MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	**7/25/2024**		**Agenda Item 1*** **
Company	CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Minnesota Gas		
Docket No.	G-008/M-23-215		
	In the Matter of CenterPoint Energy's Natural Gas Innovation Plan		
Issues	Should the Commission approve, reject, or modify CenterPoint Energy's 2023 Natural Gas Innovation Plan?		
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✓ **Relevant Documents**	**Date**
CenterPoint Energy Innovation Plan	6/28/2023
Notice of Comment Period	7/17/2023
OAG Initial Comments	1/12/2024
CEE Initial Comments	1/16/2024
Coalition for Renewable Natural Gas Initial Comments	1/16/2024
CEO Initial Comments	1/16/2024
GeoExchange Initial Comments	1/16/2024
IUOE Local 49 Initial Comments	1/16/2024

✓ Relevant Documents	Date
CUB Initial Comments	1/16/2024
Department of Commerce Initial Comments	1/17/2024
City of Minneapolis Initial Comments	1/17/2024
CenterPoint Energy Letter – Official Response from Hennepin County	1/18/2024
CEE Reply Comments	3/6/2024
Public Comment: Kristin Dawkins	3/14/2024
Public Comment: Lee Samelson	3/14/2024
CenterPoint Reply Comments	3/15/2024
CEO Reply Comments	3/15/2024
Coalition for Renewable Natural Gas Reply Comments	3/15/2024
LIUNA Reply Comments	3/15/2024
Public Comment: Jeffrey Davis, University of Minnesota	4/22/2024
Public Comment: Satish Desai	4/29/2024
Public Comment: Tim Rybak, Bloomington Public Schools	5/15/2024
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CenterPoint Customers Supplemental Comments	5/15/2024
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Department of Commerce Supplemental Comments	5/15/2024
CUB Supplemental Comments	5/15/2024
CEO Supplemental Comments	5/15/2024
OAG Supplemental Comments	5/15/2024
CenterPoint Energy Supplemental Comments	5/15/2024
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CenterPoint Energy Letter	6/7/2024
PUC Staff Ex Parte Communication with the OAG	6/12/2024

✓ **Relevant Documents**	**Date**
PUC Staff Ex Parte Communication with CenterPoint	6/13/2024
PUC Staff Ex Parte Communication with CUB	6/17/2024
Staff IR to CenterPoint and CenterPoint Response	7/2/2024

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ACRONYMNS

- **ASHP**: Air-Source Heat Pump
- **CI**: Carbon Intensity
- **C&I**: Commercial and Industrial [customers]
- **CIP**: Conservation Improvement Program
- **CO2e**: Carbon Dioxide equivalent
- **ECO**: Energy Conservation and Optimization
- **ERV**: Energy Recovery Ventilator
- **ETA**: Energy Technology Accelerator
- **FTE**: Full-Time Equivalent
- **GAP**: Gas Affordability Program
- **GHG**: Greenhouse Gas
- **GREET**: Greenhouse Gasses, Regulated Emissions, and Energy Use in Technologies
- **GSHP**: Ground-Source Heat Pump
- **HERC**: Hennepin County Energy Center
- **HVAC**: Heating, Ventilation, and Air Conditioning
- **IAA**: Innovation Act Adjustment
- **IRA**: Inflation Reduction Act
- **IRA**: Inflation Reduction Act
- **ITC**: Investment Tax Credit
- **MNOPS**: Minnesota Office of Pipeline Safety
- **MOVAPS**: Modular One Vessel Ammonia Production System
- **NAESB**: North American Energy Standards Board
- **NGEA**: Natural Gas Energy Analysis
- **NGIA**: Natural Gas Innovation Act
- **NREL**: National Renewable Energy Laboratory
- **PTC**: Production Tax Credit
- **R&D**: Research and Development
- **RFI**: Request for Ideas
- **RFP**: Request for Proposals
- **RNG**: Renewable Natural Gas
- **RTC**: Renewable Thermal Certificates

DEFINITIONS

- **Air-Source Heat Pump (ASHP)**: A system that transfers heat from outside to inside a building, or vice versa, to provide heating or air conditioning depending on the season.
- **Biogas:** As defined by the NGIA, biogas means gas produced by the anaerobic digestion of biomass, gasification of biomass, or other effective conversion processes.
- **Carbon Capture:** As defined by the NGIA, carbon capture means the capture of greenhouse gas emissions that would otherwise be released into the atmosphere.
- **Carbon Intensity**: A measure of how much carbon emissions are produced per unit of energy or economic output.

- **District Energy:** As defined by the NGIA, district energy means a heating or cooling system that is solar thermal powered or that uses the constant temperature of the earth or underground aquifers as a thermal exchange medium to heat or cool multiple buildings connected through a piping network.
- **Energy Efficiency:** As defined by the NGIA, energy efficiency has the meaning given in section 216B.241, subdivision 1, paragraph (f), but does not include energy conservation investments that the commissioner determines could reasonably be included in a utility's conservation improvement program.
- **Full-Time Equivalent**: A unit that indicates the workload of an employed person in a way that makes workloads or class loads comparable across various contexts.
- **Greenhouse Gas Emissions:** As defined by the NGIA, greenhouse gas emissions means emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride emitted by anthropogenic sources within Minnesota and from the generation of electricity imported from outside the state and consumed in Minnesota, excluding carbon dioxide that is injected into geological formations to prevent its release to the atmosphere in compliance with applicable laws.
- **Greenhouse Gasses, Regulated Emissions, and Energy Use in Technologies (GREET)**: A model developed by the Argonne National Laboratory for evaluating the energy and emission impacts of various vehicle technologies and fuels.
- **Ground-Source Heat Pump (GSHP)**: A heating and cooling system that utilizes the earth's constant temperature to provide energy-efficient temperature regulation.
- **Innovative Resource:** As defined by the NGIA, innovative resources include biogas, renewable natural gas, power-to-hydrogen, power-to-ammonia, carbon capture, strategic electrification, district energy, and energy efficiency.
- **Minn. Stat. § 216B.2427:** The Natural Gas Innovation Act ("NGIA")
- **Power-to-Ammonia**: As defined by the NGIA, power-to-ammonia means the production of ammonia from hydrogen produced via power-to-hydrogen using a process that has a lower lifecycle greenhouse gas intensity than does natural gas produced from conventional geologic sources.
- **Power-to-Hydrogen:** as defined by the NGIA, power-to-hydrogen means the use of electricity generated by a carbon-free resource to produce hydrogen.
- **Renewable Natural Gas:** As defined by the NGIA, RNG means biogas that has been processed to be interchangeable with, and that has a lower lifecycle greenhouse gas intensity than, natural gas produced from conventional geologic sources.
    - **"Bundled" Renewable Natural Gas:** Bundled RNG refers to RNG purchases that include both the commodity gas and the associated environmental attributes.
    - **"Unbundled" Renewable Natural Gas:** Unbundled RNG refers to RNG purchases that include either just the commodity gas, or just the environmental attributes associated with the commodity gas.
- **Renewable Thermal Certificates (RTC)**: Certificates that represent the environmental attributes of thermal energy generated from renewable sources.
- **Strategic Electrification:** As defined by the NGIA, strategic electrification means the installation of electric end-use equipment in an existing building in which natural gas is a

primary or back-up fuel source, or in a newly constructed building in which a customer receives natural gas service for one or more end-uses, provided that the electric end-use equipment:

(1) results in a net reduction in statewide greenhouse gas emissions, as defined in section 216H.01, subdivision 2, over the life of the equipment when compared to the most efficient commercially available natural gas alternative; and

(2) is installed and operated in a manner that improves the load factor of the customer's electric utility.

Strategic electrification does not include investments that the commissioner determines could reasonably be included in the natural gas utility's conservation improvement program under section 216B.241

ISSUE

Should the Commission approve, reject, or modify CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas' ("CenterPoint's") 2023 Natural Gas Innovation Plan?

INTRODUCTION

The Natural Gas Innovation Act ("the NGIA") was enacted by the Minnesota Legislature in 2021 under Minn. Stat. § 216B.2427. The Act established a framework to allow natural gas utilities to use innovative resources to work towards Minnesota's greenhouse gas reduction goals. The goal of NGIA is to reduce the amount of natural gas produced from conventional geologic sources delivered to customers.[1]

The NGIA allows gas utilities to submit a voluntary plan to the Commission detailing how it will leverage these innovative resources, which include biogas, renewable natural gas, power-to-hydrogen, power-to-ammonia, carbon capture, strategic electrification, district energy and energy efficiency, and to request incremental cost recovery for the submitted projects.

CenterPoint is the first gas utility to submit an innovation plan. CenterPoint proposed 17 pilot programs and seven research and development ("R&D") projects, ranging from renewable natural gas purchases to geothermal networks, at a total lifetime utility cost of $195,413,043.

In this proceeding, the Commission must decide whether to approve, modify, or reject the first-of-its-kind plan. In making this decision, the Commission will need to consider several recommendations to modify or reject specific pilots. These decisions may, or may not, result in a plan that complies with the various budget and content requirements set by the NGIA.

One major consideration the Commission will be faced with is determining whether several of CenterPoint's energy efficiency and strategic electrification pilots could reasonably be included in their CIP/ECO project portfolio. These types of pilots are only eligible for inclusion in innovation plans if they cannot be reasonably included in CIP/ECO, and the Department found that CenterPoint had not provided the information necessary to determine this to be true for many of the proposed energy efficiency and strategic electrification pilots.

The Commission must also consider the following: CenterPoint's proposal to spend up to 25% more than budgeted for pilots with higher-than-expected expenditures using excess funds from pilots with lower-than-expected expenditures; CenterPoint's cost recovery proposal; CenterPoint's proposed cost-effectiveness objectives; and CenterPoint's proposed timeline for filing its annual NGIA status reports.

This briefing paper breaks down CenterPoint's proposal into several sections: the proposed portfolio of pilots and research and development ("R&D") projects, the request to spend up to 25% more than budgeted for pilots with higher-than-expected expenditures, the cost recovery

[1] Minn. Stat. § 216B.2427 subd. 10.

proposal, the proposed cost-effectiveness objectives, and the schedule for annual status reports. Each section includes an introduction, a summary of party positions, a summary of the discussion, and Staff's analysis.

The first and longest section on the proposed portfolio of pilots and R&D projects includes a Staff analysis for each pilot, for the package of proposed R&D projects, and other major issues. Staff's analysis at the end of this section summarizes the major decisions before the Commission and outlines the various pathways proposed by parties.

SUMMARY: THE NATURAL GAS INNOVATION ACT

The NGIA allows natural gas utilities to file, for Commission approval, innovation plans. Innovation plans are comprised of a set of pilot projects that directly deploy and/or encourage the deployment of "innovative resources," which displace or reduce the use of fossil natural gas and reduce greenhouse gas emissions associated with the natural gas system.[2] Innovative resources include biogas, renewable natural gas, power-to-hydrogen, power-to-ammonia, carbon capture, strategic electrification, district energy, and energy efficiency.[3] Innovation plans have five-year terms. Subsequent innovation plans must be filed no later than four years after the previous plan was approved by the Commission so that, if approved, the new plan takes effect immediately upon expiration of the previous plan.

Through their innovation plans, utilities are required to describe a proposal for recovering the annual total incremental costs of the plan.[4,5] The costs associated with the first innovation plan submitted to the Commission by a utility must not exceed the lesser of:

> (1) 1.75% of the utility's gross operating revenues from natural gas service provided in Minnesota at the time of filing the innovation plan; or
> (2) $20 per nonexempt customer.[6]

These costs are based on the annual incremental costs for each year of the plan, divided by the total number of nonexempt utility customers. The NGIA also allows the Commission to extend the innovation plan cost cap for costs associated with the purchase of renewable natural gas

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[2] Minn. Stat. § 216B.2427, subd. 2.

[3] Per Minn. Stat. § 216B.2427, subd. 1.(f), energy efficiency as an innovative resource does not include energy conservation investments that the commissioner determines could reasonably be included in a utility's conservation improvement program ("CIP").

[4] Minn. Stat. § 216B.2427, subd. 2.(a)(12).

[5] Per Minn. Stat. § 216B.2427, subd. 3.(e) the annual total incremental costs of a plan are to be calculated at the time the plan is filed as the average of the utility's forecasted total incremental costs over the five-year term of the plan.

[6] Minn. Stat. § 216B.2427, subd. 3.(f) explains that large customer facilities that the commissioner of commerce has exempted from a utility's conservation improvement program is exempt from the utility's innovation plan offerings and must not be charged any costs incurred to implement an approved innovation plan. the Commission may prohibit large customer facilities exempt from innovation plan costs from participating in innovation plans.

obtained from specific sources.[7,8] Prudently incurred costs under an approved plan are recoverable either: (1) via the utility's purchased gas adjustment;[9] (2) in the utility's next general rate case; or (3) via annual adjustments, provided that after notice and comment the Commission determines that the costs included for recovery are prudently incurred.

To evaluate the resources within an innovation plan, Minn. Stat. § 216B.2428 requires the Commission to determine the emissions impact and cost-effectiveness of those resources.[10] To fulfill this requirement, the Commission opened a proceeding to develop the necessary frameworks,[11] and issued two Orders[12] describing the approved lifecycle greenhouse gas emission intensity and cost-effectiveness frameworks.

Finally, the NGIA requires that the Commission establish cost-effectiveness objectives for an approved plan based on the adopted cost-benefit framework. Utilities operating under an approved innovation plan are required to file annual reports to the Commission detailing the work they've completed under the plan, including:

- The costs incurred;
- The lifecycle greenhouse gas emissions reduced or avoided;
- A description of the processes used to track and verify the innovative resources and to retire the associated environmental attributes;
- An assessment of the degree to which the lifecycle greenhouse gas accounting methodology is consistent with current science;
- The economic impact of the plan, including job creation; and
- The utility's progress toward achieving the cost-effectiveness objectives established by the Commission; and modifications to elements of the plan proposed by the utility.

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[7] Food waste diverted from a landfill, a municipal wastewater treatment system, or an organic mixture that includes at least 15%, by volume, sustainably harvested native prairie grasses or locally appropriated cover crops, as determined by a local soil and water conservation district or the United States Department of Agriculture, Natural Resources Conservation Service, (Minn. Stat. § 216B.2427, subd. 3.(b)).

[8] Minn. Stat. § 216B.2427, subd. 3.(b) explains that the Commission may approve additional costs up to the lesser of: (1) an additional 0.25% of the utility's gross operating revenues from natural gas service provided in Minnesota at the time the Innovation Plan was filed; or (2) $5 per nonexempt customer, based on the proposed total incremental costs for each year of the plan divided by the total number of nonexempt utility customers of incremental costs.

[9] Minn. Stat. § 216B.16, subd. 7.(2), https://www.revisor.mn.gov/statutes/cite/216B.16#stat.216B.16.7

[10] Minn. Stat. § 216B.2428

[11] Docket No. G999/CI-21-566, *In the Matter of Establishing Frameworks to Compare Lifecycle Greenhouse Gas Emission Intensities of Various Resources, and to Measure Cost-Effectiveness of Individual Resources and of Overall Innovative Plans*

[12] Id, Order (June 1, 2022) and Order (September 12, 2022).

BACKGROUND

I. The Natural Gas Innovation Act

On June 26, 2021, Governor Walz signed Minn. Stat. § 216B.2427,[13] the NGIA, into law establishing a regulatory framework for Minnesota's natural gas utilities to contribute to meeting the State's greenhouse gas reduction goals.

II. The Commission's Frameworks Order

On June 1, 2022, the Commission adopted lifecycle greenhouse gas and cost-benefit analytic frameworks required by the NGIA and established additional innovation plan reporting requirements through an Order in Docket No. G-999/CI-21-566 (the "Frameworks Order").[14]

A. Framework for Calculating Lifecycle Greenhouse Gas Emissions

The Commission ordered utilities to primarily utilize the most recent version of the Argonne National Laboratory's Greenhouse Gasses, Regulated Emissions, and Energy Use in Technologies model (the "GREET model") in their innovation plans and annual status reports. GREET is a lifecycle assessment model and is generally accepted as an effective tool for estimating lifecycle greenhouse gas emissions intensities of various fuels.

The Frameworks Order specified that the lifecycle greenhouse gas emissions per dekatherm (Dth) of geologic natural gas, and the greenhouse gas intensity of power-to-hydrogen,[15] power-to-ammonia, biogas, and renewable natural gas must be calculated in accordance with the GREET model. Similarly, the greenhouse gas intensity of a carbon capture project or a district energy project was to be calculated consistent with the GREET model of calculating the greenhouse gas intensity of electricity. The Commission ordered utilities to use other approaches in limited scenarios (electricity that powers a renewable natural gas facility,[16] and

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[13] https://www.revisor.mn.gov/statutes/cite/216B.2427

[14] Docket No. G999/CI-21-566, *In the Matter of Establishing Frameworks to Compare Lifecycle Greenhouse Gas Emission Intensities of Various Resources, and to Measure Cost-Effectiveness of Individual Resources and of Overall Innovative Plans*, Order (June 1, 2022) https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={800F2081-0000-CF1C-AB9E-88CAC033583A}&documentTitle=20226-186267-01

[15] Utilities may assume that hydrogen produced with carbon-free electricity has no greenhouse gas emissions associated with its production but may have greenhouse gas emissions associated with electricity used for compression, transportation, blending, injection, and purification and pumping of water, or other purposes.

