not
	Total utility capital investment, Size B Total utility capital investment, Size C	\$		- \$		-	\$ - ;	-	per year per year	directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue requirement resulting from these capital investments (shown below).
	Total utility Capital Investment, Size C	Φ		-   3	-   3		Φ -	-	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	<b>3</b>
	Est. Annual Revenue Requirement for Capital Projects, Size A Est. Annual Revenue Requirement for Capital Projects, Size B	\$		- \$		<del>-</del>	\$ - :	; -	per year per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		- \$	- \$	-	*	, ; -	per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
										- Well on the think of February and the Section 1
			Total		SD (Nominal) Cost					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$	Total		er year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based
	Est. Total Revenue Requirement for Capital Projects, Size B	\$			er year					on expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$		- p	or voor					•
	Est. Total Revenue Requirement for Capital Projects, Size C	Ψ		IP.	er year					
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Incentives, Size A	\$		29,055 \$	Year 2 29,055 \$	49,055	\$ 49,055	49,055	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size A Incentives, Size B	\$		29,055 <b>\$</b> 43,583 <b>\$</b>	Year 2 \$ 29,055 \$ \$ 43,583 \$	49,055 73,583	\$ 49,055 3 \$ 73,583	49,055 73,583	per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size A	\$ \$		29,055 \$	Year 2  \$ 29,055 \$  \$ 43,583 \$  72,638 \$	49,055 73,583 122,638	\$ 49,055 \$ 73,583 \$ 122,638	49,055 73,583 122,638	per year per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
	Incentives, Size A Incentives, Size B Incentives, Size C	\$ \$ \$		29,055 \$ 43,583 \$ 72,638 \$	Year 2  29,055 \$ 43,583 \$ 72,638 \$  Year 2	49,055 73,583 122,638 Year 3	\$ 49,055 : \$ 73,583 : \$ 122,638 : Year 4	49,055 73,583 122,638 Year 5	per year per year per year USD (Nominal) Cost Unit:	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A	\$ \$ \$ \$		29,055 \$ 43,583 \$ 72,638 \$	Year 2  \$ 29,055 \$  43,583 \$  72,638 \$  Year 2  \$ 14,528 \$	49,055 73,583 122,638 Year 3 24,528	\$ 49,055   \$ 73,583   \$ 122,638   \$ Year 4	49,055 73,583 122,638 Year 5 24,528	per year per year per year USD (Nominal) Cost Unit: per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size A Incentives, Size B Incentives, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		29,055 \$ 43,583 \$ 72,638 \$	Year 2 \$ 29,055 \$ \$ 43,583 \$ 72,638 \$  Year 2 \$ 14,528 \$ \$ 14,528 \$	49,055 73,583 122,638 Year 3	\$ 49,055 : 73,583 : 122,638 : Year 4 \$ 24,528 : \$ 24,528 :	49,055 73,583 122,638 Year 5 24,528 24,528	per year per year per year USD (Nominal) Cost Unit:	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
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	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$		29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$ 14,528 \$	Year 2 \$ 29,055 \$ \$ 43,583 \$ 72,638 \$  Year 2 \$ 14,528 \$ \$ 14,528 \$	49,055 73,583 122,638 Year 3 24,528 24,528	\$ 49,055 : \$ 73,583 : \$ 122,638 : \$ Year 4 \$ 24,528 : \$ 24,528 :	49,055 73,583 122,638 Year 5 24,528 24,528	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
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	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	29,055	Year 2 5 29,055 \$ 6 43,583 \$ 72,638 \$  Year 2 6 14,528 \$ 6 14,528 \$ 71,528 \$ 70,000	49,055 73,583 122,638 Year 3 24,528 24,528	\$ 49,055 : \$ 73,583 : \$ 122,638 : \$ Year 4 \$ 24,528 : \$ 24,528 :	49,055 73,583 122,638 Year 5 24,528 24,528	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$	Year 2 5 29,055 \$ 6 43,583 \$ 72,638 \$  Year 2 6 14,528 \$ 6 14,528 \$ 71,528 \$ 70,000	49,055 73,583 122,638 Year 3 24,528 24,528	\$ 49,055 : \$ 73,583 : \$ 122,638 : \$ Year 4 \$ 24,528 : \$ 24,528 :	49,055 73,583 122,638 Year 5 24,528 24,528	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
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	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1	29,055	Year 2 5 29,055 \$ 6 43,583 \$ 72,638 \$  Year 2 6 14,528 \$ 6 14,528 \$ 71,528 \$ 70,000	49,055 73,583 122,638 Year 3 24,528 24,528	\$ 49,055 : 73,583 : 122,638 : Year 4	49,055 73,583 122,638 Year 5 24,528 24,528	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	29,055	Year 2  3 29,055 \$ 43,583 \$ 72,638 \$  Year 2  3 14,528 \$ 5 14,528 \$ 5 14,528 \$ 7,000 \$	49,055 73,583 12,638 Year 3 24,528 24,528 24,528	\$ 49.055   \$ 73.583   \$ 122.683   \$ 122.683   \$ 24.528	; 49,055 73,583 122,638 Year 5 24,528 24,528 24,528	per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GMG audits or direct install measures) or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	29,055	Year 2 5 29,055 \$ 6 43,583 \$ 72,638 \$  Year 2 6 14,528 \$ 6 14,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$ 71,528 \$	49,055 73,583 122,638 Year 3 24,528 24,528 24,528	\$ 49,055 : 73,583 : 122,638 : Year 4	49,055 73,583 12,2638 Year 5 24,528 24,528 24,528	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp Additional Sites that Receive Audit Funding But Do Not Complete  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$ 14,528 \$ 15,000 \$ 50% %	Year 2	49,055 73,583 122,638 Year 3 24,528 24,528 24,528	\$ 49,055   \$ 73,583   \$ 122,638   \$ 122,638   \$ 24,528	Year 5 Year 5 160,000 160,000 160,000	per year per year per year USD (Nominal) Cost Unit: per participant per year	etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-diffity capital projects that were captured separately above). This cost does not account for what portion of costs may be
	Incentives, Size A Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp Additional Sites that Receive Audit Funding But Do Not Complete	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$ 14,528 \$ 50% %	Year 2  \$ 29,055 \$ 43,583 \$ 72,638 \$ Year 2  \$ 14,528 \$ 14,528 \$ 14,528 \$ 7	49,055 73,583 122,638 Year 3 24,528 24,528 24,528	\$ 49,055   \$ 73,583   \$ 73,583   \$ 122,638   \$ 24,528	Year 5 Year 5 Year 5	per year per year per year USD (Nominal) Cost Unit: per participant per year	etc.). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-
	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp Additional Sites that Receive Audit Funding But Do Not Complete  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year1	29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$ 14,528 \$ 15,000 \$ 50% %	Year 2	49,055 73,583 122,638 Year 3 24,528 24,528 24,528	\$ 49,055   \$ 73,583   \$ 122,638   \$ 122,638   \$ 24,528	Year 5 Year 5 160,000 160,000 160,000	per year per year per year USD (Nominal) Cost Unit: per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.
	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp Additional Sites that Receive Audit Funding But Do Not Complete  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C Third Party Funding, Size A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1  Year 1  It	29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$ 14,528 \$ 15,000 \$ 50% %	Year 2 3 29,055 \$ 43,583 \$ 72,638 \$  Year 2 5 14,528 \$ 14,528 \$ 14,528 \$  //Dth annual gas savings  //participant	49,055 73,583 12,638 Year 3 24,528 24,528 24,528 160,000 160,000 160,000	\$ 49,055   \$ 73,583   \$ 73,583   \$ 122,683   \$ 122,683   \$ 24,528   \$ 24,528   \$ 24,528   \$ 10,000   \$ 160,000   \$	Year 5 10,000 160,000 160,000 160,000	per year per year per year per year  USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA, etc.) account for those values here. This funding is noted here
TOTAL AND DIRECT	Incentives, Size A Incentives, Size B Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  Incentive C Study Supp Additional Sites that Receive Audit Funding But Do Not Complete  Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size B	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Year 1  Year 1  It	29,055 \$ 43,583 \$ 72,638 \$ 14,528 \$ 14,528 \$ 14,528 \$ 15,000 \$ 50% %	Year 2 3 29,055 \$ 43,583 \$ 72,638 \$  Year 2 5 14,528 \$ 14,528 \$ 14,528 \$ 7,000 \$ 160,000 \$ 160,000 \$	49,055 73,583 12,638 Year 3 24,528 24,528 24,528 160,000 160,000 160,000	\$ 49,055   \$ 73,583   \$ 73,583   \$ 122,683   \$ 122,683   \$ 24,528   \$ 24,528   \$ 24,528   \$ 10,000   \$ 160,000   \$	Year 5 10,000 160,000 160,000 160,000	per year per year per year per year  USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant per participant per participant per participant Des Unit:	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold equipment ownership. Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.