[16] Utilities must use electric utility-specific generation mix, or a state-specific generation mix from the National Renewable Energy Laboratory if not available. (Order Point 7)

beneficial electrification[17], and energy savings[18]).[19]

B. Cost-Benefit Analytic Framework

Regarding the cost-benefit analysis framework, the Commission adopted the following definitions for cost-effectiveness perspectives as required by section 216B.2427:[20]

- The NGIA Utility Perspective is defined as the costs or benefits that accrue to the utility system.
- The NGIA participating Customer Perspective is defined as the costs or benefits that accrue to the participating customer (i.e., the customer receiving or using the innovative resource).
- The NGIA Nonparticipating Customer Perspective is defined as all the costs and benefits of the resource, including all relevant societal impacts.
- The NGIA Societal Perspective is defined as all the costs and benefits of the resource, including all relevant societal impacts.

Through this order, the Commission stated that it would consider cost-effectiveness primarily from the NGIA societal perspective. Staff notes that this decision requires the Commission to consider cost-effectiveness from a holistic view that includes the costs and benefits of a pilot that cannot be quantified.

Pursuant to Minn. Stat. § 216B.2428, the Commission established baseline cost-effectiveness criteria against which an innovation plan should be compared. The cost-effectiveness criteria were described on pages 14 – 19 of CenterPoint's January 28, 2022, comments in Docket No. G-999/CI-21-566 and are utilized as rows in a chart that summarizes the costs and benefits expected to result from each pilot program. An example of this chart has been included below.

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[17] Utilities must use a 50/50 blend factor of wind to system mix. The Commission required utilities to use estimated lifetime greenhouse gas reductions, rather than first-year reductions, when comparing strategic electrification with other resources and when comparing energy efficiency to other resources. (Order Points 16 and 19)

[18] Utilities must use the State of Minnesota Technical Reference Manual for Energy Conservation Improvement Programs, or other methods approved by the Department of Commerce for utility's conservation improvement program. (Order Points 17 and 18)

[19] If the RNG facility is using a higher proportion of carbon-free electricity through on-site generation, by subscribing to a Commission-approved electric utility green tariff with renewable energy credits retired on the facility's behalf, or using other carbon-free generation sources (for approval on a case-by-case basis), the filing gas utility may input facility-specific information into the GREET model.

[20] Innovation plans must contain an evaluation of the cost-effectiveness of innovative resources calculated from the perspective of the utility, society, the utility's nonparticipating customers, and the utility's participating customers compared to other innovative resources that could be deployed to reduce or avoid the same greenhouse gas emissions targeted for reduction by the utility's proposed innovative resource.

Table 1: NGIA (Blank) Cost-Benefit Framework Chart[21]

	Pilot 1	Pilot 2	Pilot 3
Perspectives			
NGIA Utility Perspective			
NGIA Participants Perspective (including specific impacts on low- and moderate-income participants)			
Effects on Other Energy Systems and Energy Security			
Environment			
GHG Emissions			
Other Pollution (including any environmental justice costs or benefits)			
Waste reduction and reuse (including reduction of water use)			
Policy (e.g., natural gas throughput, renewable energy goals)			
Socioeconomic			
Net Job Creation			
Economic Development			
Public Co-Benefits			
Market Development			
Innovation			
Direct Innovation Support			
Resource Scalability and Role in a Decarbonized System			

Through the Frameworks Order, the Commission required utilities to include completed versions of the cost-benefit chart in innovation plan filings. In completing these charts, utilities were required to quantify at a minimum (1) near-term expected costs and benefits to the utility system; (2) costs and benefits associated with the reduction or avoidance of greenhouse gas and other emissions; and (3) any out-of-pocket costs expected to be paid by participating customers.

Where applicable, for quantifying any NGIA cost or benefit, utilities were required to use the structural cost-benefit values following the methods described in Appendix H of the Minnesota Department of Commerce's February 11, 2020, CIP BenCost Input Decision in docket No. G-

[21] Staff notes that this table is referred to as the "Exhibit B chart" in the Commission's framework Order due to its introduction in Exhibit B of CenterPoint's January 28 2022 Proposed Cost-Benefit Framework in Docket 21-566.

999/CIP-18-781 (Inputs 1-13)[22] with the modifications described by Joint Commenters in their CIP approach table filed on April 1, 2022.[23] These cost-benefit values were to be updated with the filing of each new innovation plan or each annual NGIA report filing.

The NGIA was written to encourage an evolving process of testing innovative resource pilots, learning from those pilots, and, if appropriate, modifying the applicable frameworks for calculating emissions intensities and cost effectiveness based on lessons learned in the process. To focus this ongoing adaptive process, the Commission directed CenterPoint, Xcel, and Minnesota Energy Resources Corporation ("MERC") to make a joint filing on June 1, 2026, that will discuss lessons learned from the initial years of NGIA implementation and possible improvements to the Commission's emissions intensity and cost-benefit-analysis frameworks.

III. The Current Proceeding

On June 28, 2023, CenterPoint filed its first NGIA innovation plan. CenterPoint's proposed plan includes 17 pilots and 7 R&D projects that would result in the deployment of up to seven of the eight innovative resources identified by the NGIA.[24]

On July 17, 2023, the Commission issued a notice of comment with the following topics open for comment:

- Should the Commission approve, reject, or modify CenterPoint Energy's 2023 Natural Gas Innovation Plan?
- Should the Commission grant CenterPoint Energy's request to spend up to 25 percent more than budgeted for pilots with higher-than-expected expenditures without seeking additional approval from the Commission, provided the increase does not cause the plan, as a whole, to exceed its statutory cost cap or fail to satisfy any other statutory requirements?
- Should the Commission approve CenterPoint Energy's plan for recovering costs associated with its 2023 NGIA plan, including the requested variance to Minn. R. 7825.2400?
- Should the Commission approve CenterPoint Energy's proposed cost-effectiveness objectives?
- Should the Commission grant CenterPoint Energy's request to increase the statutory budget cap for the Company's next NGIA plan, as permitted by Minn. Stat. § 216B.2427, subd. 3(c) & (d), under the condition that "a majority" of the approved cost effectiveness objectives are achieved?
- Should the Commission approve CenterPoint Energy's proposed plan for filing its annual

[22] https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={0095357 0-0000-CD23-81EE-524E2CE8A306}&documentTitle=20202-160294-02

[23] Docket No. 21-566, April 1, 2022, Joint Commenters' Proposed Decision Options, Exhibit A, pp. 5-7 https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={6030E77F-0000-CE13-8279-BAE72C64466A}&documentTitle=20224-184371-01

[24] For more information, see "Summary of CenterPoint's Innovation Plan" below.

status reports?
- Are there other issues or concerns related to this matter?

By January 15, 2024, the following parties provided initial comments:
- Center for Energy and Environment ("CEE")
- Citizens Utility Board of Minnesota ("CUB")
- City of Minneapolis
- Clean Energy Organizations ("CEOs")
- Coalition for Renewable Natural Gas ("RNG Coalition")
- The Department of Commerce ("DOC" or "the Department")
- Geothermal Exchange Organization ("GeoExchange")
- IUOE Local 49
- The Office of the Attorney General ("OAG")

By March 15, 2024, the following parties provided reply comments:
- CEE
- CenterPoint Energy
- The CEOs
- RNG Coalition
- LIUNA

By May 15, 2024, the following parties filed supplemental comments:
- CenterPoint Energy
- City of Minneapolis
- The CEOs
- CUB
- The Department
- IUOE Local 49
- LIUNA
- The OAG

The Commission also received public comments from CenterPoint Energy's Customers (joint public comment), Kristin Dawkins, Lee Samelson, Jeffrey Davis (University of Minnesota), Satish Desai, Tim Rybak (Bloomington Public Schools), and Curtis Hartog (Minneapolis Public Schools).

REQUIRED COMMISSION CONSIDERATIONS

Per the NGIA, the Commission must not approve an innovation plan unless it finds:

- the size, scope, and scale of the plan produces net benefits under the cost-benefit framework established by the Commission under Minn. Stat. § 216B.2428;
- the plan promotes the use of renewable energy resources and reduces or avoids greenhouse gas emissions while remaining at or below the innovation plan cost cap set

by the NGIA;
- the plan promotes local economic development;
- the innovative resources included in the plan have a lower lifecycle greenhouse gas intensity than natural gas produced from conventional geologic sources;
- the systems used to track and verify the environmental attributes of the innovative resources included in the plan are reasonable, considering available third-party tracking and verification systems;
- the costs and revenues projected under the plan are reasonable in comparison to other innovative resources the utility could deploy to reduce greenhouse gas emissions, considering other benefits of the innovative resources included in the plan;
- the total amount of estimated greenhouse gas emissions reduced or avoided under the plan is reasonable considering the state's greenhouse gas and renewable energy goals; customer cost; and the total amount of greenhouse gas emissions reduced or avoided under the utility's previously approved plans, if applicable; and
- any renewable natural gas purchased by a utility under the plan that is procured from the anaerobic digestion of manure is certified as being produced at an agricultural livestock production facility that has not and does not increase the number of animal units at the facility solely or primarily to produce renewable natural gas for the plan.

Further, the NGIA states that the Commission may not approve a utility's first innovation plan unless:

- 50% or more of the utility's costs approved by the Commission for recovery under the plan are for the procurement and distribution of renewable natural gas, biogas, hydrogen produced via power-to-hydrogen, and ammonia produced via power to ammonia; and
- the utility's costs approved by the Commission for recovery for any pilot program to facilitate the development, expansion, or modification of district energy systems represents no more than 20% of the total costs approved by the Commission for recovery under the plan.

Finally, Order Paragraph 36 of the Frameworks Order stated the following:

> *The Commission finds that to approve an innovation plan it must find that the expected qualitative and quantitative benefits of a proposed innovation plan are greater in total than the expected quantitative and qualitative costs of the plan in total. In making this determination, the Commission shall consider plan costs and benefits to the utility system, to participating customers, to non-participating customers, and to other energy systems serving Minnesota customers. The Commission shall also consider environmental and socioeconomic costs and benefits that would result directly from the plan and the benefits of the plan for energy resource innovation in the state.*

INNOVATION PLAN: PROPOSED PORTFOLIO OF PILOTS AND R&D PROJECTS

This section summarizes the discussion on CenterPoint's proposed pilot and R&D project portfolio, including its budget. It starts with a description of CenterPoint's proposal, including any modifications made by the Company through reply and supplemental comments.

Staff then summarizes party positions, focusing on CenterPoint's proposed portfolio of pilots and R&D projects. Details on cost recovery, cost-effectiveness objectives, and the proposed annual reporting schedule will be covered in later sections. The section concludes with summaries of parties' discussions on each proposed pilot and the proposed R&D projects, each followed by brief Staff analyses. Additional Staff analysis at the end of the section reviews the major decisions before the Commission and summarizes each party's preferred portfolio.

I. CenterPoint's Proposal: Pilots and R&D Project Portfolio

With its first innovation plan, CenterPoint proposed 17 pilot programs,[25] which, if approved, would result in the deployment of at least six, and potentially seven,[26] of the eight innovative resources identified in NGIA.[27] CenterPoint reported that the 17 pilot projects proposed in its innovation plan would reduce or avoid approximately 1.2 million metric tons of carbon dioxide equivalent ("CO_2e") emissions. This level of lifetime emissions reductions is equal to 14% of total emissions from natural gas supplied to CenterPoint's sales-service customers in 2020. Additionally, CenterPoint reported that these pilot projects will create approximately 3,000 full-time equivalent jobs in Minnesota. With Table 2, Staff has provided a summary of each pilot, including the pilot ID and the innovative resources to be implemented through the pilot. Going forward, pilots will often be referred to by their pilot ID instead of the full pilot name.

Table 2: Proposed Pilot Summaries[28]

Pilot ID	Pilot Name	Innovative Resources[29]	Description[30]
B	RNG Produced from Ramsey & Washington Counties Organic Waste	RNG	CenterPoint Energy proposed to purchase RNG from Dem-Con HZI Bioenergy LLC's anaerobic digestion facility which, when constructed, will process source-separated food waste from Twin Cities metro area counties', including Washington and Ramsey Counties', organics recycling program and a smaller quantity of yard

[25] There were 18 pilots proposed in CenterPoint's initial petition. However, Pilot A was withdrawn after the Company received news that Hennepin County would no longer be pursuing an anerobic digestion facility.

[26] CenterPoint explained that biogas is not necessarily represented by its proposed pilots but could be a measure implemented under its Industrial and Large Commercial GHG Audit Pilot.

[27] CenterPoint did not have a power-to-ammonia pilot project. However, Power-to-ammonia is the subject of two of the Company's proposed R&D projects.

[28] Full R&D descriptions can be found in Exhibit J of CenterPoint's Innovation Plan.

[29] Innovative Resources for each Pilot were identified by CenterPoint in Exhibit E of its Reply Comments.

[30] Descriptions taken from CenterPoint's Innovation Plan, pp. 6-8

Pilot ID	Pilot Name	Innovative Resources[29]	Description[30]
			waste.
C	Renewable Natural Gas Request for Proposal ("RFP") Purchase	RNG	CenterPoint Energy proposes to issue an RFP to purchase an additional amount of RNG to complete its RNG portfolio.
D	Green Hydrogen Blending into Natural Gas Distribution System	Power-to-Hydrogen	CenterPoint Energy proposes to own and operate a 1 MW green hydrogen plant at an existing Company facility in Mankato, Minnesota. CenterPoint Energy would install dedicated solar panels, an electrolyzer, a hydrogen storage system, and other necessary systems and equipment to generate, store, and blend hydrogen into the gas distribution system.
E	Industrial or Large Commercial Hydrogen and Carbon Capture Incentives	Power-to-Hydrogen Carbon Capture	CenterPoint Energy will identify a small number of large commercial or industrial customers interested in installing either power-to-hydrogen or carbon capture demonstration projects and support their projects by providing financial assistance towards feasibility studies and project costs.
F	Industrial Methane and Refrigerant Leak Reduction	Carbon Capture	CenterPoint Energy will hire a vendor to conduct surveys of participating industrial and large commercial facilities for methane and refrigerant leaks behind the customer gas meter. CenterPoint Energy will also offer incentives to partially offset the cost of leak repair.
G	Urban Tree Carbon Offsets	Carbon Capture	CenterPoint Energy proposes to purchase carbon offsets from local non-profit, Green Minneapolis. Green Minneapolis works with local tree planting partners across the 7-county Twin Cities Metro area to plant trees in urban areas and funds their work by selling carbon offsets.
H	Carbon Capture Rebates for Commercial Buildings	Carbon Capture	CenterPoint Energy proposes to provide rebates to commercial customers that install CarbinX carbon capture systems manufactured by Canadian company CleanO2. These units connect to existing natural gas heating equipment, capture CO2, and convert it into chemicals that are resold for commercial uses.
I	New Networked	District Energy	CenterPoint Energy proposes to develop a

Pilot ID	Pilot Name	Innovative Resources[29]	Description[30]
	Geothermal Systems		new networked geothermal system to provide building heating and cooling for a neighborhood currently served by the Company. This pilot starts with a study phase to identify the location, technologies, and business model for the system.
J	Decarbonizing Existing District Energy Systems[31]	District Energy RNG Biogas Power-to-Hydrogen Carbon Capture Strategic Electrification Energy Efficiency	CenterPoint Energy proposes to help existing district energy systems that currently use geologic gas to identify opportunities to reduce the lifecycle GHG impact of their systems via funding for feasibility studies and financial support for following through with study recommendations.
K	New District Energy System	District Energy Strategic Electrification Energy Efficiency	CenterPoint Energy proposes a pilot to help current natural gas customers considering developing district energy systems by providing funding for feasibility studies and financial support to follow through with feasibility study recommendations.
L	Industrial Electrification Incentives	Strategic Electrification	CenterPoint Energy would support industrial customers to electrify low-to-medium heat processes using heat pump technologies. This pilot begins with a study phase to identify promising heat pump technologies and potential industrial applications.
M	Commercial Hybrid Heating	Strategic Electrification	CenterPoint Energy proposes to provide support for small-to-medium commercial buildings interested in replacing Heating, Ventilation, and Air Conditioning ("HVAC") systems with hybrid systems using electric heat pumps and gas backup.
N	Residential Deep Energy Retrofits and Electric Air Source Heat Pumps	Strategic Electrification Energy Efficiency	CenterPoint Energy would provide support for residential customers interested in retrofitting their homes to significantly improve energy efficiency and installing air source heat pumps with gas back-up. This pilot starts with a study phase to identify appropriate measures and home

[31] Staff notes that although the term "district energy" is used in this pilot's title, the projects proposed under this pilot do not fit the NGIA's definition of "district energy." Because of this, CenterPoint explained that the costs for these pilots were not calculated against the statutory 20% cost cap on district energy pilot projects and information on CIP/ECO coordination was provided for these pilots in Exhibit I of CenterPoint's petition.

Pilot ID	Pilot Name	Innovative Resources[29]	Description[30]
			characteristics for deep energy retrofits.
O	Small/Medium Business GHG Audit	Energy Efficiency Strategic Electrification Carbon Capture	CenterPoint Energy proposes to expand its existing Conservation Improvement Program ("CIP") Natural Gas Energy Analysis ("NGEA") project to include identification of non-CIP GHG reducing opportunities for small and medium-sized businesses.
P	Residential Gas Heat Pumps	Energy Efficiency	CenterPoint Energy proposes to fund the development and testing of a small number of 'combi' space and water heating gas heat pump systems in Minnesota homes.
Q	Gas Heat Pumps for Commercial Buildings	Energy Efficiency	CenterPoint Energy proposes to fund the development and testing of a small number of gas heat pump systems in in commercial buildings.
R	Industrial and Large Commercial GHG Audits	Energy Efficiency Strategic Electrification Renewable Natural Gas Biogas Carbon Capture	CenterPoint Energy proposes to expand its existing CIP Process Efficiency and Commercial Efficiency projects to include identification of non-CIP GHG reduction measures and payment of incentives for the installation of identified non-CIP measures.

Staff notes that, as a utility with over 800,000 customers filing its first innovation plan, the NGIA required CenterPoint to propose several pilots that meet specific criteria. Specifically, CenterPoint was required to include:

- A pilot program to provide thermal energy audits to small- and medium-sized businesses in order to identify opportunities to reduce or avoid greenhouse gas emissions from natural gas use (Pilot O);
- A pilot to provide innovative resources to industrial facilities whose manufacturing processes, for technical reasons, are not amenable to electrification (Pilot E);
- A pilot that facilitates deep energy retrofits and the installation of cold climate electric air-source heat pumps in existing residential homes that have natural gas heating systems (Pilot N); and
- A pilot program to facilitate the development, expansion, or modification of district energy systems in Minnesota (Pilot I and Pilot K).

CenterPoint also proposed 7 R&D projects. The NGIA allows gas utilities to spend up to 10% of an innovation plan's total incremental costs on R&D.[32] However, the NGIA does not provide a

[32] Minn. Stat. § 216B.2427, subd. 4(g).

definition for an "R&D Project." Because of this, CenterPoint used the following two criteria to classify potential pilots as R&D projects:

- the pilot is a research project or study that is relatively small in scale compared to other pilots being considered; and
- the lifecycle GHG benefits of the pilot are uncertain, difficult to quantify, or likely to be nominal (although learnings from these pilots may lead to significant future GHG reductions).[33]

Through its innovation plan CenterPoint proposed utilizing the full available budget for R&D projects over the five-year plan. However, the Company only proposed projects for the first two years of the Plan. CenterPoint explained that establishing a full suite of R&D projects at this time is not in the interest of its customers given the rapidly changing landscape of greenhouse gas reduction technologies. The Company stated that it will use the remaining R&D budget on future R&D projects that will be proposed through its annual NGIA status report filings.

Table 3 below provides a summary of several important project metrics. Staff notes that any modifications made by CenterPoint in its reply comments have been included as a part of the Company's "current proposal." As such, the metrics in Table 3 below, and any future descriptions of CenterPoint's proposed pilots and R&D projects, should be consistent with any changes made by the Company in its reply comments.

[33] CenterPoint Innovation Plan, p.15

Table 3: Summary of Project Metrics

Pilot	Lifetime Utility Costs[34]	Costs Against NGIA Budget[35]	Estimated Lifecycle GHG Reductions (Metric Tons CO2e)	Estimated Lifetime Geologic Gas Savings (Dth)	Estimated Net Job Creation (FTEs)[36]
A[37]	$0	$0	0	0	0
B	$17,538,491	$6,520,485	92,414	953,833	244
C	$83,367,472	$40,271,426	423,134	5,187,500	547
D	$23,053,705	$4,646,943	27,993	423,204	148
E	$2,720,474	$3,793,912	107,196	378,953	459
F	$1,132,645	$1,247,828	33,763	75,351	21
G	$299,909	$329,301	4,500	0	1
H	$30,481	$612,377	23,757	250,049	195
I	$42,224,178	$11,625,947	107,355	1,675,733	430
J	($3,419,905)	$598,794	124,030	2,000,000	315
K	($784,412)	$215,644	40,882	627,924	125
L	$113,108	$504,436	11,896	188,087	23
M	$5,545,369	$7,068,602	25,609	400,950	88
N	$10,590,172	$13,617,633	66,760	1,027,453	171
O	$1,694,181	$1,997,007	4,380	60,564	36
P	$343,823	$380,761	235	3,551	4
Q	$635,129	$749,464	2,154	32,558	8
R	($242,238)	$950,494	35,560	547,350	46
R&D[38]	$10,570,462	$10,570,462	-	-	-
Total	**$195,413,043**	**$105,701,515**	**1,131,617**	**13,833,060**	**2,947**

[34] CenterPoint explained that lifetime utility costs represent the expected net cost impact to customers over the lifetime of each pilot. Many pilots will require continued investment by CenterPoint Energy after the end of the five-year term of this NGIA plan. For example, the new networked geothermal system is expected to operate, and require maintenance, for decades. These figures are also net of expected savings due to reduced need to purchase gas and other avoided operations and maintenance costs, which results in certain pilots having negative utility costs, or a lifetime utility cost that is lower than costs counting against the NGIA budget. Participant costs are not included. (CenterPoint Innovation Plan, p.9)

[35] CenterPoint explained that the costs against the NGIA budget represent project costs that count against the budget cap described in the NGIA. These costs only include utility costs expected to be incurred during the five-year plan and are net of certain savings, including savings due to reduced need to purchase gas, during the term of the five-year plan. Participant costs are not included. (CenterPoint Innovation Plan, p.9)

[36] CenterPoint explained that this metric includes direct, indirect, and induced estimated FTE employed in Minnesota for one year over lifetime of each pilot. (CenterPoint Innovation Plan, p.9)

[37] CenterPoint's January 18, 2024, letter notified parties that Pilot A would not be moving forward due to Hennepin County no longer pursuing an anaerobic digestion facility. In light of this, CenterPoint reallocated the funds intended for Pilot A to Pilot C in its reply comments.

[38] The R&D project costs display the total amount CenterPoint has budgeted for such projects during the 5-year life of its Innovation Plan. As previously noted, CenterPoint proposed several R&D projects for the first two years of the plan but intends to propose additional R&D projects during the Innovation Plan's annual status updates.

II. CenterPoint's Proposal: Innovation Plan Costs and Budget

Minn. Stat § 216B.2427, subd. 3(e) states that limits on annual total incremental costs must be calculated at the time the innovation plan is filed as the average of the utility's forecasted total incremental costs over the five-year term of the plan.

CenterPoint's annual cost cap for its innovation plan was calculated to be $18,118,180 using the methods described in the NGIA.[39] As permitted by subd. 3(b) of the NGIA, CenterPoint also requested that the Commission approve additional annual costs of $3,022,742. Consistent with the requirements of subd. 3(b), these additional funds (the "RNG Bonus") will be spent on Pilot B and will be used to purchase RNG produced through anaerobic digestion of food diverted from a landfill. Additionally, CenterPoint stated that RNG procured through Pilot C may also be eligible to count toward the additional RNG cost cap. Should the Commission approve these additional funds, the total cost cap of CenterPoint's innovation plan across the entire five-year plan will total $105,704,610.[40] In the tables below, Staff displays CenterPoint's calculation of its annual incremental cost cap and annual RNG Bonus:

Table 4: Calculation of the Annual Cost Cap

1	CenterPoint Energy's Gross Operating Revenues from natural gas service provided in Minnesota at the time of plan filing	$1,209,096,803.00
2	Line 1 x 1.75%	$21,159,190
3	CenterPoint Energy Customers	905,924
4	CenterPoint Energy CIP-exempt customers	15
5	Line 3 – Line 4	905,909
6	Line 5 x $20	$18,118,180
7	Lesser of Line 2 and Line 6	$18,118,180

Table 5: Calculation of the RNG Bonus Annual Cost Cap

1	CenterPoint Energy's Gross Operating Revenues from natural gas service provided in Minnesota at the time of plan filing	$1,209,096,803.00
2	Line 1 x 0.25%	$3,022,742
3	CenterPoint Energy Customers	905,924
4	CenterPoint Energy CIP-exempt customers	15
5	Line 3 – Line 4	905,909
6	Line 5 x $5	$4,529,545
7	Lesser of Line 2 and Line 6	$3,022,742

CenterPoint's proposed innovation plan would spend a total of $105,701,515 against the available cost cap. Staff notes that based on the language in Minn. Stat § 216B.2427, subd. 3(e),

[39] Minn. Stat. 216B.2427, subd. 3(a).

[40] General five-year cost cap ($90,590,900) + additional RNG cost cap ($15,113,710) = $105,704,610.

the Company's annual total incremental cost cap, including the RNG Bonus, would be set at $21,140,303[41] should the Commission approve the proposed plan as amended in CenterPoint's reply comments.

5-year Innovation Plan Cost Cap with RNG Bonus: $105,704,610
CenterPoint's Proposed Spend against Cost Cap: $105,701,515

In addition to the restriction on R&D spending, the NGIA establishes two additional restrictions on innovation plan budgets:

- The Commission may not approve a utility's initial innovation plan unless 50% or more of the utility's costs approved by the Commission for recovery under the plan are for the procurement and distribution of RNG, biogas, hydrogen produced via power-to-hydrogen, and ammonia produced via power-to-ammonia.[42]
- The Commission may not approve a utility's initial plan unless the utility's costs approved by the Commission for recovery for any pilot program to facilitate the development, expansion, or modification of district energy systems represents no more than 20% of the total costs approved by the Commission for recovery under the plan.[43]

Further, the NGIA requires innovation plans to include a description of the steps the utility has taken to reduce the expected cost of the plan on low- and moderate- income residential customers and to ensure that low- and moderate-income residential customers benefit from innovative resources in the plan.[44] CenterPoint has designed several pilots to encourage participation from low- and medium-income customers, including its Residential Deep Energy Retrofits and Electric Air Source Heat Pump Pilot (Pilot N), and the Weatherization Blitzes R&D project. To reduce the expected cost of the plan on low- and moderate-income residential customers, CenterPoint proposed including information in NGIA customer communications about how customers can learn more about existing payment plans and bill pay assistance options.[45] Additionally, CenterPoint stated it would match cost recovery to the class of customers receiving benefits from each of the proposed pilots. For example, only residential customers will be billed for a pilot focused entirely on residential customers. Table 6 below displays the anticipated average annual bill impact for an average customer in CenterPoint's service territory per customer class for each year of the plan's 5-year lifespan.

[41] Forecasted utility total incremental costs averaged across the 5-year life of the plan.

[42] Minn. Stat. §216B.2427, subd. 2.(d)(1).

[43] Minn. Stat. §216B.2427, subd. 2.(d)(2).

[44] Minn. Stat. §216B.2427, subd. 2.(a)(13).

[45] CenterPoint Initial Petition, p.24.

Table 6: Estimated Annual Bill Impact by Class for an Average Customer[46]

Class	2025	2026	2027	2028	2029
Residential	$9	$13	$15	$17	$10
Comm Firm A	$11	$14	$15	$13	$7
Comm/Ind Firm B	$45	$57	$58	$50	$28
Comm/Ind Firm C - Sales Service	$271	$347	$353	$311	$160
Comm/Ind Firm C - Transport	$239	$239	$226	$176	$91
Large General Firm Sales Service	$9,115	$11,522	$11,621	$10,486	$4,376
Large Firm Transport	$9,034	$9,049	$8,560	$6,664	$3,449
Small Duel Fuel A – Sales Service	$779	$960	$964	$850	$390
Small Dual Fuel A – Transport	$590	$591	$559	$436	$225
Small Dual Fuel B – Sales Service	$3,204	$4,012	$4,043	$3,606	$1,600
Small Duel Fuel B – Transport	$2,315	$2,318	$2,193	$1,707	$884
Large Vol. – Duel Fuel Sales Service	$8,859	$11,171	$11,247	$10,201	$4,046
Large Vol. – Duel Fuel Transport	$11,290	$11,308	$10,697	$8,328	$4,310
Large Vol. – Transport-MR	$15,923	$15,949	$15,088	$11,746	$6,079
Large Vol. – Dual Fuel Sales Service-MR	$17,537	$22,114	$22,265	$20,195	$8,010
Large Vol. – Dual Fuel Transport-MR	$36,591	$36,650	$34,672	$26,993	$13,969

III. Position of Parties

The Commission must decide whether to approve **[Decision Option 1]**, approve with modifications **[Decision Option 2]**, or reject[47] CenterPoint's proposed innovation plan. Staff notes that all parties, including public commenters, recommended either approving CenterPoint's innovation plan, or approving the innovation plan with modifications:

Approve as Proposed

- CenterPoint
- CEE
- GeoExchange
- IUOE Local 49
- RNG Coalition
- LIUNA

Approve with Modifications[48]

- CEOs
- CUB
- City of Minneapolis
- Department of Commerce
- the OAG

[46] CenterPoint Reply Comments, Exhibit A, TableA.4.

[47] Staff notes that no party recommended rejecting CenterPoint's Innovation Plan.

[48] Staff notes that "approve with modifications" may include parties that recommended rejecting one or more pilot projects, but ultimately supported approving some version of CenterPoint's plan.

A. CEE

CEE supported the approval of CenterPoint Energy's proposed innovation plan.[49] CEE stated that the Company's proposed Plan is well-balanced and will advance the understanding of key technologies and strategies to reduce natural gas emissions across different customer classes.[50]

B. CEOs

The CEOs, which consists of the Minnesota Center for Environmental Advocacy, Fresh Energy, and the Sierra Club, favored innovation plan portfolios that maximize the statutorily-allowed investments in electrification, energy efficiency, and district energy projects, and that prioritize deploying these highly beneficial projects in low-income, disadvantaged, and environmental justice communities.[51] The CEOs asserted that portfolios that overemphasize the use of alternative gaseous fuels, such as biogas, renewable natural gas, power-to-hydrogen, and ammonia, could increase customer harm and impede progress toward achieving greenhouse gas reduction goals.[52]

Further, the CEOs expressed their belief that CenterPoint's innovative resources should be deployed to their best and highest uses and reduce the throughput of natural gas. The best-and-highest-use approach identifies the use of each resource in CenterPoint's NGIA plan to ensure it delivers the greatest benefit for that resource. The CEOs recommended the Commission to use this approach as a lens to guide its analysis for the highest impact for a particular sector while allowing utilities to test innovate resources and learn from experience. Scalability was a major component of this approach as the CEOs implored the Commission to ensure that approved pilots have the ability to scale up in the future and make further strides toward achieving the state's climate goals.[53]

C. CUB

CUB supported CenterPoint's innovation plan with modifications so long as the Plan's pilots utilized cost-effective pathways to reduce greenhouse gas emissions and optimize customer benefits.[54] CUB advised the Commission to ensure that approved pilots are reasonably likely to align with the state's objective to reduce the throughput of geologic gas and achieve economy-wide net zero greenhouse gas emissions by 2050. Further, CUB stated that individual pilots, and the innovation plan as a whole, should be cost effective.

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[49] Center for Energy and Environment Reply Comments, p.1.

[50] Center for Energy and Environment Initial Comments, p.2.

[51] CEOs Supplemental Comments, pp.1-2.

[52] CEOs Supplemental Comments, p.1.

[53] CEOs Initial Comments, p.6-7.

[54] Citizens Utility Board Initial Comments, p.2.

D. City of Minneapolis

The City of Minneapolis recommended approval with modifications of CenterPoint's Plan.[55] The City of Minneapolis claimed that modifications were necessary to protect the public interest and comply with the authorizing statute.

E. Department of Commerce

The Department recommended approval of a modified version of CenterPoint's Plan. Specifically, the Department's modified Plan would see several pilots rejected due to their overlap with CIP/ECO, and several more reduced in scope. Staff will highlight the Department's over-arching opinions and conclusions here, but provides additional pilot-specific information as needed in the discussion section below.

The Department's modified Plan would see pilots H, J, K, L, M, and O rejected by the Commission. The Department concluded that CenterPoint had not sufficiently justified why these pilots could not be reasonably included in ECO.

The NGIA's definitions for "energy efficiency"[56] and "strategic electrification"[57] each state that investments which could be reasonably included in a utility's CIP/ECO plan, as determined by the Commissioner of Commerce, are not considered "innovative resources" under NGIA and are thus not eligible for inclusion in utility innovation plans. Further the Commission's September 12, 2022, Order in Docket G-999/CI-21-566 established eligibility criteria for energy efficiency and strategic electrification investments proposed under the NGIA. In summary, the Commission required utilities to demonstrate that the proposed investments are not included in the utility's current CIP/ECO triennial plan, provide data on investments or measures that have been included in past CIP/ECO plans, and demonstrate why the proposed investment could not reasonably be included in the utility's CIP/ECO plan.[58]

The Department was unmoved by CenterPoint's arguments in favor of these pilots, including that the use of the word "investment" in statute and the Commission's September 12, 2022, Order was used intentionally instead of more rigid terms such as "measures" or "technologies" to provide flexibility in the interpretation of which energy efficiency and strategic electrification programs can be included in an innovation plan.[59] The Department explained that the rationale behind its recommendations to reject these pilots was that CenterPoint had not sufficiently demonstrated why these proposed investments could not be reasonably included in the utility's CIP/ECO plan, as required by the Commission's September 12, 2022, Order. The Department stated that the onus lies on CenterPoint to demonstrate why programs cannot go through

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[55] City of Minneapolis, Supplemental Comments, p.1.

[56] Minn. Stat. §216B.2427, subd. 1.(f).

[57] Minn. Stat. §216B.2427, subd. 1.(q).

[58] Staff notes that CenterPoint responded to each of these requirements for each energy efficiency or strategic electrification pilot in Exhibit I of its initial petition.

[59] Department Supplemental Comments, pp.5-8.

CIP/ECO, and that the Company had simply failed to do so regardless of which interpretation of "investment" is used. The Department concluded noting that the ECO Unit regularly updates triennial plans, and that adding new programs to an approved plan is not administratively burdensome compared to administering an entirely new program via NGIA.[60]

The Department's modified plan would also reduce the scope of pilots C, E, F, L, and N. For each of these pilots the Department concluded that CenterPoint failed to present sufficient interest in participation, and that the identification of sufficient participation should be a minimum standard required for budget approval.

In its reply comments, CenterPoint argued in favor of its proposal, stating that: pilot design modifications resulting from the regulatory process may cause participants to lose, or gain, interest in specific pilots; the costs of participant marketing and outreach would be incurred prior to Commission approval; additional participants may become interested during the five-year plan period; pilot approval does not preclude a prudency review during a cost recovery proceeding; and the Company would not spend money on a pilot that does not receive sufficient interest. However, the Department was unmoved by these arguments.