This represents the upfront costs to participants who participate in this pilot. This is a calculated value, where utility

 Year 2
 Year 3
 Year 4
 Year 5
 USD (Nominal) Cost Unit:

 145,473
 \$ 145,473
 \$ 145,473
 \$ 145,473
 per participant

DIRECT
PARTICIPANT
PILOT COSTS

Description of source of external funding:

Direct Participant Pilot Costs, Size A

IRA, etc

Year 1

145,473 \$

	Direct Participant Pilot Costs, Size B Direct Participant Pilot Costs, Size C Calculations & Other Explanation:	Escalation rate	\$ \$ Year1	145,473 \$ 145,473 \$ , 3.82%	145,473 \$ 145,473 \$ Year 2	145,473 145,473 Year 3 3.82%	\$ 145,473 \$ \$ 145,473 \$ \$ Year 4 3.82%	145,473 Year 5	per participant per participant  [(for each pilot analysis year)	Incentives are subtracted from the total upfront project costs. Direct Participant Pilot costs will be used in the Participant  Cost tests for the NGIA evaluation criteria. Note 1 some pilots taking a Direct Install approach may see the utility covering all  costs with no unfront financial contribution from the narticinant  For an escalation rate, we
PARTICIPANT NON ENERGY COSTS	Participant Non-Energy Costs, Size A  Participant Non-Energy Costs, Size B  Participant Non-Energy Costs, Size C <u>Calculations &amp; Other Explanation:</u>	Escalation rate	Year 1 \$ \$ \$ \$ \$ Year 1	- \$ - \$	Year 2 - \$ - \$ - \$ Year 2 3.82%	Year 3	Year 4 \$ - \$ \$ - \$  Year 4 3.82%	- Year 5	USD (Nominal) Cost Unit:  per participant per year of pilot life  per participant per year of pilot life  per participant per year of pilot life  (for each pilot analysis year)	This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  For an escalation rate, we
PARTICIPANT NON ENERGY SAVINGS	Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C  Calculations & Other Explanation:		Year 1 \$ \$ \$ \$	- s - s - s	Year 2  - \$ - \$	Year 3	Year 4  \$ - \$ \$ - \$	Year 5	USD (Nominal) Cost Unit:  per participant per year of pilot life  per participant per year of pilot life  per participant per year of pilot life	This includes any operating savings like water savings.
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:			20 years 20 years 20 years						
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:			581 Dth/Parti 581 Dth/Parti 581 Dth/Parti	icipant					
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C			0.00 kWh/Part 0.00 kWh/Part 0.00 kWh/Part	ticipant	s are kWh; could tech	nically be other nor	n-NG. Avg. Non-	Gas Fuel Units/Part. Saved will be used in the	Participant Cost tests for the NGIA evaluation criteria.
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size / Avg. Additional Non-Gas Fuel Units/Part.Used, Size / Avg. Additional Non-Gas Fuel Units/Part.Used, Size / Calculations & Other Explanation:	В		0.00 kWh/Part	ticipant	Additional Non-Gas F	Fuel Units/Part. Use	d will be used il	n the Participant Cost tests for the NGIA evalu	ation criteria.
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:		Year1	1,162 1,743 2,906	Year 2 1,162 1,743 2,906	Year 3 1162 1,743 2,906	Year 4 1,162 1,743 2,906	Year 5 1,162 1,743 2,906	Dth	Natural gas energy savings that result from multiplying savings per participant times the total number of new participants in a given year
GRID MIX SCENARIO	Grid Mix Scenario  Calculations & Other Explanation:		No Electricity Impact		•Dtili	ct one of the listed gr ities shall use electric- rific generation mix ta	-utility-specific ger	eration mix info	ormation for the renewable natural gas facility	when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state- a renewable natural gas facility is using a higher proportion of carbon free electricity than is available by default from their

	This section does not apply to all pilot types. The GHG chemissions (per unit of participation).	hanges from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity, Size A Low Expected High	Year 1 Year 3 Year 4 Year 5    Second   Second
LIFECYCLE GHG INTENSITY BY	Lifecycle GHG Intensity, Size B Low Expected High	Year 1         Year 2         Year 3         Year 4         Year 5           0.00         0.00         0.00         0.00         kg CO2e/participant           kg CO2e/participant         kg CO2e/participant
PROJECT SIZE	Lifecycle GHG Intensity, Size C Low Expected High	Year 1         Year 2         Year 3         Year 4         Year 5         kg CO2e/participant           0.00         0.00         0.00         0.00         kg CO2e/participant           kg CO2e/participant         kg CO2e/participant
	Calculations & Other Explanation:  Low Scenario  Expected Scenario	GHG Intensity  Using this calculation structure is optional; if modifications are needed, please use the hidden rows or raise with project leads.  Size A Size B Size C  kg CO2e/Dth
OTHER PILOT-SPEC	Expected Scenario  High Scenario  IFIC PARAMETERS (formerly 'General Parameters' in CIP C	
PEAK REDUCTION FACTOR	Peak Reduction Factor  Calculations & Other Explanation:	1% The estimated average annual effect of the project on system peak. It is estimated to be 1% for energy efficiency pilots. The method for other innovative resources should be considered in the context of specific utility proposals. Peak Reduction Factor will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Esc	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  \$ 0.05 \$ 0.05 \$ 0.05 \$ 0.04 \$ 0.04 \$ 0.04 \$ per Dth  The CIP methodology is used for energy efficiency. However, the value for other innovative resources should be considered the context of specific utility proposals. For example, resources like power—to-hydrogen and RNG may not decrease OSM will be used in the Utility Cost and Non Participant Cost tests for the NGIA evaluation criteria.  Annual Escalation Rate calculated using the average percent change in the price of natural gas between 2023 through 2027.
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost  Calculations & Other Explanation:	USD (Nominal) Cost Unit:  \$ 44.14 per MWh  The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals.  equal to the average of daily real-time final market locational marginal prices (LMP) at the Minnesota Hub from January 1, 2022 to December 31, 2022 using data from Midwest Independent System Operator (MISO)
NON-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor  Calculations & Other Explanation:	The CIP methodology is used for all resources other than strategic electrification. The method for strategic electrification should be considered in the context of specific utility pilot proposals. In the most recent CIP, Staff used the weighted average of the most recent loss factors reported by Minnesota Power, Xcel Energy, and Otter Tail Power's reported 2021 transmission and distribution loss factors and weighting by the utilities' 2017-2019 average retail sales.
THER QUANTITAT	VE CRITERIA:	
OTHER NON-GHG POLLUTANTS	Other Non-GHG Pollutants, Size A Other Non-GHG Pollutants, Size B Other Non-GHG Pollutants, Size C Calculations & Other Explanation:	S 0.37 per Dth Generally no change from CIP methodology. The factor is calculated using the final environmental cost values approved by Minnesota Public Utilities Commission). The factors are reported in 2021 dollars in Table 2 below, which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing which were calculated by inflating the Commission's approved dollar per ton environmental cost values using escalation rate to adjust by observed inflation between 2014 and 2021. Stakeholders expressed a preference for allowing utilities to select different externality values for pilots targeting specific geographies or populations. For example, an energy efficiency project that targets an urban area might use the urban value rather than the metropolitan fringe values Similarly, a project targeting a low-income population might use a high value rather than the median Utilities can make deviations such as these in their NGIA plans if they can provide justification for the change. Instead of requiring the use of median metropolitan fringe values for all non-GHG pollutants, as shown in Table 1 of the Commission's January 3, 2018 Order in Docket No. E1999/CI-M-643, utilities may use the value most applicable for the pilot or applicable.
	Net Direct Job Creation, Size A Net Direct Job Creation, Size B Net Direct Job Creation, Size C	Year 1   Year 2   Year 3   Year 4   Year 5   Total during 5 program years   life

		Year 1	Year 2	Year 3	Year 4	Year 5	Total de la Francisco		t
	Net Indirect Job Creation, Size A	Year I	1 1 1	Year 3	Year 4	Year 5	1 otal during 5 program years		0 # of jobs Utilities should consider both jobs created by proposed pi
	Net Indirect Job Creation, Size B Net Indirect Job Creation, Size C		1 1		1	1	1		" or jobs
	Net muliett 300 Creation, 312e C				1	•	·	Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Considerations section below.	
NET JOB		Year 1	Year 2	Year 3	Year 4	Year 5	Total during 5 program years		t
CREATION	Net Induced Job Creation, Size A	reari	1 1	Teal o	1	1	1	3 2	# of jobs
	Net Induced Job Creation, Size A Net Induced Job Creation, Size A		1 1		1	1	1	4 5	6 # of jobs
	Not meason one of salini, size //					•	-	,, .	, or jobs
	Orbertalises C. Orber Feebenstien								
	Calculations & Other Explanation:  Job numbers are estimated as Full Time Equivalents (FTE) and are								
	rounded off.								
	Public Co-Benefits, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	Ouantifiable in some case	es. If this metric isn't quantifiable, there is space for any qualitative comments in the Addition
PUBLIC CO-	Public Co-Benefits, Size B	\$ -	\$ -	\$ -	\$ -	\$ -	per year		
BENEFITS	Public Co-Benefits, Size C	-	\$ -	\$ -	\$ -	\$ -	per year		
	Calculations & Other Explanation:								
	Water Pollution, Size A	Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit: per year	The legislation left the doo	or open to quantify any costs and benefits on water pollution. This might be quantifiable for
WATER	Water Pollution, Size B			\$ -	\$ -	\$ -	per year	the projects. If this metric	c isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative
POLLUTION	Water Pollution, Size C	\$	\$ -	\$ -	\$ -	\$ -	per year	Considerations section be	elevis.
	Calculations & Other Explanation:								
ADDITIONAL QUAI	ITATIVE CONSIDERATIONS:								
NGIA Utility									
Perspective Notes	<u>.</u>								
	It is expected that most of the utility perspective costs and benefits								
Definition:	will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods.								
NGIA Participants Perspective Notes									
Definition:	It is expected that many of the elements of the participant perspectiv	ve, with respect to the direct effect of pilots, v	will be quantifiable and will i	rely on the structur	ral values. Add h	ere any inform	nation related to some direct effects of	oilots on participants the	at may not be easily
	quantifiable. For example, increased comfort in a home and health ber May assist MN businesses in achieving GHG goals	nefits from pilots that improve indoor air quali	ty are two examples of ber	nefits that may be o	difficult to quan	tify.			
	,								
NGIA_									
Nonparticipating Customers'									
<u>Perspective Notes</u>									
	As with the utility perspective, the direct effects of pilot programs on								
	non-participating customers should be quantified in most cases and can be heavily informed by structural values.								
Definition:	can be heavily informed by structural values.								
Definition:	can be heavily informed by structural values.								

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NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets.

Reduces overall energy consumption

## GHG Emissions

Notes: Definition:

An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.

## Other Pollution

Notes:

Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of the pilot related to non-GHG pollution.

## Waste Reduction and Reuse Notes:

Definition:

Waste reduction, reuse, and anaerobic digestion are goals of the NGIA.

Includes reduction of water use.

## Policy Notes:

NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and

Definition: increased use of renewable resources.

Reduces fossil gas throughput; increases use of renewable energy

## Net Job Creation

Notes:

An innovation plan must include, as applicable, "projected local job impacts resulting from implementation of the plan." Utilities should consider both jobs created by proposed pilots and jobs that may be

eliminated by proposed pilo

# Economic Development Notes:

The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.

Projects may follow IRA labor requirements to take advantage of tax benefits

## Public Co-Benefits

Notes:

There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor

## Market Development Notes: Definition:

he NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state when

May help MN businesses appeal to customers interested in sustainability

# Direct Innovation Support Notes: Definition:

This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA,40 are unlikely to produce significant benefits on their own but are intended to lead to future opportunities.

Opportunity for customers to learn about novel options for reducing GHGs from their systems

# Resource Scalability and Role in a Decarbonized System Notes: Definition:

While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.

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## Click here to go back to the list of all pilots

## NGIA Pilot Profiles Workbook

Year 5 USD (Nominal) Cost Unit:

CNP25 - Industrial and Large Commercial GHG Audit Pilot

Pilot Project Code:	CNP25
Pilot Project Name:	Industrial and Large Commercial GHG Audit Pilot
Customer Class/ Sector:	C&I
Low-Income Community Benefit?	N
Target Area:	Territory-wide
Primary Innovative Resource Category:	Energy Efficiency

Select primary Innovation Category. Others can be listed here:

Strategic electrification, renewable natural gas, biogas, carbon capture

## Pilot Description:

CenterPoint Energy proposes to expand its existing Process Efficiency and Commercial Efficiency CIP offering to include identification of non-CIP GHG reducing opportunities for industrial and large commercial customers.