F. GeoExchange

The Geothermal Exchange Organization fully supported CenterPoint's proposed innovation plan and encouraged the Commission to approve it.[61] GeoExchange appreciated the proposed networked geothermal system and stated that it would be a critically important investment that meets the purpose of the NGIA. Further, GeoExchange explained that the Company's proposed Industrial Electrification incentive and Commercial Hybrid Heating incentive have the potential to utilize geothermal heat pump technology to meet industrial and commercial hearing needs.

G. LIUNA

In general, LIUNA supported CenterPoint's proposed NGIA plan because it has the potential to accelerate development of innovations that will be needed for Minnesota's clean energy future and create jobs for LIUNA members.[62]

H. IUOE Local 49

The International Union of Operating Engineers Local 49 supported the plan proposed by CenterPoint because it will create good paying jobs for local construction workers while deploying a diverse array of innovate technologies that will reduce carbon emissions.[63]

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[60] Staff notes that this comment was made in response to the CEO's statement that adding pilots to a CIP/ECO plan that had already been filed inconvenient (CEOs Reply Comments, p.2).

[61] GeoExchange Initial Comments, p.1.

[62] LIUNA Reply Comments, p.1.

[63] LIUNA Reply Comments, p.1.

I. RNG Coalition

The Coalition for Renewable Natural supported CenterPoint's innovation plan because the Plan, specifically pilots A-C, are important gas decarbonization measures that will create fair and well-designed markets for RNG across North America and Minnesota.[64]

J. The OAG

The Office of Attorney General recommended that the Commission modify CenterPoint's innovation plan to ensure that ratepayer dollars are used as the legislature intended.[65] Specifically, that the costs and revenues are reasonable, that customer classes which benefit from pilot projects are allocated the costs of those projects, to appropriately incentivize the utility to manage pilot costs to protect ratepayers' funds, and to provide a clear picture on the potential future of pilot technologies.

IV. Discussion of Pilot Modifications

A. Pilot A: RNG Produced from Hennepin County Organic Waste

1. Pilot Summary

As indicated above, CenterPoint withdrew Pilot A from consideration after receiving word from Hennepin County that they would no longer be pursuing an anaerobic digestion facility due to several factors including capital, operating costs, and changes to the local landscape for organics processing. In its reply comments, CenterPoint explained that the portion of the NGIA budget dedicated to Pilot A was reallocated to Pilot C. Because CenterPoint withdrew this project, Staff will not summarize the comments specific to Pilot A.

B. Pilot B: RNG Produced from Ramsey & Washington Counties Organic Waste

1. Pilot Summary

With Pilot B, CenterPoint proposed to purchase RNG from Dem-Con HZI Bioenergy LLC's anaerobic digestion facility which, when constructed, will process source-separated food waste from Twin Cities metro area counties, including Washington and Ramsey Counties, organics recycling program and a smaller quantity of yard waste. CenterPoint proposed to purchase 95,383 Dths of RNG per year, or 50% of the RNG produced by the facility, including the associated environmental attributes which will be tracked in M-RETS and retired on behalf of CenterPoint's customers. The RNG purchased through this pilot would begin in 2026 and continue through 2036. Although the anaerobic digestion facility may be eligible for the renewable energy investment tax credit ("ITC") available through the Inflation Reduction Act ("IRA"), CenterPoint was unable to identify any IRA incentives that the Company would be

[64] Coalition for Renewable Natural Gas Initial Comments, p.8.

[65] OAG Supplemental Comments, p.1.

eligible for directly through this project.

2. Discussion

Pilot Budget and Competitive Bidding (Decision Option 3)
Several parties expressed concern about the pricing of RNG purchased through both Pilots B and C. For Pilot B, CenterPoint stated that it would identify a fair market price with Dem-Con HZI Bioenergy LLC for RNG closer to the date of purchase, and that it had based its proposed budget on current RNG market values.[66]

Both the Department[67] and CUB[68] argued that Pilot B's lack of pricing details at the time of petition submission could disincentivize the Company from getting the lowest reasonable price. The Department recommended that CenterPoint should use the same competitive bidding process and draft Request For Proposals ("RFP") for Pilot B that it plans to use for Pilot C.[69] The Department stated that a competitive bidding process would help ensure the greatest value to ratepayers by ensuring pricing competition. **[Decision Option 3]**

In response, CenterPoint argued that a competitive bid process was not necessary in this case, stating that the NGIA statute does not require competitive bidding, that the Commission has recognized that competitive bidding is not necessary in all cases to ensure customer protection, and that the potential benefits of Pilot B beyond RNG price (e.g. the potential to meet waste management goals and attract additional funding) make it too unique to be compared with other RNG projects in the same RFP process.[70] **[No Action on Decision Option 3]**

Environmental Attributes (Decision Options 4-5)
In its petition, CenterPoint proposed to purchase all the environmental attributes associated with the brown gas it procures from the Ramsey & Washington County Project.

The Department recommended that Pilot B be modified to allow CenterPoint to purchase only a portion of the environmental attributes associated with the RNG commodity purchased.[71] Specifically, the Department proposed two alternative scenarios. Scenario 1 would allow CenterPoint to purchase up to 25% of its projected RNG volume as a bundled product. Under the Department's Scenario 1, Pilot B's budget would be reduced to $1,828,882 (from $6,520,485) **[Decision Option 4]**. Scenario 2 would allow CenterPoint to purchase up to 40% of its projected RNG volume as a bundled product. Under the Department's Scenario 2, Pilot B's budget would be reduced to $2,767,203 (from $6,520,485) **[Decision Option 5]**. The Department argued that purchasing only a portion of the environmental attributes would

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66 CenterPoint Petition, Exhibit D, p.7.
67 Department Initial Comments, pp.18-20.
68 CUB Initial Comments, p.7.
69 Department Reply Comments, p.13.
70 CenterPoint Reply Comments, p.37.
71 Department Reply Comments, p.12.

incentivize growth of the local market, without posing undue financial burden on ratepayers.[72] Further, these revisions ensure that CenterPoint's innovation plan spends only what is necessary on RNG and other low-carbon fuels given the Department's other recommended pilot modifications and rejections.[73]

In response to the Department's recommendation, CenterPoint explained that unbundled commodity natural gas ("brown gas") without the associated environmental attributes was not included in the pilot because it would not be consistent with the goal of the NGIA to contribute to meeting the state's greenhouse gas reduction goals. CenterPoint argued that it is compelled by the NGIA[74] to purchase all environmental attributes associated with any commodity gas acquired:

> *[Innovation plans must include a description of the third-party systems and processes used to] track the innovative resources included in the plan so that environmental benefits produced by the plan are not claimed for any other program.*[75]
>
> *[Innovation plans must include] the innovative resource or resources the utility plans to implement to contribute to meeting the state's greenhouse gas and renewable energy goals…*[76]

Although the NGIA does not explicitly require a utility to purchase all the environmental attributes associated with an innovative resource, CenterPoint did not believe that the purchase of unbundled commodity gas without environmental attributes would meet the goals of the NGIA. **[No Action on Decision Options 4 or 5]**

Consideration of Industrial Offtakers for Pilot B's RNG (Decision Option 6)
The CEOs and Minneapolis recommended that CenterPoint direct the purchased RNG to industrial offtakers[77] or local offtakers in hard-to-electrify sectors,[78] rather than blending into the Company's distribution system. The CEOs also recommended that the Commission require CenterPoint to consider "other innovative ways, including incorporation of federal funding or tax credits, to utilize the RNG resource in [the pilot] rather than injecting RNG into the distribution system."[79] These parties proposed that the Commission withhold approval of Pilot B until CenterPoint had provided additional information about industrial off-takers or other innovative ways to utilize the RNG procured in Pilot B. **[Decision Option 6]**

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72 Department Initial Comments, p. 38.
73 Department Supplemental Comments, p.12.
74 CenterPoint Reply Comments, p. 48.
75 Minn. Stat. § 216B.2427, subd. 2(a)(10)(i)
76 Minn. Stat. § 216B.2427, subd. 2(a)(1)
77 CEOs Supplemental Comments, p.6.
78 Minneapolis Initial Comments, p.3.
79 CEOs Supplemental Comments, p.6.

CenterPoint stated that it had consulted with Dem-Con HZI on providing the RNG to industrial off-takers and that Dem-Con had determined that it was not "feasible or desirable."[80] CenterPoint also described more general concerns it had heard from developers about signing exclusive offtake agreements with industrial customers, including the need to meet the "nearly 24/7 continuous operation of that industrial process for the lifetime of the RNG project"[81] and that finding an industrial customer "willing to purchase 100 percent of the produced RNG at market price and who can accept that much physical gas is extremely limiting."[82] Regarding the IRA, CenterPoint noted that IRA tax credits are meant for developers of RNG facilities (in this case, Dem-Con HZI), not purchasers of the commodity and/or environmental attributes.[83] **[No Action on Decision Option 6]**

A group of 147 CenterPoint customers ("CenterPoint Customers") signed a letter advocating that CenterPoint reserve RNG and other low-carbon fuels for hard-to-decarbonize sectors, instead of using them for purposes that could be served by electrification, weatherization, and geothermal.[84] Lee Samelson submitted a public comment agreeing with this position.[85]

IUOE Local 49 opposed this restriction, claiming that it would run contrary to the intent of the NGIA, stating "while industrial uses are challenging to fully electrify, so is residential heating in Minnesota which typically requires natural gas backups to air source heat pumps."[86] IUOE also noted that "efforts to significantly modify the plan may inadvertently create further delays."[87]

3. Staff Analysis

Across comments, parties discussed the opportunities and the drawbacks of RNG's central role in CenterPoint's innovation plan. The RNG Coalition, for example, argued that in a best-case scenario, RNG at full production could satisfy 32% of Minnesota's residential demand, 41% of commercial demand, or 27% of industrial demand.[88] The CEOs and CUB, on the other hand, used the low end of these same statistics to argue that RNG may not meaningfully displace conventional natural gas.[89,90]

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80 CenterPoint Reply Comments, p.40.

81 Id., p.51.

82 Id.

83 Id., p.38.

84 CenterPoint Customers, p.1.

85 Lee Samelson Public Comment, p.2.

86 IUOE Reply Comments, p.1.

87 IUOE Initial Comments p.1.

88 RNG Coalition Initial Comments, p.3, referencing ICF, *Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment*, https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf

89 CEOs Initial Comments, p.10.

90 CUB Initial Comments, pp.7-9.

There was also a theme throughout the discussion about whether the Company's proposal to focus a large portion of its budget on RNG was appropriate, given concerns outlined in the Pilots B and C discussions. However, Staff notes that the NGIA statute has a strict requirement that "50 percent or more of the utility's costs approved by the commission for recovery under the plan are for the procurement and distribution of renewable natural gas, biogas, hydrogen produced via power-to-hydrogen, and ammonia produced via power-to-ammonia,"[91] which informed CenterPoint's proposals, and must therefore inform the Commission's decision in response to parties.

Pilot Budget and Competitive Bidding
Staff notes that this question of competitive bidding reflects overall concern about fair pricing on proposed RNG projects. This is a much more salient debate in Pilot C, but CUB's and the Department's overarching concern was similar to that discussion – that CenterPoint might be motivated to hit an overall spending goal, rather than a pricing goal when purchasing RNG, and that this could lead to unfair rates for consumers. However, Staff also notes that the Company's costs would be subject to prudency review during the cost recovery petition.

Environmental Attributes
The question at hand is whether CenterPoint can purchase RNG without also purchasing the associated environmental attributes through an innovation plan. Staff notes that other parties did not specifically support or oppose the Department's proposal to require CenterPoint to only purchase a certain percentage of its projected RNG volume as a bundled product for Pilot B. However, the debate over purchasing bundled versus unbundled RNG was also highly disputed in Pilot C, where the Department again proposed two decision options for its budget scenario 1 and 2. Staff notes that any decision about whether the Company can purchase bundled versus unbundled RNG and environmental attributes in Pilot B may affect Pilot C, and vice versa.

Industrial Offtakers and Tax Credits
Should the Commission agree with the CEOs and Minneapolis and choose to order CenterPoint to submit additional information about how it is meeting the CEOs' recommendations, approval of CenterPoint's innovation plan will need to be delayed. Staff notes that CenterPoint would not be able proceed with approved pilots without knowing if Pilots B and C will also be approved.

CenterPoint must operate under an approved plan. Without certainty as to whether the whole of the innovation plan will be approved (or modified and approved), CenterPoint may not be able to proceed with any of its proposed pilots. For example, if the Commission ordered CenterPoint to submit the requested information, there is a chance that parties are not satisfied with the information CenterPoint provides. Should this be the case, CenterPoint's innovation plan would be at risk of further delays or rejection because without Pilots B and C, less than 50% of the Plan's budget would be dedicated to low-carbon fuels as required in the NGIA. Thus, it would not be advisable for CenterPoint to begin spending money on approved

[91] Minn. Stat. § 216B.2427, subd.2(d)(1)

pilots without knowing whether the Plan will be approved as a whole.

Further, the statute only permits the recovery of costs under an "approved plan,"[92] and cost effectiveness objectives are only applied "[u]pon approval of a utility's plan."[93]

Staff provides this explanation because it understands that the CEOs did not intend to delay CenterPoint's entire innovation plan with its recommendations to delay certain pilots within the Plan. However, any delay of a pilot would also delay Plan approval and implementation. Staff does not provide this explanation to suggest that the Commission should not consider delaying CenterPoint's innovation plan per the CEO's recommendation, but rather to ensure all parties, and the Commission, understand how delaying aspects of CenterPoint's Plan impact the Plan as a whole. Staff notes that in addition to this recommendation there were several other recommendations to delay aspects of CenterPoint's innovation plan.

C. Pilot C: RNG request for Proposal (RFP) purchase

1. Pilot Summary

CenterPoint proposed to purchase RNG derived from several archetypes (otherwise known as feedstocks) - dairy, food waste, landfill gas facilities, or wastewater treatment facilities - to complete its RNG portfolio. Participants would be selected through the Company's RFP process intended to minimize costs per ton of lifecycle CO_2e. Through the RFP process, CenterPoint would accept proposals for the sale of bundled RNG (i.e. the sale of both the commodity gas, or "brown gas", and the associated environmental attributes) and the sale of unbundled environmental attributes (i.e. environmental attributes without the brown gas). The Company stated it would also be open to investments in RNG facilities that would benefit from upfront capital, provided those investments are coupled with reduced RNG costs going forward.

In response to comments made by the Department, CenterPoint stated that it would incorporate a standard contract with the RFP that uses or draws from North American Energy Standards Board ("NAESB") agreements and RNG addendum.[94] The Company's RFP will provide bidders with three contract terms to respond to, specifically 5, 10, and 15 years, and will give preference to bids submitted for one of these contract terms. However, CenterPoint stated that it would also provide bidders with flexibility to submit alternate contract term proposals. CenterPoint will also give preference to projects that are eligible for the RNG bonus cost cap,

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[92] Minn. Stat. § 216B.2427, subd. 2(c)

[93] Minn. Stat. § 216B.2427, subd. 2(e)

[94] CenterPoint explained that other utilities have used the NAESB standard contracting forms for bundled RNG purchase transactions, documenting the legal terms of the transaction through a Base Contract and transaction-specific details such as volume, price, delivery location, quality specifications, and regulatory requirements related to the environmental attributes in a Transaction Confirmation. CenterPoint noted that NAESB recently adopted a RNG addendum for purchases and sales of RNG.

projects that include bundled RNG, and RNG supplied in or near Minnesota.[95] All environmental attributes associated with purchased RNG will be retired on behalf of CenterPoint's Minnesota customers through the M-RETS tracking system. Like Pilot B, the IRA's renewable ITC may provide an incentive for project developers. However, CenterPoint did not identify any IRA incentives it would be eligible for directly with respect to Pilot C.

Table 7: Expected Price and Quantity of RNG from Different Feedstocks in Pilot C[96]

RNG Source	Expected Price/Dth	Expected Quantity/year
Wastewater Resource Recovery Facility	$21	50,000 Dth
Dairy Manure	$50	20,000 Dth
Food Waste	$24	220,000 Dth
Landfill Gas	$16	228,750 Dth

Of note, CenterPoint's predicted metrics for this pilot, including the expected price of RNG and the greenhouse gas reductions per Dekatherm of RNG, would vary based on the types of projects that respond to CenterPoint's RFP. Although CenterPoint has predicted project participation, actual participation is not yet known at this time.

After submitting its initial petition, CenterPoint increased the pilot budget for Pilot C from $32,368,811 to $40,271,426 by "reallocat[ing] the incremental cost reductions from Pilots A, B, D, H, and O."[97]

The Company stated in a letter after supplemental comments that it had received 27 proposals from 14 entities in response to its RFP:

- Totaling over 7.7 million MMBTU per year
- 13 of which were in Minnesota or in neighboring states
- Including a variety of feedstocks
- Including both bundled RNG and environmental attributes only.

2. Discussion

Pilot Budget (Decision Options 7-10)

Parties expressed even greater concern than with Pilot B about the pricing structure of Pilot C, especially after CenterPoint proposed to reallocate other pilot costs, increasing the project

[95] CenterPoint will prioritize projects based on the geographic location of RNG as follows: 1) RNG interconnected with CenterPoint's Minnesota distribution system; 2) RNG located in Minnesota; 3) RNG located in neighboring regions; and other RNG.

[96] Based on Table 9 from the Department's initial comments with updated Pilot C information from CenterPoint's Reply Comments.

[97] CenterPoint Reply Comments, p.30.

budget by almost $8 million.[98]

First, parties brought up similar concerns to Pilot B about whether CenterPoint would procure the Pilot C RNG at a fair and reasonable price. While CenterPoint stated its intention to negotiate a fair price with each supplier through the use of long-term (mostly 5+ year) contracts,[99] CUB expressed concern that the Company could have an incentive to purchase the RNG needed to hit the cost cap, rather than an incentive to purchase RNG at the lowest reasonable price for ratepayers.[100] CUB stated:

> *If the Pilot C RFP does not produce as many bids as the Company anticipates, or if the competitive bidding process results in lower costs than expected for this Pilot, the Company may face pressure to spend more than is necessary or prudent on Pilot C in order to ensure the Plan, overall, remains compliant with the 50 percent requirement.*[101]

Staff notes that CUB's interpretation of the statute differs from Staff's – this is discussed further in Staff's analysis below.

CUB's concern about pricing intensified as CenterPoint proposed in reply comments to reallocate cost reductions from Pilots A, B, D, H, and O to Pilot C.

The OAG and Minneapolis agreed with CUB's concerns about whether CenterPoint would get the best price for RNG though Pilot C, with the OAG arguing that "this method is unlikely to yield the lowest cost option for ratepayers,"[102] and Minneapolis saying that it did not "support determining RNG procurement levels based on a goal of maximizing the Company's optional spending levels."[103]

CenterPoint rebutted by saying that the competitive bid process is intended to be "fair, predictable, and transparent," citing the OAG's support of competitive bidding in other dockets.[104] CenterPoint referenced its RFP framework, in which proposals would be "evaluated on cost in $/MMBTU delivered, cost in $/MT CO_2e reduced, the volume of RNG available for purchase, and lifecycle GHG intensity, among other criteria."[105] CenterPoint also noted that the costs incurred by Pilot C will be subject to prudency and reasonableness review during the

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98 CenterPoint Reply Comments, p.32.

99 CenterPoint Petition, Exhibit D, p.5.

100 CUB Initial Comments, p.6.

101 CUB Initial Comments, p.6.

102 OAG Initial Comments, p.8.

103 Minneapolis Initial Comments, p.3.

104 CenterPoint Reply Comments, p. 45, referencing *In the Matter of Petition for Approval of Northern States Power Company, d/b/a Xcel Energy, for Approval for its Long Duration Energy Storage System Pilot Project at Sherco, Docket No. E-002/M-23- 119,* OAG Comments, p. 3

105 CenterPoint Petition, Exhibit Q, p. 10.

recovery process.[106]

LIUNA sided with CenterPoint, saying that while some additional information was needed on the Pilot, RNG's nature as an emerging market means that "many variables – from production costs, pricing and end uses – are all being sorted out."[107]

The Department questioned Pilot C's budget due to the pilot's uncertain participation estimates. The Department argued that there is limited RNG available in Minnesota – with three planned and one operational agricultural facility, one planned food waste RNG project, and one municipal solid waste facility – and found that CenterPoint had not had any discussions with developers on the topics of landfill or wastewater RNG projects.[108] Ultimately, the Department recommended modifying Pilot C's budget based on its concerns regarding the limited interest from potential developers.

As summarized in the Department's overall position on CenterPoint's portfolio of pilots, CenterPoint disagreed with the Department's approach to budget development where the Company must pre-identify all participants prior to filing an NGIA plan.[109] As noted above, CenterPoint explained that the Company received 27 proposals, 13 of which were from in-state or neighboring states.

Parties offered several options for addressing cost concerns in Pilot C. Staff notes each of these recommendations are mutually exclusive because each of them would modify the budget of Pilot C differently, and that CenterPoint's position would be to not act on any of these proposed modifications.

- The OAG recommended that CenterPoint be required to limit its authorized budget for Pilot C to "no larger than necessary to bring the low-carbon fuel pilots up to 50% of CenterPoint's NGIA Plan budget – meaning that Pilot C's budget should be reduced dollar-for-dollar with the elimination or reduction of any non-low-carbon fuel pilot project in the approved plan."[110] CUB and Minneapolis agreed.[111,112] **[Decision Option 7]**

- CUB recommended that the Commission reject the Company's proposal to reallocate cost reductions from Pilots A, B, D, H, and O to Pilot C. **[Decision Option 8]**

- Similar to their recommendations for Pilot B, the Department recommended two

[106] CenterPoint Reply Comments, p.45.
[107] LIUNA Reply Comments, p. 1. LIUNA did not specify what additional information was needed.
[108] Department Initial Comments, pp.33-34.
[109] CenterPoint Reply Comments, p.47.
[110] OAG Supplemental Comments, p.10.
[111] CUB Initial Comments, p.22.
[112] Minneapolis Reply Comments, p.3

budget scenarios that would limit the percentage of its projected RNG volume that CenterPoint could purchase as a bundled product, with the rest being brown gas only. Scenario 1 would allow CenterPoint to purchase up to 25% of its projected RNG volume as a bundled product, which would reduce its budget to $6,633,036 (from $40,271,426) **[Decision Option 9]**. Scenario 2 would allow CenterPoint to purchase up to 40% of its projected RNG volume as a bundled product, which would reduce its budget to $10,108,622 (from $40,271,426) **[Decision Option 10]**.

Environmental Attributes (Decision Options 11-13)

Another significant area of discussion was whether purchasing environmental attributes unbundled from the gas commodity ("brown gas") is acceptable under the NGIA. For clarity, when discussing "unbundled environmental attributes," Staff is referencing the purchase of only environmental attributes, or "renewable thermal credits (RTCs)," without the purchase of physical gas. This is analogous to when electric utilities purchase renewable energy credits ("RECs") without purchasing the electricity associated with those credits.

Unlike in Pilot B (where CenterPoint proposed purchasing all the environmental attributes assigned to the brown gas it purchased), Pilot C includes the ability for CenterPoint to purchase environmental attributes unbundled from the brown gas (although the Company stated that it would "give preference to bundled RNG").[113] Again, CenterPoint did not contemplate purchasing brown gas unbundled from its environmental attributes for Pilots B and C because the Company believed such a purchase was consistent with the goal of the NGIA to contribute to meeting the state's greenhouse gas reduction goals.

The CEOs, CUB and the OAG argued that the purchase of unbundled environmental attributes contradicted the purpose of the NGIA. CUB pointed to the NGIA's language[114] which states that "50 percent or more of the utility's costs approved by the commission for recovery under the plan are for the procurement and distribution of renewable natural gas, biogas, hydrogen produced via power-to-hydrogen, and ammonia produced via power-to-ammonia."[115] These parties argued that environmental attributes did not meet this definition as CenterPoint would neither be procuring nor distributing RNG through the purchase of environmental attributes without the associated brown gas **[Decision Option 11]**.

The OAG further explained that neither the definition of "biogas" nor the definition of "renewable natural gas" contemplated standalone offsets, environmental attributes, or Renewable Thermal Certificates ("RTCs"). However, the OAG stated that the legislature was clearly aware of the concept of environmental attributes when drafting the statute as it required utilities to describe the third-party systems used to "verify the environmental attributes and greenhouse gas emissions intensity of innovative resources included in the plan" and to annually report on the tracking and retiring of these associated environmental

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[113] CenterPoint Petition, Exhibit D, p.7.

[114] CUB Initial Comments, p.7.

[115] Minn. Stat. § 216B.2427 subd. 2(d)(1)

attributes.[116] The OAG noted that, despite knowing of the existence of environmental attributes, the legislature did not include environmental attributes in the definitions of RNG and biogas. Instead, the legislature defined RNG as the physical biogas commodity procured through certain processes and that has a lower greenhouse gas intensity than geologic gas.[117]

The OAG also referenced the NGIA's goal to "reduce the overall amount of natural gas produced from conventional geologic sources delivered to customers," arguing that this relates only to "the physical gas flowing through the utility's mains and service lines."[118] Additionally, the OAG referenced the NGIA's goal to promote local economic development,[119] and argued that "an environmental attribute from an RNG facility in Oregon is unlikely to promote local economic development in or near Minnesota."[120]

Should the Commission choose not to preclude CenterPoint from procuring unbundled environmental attributes through Pilot C, CUB recommended directing CenterPoint to assign the lowest priority to purchasing unbundled environmental attributes. **[Decision Option 12]**

CUB and the CEOs also expressed skepticism about the learning value of purchasing unbundled environmental attributes for a pilot. The CEOs stated that environmental attribute trading markets "are well developed and straightforward," and purchasing unbundled environmental attributes would not teach the Company any technical lessons on "interconnection, technological readiness, or any other information relevant to the deployment of RNG in its distribution system."[121] CUB said that it was unclear whether purchasing unbundled environmental attributes could count as a pilot and "what, if any, learning outcomes could be derived from it."[122]

CenterPoint disagreed, arguing that purchasing unbundled environmental attributes aligned with the NGIA. Regarding arguments that environmental attributes would not meet the 50% requirement in the NGIA, CenterPoint explained that the use of the word "and" is intended to recognize that some costs related to low-carbon fuels will involve procurement, while others would be related to distribution, but spending in either category should count toward the 50% requirement.[123] The Company stated that "Renewable Thermal Certificates or RTCs are a unique representation of the environmental attributes associated with the production, transport, and use of one dekatherm of RNG," and that it viewed the purchase as

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116 Minn. Stat. § 216B.2427 subd. 1(h).

117 OAG Supplemental Comments, p.5.

118 OAG Supplemental Comments, p.8, referring to Minn. Stat. § 216B.2427, subd.10.

119 Minn. Stat. § 216B.2427, subd. 2(b)(3) states that the Commission must not approve an innovation plan unless the Commission finds that "the plan promotes local economic development."

120 OAG Supplemental Comments, pp.8-9.

121 CEOs Initial Comments p.21.

122 CUB Initial Comments, p.7.

123 June 7, 2024, CenterPoint Letter, pp.5-6, referencing Minn. Stat. § 216B.2427, subd. 2(d)(1)

"procurement."[124] Regarding arguments that the purchase of environmental credits does not reduce the overall amount of natural gas produced from conventional geologic sources, CenterPoint explained that RTCs are generated when one Dth of RNG is injected into the natural gas pipeline system, displacing natural gas. Thus, according to CenterPoint, it is not necessary to purchase the brown gas portion of the RNG in order for RNG to displace geologic natural gas.[125] Finally, regarding the learning opportunities from purchasing environmental attributes, CenterPoint referenced comments made by the CEOs in response to CenterPoint's proposed RNG green tariff to support its argument that environmental attribute trading associated with RNG is new for gas utilities, including CenterPoint.[126] Considering this, CenterPoint stated that there are significant learning opportunities associated with using newly developed systems in conjunction with the purchase of environmental attributes.[127] **[No Action on Decision Option 11]**

The RNG Coalition supported CenterPoint's proposal to purchase unbundled environmental attributes, arguing that the ability to sell the attribute, not the brown gas, is the true incentive for RNG producers to scale. "Simply put," the Coalition argued, "book-and-claim accounting[128]…is the most proven method to allow fair ownership claims of the environmental benefits associated with renewable gas."[129]

The Department stated throughout comments that it supported CenterPoint's ability to purchase bundled RNG, unbundled environmental attributes, and unbundled brown gas. **[Decision Option 13]** As noted previously, the Department recommended modifying Pilot C's budget and only permitting CenterPoint to purchase either 25% or 40% of its projected RNG volume as a bundled product, with the rest of the purchased RNG consisting of unbundled brown gas. The Department explained that its recommendation could stimulate new RNG facilities to interconnect to the natural gas supply infrastructure, maximize the customer value of RNG purchases, and ensure that CenterPoint's innovation plan continued to spend 50% or more of its budget on low-carbon fuels.[130]

Staff notes that CenterPoint's response to the Department's Pilot C recommendations is the

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[124] CenterPoint Reply Comments, p.54.

[125] June 7, 2024, CenterPoint Letter, pp.5-6.

[126] With their January 8, 2019, Comments in Docket No. 18-547, the CEOs stated "The net greenhouse gas emission impact of CenterPoint Energy's proposed pilot program will be difficult to parse out and will not directly affect Minnesota's greenhouse gas emissions budget because carbon intensity metrics and/or environmental attributes associated with renewable natural gas for end-use in buildings do not yet exist."

[127] CenterPoint Reply Comments at 54-55.

[128] "Book and claim accounting" refers to a methodology which "involves tracking RNG's injection, sales, and use through the use of Renewable Thermal Certificates. These certificates are required to be managed through the M-RETS Renewable Thermal tracking system. This new requirement aims to enhance reporting accuracy, establish safeguards against double claiming of RNG environmental attributes, and mitigate for the risk of fraud." https://www.oregon.gov/deq/ghgp/Documents/cfpRenewNGrep.pdf, accessed May 31, 2024.

[129] RNG Coalition Initial Comments p.7.

[130] Department Supplemental Comments, p.24.

same as its response to the Department's Pilot B recommendations. To summarize, one of the goals of the NGIA is to help meet the State's greenhouse gas reductions goals. CenterPoint argued that purchasing RNG without environmental attributes would not help the State meet its greenhouse gas reduction goals because environmental attributes of the RNG may not be attributable to Minnesota. CenterPoint also claimed that the purchase of RNG without environmental attributes would not be allowed under subd. 2(a)(10)(i), which states that environmental attributes are not allowed to be claimed by any other program.[131] **[No Action on Decision Option 13]**

The RNG Coalition also disagreed with any proposals to purchase the brown gas without environmental attributes, saying that this "would increase project costs without the ability to credit the environmental benefits to their customers,"[132] and that this should only be done outside the context of the NGIA.

With its supplemental comments, the Department maintained its position, stating "that as long as any fraction of environmental attributes are purchased along with brown gas, CenterPoint may claim an emissions reduction and reduction of conventional geologic natural gas throughput."[133] The Department asked CenterPoint through an information request to provide a legal analysis of the NGIA that identifies whether emissions credits produced by innovative resources must be sold and subsequently retired in Minnesota, to which CenterPoint explained that the NGIA does not contain any provision that requires emissions credits produced by innovative resources to be sold or retired in Minnesota.[134]

Location of RNG Production (Decision Options 14-15)

Parties debated the geographic boundaries of RNG procurement. For Pilot C, CenterPoint proposed to source RNG from prospective producers in Minnesota among other states.[135] To address concerns raised by Minneapolis, the Company stated that it would prioritize projects based on geographic location as follows: 1) RNG interconnected with CenterPoint's Minnesota distribution system; 2) RNG located in Minnesota; 3) RNG located in neighboring regions; and 4) other RNG.[136]

However, the OAG argued that the NGIA ties greenhouse gas emissions reductions for RNG and biogas to reductions from anthropogenic sources within Minnesota. The OAG explained that, to approve an innovation plan, the Commission must make several findings under subdivision 2(b) of the NGIA:

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131 CenterPoint stated that it would permit the reselling or transferring of environmental attributes in situations where there are sufficient controls and tracking to ensure that the environmental attributes and their benefits are retired on behalf of an entity within the state of Minnesota. (CenterPoint Reply Comments, p.48.)

132 RNG Coalition Reply Comments, p.2.

133 Department Supplemental Comments, p.22.

134 Id., pp.22-23.

135 CenterPoint Reply Comments p.43.

136 Id., p.53.

- "The plan…reduces or avoids greenhouse gas emissions" at a cost level consistent with the statutory cost caps.[137]

- "The total amount of greenhouse gas emissions reduction or avoidance to be achieved under the plan is reasonable considering the state's greenhouse gas and renewable energy goals."[138]

Further, the NGIA defines greenhouse gas emissions as emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride emitted by anthropogenic sources within Minnesota and from the generation of electricity imported from outside the state and consumed in Minnesota (Staff added emphasis).[139] The OAG explained that, with this definition of greenhouse gases, the legislature draws a clear distinction between how it will measure greenhouse-gas emissions from electricity generation and greenhouse gas emissions from all other sources. Thus, the OAG argued that as the Commission makes determinations under subdivision 2(b), it must discount greenhouse gas emissions reductions from sources outside of Minnesota.[140] **[Decision Option 14]**

In its June 7th letter, CenterPoint addressed the OAG's recommendation by noting that NGIA defines RNG as biogas processed to be interchangeable with natural gas and with lower lifecycle greenhouse gas intensity (Staff added emphasis). CenterPoint explained that this definition aims to replace geologically sourced natural gas, which is all imported, thereby reducing Minnesota's lifecycle greenhouse gas emissions. CenterPoint argued that the OAG's recommendation overlooks NGIA's focus on lifecycle emissions, its goal to reduce geologic natural gas usage, and the Commission's framework Order emphasizing the evaluation of both qualitative and quantitative costs and benefits, including lifecycle emissions reductions. **[No Action on Decision Option 14]**

The CEOs noted appreciation for CenterPoint's modification to give preference to RNG interconnected with Minnesota's distribution system and RNG sourced within Minnesota. However, they continued to recommend excluding RNG produced outside of Minnesota from Pilot C.[141] Their primary concern was that investing in the interconnection of RNG into a different utility's system, especially in a different state, would not add to CenterPoint's understanding of how to scale RNG adoption in its own system. The CEOs argued that RNG pilots should benefit local producers and economies and that the avoided emissions should occur in Minnesota **[Decision Option 15]**. Minneapolis also expressed a preference for in-state procurement to promote local economic development and decrease funds spent on long-range

[137] OAG Supplemental Comments p.7, referencing Minn. Stat. § 216B.2427, subd.2(b).

[138] OAG Supplemental Comments p.7, referencing Minn. Stat. § 216B.2427, subd.2(b).

[139] OAG Supplemental Comments p.7, referencing Minn. Stat. § 216B.2427, subd.1

[140] Id.