## DESCRIPTION

## Overview of Program/ Implementation Approach:

his would build off the existing CIP program, enhancing those energy audits to include GHG emissions context/data, as well as emission reduction opportunities. The plan would not be to conduct extra audits, just enhance current number of audits funded through CIP. Additionally, a new custom incentive stream would be established for specific types of technologies that have not traditionally been cost-effective under CIP but could leverage funding from NGIA to help them proceed. There are a number of types of opportunities identified in past CIP audits, where recommendations are not typically implemented.

The focus categories would include:

. Electric heat pumps for certain process hot water needs ( including reviewing and applying appropriate new technologies )

2. Heat recovery opportunities for process hot water/ process cooling and winter makeup air heating

3. Process efficiency improvements through improved process heat exchange / integration

## Other Comments / Information:

For this initial estimate we establish one representative project to assess the potential economics of this pilot. We expect the actual project sizes could be smaller or larger that this example, and that different types of technologies (in the three categories outlined above) could qualify.

## KEY PILOT-SPECIFIC INPUTS:

Pilot Year	Year 1	Year 2	Year 3	Year 4	Year 5	
Calendar Year	2024	2025	2026	2027	2028	
Participating Units, Size A	1	1	1	1	1	Incremental units added, annual (not cumulative
Participating Units, Size B	2	2	2	2	2	
Participating Units, Size C	3	3	3	3	3	

### **NUMBER OF** PARTICIPANTS

## Unit of Participation = GHG Reduction Project Implemented

\$

Calculations & Other Explanation:

	2024	2025	2026	2027	2028
Planned CIP Audits per Year:	10	10	10	10	10

Vear 2

(Not all audits results in projects implemented)

Annual Total Utility Incremental Cost, Size A
Annual Total Utility Incremental Cost, Size B
Annual Total Utility Incremental Cost. Size C

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 259,438	\$ 260,068	\$ 260,716	\$ 261,385	\$ 312,073	total cost per year
\$ 396,275	\$ 396,905	\$ 397,554	\$ 398,222	\$ 448,911	total cost per year
\$ 533,113	\$ 533,743	\$ 534,391	\$ 535,060	\$ 585,748	total cost per year

These incremental utility costs are what will count against the NGIA budget cap for this measure and will be used in the Utility
Cost, and Non Participant Cost tests for the NGIA evaluation criteria. This is the sum of utility admin costs to run pilot, any
incentive funding to support project deployment, and/or the utility's annual revenue requirement for capital investments made
on select pilots.

Fixed O&M Cost, Size A	
Fixed O&M Cost, Size B	
Fixed O&M Cost, Size C	

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$ 122,600	\$ 123,230	\$ 123,879	\$ 124,547	\$ 175,236	total cost per year
\$ 122,600	\$ 123,230	\$ 123,879	\$ 124,547	\$ 175,236	total cost per year
\$ 122,600	\$ 123.230	\$ 123,879	\$ 124.547	\$ 175.236	total cost per year

Fixed O&M Cost is the result of adding up Total Project Delivery, Advertising and Promotions, Utility Administration, Trade Ally Incentives, and Workforce Development of Market Transformation Cost

Total Project Delivery, Size A Total Project Delivery, Size B Total Project Delivery, Size C

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 121,000	\$ 121,630	\$ 122,279	\$ 122,947	\$ 173,636	per year	To
\$ 121,000	\$ 121,630	\$ 122,279	\$ 122,947	\$ 173,636	per year	I
\$ 121,000	\$ 121,630	\$ 122,279	\$ 122,947	\$ 173,636	per year	1

Total internal and external project delivery

nternal Project Delivery, Size A nternal Project Delivery, Size B nternal Project Delivery, Size C

Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
\$	21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 23,636	per year
\$	21,000	\$ 21,630	\$ 22,279	\$ 22,947	\$ 23,636	per year
¢	21,000	¢ 21.630	¢ 22.270	\$ 22.047		

CNP staff. These costs are sub-set of the Utility "Fixed O&M Cost" category above.

External Project Delivery, Size A xternal Project Delivery, Size B External Project Delivery, Size C

Year 1	Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 150,000	per year	Ext
\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 150,000	per year	Uti
\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 150,000	per year	I

external vendor costs would include direct install costs where CNP reimburses the vendor. These costs are sub-set of the Jtility "Fixed O&M Cost" category above.

Advertising and Promotions, Size A

Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:
	1600 6	1600	1600	¢ 1600	¢ 1600	

These costs are sub-set of the Utility "Fixed O&M Cost" category above.