[141] CEOs Reply Comments, pp.6-7.

transportation.[142]

Staff notes that many of CenterPoint's comments in response to the OAG's recommendation apply here. Although CenterPoint believes that giving preference to local RNG is reasonable, it also stated that it would be inconsistent with the legislative intent of the NGIA to only allow for the inclusion of in-state RNG.[143] **[No Action on Decision Option 15]**

CUB supported CenterPoint's plan to favor local RNG though Pilot C's RFP process. CUB explained that Minnesota-made RNG produces multiple benefits, including reduced emissions from within Minnesota – which conforms with the NGIA's definition of greenhouse gas emissions – and the promotion of local economic development consistent with the goals of the NGIA. Additionally, local RNG would provide more learnings for local developers and CenterPoint, which could help to inform the Commission and stakeholders of the opportunities and challenges associated with local RNG production.[144]

CUB's preference was for the Commission to approve a more modest budget for Pilot C – specifically, no more than what is necessary for CenterPoint to be compliant with the 50% requirement – and for CenterPoint to favor bids submitted by developers able to produce and distribute RNG locally, so long as bids remain cost effective. **[No Action on Decision Options 14 or 15].**

LIUNA also supported the prioritization of RNG produced in, or immediately adjacent to, Minnesota as such prioritization would help maximize local economic and market development impacts of the pilot.[145]

The RNG Coalition similarly explained that giving CenterPoint the ability to support RNG development broadly will encourage and increase the availability of RNG over time.[146]

Project Archetypes (Decision Options 16-18)
Parties recommended that different combinations of CenterPoint's proposed RNG archetypes be approved or denied.

LIUNA and the RNG Coalition supported CenterPoint's proposal for all four archetypes to be explored, saying that it was important in the early stages of the market to "support diverse resources" and to not prematurely eliminate potential resources.[147,148]

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142 Minneapolis Initial Comments p. 3

143 June 7, 2024, CenterPoint Letter, p.4.

144 CUB Supplemental Comments, pp. 21-22.

145 LIUNA Supplemental Comments, p.1.

146 RNG Coalition Reply Comments, pp.2-3.

147 LIUNA Supplemental Comments, p.1.

148 RNG Coalition Reply Comments, p.1.

The Department argued that the Commission should reject the landfill gas and wastewater archetypes, due to the fact that CenterPoint provided little or no information about potential bidders for these archetypes **[Decision Option 16]**.[149] The Department also noted that, due to the varying nature of greenhouse gas emissions reductions by feedstock, having such a broad array of potential feedstocks would yield an unpredictable set of greenhouse gas emissions reductions per dollar spent. The Department provided the following Table, which shows range of carbon intensity scores for the proposed feedstocks in the California Low Carbon Fuel Standard, to justify its recommendation to reduce Pilot C's budget.[150]

Table 8: Range of Carbon Intensity (CI) Scores for Different Feedstocks in the CA LCFS Market[151]

Feedstock Source	Max CI (gCO_2e/MJ)	Min CI (gCO_2e/MJ)	CPE Assumption (gCO_2e/MJ)
Dairy Manure	-445.37	-532.74	-31.10
Wastewater	52.36	7.75	12.35
Food Waste	-28.20	-79.91	-47.06
Landfill Gas	80.98	7.39	12.12

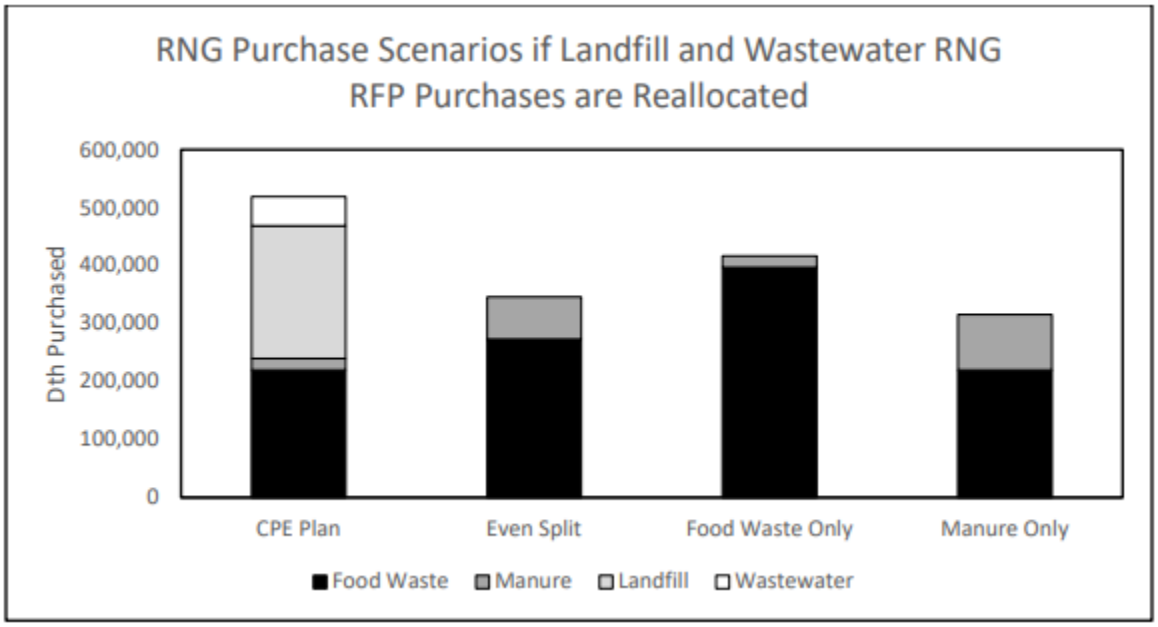
The Department also provided a figure, shown below, to display how the varying cost of RNG produced from different feedstocks would impact the total Dth of RNG able to be purchased through Pilot C. If CenterPoint is unable to identify landfill or wastewater projects, the Company would be able to use the available budget to purchase RNG from food waste or manure instead. However, replacing these Dth of natural gas with food waste, manure, or an even split of the two, will impact the total Dth of RNG able to be purchased due to the varying costs of these resources. Further, as displayed in the table above, these different feedstocks have varying carbon intensity ranges which may impact the cost-effectiveness of the pilot beyond Dekatherms of RNG CenterPoint will be able to purchase with its approved budget.

[149] Department Supplemental Comments, pp.20-21.

[150] Department Supplemental Comments, p.21.

[151] Id., Table 3, p.15.

Figure 1: RNG RFP Purchase Scenarios[152]



The Department argued that CenterPoint sought to avoid the Department's recommendations by issuing its RFP outside of the comment period, but before the Commission issues a final decision, which prevents the Department and stakeholder groups from reviewing the received proposals on the record.

The CEOs commented in favor of keeping landfill gas and wastewater as archetypes and recommended that the Commission encourage CenterPoint to identify customers for these archetypes **[Decision Option 17]**. Instead, the CEOs recommended eliminating the food waste and animal manure archetypes **[Decision Option 18]**. The CEOs argued that including food waste in Pilot C would be redundant with lessons learned from Pilot B. The CEOs opposed manure-derived methane for environmental reasons, arguing that it is only economical for large-scale, concentrated livestock operations, which cause other significant harm to human health and the environment (including air pollution, drinking water contamination, and increased mortality.)[153] The CEOs stated that the GREET model does not include upstream emissions such as feeding, or transporting cattle (including those released during enteric

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[152] Id., Figure 1, p.21.

[153] CEOs Initial Comments, p. 23, referencing Markus Lauer et al., *Making Money From Waste: The Economic Viability of Producing Biogas and Biomethane in the Idaho Dairy Industry,* 222 Applied Energy 621, 621-36 (2018), https://www.sciencedirect.com/science/article/pii/S0306261918305695; Georgina Gustin, *Air Pollution from Raising Livestock Accounts for Most of the 16,000 US Deaths Each Year Tied to Food Production, Study Finds*, Inside Climate News (May 11, 2021), Air Pollution From Raising Livestock Accounts for Most of the 16,000 US Deaths Each Year Tied to Food Production, Study Finds - Inside Climate News; Sarah Porter & Craig Cox, *Manure Overload: Manure Plus Fertilizer Overwhelms Minnesota's Land and Water,* Env't Working Group (May 28, 2020), https://www.ewg.org/interactive-maps/2020-manure-overload/; and Ji-Young Son et al., *Exposure to Concentrated Animal Feeding Operations (CAFOs) and Risk of Mortality in North Carolina, USA,* 799 Sci. Total Env't 149407 (2021), https://linkinghub.elsevier.com/retrieve/pii/S0048969721044806

fermentation).[154] The CEOs also noted that environmental groups recently petitioned the California Air Resources Board to exclude animal-derived biomethane from the California Low Carbon Fuel Standard program.[155]

CenterPoint disagreed with the CEOs' take on dairy and other animal manure, arguing that the NGIA proceeding does not involve regulation of agricultural practices, such as cattle management. CenterPoint also pushed back on the CEOs' dissatisfaction with GREET, noting that the Commission has ordered it to use the GREET model, and that the GREET model does not currently differentiate between different RNG feedstocks, nor does it account for upstream emissions.[156] **[No Action on Decision Options 16, 17, and 18]**

Other Comments (Decision Options 19-20)
The CEOs were not satisfied with the detail CenterPoint provided on the expected learnings from Pilot C and recommended requiring CenterPoint to define clear learning objectives for the RFPs in Pilot C[157] **[Decision Option 19]**.

Identical to their recommendation for Pilot B, the CEOs recommended that the Commission withhold approval of Pilot C and require that CenterPoint consider "other innovative ways, including incorporation of federal funding or tax credits, to utilize the RNG resource in [the pilot] rather than injecting RNG into the distribution system."[158] **[Decision Option 20]**

CUB raised concerns about the longevity of the contracts, stating that while a longer-term contract may give the company price advantage during negotiation, it may also be more difficult for the Company to terminate or adjust the contract if the pilot proves costlier or less successful than the Company expects. CUB also argued that the Company could lose leverage and incentive to negotiate costs if the Commission approves cost recovery before the market price is known.[159] CUB ultimately concluded that the Company would bear the burden of explaining its decision to set certain contract terms during a prudency review at time of cost recovery time: for example, explaining the choice to enter into a fixed vs variable cost contract, or a long-term versus short term contract.[160]

Lee Samelson raised concerns about human health, stating that blending RNG and hydrogen into the gas distribution system does not reduce the harm to customers associated with

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[154] CEOs Initial Comments, p.11.

[155] CEOs Initial Comments, p. 24, referencing *Petion by Ruthie Lanzeby & Brent Newell of Env't Justice Clinic at Vt. L. School to Petition the California Air Resources Board to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon Fuel Standard Program (Oct. 7, 2021),* *https://ww2.arb.ca.gov/sites/default/files/2022-01/2021.10.27%20Petition%20for%20Rulemaking%20AIR%20et%20al_.pdf*

[156] CenterPoint Supplemental Comments, p.51.

[157] CEOs Initial Comments, p. 24

[158] CEOs Supplemental Comments, p.6

[159] CUB Initial Comments, p. 21

[160] Staff Ex Parte Communication with CUB

combusting natural gas in buildings and competes with more appropriate uses of these currently limited resources.[161]

CenterPoint Customers said that "RNG should be approached with caution due to limited availability, high costs, and environmental concerns."[162]

3. Staff Analysis

Pilot Budget
The Commission must weigh whether the proportion of funds dedicated to Pilot C is justified, given the uncertainty of the price at which RNG will be purchased and the pilot's predicted participation.

First, Staff would like to address CUB's interpretation of the NGIA's requirement for 50% of the budget to go toward the procurement and distribution of low-carbon fuels. CUB's interpretation assumes that by the end of the 5-year life of CenterPoint's innovation plan, 50% of the costs recovered by the Company must be for the procurement and distribution of low-carbon fuels. As CUB noted, such an interpretation could certainly cause CenterPoint to feel pressured to spend more than what is necessary or prudent on alternative RNG so that the Plan as a whole remains compliant with the 50% requirement. Further, CUB is not wrong for interpreting the statute this way as it reads "50 percent or more of the utility's costs approved by the commission for recovery under the plan…"[163]

However, the NGIA requires the Commission to consider the 50% requirement **when approving a utility's proposed innovation plan**. When reviewing a utility's proposal, it is not possible to know what percentage of recovered funds from an innovation plan will be allocated to each approved pilot. All costs are subject to prudency reviews, and each pilot may be modified or discontinued through annual status reports. At the time the Commission considers Plan approval, it is not possible to know how or if pilots will be further modified during the Plan's 5-year life, whether any pilots will be discontinued, or whether CenterPoint will spend all of its budget prudently. Thus, a reasonable interpretation is that the 50% requirement only applies to the costs comprising the Commission's approved plan and not to the actual costs expended by the utility at the end of the five-year plan term.

This is all to say that the 50% requirement is certainly a major consideration for the Commission, but Staff doubts that the requirement will pressure the Company to spend costs imprudently as CUB suggested. Staff notes that the OAG has the same interpretation of the 50% threshold requirement. The OAG's interpretation was requested in response to comments made in Pilot I and can be viewed in Staff's ex parte communication filed on June 5, 2024.

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[161] Lee Samelson, p.1

[162] CenterPoint Customers Public Comment, p.1

[163] Minn. Stat. § 216B.2427, subd. 2(d)(1)

Several parties, including the Department[164] and the OAG,[165] questioned the process used to set the budget for Pilot C and noted that it appeared that Pilot C's budget was intentionally set to meet the 50% requirement, rather than based on the quality of the pilot. For this reason, the OAG recommended setting Pilot C's budget to only what is necessary for CenterPoint to meet the 50% requirement. This means, as the Commission rejects or modifies other non-low-carbon fuel pilots in the Plan, Pilot C's budget will decrease. This decision would treat Pilot C as a sliding scale for the Company to meet the 50% requirement and serves as a middle ground between CenterPoint's proposed pilot, and the Department's alternatives.

Should the Commission approve one of the Department's alternatives for Pilot B **[Decision Option 4 or 5]**, it will need to also select the corresponding alternative for Pilot C **[Decision Option 8 or 9]**. Staff notes that selecting one of the Department's two alternatives for Pilots B and C is the most consequential decision the Commission will make at this time. The Department's budget alternatives 1 and 2 cut CenterPoint's low-carbon fuel budget by 82% and 74%, respectively. These budget cuts will limit the Commission's ability to select modifications (at least those that impact the budget) for other pilots other than what the Department recommends largely as a result of the 50% requirement and other budget constraints placed on the Plan by the NGIA. Staff does not suggest that these constraints make the Department's recommendation the wrong decision. Staff's only intention is to clarify that selecting the Department's recommendations in these instances will set the Commission down one of the Department's two preferred paths with little ability to deviate.

Even if the Commission chose to approve the full budget, Staff, like several parties, questions whether CenterPoint would be able to fulfill that budget with RFP responses. The Commission's decisions on purchasing unbundled environmental attributes, the approved geography of RNG production for the innovation plan, and only permitting certain RNG archetypes all may impact the number of projects that may qualify for Pilot C.

Environmental Attributes

The overarching question in this debate is whether purchasing unbundled environmental attributes and/or unbundled brown gas is a violation of the NGIA statue. Like several other parties, Staff questions CenterPoint's ability to purchase unbundled environmental attributes, and unbundled brown gas through an innovation plan under the NGIA.

Regarding the purchase of unbundled environmental attributes, CenterPoint addressed many arguments made in opposition of the purchase of unbundled environmental attributes in its June 7th letter, but did not address the OAG's argument that environmental attributes are not considered innovative resources under the NGIA due to the fact that the definitions for RNG and biogas do not include explicit references to environmental attributes. Further, CenterPoint appeared to adopt an overly literal interpretation of the OAG's position on the 50% requirement in its June 7th letter. CenterPoint insinuates that the OAG's position is that to meet

[164] Department Initial Comments, pp. 33-34.

[165] OAG Supplemental Comments, p.2.

the 50% requirement, each individual cost related to low-carbon fuels must be for both the allocation and distribution of the fuel. Staff instead understands the OAG's argument to be that costs for the procurement of RNG will not count toward the 50% requirement unless the Company also intends to distribute the RNG it procured. In other words, it is expected that a utility procures and distributes low-carbon fuels using a portion of its budget. In the context of unbundled environmental attributes, even if the Commission were to consider the purchase of environmental attributes as the procurement of RNG, the OAG argued that CenterPoint could not then distribute the RNG to its customers.[166]

Regarding the purchase of unbundled brown gas, the Department relies heavily on the global impacts of RNG production to make its argument, stating:

> *From a material (process) lifecycle analysis perspective, the generation, transfer, and use of brown gas contain all associated emissions benefits, and thus the purchase of brown gas accomplishes all environmental benefits attributed to RNG. For example, a facility cannot sell environmental attributes without the sale of brown gas because there would be no environmental benefits, but a facility can sell the environmental attributes separately if the gas is purchased elsewhere. While RTCs allow CPE or any other party to finance and claim ownership of the environmental attributes of RNG, from a societal perspective the environmental attributes are still achieved if RTCs are sold to outside entities.*[167]

While Staff does not dispute the Department's analysis regarding the global impacts of RNG production, the NGIA requires that utilities contribute to meeting Minnesota's greenhouse gas reduction goals. Without the associated environmental attributes, CenterPoint will be unable to claim greenhouse gas reductions associated with this resource. Further, it is not clear that the environmental attributes associated with the brown gas purchased by CenterPoint would be retired in Minnesota. It is unclear from the record how the ownership and retirement of environmental attributes will impact Minnesota's ability to claim or otherwise account for the associated emissions reductions.

This puts into question whether unbundled brown gas even fits the definition of an innovative resource under the NGIA. As defined by the NGIA, renewable natural gas must have a lower lifecycle greenhouse gas intensity than conventional natural gas. Without the ability to legally claim any of the environmental benefits of RNG, it is not clear that unbundled brown gas meets this requirement for CenterPoint.

Importantly, the Department relies on CenterPoint's ability to purchase unbundled brown gas for each of the alternative budget scenarios it recommended for Pilots B and C (see **Decision Options 4, 5, 9, and 10**). Should the Commission not approve the Department's recommendation to permit utilities to purchase unbundled brown gas, unbundled

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166 OAG Supplemental Comments, pp.5-6.

167 Department Supplemental Comments, p.24.

environmental attributes, and bundled RNG, it may not be possible to approve any one of the Department's alternative budgets for Pilots B and C.

Location of RNG Production
The NGIA contains conflicting goals and definitions that make it challenging to identify if there is an intent to limit where RNG may be produced under an innovation plan. As noted by the parties, the Commission must consider the greenhouse gas reductions predicted to be achieved under an innovation plan given the state's greenhouse gas reduction goals. The definition of "greenhouse gas emissions" specifies sources within Minnesota. However, the statute also considers lifecycle greenhouse gas emissions, which implies a need to contemplate emissions reductions from outside of Minnesota given the fact that emissions related to the production and transportation of natural gas occur outside of Minnesota.

Project Archetypes
The Commission must weigh whether it is truer to the NGIA statute to encourage RNG production from as many feedstocks as possible, or to encourage RNG production from the lowest emission-intensive sources. Staff notes that no legal argument was made for the elimination of one or more project archetypes.

Other Comments
Staff notes that both of the CEOs' recommendations in this section would delay Pilot C and thus the innovation plan as a whole. Staff does not make this comment as a commentary on the merits of these recommendations, but rather to inform the Commission and parties of the impacts of these decisions.

D. Pilot D: Green Hydrogen Blending into Natural Gas Distribution System

1. Pilot Summary

In Pilot D, CenterPoint Energy proposed to own and operate a 1 MW green hydrogen plant at an existing Company facility in Mankato, Minnesota. The plan includes the installation of dedicated solar panels, an electrolyzer, a hydrogen storage system, and other necessary systems and equipment to generate, store, and blend hydrogen into the gas distribution system. In addition to the on-site solar, CenterPoint stated that it would purchase needed electricity through Xcel's green energy tariff or other independent power purchase agreements.

Per the Department's request, the Company reassessed potential fundings for Pilot D to adjust for the recent release of the regulations for the Section 45V credit for the production of clean hydrogen proposed by the U.S. Department of Treasury. The Company decided that taking the production tax credit ("PTC") for the electrolyzer-related portion of investments in Pilot D resulted in lower incremental cost compared to the 30 percent investment tax credit ("ITC") that was assumed in the initial Petition. The Company projected these changes will reduce Pilot D's estimated incremental costs over the five-year term of the Plan by $426,124.[168]

[168] CPE Reply Comments, p.30.

2. Discussion (Decision Options 21-24)

Several parties expressed concern about the safety and reliability of blending hydrogen into the existing natural gas distribution system.

The OAG referenced a study from the National Renewable Energy Laboratory ("NREL"), which showed that hydrogen blending can cause increased embrittlement and leakage in gas pipelines.[169] The study showed that, by extension, hydrogen blending could pose higher safety risks, as well as increased costs for ongoing maintenance, both of which concerned the OAG in its role as a ratepayer advocate. The CEOs,[170] Minneapolis,[171] CenterPoint Customers,[172] and Lee Samelson[173] echoed the safety concerns of hydrogen blending, with the CEOs pointing to risks of flammability, nitrous oxide emission, and indoor air pollution.[174]

In addition, parties discussed how blending limitations might affect the project's scale. CUB, Minneapolis, and the OAG explained that the low energy density of hydrogen is a barrier to scaling up the project in the future. Because hydrogen produces less energy than natural gas when burned, CUB and the OAG noted that the environmental benefits of blending hydrogen into the distribution system are underwhelming and inefficient. The OAG explained that even a 20% hydrogen blend would only provide a 6% to 7% reduction in greenhouse gas emissions because of the lower energy density of hydrogen.[175]

Further, the CEOs, the OAG, and Minneapolis noted that there are also technical limitations which prevent CenterPoint from displacing more than 5% of natural gas with hydrogen. Through working with the Minnesota Office of Pipeline Safety (MNOPS), CenterPoint found that the maximum amount of hydrogen that could be safely blended into the existing natural gas system is 5%.[176] MNOPS would provide oversight of the blending project, including a visit of the installation and a review of jurisdictional components of the project.[177] Noting that the likelihood of hydrogen completely displacing natural gas in the distribution system is slim, the OAG and Minneapolis stated that a commitment to blending hydrogen into the gas distribution system is a direct commitment to maintaining the percentage of natural gas that cannot be displaced by hydrogen well into the future.[178] The OAG and Minneapolis each stated that the

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[169] OAG Reply Comments, p. 11-12, referencing Topolski et al., Nat'l Renewable Energy Laboratory, *Hydrogen Blending into Natural Gas Pipeline Infrastructure: Review of the State of Technology (Oct. 2022)*, available at https://www.nrel.gov/docs/fy23osti/81704.pdf (reviewing the research regarding the effects of blending hydrogen on pipeline materials and equipment performance within transmission and distribution networks).

[170] CEOs Initial Comments, p.25.

[171] Minneapolis Comments, p.4.

[172] CenterPoint Customers Public Comment, p.1.

[173] Lee Samelson Public Comment, p.2.

[174] CEOs Initial Comments, p.28.

[175] OAG Initial Comments, p.6.

[176] CenterPoint NGIA Plan, Exhibit D, p.14.

[177] CenterPoint Petition, Exhibit D, p.14.

[178] OAG Initial Comments, p.7.

use of hydrogen to reduce greenhouse gas emissions is most promising in sectors that are difficult to electrify.

The Company pushed back on the scalability question, stating that a 5% blend would reduce emissions at the scale of the entire ECO/CIP program,[179] and that a decarbonization strategy need not replace 100% of emissions to be effective. IUOE reiterated that the legislature intended for gas utilities to "deploy a wide range of innovative resources."[180]

The CEOs, the OAG, CUB,[181] and the Department also questioned whether Pilot D would be a valuable learning opportunity given CenterPoint's existing downtown Minneapolis Hydrogen blending project, which has similar aims. The Department recommended the Commission reject the pilot in part due to "poor performance of CenterPoint's existing electrolyzer."[182] **[Decision Option 21]** The Department provided an analysis of current production related to anticipated production at the facility, stating that the "highest capacity factor the facility has reached to date is only 32 percent in August 2023."[183]

The CEOs echoed this argument, and questioned why, if it proposed to learn more about the use of on-site solar and storage,[184] CenterPoint could not add a co-located solar array at its Minneapolis location, rather than building a new facility.[185] CUB recommended that the Company "focus on its existing [downtown Minneapolis] pilot before proceeding with Pilot D," given the likeness to the new pilot.[186]

CenterPoint stated that Pilot D would teach the Company about scaling hydrogen facility installation in Minnesota, saying that the existing Minneapolis Hydrogen Blending Facility and Heartland Hydrogen Hub did not provide sufficient firsthand learning opportunities for the Company in operating hydrogen production, blending, and storage alongside renewable electricity, nor to take advantage of federal tax credits.[187] The Company stated that the project would differ from its existing Minneapolis facility by allowing the Company to investigate the use of on-site solar and hydrogen storage.[188]

CenterPoint pushed back on negative assessments of its Minneapolis project, stating that production at the Minneapolis facility has increased over time, that the facility has already contributed to "invaluable learning and improvements to hydrogen production system design

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179 CenterPoint Reply Comments, p.59.
180 IUOE Supplemental Comments, p.1.
181 CUB Supplemental Comments, p.22.
182 Department Supplemental Comments, p.29.
183 Id.
184 CEOs Initial Comments, p.28.
185 CEOs Reply Comments, p.4.
186 CUB Supplemental Comments, p.4.
187 CenterPoint Reply Comments, p.57.
188 Id., p.56.

and operations," and that the new facility would help test system impacts at different injection points.[189] **[No Action on Decision Option 21]**

The RNG Coalition concurred, stating that this project could help teach the Company about the benefits of blending hydrogen into existing gas infrastructure, and an opportunity in "both scaling the hydrogen resource and evaluating its feasibility in gas system applications."[190] IUOE supported use of hydrogen as a low-carbon fuel to meet the statutory mandate and to work towards an uncertain future of Minnesota's gas system.[191] LIUNA echoed support for piloting hydrogen as an emerging market.[192]

The OAG and CEOs argued that the costs of Pilot D were not reasonable under the NGIA statute, compared to the value of funds spent on Pilot E. the OAG pointed to language in the statute which stated the Commission may not approve a plan unless:

> *…the costs and revenues projected under the plan are reasonable in comparison to other innovative resources the utility could deploy to reduce greenhouse gas emissions, considering other benefits of the innovative resources included in the plan.*[193]

The OAG argued that both the short-term pilot costs and lifetime utility costs of Pilot D were too high a price to meet statute limitations, "in comparison to other innovative resources" that the utility is already deploying in Pilot E.[194] The CEOs made a similar objection, saying that none of the learning outcomes were valuable enough to lock ratepayers into such long-term, high lifetime costs.[195] Ultimately, the OAG recommended that Pilot D's funds be redirected toward Pilot E, specifically earmarking them for the green hydrogen portion.[196] CUB agreed with the OAG's recommendation. **[Decision Option 22]**

Should the Commission wish to approve Pilot D, the OAG recommended requiring CenterPoint to specify the source of power it will use for the pilot. **[Decision Option 23]** The OAG explained that CenterPoint's claim of carbon free electricity hinges on how the utility meets the portion of its electricity needs not covered by the on-site solar generation. While CenterPoint intends to purchase energy from Xcel through its green tariff program, the Company has yet to commit to a specific plan.[197]

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189 Id.

190 RNG Coalition Initial Comments, p.7

191 IUOE Supplemental Comments, p.1

192 LIUNA Reply Comments, p.1

193 Minn. Stat. § 216B.2427, subd. 2(b)(6).

194 OAG Reply Comments pp.11-12.

195 CEOs Initial Comments, pp.25-27.

196 OAG Reply Comments, pp.10-12.

197 OAG Initial Comments, p.5.

The CEOs also saw value in utilizing hydrogen for hard-to-decarbonize sectors but instead recommended that the Commission direct CenterPoint to propose an alternative to Pilot D consisting of a green hydrogen facility dedicated to hard-to-electrify customers.[198] **[Decision Option 24]** The CEOs noted that the Heartland Hydrogen Hub is focused on decarbonizing agricultural fertilizer production, an issue specific to large industrial customers, and which CEOs saw as a more urgent focus than blending into the residential and small commercial distribution system.[199]

Public commenters also supported utilizing hydrogen in scenarios where customers could not otherwise electrify their processes. The CenterPoint Customers signed a letter advocating that CenterPoint reserve hydrogen for hard-to-decarbonize sectors, instead of using them for purposes that could be served by electrification, weatherization, and geothermal.[200] The CenterPoint Customers also argued that blending hydrogen into the existing natural gas system could delay electrification and pose safety risks for gas pipelines. Lee Samelson agreed with these positions and speculated that CenterPoint's proposal to blend RNG and hydrogen into the gas distribution system "could serve as a greenwashed pretext…to keep investing in their gas distribution infrastructure."[201]

3. Staff Analysis

Parties are split in their opinions on Pilot D. CenterPoint, LIUNA, IUOE 49, and the RNG Coalition support the pilot while the OAG, CUB, the CEOs, the Department, Minneapolis, and several public commenters were opposed. Staff notes that the only legal argument provided for the Commission to consider was that, consistent with Minn. Stat. § 216B.2427, subd. 2(b)(6), the costs of Pilot D were not reasonable given the existence of a cheaper hydrogen project dedicated toward serving hard-to-decarbonize customers in Pilot E.

It seems that if the Commission agreed with the OAG's proposal (to shift funds to Pilot E and earmark them for power-to-hydrogen), several other party concerns – blending safety and possible duplication of efforts – would be addressed. This solution would allow CenterPoint to continue exploring residential blending at its existing Minneapolis facility, while also exploring decarbonizing industrial and large commercial facilities in its NGIA plan. However, there is no guarantee that CenterPoint will find the customers needed to utilize these additional funds in Pilot E.

The Commission could also agree with other parties' opinions that the NGIA's purpose is to help utilities explore a variety of use cases that could be used to meet Minnesota's carbon reduction goals, and this additional pilot would help CenterPoint achieve that purpose.

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198 CEOs Initial Comments, p.49.

199 Id., p.26.

200 CenterPoint Customers Public Comment, p.1.

201 Lee Samelson Public Comment, p.2

Staff notes that rejecting Pilot D without reallocating those funds toward another low-carbon fuel pilot will cause the low-carbon fuel portion of the budget to fall below the 50% requirement for the innovation plan. Shifting this budget to Pilot E, requiring that Pilot C's budget be modified to meet the 50% requirement, or requesting CenterPoint to propose a new pilot could all result in a compliant plan. However, requesting a new proposal will delay the implementation of CenterPoint's innovation plan. Staff notes that many other pilots are up for debate, and so the Commission will also have to consider how each plan's approval, rejection, and modification will affect the overall budget proportions.

E. Pilot E: Industrial or Large Commercial Hydrogen and Carbon Capture

1. Pilot Summary

The Company proposed to identify a small number of large commercial or industrial customers interested in installing either power-to-hydrogen or carbon capture demonstration projects and support their projects by paying up to 20% of feasibility study costs (up to $30,000), and by providing financial assistance that covers 100% of the upfront project cost, up to $1.5 million. The Company stated its intention to be flexible with the participants classes and their choice of decarbonization options.

The Company designed the pilot to satisfy Minn. Stat. § 216B.2427, subd. 7, which requires the Company to include a pilot in its first NGIA Plan which provides innovative resources to industrial facilities whose manufacturing processes, for technical reasons, are not amenable to electrification.

2. Discussion (Decision Options 25-29)

Staff notes that, compared to Pilot D, parties were much more in agreement about the learning value and proposed budget of Pilot E. The Department, CUB, Minneapolis, and the CEOs provided comments on Pilot E specifically, with LIUNA, IUOE, and the RNG Coalition commenting on hydrogen generally. LIUNA, IUOE, and the RNG Coalition recommended approving all hydrogen-related pilots, with other parties recommending approval with modifications.

The Department recommended approving the portion of Pilot E's budget dedicated to power-to-hydrogen projects. Originally, the Department recommended approving Pilot E's power-to-hydrogen archetype with the budget set to only one customer due to the fact that CenterPoint had only identified one customer with interest in the hydrogen portion of Pilot E.[202] However, CenterPoint requested the flexibility to select multiple customers rather than just one. In response, the Department updated its recommendation to effectively[203] approve the power-

[202] Department Initial Comments, p.41.

[203] Staff uses the term "effectively" here because the Department's recommendation indicated a modification to Pilot E's budget. However, upon inspecting CenterPoint's proposed budget for the pilot, and the Department's proposal, it was discovered that there was no modifications made to the hydrogen archetype's budget for Pilot E.

to-hydrogen archetype's budget without limiting the pilot to a single participant.[204] **[Decision Option 25]**

Regarding the carbon capture archetype, the Department was not satisfied with the level of information CenterPoint provided on potential pilot participants. However, the Department stated that it was confident that the market would respond quickly to these new financial incentives, and CenterPoint would be able to identify developers and vendors interested in Pilot E's carbon capture archetype in its next annual update.[205] The Department was also concerned with the potential cost-effectiveness of this portion of the pilot due to CenterPoint stating in response to an information request that "CenterPoint developed assumptions for the pilot based on captured carbon used in concrete production, the pilot would be open to other potential uses for captured carbon" and "[b]ecause the societal perspective includes unquantified costs and benefits, CenterPoint Energy is not able to identify a numerical tipping point where a pilot or measure would no longer have net positive benefits."[206]

The Department ultimately recommended rejecting Pilot E's carbon capture archetype other than the proposed scoping study. Further, the Department recommended that the Commission wait to consider additional funding for this pilot until CenterPoint has provided additional information on the technology's cost-effectiveness and has identified one or more customers interested in participating.[207] **[Decision Option 26]**

The CEOs expressed concern that the emissions reductions of this pilot were unclear at the time of petition,[208] and recommended that the Commission require a minimum amount of dekatherms of natural gas savings for customers to qualify for the power-to-hydrogen pilot archetype.[209] **[Decision Option 27]**

CenterPoint replied that it generally did not oppose the CEOs' recommendation, but "would suggest re-framing as a minimum greenhouse gas reduction savings because the carbon capture aspect of this pilot will generally result in greenhouse gas but not Dth savings."[210]

The CEOs noted their appreciation for CenterPoint's willingness to address the suggestion but explained that their recommendation remained unchanged as a minimum amount of Dth savings is a more direct measurement of savings than greenhouse gas reduction savings.[211] CUB agreed, saying that the CEOs' recommendation helped "allow for prioritization of

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[204] Department Supplemental Comments, pp.31-32.

[205] Department Initial Comments, pp.44-45.

[206] Id., pp.43-44.

[207] The Department modified its recommendation in its May 31st letter. Staff has incorporated this modification into its description of the Department's recommendation.

[208] CEOs Initial Comments, pp. 30-31.

[209] CEOs Supplemental Comments, p.7

[210] CenterPoint Reply Comments, p.53

[211] CEOs Supplemental Comments, p.7

investments that can help achieve optimal GHG emission reduction levels in Pilot E."[212]

Further, the CEOs recommended that the Commission encourage CenterPoint to continue working with its customers to identify opportunities to work on a hydrogen project for a dedicated hard-to-decarbonize customer. **[Decision Option 28]**

Minneapolis voiced support for Pilot E so long as CenterPoint's estimates for stored CO_2 utilization are realistic and there is an off taker before customer funds are invested. Minneapolis also recommended that the customer contribute at least 50% of project costs rather than CenterPoint's proposal to pay 100% of capital costs for project installation. **[Decision Option 29]**

The Company replied to Minneapolis that it based its incentive on the expectation that participating customers would likely incur more ongoing operating expenses, and that it believed that customers would be more motivated by a larger up-front incentive **[No Action on Decision Option 29]**.[213] The Company and other parties did not respond to Minneapolis' other two suggestions.