	Advertising and Promotions, Size B	\$		1,600 \$	1,600 \$	1,600	\$ 1,600	\$ 1,600	per year	
	Advertising and Promotions, Size C	\$		1,600 \$					per year	
									1.	<del>_</del>
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Allocation of General Portfolio Costs, Size A								per year	Share of portfolio level costs, including plan development costs, regulatory costs, and general portfolio costs
	Allocation of General Portfolio Costs, Size B								per year	
	Allocation of General Portfolio Costs, Size C								per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	_
	Trade Ally Incentives, Size A	\$		- \$		-	-	•	per year	If applicable, include here the annual amount of trade ally incentives (e.g. midstream program)
	Trade Ally Incentives, Size B	\$		- \$	- \$	-	\$ - :		per year	
	Trade Ally Incentives, Size C	\$		- \$	- \$	-	\$ - :	\$ -	per year	<u></u>
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Workforce Development or Market Transformation Cost, Size A	¢	reari	- \$		rears	tear4	tears	per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Workforce Development or Market Transformation Cost, Size A Workforce Development or Market Transformation Cost, Size B	\$		- \$	- \$	_	\$ -	р <u>-</u>	per year	These costs are sub-set of the stanty rated stant cost energy above.
UTILITY PILOT	Workforce Development or Market Transformation Cost, Size C	\$		- \$	Ψ.	_	\$ - :	*	per year per vear	
COSTS	Worklord Bovolophion of Market Handronnation 6664, 625 6					l	,	*	por your	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Other Fixed O&M Cost, Size A	\$		- \$		-	\$ - :		per year	These costs are sub-set of the Utility "Fixed O&M Cost" category above.
	Other Fixed O&M Cost, Size B	\$		- \$	- \$	-	\$ - :	\$ -	per year	
	Other Fixed O&M Cost, Size C	\$		- \$	- \$	-	\$ - :	\$ -	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	=
	Total utility capital investment, Size A	\$		- \$			\$ - :		per year	This tracks expectations for when this pilot would require capital investments from the utility, if applicable. This will not directly feed into the incremental costs for NGIA, but instead will be used to estimate the timing and level of annual revenue
	Total utility capital investment, Size B	\$		- \$			\$ - :	•	per year	requirement resulting from these capital investments (shown below).
	Total utility capital investment, Size C	\$		- \$	- \$	-	\$ - :	<b>5</b> −	per year	
			Year 1		Year 2	Year 3	Year 4	Year 5	USD (Nominal) Cost Unit:	
	Est. Annual Revenue Requirement for Capital Projects, Size A	¢	reari	- \$	rear 2		\$ - !		per year	For capital projects, the incremental cost impact on the NGIA budget is the annual revenue requirement (return of and on
	Est. Annual Revenue Requirement for Capital Projects, Size A	\$		- \$	Ψ	_	\$ - :	*	per year	capital additions), as well as the utility "Fixed O&M Costs" captured above. This revenue requirement is calculated from the
	Est. Annual Revenue Requirement for Capital Projects, Size C	\$		- \$	- \$	_	\$ - :	\$ -	per year	magnitude & timing of capital investment captured above, based on expected measure life (and depreciation time period), as
	Edit / illiadi Novolido Noquilo non il for odpital i rojecto, oizo o	-		1 -	-		·	-	ps: /ss:	wall as the utility's raturn on investment
			Total	US	SD (Nominal) Cost Unit:					
	Est. Total Revenue Requirement for Capital Projects, Size A	\$		- pe	er year					The total revenue requirement is calculated from the magnitude & timing of total capital investment captured above, based on
	Est. Total Revenue Requirement for Capital Projects, Size B	\$		- ре	er year					expected measure life (and depreciation time period), as well as the utility's return on investment. This cost is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
	Est. Total Revenue Requirement for Capital Projects, Size C	\$		- pe	er year					reference, its not used to calculate any of the NGIA evaluation criteria.
			Year 1		Year 2	Year 3	Year 4		USD (Nominal) Cost Unit:	
	Incentives, Size A	\$	Year 1	136,838 \$	136,838 \$	136,838	\$ 136,838	\$ 136,838	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments,
	Incentives, Size B	\$	Year 1	273,675 \$	136,838 \$ 273,675 \$	136,838 273,675	\$ 136,838 \$ 273,675 \$	\$ 136,838 \$ 273,675	per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the
		\$ \$	Year 1		136,838 \$	136,838 273,675	\$ 136,838	\$ 136,838 \$ 273,675	per year	This tracks total incentives paid directly to customers (customer rebates like money, gift cards or other fungible payments, etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the customer chearth hold analymout numerable incentions will be used in the Patricinant Cost tests for the MSIA availation.
	Incentives, Size B	\$ \$		273,675 \$	136,838 \$ 273,675 \$ 410,513 \$	136,838 273,675 410,513	\$ 136,838 \$ 273,675 \$ 410,513 \$	136,838 273,675 410,513	per year per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size B Incentives, Size C	\$ \$	Year 1	273,675 \$ 410,513 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2	136,838 273,675 410,513 Year 3	\$ 136,838 \$ \$ 273,675 \$ \$ 410,513 \$	136,838 273,675 410,513 Year 5	per year per year per year USD (Nominal) Cost Unit:	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B	\$ \$ \$		273,675 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2  136,838 \$	136,838 273,675 410,513 Year 3 136,838	\$ 136,838 \$ \$ 273,675 \$ \$ 410,513 \$	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838	per year per year per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHG audits or direct install measures), or making a capital investment in a customer's project where the
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A	\$ \$ \$ \$		273,675 \$ 410,513 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2  136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B	\$ \$ \$ \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2  136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B	\$ \$ \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2  136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2  136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$	136,838 \$ 273,675 \$ 410,513 \$ Year 2 136,838 \$ 136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C	\$ \$ \$ \$ \$ \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$	136,838 \$ 273,675 \$ 410,513 \$  Year 2  136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot			273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	136,838   \$   273,675   \$   410,53   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:			273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	136,838 \$ 273,675 \$ 410,513 \$ Year 2 136,838 \$ 136,838 \$ 136,838 \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot			273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	136,838   \$   273,675   \$   410,53   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap	o: \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$//	136,838   \$   273,675   \$   410,53   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot	o: \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	136,838   \$   273,675   \$   410,53   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838	\$ 136,838 \$ 273,675 \$ 410,513 Year 5 \$ 136,838 \$ 136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled	o: \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$//	136,838   \$ 273,675   \$ 410,513   \$ Year 2   136,838   \$ 136,838   \$ 136,838   \$ trate assumed, regardle	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838   \$ 273,675   \$ 410,513   \$ 410,513   \$ \$ 136,838   \$ 136,838   \$ 136,838   \$ \$ 136,838   \$ \$ \$ 136,838   \$ \$ \$ \$ 136,838   \$ \$ \$ \$ 136,838   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 136,838 \$ 273,675 \$ 440,53 Year 5 136,838 \$ 136,838 \$ 136,838	per year per year per year WSD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a paligial investment in a customer's project where the customer doesn't hold acusioment ownershin Incantives will be used in the Participant Cost tests for the NGIA availation.  Incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap	o: \$ d:		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 Cc	136,838   \$   273,676   \$   410,513   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838   \$ 273,675   \$ 410,513   \$ 410,513   \$ 410,513   \$ 136,838   \$ 136,838   \$ 136,838   \$ 136,838   \$ 176,	\$ 136,838 \$ 273,675 \$ 410,515 \$ 136,838 \$ 136,838 \$ 136,838	per year per year per year WSD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	etc). Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GPR audits or direct install measures), or making a capital investment in a customer's project where the customer describ hold acuioment ownership incontives will be used in the Participant Cost tests for the NGIA evaluation
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost	d: \$ :: \$ :: \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 Cc	136,838   \$ 273,675   \$ 410,513   \$ Year 2   136,838   \$ 136,838   \$ 136,838   \$ trate assumed, regardle	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838   \$ 273,675   \$ 410,513   \$ 410,513   \$ 410,513   \$ 136,838   \$ 136,838   \$ 136,838   \$ 136,838   \$ 176,	\$ 136,838 \$ 273,675 \$ 410,515 \$ 136,838 \$ 136,838 \$ 136,838	per year per year per year WSD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a paligial investment in a customer's project where the customer doesn't hold acusioment ownershin Incantives will be used in the Participant Cost tests for the NGIA availation.  Incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Option	d: \$ :: \$ :: \$		273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 Cc	136,838   \$   273,676   \$   410,513   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 410,513 Year 3 136,838 136,838 136,838	\$ 136,838   \$ 273,675   \$ 410,513   \$ 410,513   \$ 410,513   \$ 136,838   \$ 136,838   \$ 136,838   \$ 136,838   \$ 176,	\$ 136,838 \$ 273,675 \$ 410,515 \$ 136,838 \$ 136,838 \$ 136,838	per year per year per year WSD (Nominal) Cost Unit: per participant per year per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a paligial investment in a customer's project where the customer doesn't hold acusioment ownershin Incantives will be used in the Participant Cost tests for the NGIA availation.  Incentives per participant is a function of total incentives paid directly to customers.
	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Option	d: \$ :: \$ :: \$	Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 Cc	136,838   \$   273,675   \$   410,513   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 40,513 Year 3 136,838 136,838 136,838 136,838	\$ 136,838   \$ 273,675   \$ 40,513   \$ Year 4   \$ 136,838   \$ 136,83	\$ 136,838 1 273,675   \$ 410,613   Year 5   \$ 136,838    136,838   136,838    136,838   136,838    136,838   136,838     136,838     136,838     136,838     136,838     136,838     136,838     136,838     136,838	per year per year per year USD (Nominal) Cost Unit: per participant per year per participant per year per participant per year per participant per year	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a paligial investment in a customer's project where the customer doesn't hold acusioment ownershin Incantives will be used in the Participant Cost tests for the NGIA availation.  Incentives per participant is a function of total incentives paid directly to customers.
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TOTAL AND	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Optior Total Incremental Project Cost Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C Third Party Funding, Size A	d: \$ :: \$ :: \$	Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 \$ 300,000 \$ 300,000 \$ 300,000 \$	136,838   \$   273,675   \$   410,513   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513	136,838 273,675 410,513 Year 3 136,838 136,838 136,838 136,838 140,838 136,838	\$ 136,838   \$ 273,675   \$ 410,613   \$ 400,613   \$ 70,61	\$ 136,838 \$ 273,675 \$ 410,633	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GRG audits or direct install measures) or making a capital investment in a customer sproject where the customer doesn't hold anuiomant ownershin locantives will be used in the Particinant Cost tests for the NGIA evaluation incentives per participant is a function of total incentives paid directly to customers.  CIP rebates, had an expected payback of 6–7 years, and was not implemented by the customer.  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be
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TOTAL AND DIRECT PARTICIPANT	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Optior Total Incremental Project Cost Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	x \$ dd d	Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 \$ 300,000 \$ 300,000 \$ 300,000 \$	136,838   \$   273,675   \$   410,513   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513	136,838 273,675 410,513 Year 3 136,838 136,838 136,838 136,838 140,838 136,838	\$ 136,838   \$ 273,675   \$ 40,051   \$ 136,838   \$ 136,8	\$ 136,838 \$ 273,675 \$ 410,633	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold anuioment research in Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  CIP rebates, had an expected payback of 6–7 years, and was not implemented by the customer  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA etc) account for those values here. This funding is noted here
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DIRECT PARTICIPANT	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Optior Total Incremental Project Cost Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	x \$ dd d	Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 \$ 300,000 \$ 300,000 \$ 300,000 \$	136,838   \$   273,675   \$   410,513   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513	136,838 273,675 410,513 Year 3 136,838 136,838 136,838 136,838 140,838 136,838	\$ 136,838   \$ 273,675   \$ 40,051   \$ 136,838   \$ 136,8	\$ 136,838 \$ 273,675 \$ 410,633	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold anuioment research in Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  CIP rebates, had an expected payback of 6–7 years, and was not implemented by the customer  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA etc) account for those values here. This funding is noted here
DIRECT PARTICIPANT	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Optior Total Incremental Project Cost Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size A Third Party Funding, Size A Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size B Third Party Funding, Size C	x \$ dd d	Year 1 Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$  \$50,000 fla 25 \$// \$10,000 300,000 \$ 300,000 \$ 300,000 \$ 300,000 \$	136,838   \$   273,675   \$   410,513   \$   \$   410,513   \$   \$   \$   410,513   \$   \$   \$   410,513   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 440,513 Year 3 136,838 136,	\$ 136,838   \$ 273,675   \$ 40,513   \$ Year 4   \$ 136,838   \$ 136,83	\$ 136,838 \$ 136,	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold anuisment research in Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  CIP rebates, had an expected payback of 6–7 years, and was not implemented by the customer  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.
DIRECT PARTICIPANT	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrolled Total Project Cost Baseline Upgrade Optior Total Incremental Project Cost Incentive Cap Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C Third Party Funding, Size A Third Party Funding, Size C Description of source of external funding:  Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size A Direct Participant Pilot Costs, Size B	x \$ dd d	Year 1 Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$ \$ 136,838 \$ \$ \$50,000 fla  25 \$// \$ \$10,000  300,000 \$ 300,000 \$ 300,000 \$  - \$ - \$ - \$ - \$ - \$ 163,163 \$ 163,163 \$	136,838   \$   273,675   \$   410,513   \$   \$   410,513   \$   \$   \$   410,513   \$   \$   \$   \$   \$   \$   \$   \$   \$	136,838 273,675 400,513 Year 3 136,838 136,	\$ 136,838   \$ 273,675   \$ 40,513   \$ Year 4   \$ 136,838   \$ 136,83	\$ 136,838 \$ 273,675 \$ 410,613 \$ 410,613 \$ 410,613 \$ 410,613 \$ 136,838 \$ 136,	per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold anuioment research in Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  CIP rebates, had an expected payback of 6–7 years, and was not implemented by the customer  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non- utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (e.g. IRA etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.  This represents the upfront costs to participants who participant Pilot costs will be used in the Participant Cost tests for
DIRECT PARTICIPANT	Incentives, Size B Incentives, Size C Incentives per Participant, Size A Incentives per Participant, Size B Incentives per Participant, Size B Incentives per Participant, Size C Calculations & Other Explanation:  M&V - Total Cost for Whole Pilot Incentive Cap NGIA-related CNP Cost Per Customer Enrollee Saseline Upgrade Option Total Pilot Upfront Costs, Size A Total Pilot Upfront Costs, Size B Total Pilot Upfront Costs, Size C Third Party Funding, Size A Third Party Funding, Size B Third Party Funding, Size C Description of source of external funding: Direct Participant Pilot Costs, Size A	x \$ dd d	Year 1 Year 1	273,675 \$ 410,513 \$  136,838 \$ 136,838 \$ 136,838 \$ 136,838 \$ \$50,000 fla 25 \$// \$10,000 300,000 \$ 300,000 \$ 300,000 \$ 300,000 \$ - (B,300,000 \$ 300,000 \$ - (B,300,000 \$ 300,000 \$ - (B,300,000 \$ - (B,300,000 \$ 300,000 \$ - (B,300,000	136,838   \$   273,675   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513   \$   \$   410,513	136,838 273,675 40,513 Year 3 136,838 136,838 136,838 136,838 136,838 136,838 136,838 136,838 136,838 136,838 136,838	\$ 136,838   \$ 273,675   \$ 40,513   \$ Year 4 \$ 300,000   \$ 300,000   \$ 300,000   \$ \$ -     \$ \$ -     \$ \$ -     \$ \$ -     \$ \$ -     \$ \$ -     \$ \$ \$ -     \$ \$ \$ -     \$ \$ \$ \$	\$ 136,838 \$ 136,	per year per year per year per year per year USD (Nominal) Cost Unit: per participant per year  USD (Nominal) Cost Unit: per participant	etc.) Do not include here cost of customer benefits delivered directly to the customer by a program vendor (paying for the cost of energy/GHS audits or direct install measures), or making a capital investment in a customer's project where the customer doesn't hold anuisment research in Incentives will be used in the Participant Cost tests for the NGIA evaluation  Incentives per participant is a function of total incentives paid directly to customers.  CIP rebates, had an expected payback of 6–7 years, and was not implemented by the customer  This represents the total equipment and installation costs for technologies implemented as part of this pilot (specifically non-utility capital projects that were captured separately above). This cost does not account for what portion of costs may be covered by utility incentives, nor include utility program admin costs.  If there are expectations for external funding sources (eg. IRA, etc) account for those values here. This funding is noted here for reference, it's not used to calculate any of the NGIA evaluation criteria.

Year 5

Year 4

Calculations & Other Explanation:

Year 1

Year 2

Year 3

	Escalation r	ate 3.82% 3.82% 3.82% (for each pilot analysis year)  For an escalation rate, we use the average of the 12-month percentage change in the "all items" consumer price index
PARTICIPANT NON-ENERGY COSTS	Participant Non-Energy Costs, Size A  Participant Non-Energy Costs, Size B  Participant Non-Energy Costs, Size C  Calculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.  Year 1 Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: This includes any increased in costs like equipment operating costs or increased water costs. Participant Non-Energy Costs will be used in the Participant Cost tests for the NGIA evaluation criteria.
	Escalation r	
PARTICIPANT NON-ENERGY SAVINGS	Participant Non-Energy Savings, Size A  Participant Non-Energy Savings, Size B  Participant Non-Energy Savings, Size C  Calculations & Other Explanation:	Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit:  This includes any operating savings like water savings.  **This includes any operating savings like water savings.**  **This includes any operating savings like water savings.**  **This includes any operating savings like water savings.**  **Perpendiction of the control of t
PILOT LIFE	Average Lifetime for Savings/Pilot Tech, Size A Average Lifetime for Savings/Pilot Tech, Size B Average Lifetime for Savings/Pilot Tech, Size C Calculations & Other Explanation:	20 years 20 years 20 years
NATURAL GAS ENERGY SAVINGS: AVG. Dth/ PARTICIPANT SAVED	Avg. Dth/Participant Saved, Size A Avg. Dth/Participant Saved, Size B Avg. Dth/Participant Saved, Size C Calculations & Other Explanation:	5,474 5,474 5,474 5,474 5,474 Oth/Participant 5,474 Oth/Participant
	Avg. Non-Gas Fuel Units/Part. Saved, Size A Avg. Non-Gas Fuel Units/Part. Saved, Size B Avg. Non-Gas Fuel Units/Part. Saved, Size C	0.00 kWh/Participant 0.00 kWh/Participant 0.00 kWh/Participant 0.00 kWh/Participant 0.00 kWh/Participant 0.00 kWh/Participant
AVG. NON-GAS FUEL UNITS/ PART.	Avg. Additional Non-Gas Fuel Units/Part.Used, Size A Avg. Additional Non-Gas Fuel Units/Part.Used, Size B Avg. Additional Non-Gas Fuel Units/Part.Used, Size C Calculations & Other Explanation:	76,107  **Wh/Participant Avg. Additional Non-Gas Fuel Units/Part. Used will be used in the Participant Cost tests for the NGIA evaluation criteria.  **XWh/Participant Whh/Participant Wh/Participant Wh/
TOTAL ANNUAL Dth SAVED	Total Annual Dth Saved, Size A Total Annual Dth Saved, Size B Total Annual Dth Saved, Size C Calculations & Other Explanation:	Year 1         Year 2         Year 3         Year 4         Year 5           5,474         5,474         5,474         5,474         Dth           10,947         10,947         10,947         10,947         Dth           16,421         16,421         16,421         16,421         Dth
GRID MIX SCENARIO	Grid Mix Scenario  Calculations & Other Explanation:	Select one of the listed grid mix scenarios taking into account that:  *Utilities shall use electric-utility-specific generation mix information for the renewable natural gas facility when it is reasonably available. When electric utility-specific information is not available, the filing gas utility will use a state-sneedlic generation mix taken from National Renewable Fearery Laboratory (NRFL) Standard Scenarios. If the renewable natural gas facility is using a higher proportion of carbon free electricity than is available by default from their electric
	This section does not apply to all pilot types. The GHG changes emissions (per unit of participation).	from decreased natural gas and/or electricity consumption will be calculated based on values above. However, for pilots where NGIA requires lifecycle GHG savings (e.g. RNG, hydrogen, carbon capture) this section accounts for the lifecycle change in GHG
	Lifecycle GHG Intensity, Size A	Year 1 Year 2 Year 3 Year 4 Year 5

LIFECYCLE GHG INTENSITY BY PROJECT SIZE  OTHER PILOT-SP PEAK REDUCTION FACTOR	Low Expected High  Lifecycle GHG Intensity, Size B Low Expected High  Lifecycle GHG Intensity, Size C Low Expected High  Lifecycle GHG Intensity, Size C Low Peak Reduction Factor Calculations & Other Explanation:	1% The es	Year 2 Year 3  0.00 0.  Year 2 Year 3  0.00 0.	Year 4	kg CO2e/participant	Gas Innovation Act innovation (NGIA) plan, where as assumptions for electricity use and other fuels used be used in cost-benefit calculations and when dete NGIA plans.	se gas intensity for innovative resources included in a proposed Natural polipicable. High and low scenarios shall incorporate at least low and high in the resource's lifecycle. Expected greenhouse gas intensity values will mining the expected greenhouse gas reduction of pilot programs and and the proposal of the proposal of the programs and context of specific utility proposals. Peak Reduction Factor will be used in
VARIABLE O&M	Variable O&M Cost, Applies to all project sizes <u>Calculations &amp; Other Explanation:</u> Escalation	Year 1 \$ 0.05 \$ \$ Year 1 -5.250%	Year 2         Year 3           0.05         \$         0.0           Year 2         Year 3         -5.250%         -5.250	Year 4 Year 5	USD (Nominal) Cost Unit:  per Dth  (for each pilot analysis year)	the context of specific utility proposals. For example costs as they also need to be transported to custon Cost and Non Participant Cost tests for the NGIA ev.	However, the value for other innovative resources should be considered in resources like power-to-hydrogen and RNG may not decrease OSM heres on the distribution system. Variable OSM will be used in the Utility alustion criteria. Note, to acliculate this metric, you can make one cost percent change in the price of natural gas between 2023 through 2027 to
NON-GAS FUEL COST	Non-Gas (i.e., Electric) Fuel Cost <u>Calculations &amp; Other Explanation:</u>	\$ 44.14 per M	(Nominal) Cost  The CIP methodology equal to the average	y is used for all resources other than stra of daily real-time final market locational	ategic electrification. The method for strategic marginal prices (LMP) at the Minnesota Hub	electrification should be considered in the context of sy from January 1 2022 to December 31 2022 using data fr	pecific utility pilot proposals. om Midwest Independent System Operator (MISO)
NON-GAS FUEL LOSS FACTOR	Non-Gas Fuel Loss Factor <u>Calculations &amp; Other Explanation:</u>	8.22%					oecific utility pilot proposals. In the most recent CIP, Staff used the as factors and weighting by the utilities' 2017-2019 average retail sales
LOSS FACTOR	Calculations & Other Explanation:	8.22%					
	Calculations & Other Explanation:		weighted average of  Cost Unit:  Generally no change which were calculate utilities to select diffi	the most recent loss factors reported by  i from CIP methodology. The factor is call ad by inflating the Commission's approve erent externality values for pilots targetin	y Minnesota Power, Xcel Energy, and Otter Ta culated using the final environmental cost values us d dollar per ton environmental cost values us g specific geographies or populations. For e giptuse as high value rather than the median	Il Power's reported 2021 transmission and distribution lo ues approved by Minnesota Public Utilities Commission ing escalation rate to adjust by observed inflation between ample, an energy efficiency project that targets an urbs	
OTHER NON-GHG	Calculations & Other Explanation:  ATIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C	\$ 0.37 per D \$ 0.37	weighted average of  Cost Unit:  Generally no change which were calculate utilities to select diffi	the most recent loss factors reported by  i from CIP methodology. The factor is call ad by inflating the Commission's approve erent externality values for pilots targetin	y Minnesota Power, Xcel Energy, and Otter Ta  culated using the final environmental cost val d dollar per ton environmental cost values us g specific geographies or populations. For er inght use a high value rather than the median pollutants, as shown in Table I of the Commis  Total during 5 program years	Il Power's reported 2021 transmission and distribution lo ues approved by Minnesota Public Utilities Commission ing escalation rate to adjust by observed inflation between ample, an energy efficiency project that targets an urbs	ss factors and weighting by the utilities' 2017-2019 average retail sales  (Commission). The factors are reported in 2021 dollars in Table 2 below, en 2014 and 2021 Stakeholders expressed a preference for allowing n area might use the urban value rather than the metropolitan fringe A plans if they can provide justication for the change, Instead of requiring
OTHER NON-GHG	Calculations & Other Explanation:  ATIVE CRITERIA:  Other Non-GHG Pollutants, Size A  Other Non-GHG Pollutants, Size B  Other Non-GHG Pollutants, Size C  Calculations & Other Explanation:  Net Direct Job Creation, Size A  Net Direct Job Creation, Size A	\$ 0.37 per D \$ 0.37 per D \$ 0.37 per D	weighted average of  Cost Unit:  Oth Which were calculated utilize to select diff  the use of median m  the use of median m	the most recent loss factors reported by in from CIP methodology. The factor is call of by inflating the Commission's approvement extensity values for joint of province to the commission in a province of the commission in the commission in the commission in the commission of the co	v Minnesota Power, Xcel Energy, and Otter Ta  culated using the final environmental cost val d dollar per ton environmental cost values us g specific geographies or populations. For er night use a high value rather than the median pollutants, as shown in Table I of the Commis  Total during 5 program years  Total during 5 program years  Total during 5 program years	il Power's reported 2021 transmission and distribution lo use approved by Minnesota Public Utilities Commission ing escalation rate to adjust by observed inflation between ample, an energy efficiency project that targets an urba Utilities can make deviations such as these in their NGI utilities can make deviations such as these in their NGI utilities can make deviations such as these in their NGI utilities can make deviations such as these in their NGI utilities can make deviations such as these in their NGI utilities and utilities of the such as the s	ss factors and weighting by the utilities' 2017-2019 average retail sales  (Commission). The factors are reported in 2021 dollars in Table 2 below,  en 2014 and 2021. Stakeholders expressed a preference for allowing  a rear might use the urban value rather than the metropolitan fringe  A plans if they can provide justification for the change, instead of requiring  643, utilities may use the value most applicable for the pilot or measure.  Utilities should consider both jobs created by proposed pilots and

Calculations & Other Explanation: ob numbers are estimated as Full Time Equivalents (FTE) and are rounded off. Year 1 Year 2 Year 3 Year 4 Year 5 USD (Nominal) Cost Unit: Public Co-Benefits, Size A per year Quantifiable in some cases. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Public Co-Benefits, Size B per year Public Co-Benefits, Size C per year BENEFITS Calculations & Other Explanation: Year 1 Year 2 USD (Nominal) Cost Unit: Year 3 Year 4 Year 5 Water Pollution, Size A The legislation left the door open to quantify any costs and benefits on water pollution. This might be quantifiable for some of per year the projects. If this metric isn't quantifiable, there is space for any qualitative comments in the Additional Qualitative Water Pollution, Size B per year WATER Considerations section below. Water Pollution, Size C per year POLLUTION Calculations & Other Explanation: ADDITIONAL QUALITATIVE CONSIDERATIONS: NGIA Utility lotes: It is expected that most of the utility perspective costs and benefits will be quantifiable with and should be heavily informed by the structural values and CIP quantification methods. NGIA. articipants' Notes: Definition: May assist MN businesses in achieving GHG goals IGIA Nonparticipating <u>Customers'</u> erspective Notes: As with the utility perspective, the direct effects of pilot programs on non-participating customers should be quantified in most cases and can be heavily informed by structural values. Effects on Other nergy Systems and Energy ecurity: NGIA invites the Commission to consider how innovative resources fit into the energy system with a broader perspective than effects on the gas utility and its customers. Measures like strategic electrification specifically require gas utilities and the Commission to avoid negative effects on the electric system. Further, the NGIA empowers the Commission to consider a wide variety of "costs and benefits that may be expected under a plan," one of which is a reduction of reliance on imported resources and national fuel markets. Reduces overall energy consumption

GHG Emissions

B C 11	
Definition:	An innovation plan must include the total lifecycle GHG emissions that the utility projects will be reduced or avoided through implementing the plan. This benefit should be generally quantifiable using the Commission-approved GHG accounting framework and GHG externality values. Note that this row also calls for discussion of any environmental justice effects of the pilot related to GHG emissions, these may not be quantifiable.
Other Pollution	
Notes:	
Definition:	Include any additional non-GHG environmental costs and benefits. For example, effects on water pollution that may not be quantifiable, or specific air quality benefits to a low income community. Note that this also calls for discussion of any environmental justice effects of
	the pilot related to non-GHG pollution.
Waste Reduction and	
Reduction and Reuse Notes:	
	Waste reduction, reuse, and anaerobic digestion are goals of the
Definition:	NGIA. Includes reduction of water use.
Policy Notes:	
. oney Notes.	
	NGIA is intended to help the state achieve certain environmental policy goals including geologic gas throughput reduction and
Definition:	increased use of renewable resources.
	Reduces fossil gas throughput; increases use of renewable energy
Net Job Creation Notes:	
	An innovation plan must include, as applicable, "projected local job implementation of the plan." Utilities should
Definition:	consider both jobs created by proposed pilots and jobs that may be eliminated by proposed pilots.
Dell'Illidon.	emminated by proposed pilots.
Economic Development	
Notes:	
Definition:	The Commission must make a finding that the innovation plan "promotes local economic development." Creation of jobs is a form of economic development, but economic development is broader. For example, pilots that pay workers a living wage or support apprenticeships or training opportunities would provide additional economic benefits.
Public Co-	
Benefits Notes:	
Definition:	There may be public benefits for certain pilots. For example, the NGIA is intended to help support wastewater treatment and organics recycling. This category could also include odor effects on Minnesota communities – either reductions in unpleasant odors or increased odor problems.
	out proteins.
Market Development	
Notes: Definition:	
Definition:	The NGIA supports the development of new markets or expansion of markets in Minnesota. For example, utilities are required to describe whether proposed plans support the development of alternative agricultural products, as well as the geographic areas of the state where benefits are realized
	May help MN businesses appeal to customers interested in sustainability
<u>Direct</u>	
Innovation Support Notes:	

Definition:	This category is intended to answer how the proposed pilot supports the development and increased deployment of innovative resources beyond the direct program impacts. For example, research and development projects, which are permitted under the NGIA40 are	
	unlikely to produce significant benefits on their own but are intended to lead to future opportunities.	
	Opportunity for customers to learn about novel options for reducing GHGs from their systems	
Resource		
Scalability and		
Role in a		
Decarbonized		
System Notes:		
Definition:		
	While NGIA pilots may have small impacts in the near-term, stakeholders felt it was important for the Commission to consider the potential importance of each resource in a decarbonized energy system. The NGIA requires the Commission to consider changes to natural gas	
	utility and regulatory policy structures needed to meet or exceed Minnesota's GHG reduction goals. NGIA pilots should provide valuable information to the Commission as it considers the energy future of the state.	