The OAG also supported Pilot E because of its much larger projected GHG reductions per dollar spent, when compared to Pilot D (see Table 3). the OAG noted that CenterPoint had said it was aware of "several large customers with aggressive GHG reduction goals" and that Pilot E provided a greater opportunity to scale this project at a reasonable cost than Pilot D.[214]

3. Staff Analysis

Pilot E seems to present opportunities for both high risk and high reward.

Staff acknowledges that this pilot's current structure leaves a high degree of uncertainty (and therefore risk) for reasons that parties outlined:

- The Company has stated that it has only begun initial exploratory conversations with potential clients, without a clear commitment.
- Because of the early stages of these conversations, the GHG reduction benefit may be unclear at the time that the Commission agrees to approve, modify, or reject the pilot.

However, parties mostly aligned on the aim of this pilot: to decarbonize industrial customers who are not, for technical reasons, amenable to electrification. This is both an NGIA statutory requirement,[215] and a generally agreed-upon "best and highest use" case for hydrogen. No party recommended rejecting Pilot E in full, and several even recommended shifting the budget

[212] CUB Supplemental Comments, p.22-23

[213] CenterPoint Reply Comments, p. 61

[214] OAG Reply Comments, p.14, referencing CenterPoint Reply Comments, p. 60

[215] Minn. Stat. § 216B.2427, subd. 7

from Pilot D to Pilot E to increase CenterPoint's ability to invest in this space.

F. Pilot F: Industrial Methane and Refrigerant Leak Reduction

1. Pilot Summary

With Pilot F, CenterPoint proposed to hire a vendor to conduct surveys of participating industrial and large commercial facilities for methane and refrigerant leaks behind the customer gas meter. The Company would 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 the impacts of the leak survey on reducing methane and refrigerant leakage. The Company stated that the planned marketing approach will be sufficient to attract the target level of participation of 25 customers per year and due to a limited pool of qualified vendors, contractors would not be limited to only in-state.

2. Discussion (Decision Options 30-33)

The Department of Commerce recommended that Pilot F's budget be reduced to only what would be required to support 10 participants for each year for the first two years of the NGIA plan ($499,061) **[Decision Option 30]**.[216] The Department's recommendation was due to the fact that CenterPoint had only been able to identify one potential participant for this pilot.[217] Further the Department stated that the emissions savings calculations for Pilot F are hypothetical, and not based on any Minnesota facilities. Although the Department stated that this pilot is "in the right direction,"[218] the low level of identified interest justified a lower participation estimation, and thus a lower budget for Pilot F.

As described in the summary of the Department's overall position above, CenterPoint made several arguments against reducing the size of its Pilots. For Pilot F specifically, CenterPoint stated that it intends to engage in targeted marketing and outreach.[219] Based on the Company's experience implementing customer programs, CenterPoint expressed confidence that its planned marketing approach would be sufficient to attract the target level of participation of 25 customers per year.[220] **[No Action on Decision Option 30]**

Like the Department, the OAG also raised concerns about CenterPoint's estimated emissions savings for Pilot F, which it believes were over estimated. The OAG explained that CenterPoint assumed that each participating facility would reduce, on average, annual methane leaks by 301 Dth/year.[221] This is equivalent to 0.25% of the annual gas consumption for CenterPoint's

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[216] In its initial Comments, the Department explained that it had scaled down Pilot F's $1,247,651 budget, intended for 50 participants, to $499,061, or roughly 40% of its original budget.

[217] Department Initial Comments, pp.45-46.

[218] Id.

[219] CenterPoint Reply Comments, p.62.

[220] Id.

[221] OAG Initial Comments, p.3.

largest industrial and commercial customers. According to the OAG, CenterPoint based this estimate on a Final Project Report from California that found leak rates to be between 0.14% to 0.28% among participants. However, the OAG explained that this outcome was driven by a select few facilities with substantial leaks, while most facilities in the study have no leaks at all.[222] The OAG noted that CenterPoint had not explained why it believes Minnesota participants will fall at the higher end of the savings range at 0.25%, and without this information the OAG asserted that these assumptions are unfounded. The OAG recommended that CenterPoint revise the expected greenhouse gas reductions from Pilot F before the Commission assess the net benefits of the project. **[Decision Option 31]**

In response, CenterPoint acknowledged the uncertainty in its emissions savings estimates but emphasized that its estimates were conservative **[No Action on Decision Option 31]**.[223] To prove this, CenterPoint explained that the respondent to the Company's RFI, who previously managed a similar methane leak pilot, suggested higher reductions were possible. CenterPoint also cited EPA data estimating up to 5% leak reductions from industrial facilities. Due to limited industrial data, CenterPoint used Commercial sector data from California, which found leak rates between 0.14% to 0.28%. Although CenterPoint's 0.25% prediction lies at the upper range of the commercial estimate, Pilot F targets the Company's large industrial and commercial customers which are expected to have higher leak rates than the average commercial facility. CenterPoint stated Pilot F remains cost-effective even if emissions reductions are four times lower (0.14%).[224]

Minneapolis appreciated that refrigerant leak monitoring was included with monitoring for methene gas leaks but noted that CenterPoint had not attempted to quantify the greenhouse gas reductions resulting from refrigerant leak repair. Minneapolis recommended that, if the pilot is approved, in-state contractors should be solicited to maximize local economic development benefits. **[Decision Option 32]**

CenterPoint appreciated Minneapolis' recommendation but explained that due to the specialized nature of the pilot, there may be a limited pool of qualified vendors. CenterPoint stated that it would not be prudent to limit the pool of contractors to only those located in Minnesota **[No Action on Decision Option 32]**.[225] However, CenterPoint explained that it could take the location of the vendors, or hired staff, into consideration during a request for proposals process.

Through their supplemental comments, the CEOs recommended modifications to Pilot F that would increase the number of customers enrolled, explicitly incorporate both piping and appliances in the leak evaluation process, and ensure transparent data reporting.[226]

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[222] Id.

[223] CenterPoint Reply Comments, pp.62-63.

[224] Id., p.63.

[225] Id., p.62.

[226] CEOs Supplemental Comments, pp. 8-10.

The CEOs reported that studies in California found significant methane emissions from behind-the-meter leaks in commercial buildings, with appliances emitting 1.6 to 2.4 times more than piping, accounting for 0.24%-0.28% of total gas consumption.[227] Considering these findings, the CEOs recommended that CenterPoint be required to categorize each leak detected by the equipment type from which the leak originates, and whether it is leaking methane or refrigerant.

The CEOs also noted that natural gas leaks follow a skewed distribution, with a few large leaks causing most emissions.[228] The CEOs expressed concern that Pilot F's smaller customer sample might underreport emissions by missing super-emitters. To rectify these concerns, the CEOs requested unused funds be used to extend leak surveys if significant super-emitting leaks are not verified. **[Decision Option 33]**

CEE stated that findings from Pilot F about common industrial leak sources and cost-effective mitigation strategies will help reduce environmentally damaging leaks across CenterPoint's system and the state. These findings will also remain relevant as more commercial and industrial end-uses adopt alternative gaseous fuels and electric technologies like heat pumps. While Minnesota's natural gas utilities work to reduce methane leaks in their own systems, CEE noted that few efforts address leaks on the customer side of the meter. [229]

3. Staff Analysis

CenterPoint and the Department have differing definitions of a "pilot." The Department expects pilots to resemble Pilot B, where a specific facility or customer is identified, providing accurate emissions reduction data. CenterPoint's pilots, such as Pilot F, are more like CIP/ECO plans, offering customers funding or utility assistance and advertising the opportunity.

The NGIA does not define "pilot," but describes them as "pilot programs" aimed at gathering information and testing feasibility or effectiveness, with outcomes predicting larger-scale performance.

Staff recommends the Commission consider if reduced funding would still yield meaningful results. The Department aims to avoid excess budget and ratepayer risk, while the utility hasn't spent money on outreach as the pilot awaits approval. Additionally, the CEOs worry that insufficient funding might miss super-emitters, leading to a false negative in the leak survey.

Regarding the OAG's concerns, although CenterPoint did not update its emission reduction estimates, the Company did provide additional information on how its prediction came to be, and why the Company believes this prediction to be conservative. Staff notes that the OAG did

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[227] Id., p.8.

[228] Id., p.9.

[229] CEE Initial Comments, p.5.

not provide a response to this additional information in its supplemental comments. However, it is Staff's understanding that the OAG's recommendation still stands. Should the Commission not be satisfied with the explanation provided by CenterPoint, it may request additional information, or revised estimates.

Although Minneapolis recommended requiring CenterPoint to solicit contractors from in-state, it would appear that doing so may not be feasible. CenterPoint stated that it could prioritize in-state contractors. Because of this, Staff proposed an alternative to Minneapolis' recommendation that would prioritize in-state contractors instead of requiring the use of in-state contractors. **[Alternative Decision Option 32]**

Because their recommendation was provided in supplemental comments, CenterPoint and other parties were unable to provide comments on CEO's recommendation. Staff has no immediate objections to the information requested. However, Staff would advise removing language that would extend the pilot with any unused funds to include additional customer leak surveys. Staff notes that this language may conflict with a later decision discussed in this briefing paper to either approve or reject CenterPoint's requested 25% budget variance. Should the Commission approve this variance, it may consider the CEO's recommendation to extend Pilot F with unused funds. Otherwise, CenterPoint would be able to request, and the Commission would be able to grant, modifications to a pilot though an annual status report.[230]

G. Pilot G: Urban Tree Carbon Offsets

1. Pilot Summary

CenterPoint proposed to purchase carbon offsets from local non-profit, Green Cities Accord (formerly Green Minneapolis). Green Cities Accord works with local tree planting partners across the 7-county Twin Cities Metro area to plant trees in urban areas and sell carbon offsets registered as City Forest Carbon+ Credits for trees planted in the community. CenterPoint explained that Green Cities Accord focuses on planting trees to address the most harmful impacts of climate change on residents, with particular interest in areas of limited tree coverage which are highly correlated with areas of concentrated poverty.

Green Cities Accord registers tree planting projects with City Forest Credits, the national carbon registry.[231] CenterPoint explained that credits are issued over the lifetime of the trees, not upfront at the time a tree is planted. Releasing carbon credits over time is intended to reflect that the sequestering of carbon in trees takes place over many years.

2. Discussion (Decision Options 34-37)

The Department recommended that the Commission reject Pilot G **[Decision Option 34]** and

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[230] Minn. Stat. §216B.2427, subd. 2(g).

[231] "Carbon registry is a non-profit organization that develops and administers protocols, which includes carbon quantification methods, validation, and third-party verification." CenterPoint Reply Comments, p.65.

require CenterPoint to propose a modified pilot to ensure that spending through the pilot will result in the planting of additional trees **[Decision Option 35]**. By planting new trees, the Department stated the greenhouse gas reductions resulting from the pilot would be additional.[232] While CenterPoint provided an explanation in its reply comments as to why the carbon offset credits in Pilot G would represent "additional" greenhouse gas emissions, as trees continuously sequester carbon over many years, the Department maintained that Pilot G is relying on a technicality to make this claim. From the Department's viewpoint, no new trees are being planted through this pilot and the trees that have already been planted will continue to grow and sequester carbon on their own even if the Green Cities Accord went bankrupt.

The CEOs, the OAG, and CUB also recommended rejecting Pilot G. These parties agreed that purchasing urban tree carbon offsets is inconsistent with NGIA's definition of "carbon capture", thus the carbon offsets purchased under the pilot are not considered "innovative resources" and are not eligible for inclusion in innovation plans. For these same reasons, the CEOs also recommended that the Commission clarify that no carbon offset project should be included in NGIA plans because they do not meet the NGIA's definition of carbon capture **[Decision Option 36]**.[233]

The OAG explained that the NGIA defines "carbon capture" as "the capture of greenhouse gas emissions that would otherwise be released into the atmosphere"[234] and that urban tree carbon offsets remove carbon from the atmosphere that had already been released. Paying an organization to plant trees to remove greenhouse gases that have already been in the atmosphere does not capture greenhouse gas emissions that "would otherwise be released into the atmosphere" as required by the NGIA.[235]

The CEOs and the OAG also highlighted CenterPoint's reply comments, in which the Company argued that Pilot G's offsets are consistent with the statutory definition of "carbon capture" because the trees in the pilot would capture carbon that "would *otherwise remain* released"[236] in the atmosphere (Staff added emphasis).[237,238] The CEOs and the OAG stated that CenterPoint's need to alter the statutory definition of "carbon capture" shows that Pilot G is inconsistent with the plain language of the NGIA.

Additionally, the CEOs argued that Pilot G does not achieve the goal of the NGIA to "reduce the overall amount of natural gas produced from conventional geologic sources delivered to customers"[239] (the "throughput goal"). They argued that because offset projects of any type

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232 Department Supplemental Comments, p.35.

233 CEO Supplemental Comments, pp.4-5.

234 Minn. Stat. §216B.2427, subd. 1(c).

235 OAG supplemental Comments, pp.15-16.

236 CenterPoint Reply Comments, p.64.

237 OAG Supplemental Comments, p.16.

238 CEO Supplemental Comments, p.4.

239 Minn. Stat. §216B.2427, subd. 10.

fail achieve the NGIA's throughput goal, they should not be included in NGIA plans.[240] Further, the CEOs recommended that the Commission find that all NGIA pilots must satisfy the NGIA throughput goal to be eligible for inclusion in innovation plans. **[Decision Option 37]**

Minneapolis was supportive of Pilot G.[241] They explained that, although the scale of the pilot is small with 4,500 metric tons of CO_2e estimated to be reduced, the pilot was cost effective and would advance other climate adaptation goals such as mitigating urban heat island.

3. Staff Analysis

Staff agrees with interpretation provided by the CEOs, the OAG, and CUB and therefore supports Decision Option 36. Although the Department requested a modified proposal, it is not clear that any modified version of Pilot G would fulfill the statutory definition of "carbon capture." Staff's analysis should not be interpreted as a statement on the merits of urban forestation and related carbon credits, or the work being done by Green Cities Accord. Instead, Staff does not believe that this type of project qualifies for inclusion in an NGIA plan based on the plain language of the statute.

Regarding the CEO's recommendation on the NGIA's throughput goal, Staff notes that the NGIA permits utilities to propose, and the Commission to approve, carbon capture projects as a part of proposed innovation plans. Staff's understanding of carbon capture projects is that their purpose is not to reduce the amount of natural gas delivered to customers, and yet they are permitted to be included in innovation plans. Further, Staff does not read the NGIA's throughput goal as a requirement for individual pilots. For these reasons, Staff would advise the Commission act with caution as it considers the CEO's recommendation to mandate that the throughput goal be met for each individual pilot across all future innovation plans.

H. Pilot H: Carbon Capture Rebates for Commercial Buildings

1. Pilot Summary

CenterPoint proposed to provide rebates to commercial customers that install CarbinX carbon capture systems manufactured by Canadian company CleanO2. These units connect to existing natural gas heating equipment, capture CO_2, and convert it into chemicals that are resold for commercial uses.[242] Revenue from the resale is shared between CleanO2 and the participating customer. The CarbinX units also function as an economizer and are able to recapture waste heat for use in the building, thus, reducing natural gas consumption.

The Company proposed a longer ramp up period for Pilot H in its reply comments arising from market barriers in implementing the CIP/ECO CarbinX pilot. However, CenterPoint stated that it continues to observe significant customer interest in the technology and is optimistic about

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[240] CEO Reply Comments, pp.4-5.

[241] Minneapolis Initial Comments, p.5.

[242] Potassium carbonate ("K_2CO_3").

high levels of customer demand.[243]

Table 9: Carbon Capture Rebates for Commercial Buildings Participation Estimates[244]

	Units of Participation				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Initial Petition	37	72	72	72	72
Revised Petition	3	8	18	38	73

CenterPoint Energy proposed to pay an $8,000 incentive per unit for a customer's first installation, and an $3,000 incentive for subsequent installations at other business locations. The Company anticipated reducing the rebate in later years as adoption increases and/or an incentive for the energy efficiency component of savings is established in CIP/ECO.[245]

2. Discussion (Decision Option 38)

The Department, CUB, and the CEOs expressed concerns regarding Pilot H's overlap with a nearly identical project included in CenterPoint's CIP/ECO program as an R&D project, and ultimately recommended rejecting Pilot H. **[Decision Option 38]**

The Department explained that investments able to be reasonably included in natural gas utilities' Triennial Plans under section 216B.241 should not be in innovation plans. The Commission's September 12, 2022, Order in Docket G-999/CI-21-566 requires utilities to demonstrate that energy efficiency and strategic electrification pilots are neither currently included nor could be reasonably included in their CIP/ECO Triennial Plans. Since CenterPoint has previously supported CarbinX research through its ECO portfolio and has not sufficiently demonstrated why the CarbinX Pilot could not be included in its 2024-2026 ECO portfolio, the Department recommended rejecting Pilot H.

CUB and the CEOs also voiced concerns about possible duplication of efforts in pursuing carbon capture technologies through both ECO and NGIA, questioning whether the Commission could approve Pilot H. They noted that CenterPoint is currently evaluating CarbinX technologies through an ECO R&D field pilot to assess performance, energy savings, and suitability for future ECO programming. Without insights from this ongoing pilot, CUB and the CEOs argued it would be premature to conclude that these carbon capture technologies could not be reasonably

[243] CenterPoint Reply Comments, p.67.

[244] Summarized from Table 22 in CPE's initial filing on June 28 ,2023 and Table A.14 in CPE's reply comments on March. 15, 2024.

[245] Exhibit D, CPE's initial Filing on June 28, 2023, at 26.

pursued through ECO.

The Department noted that CenterPoint's approved CIP/ECO R&D budget for 2024-2026 program years has over five million dollars available based on the R&D spending cap. Because CenterPoint has a significant R&D budget available through CIP/ECO, the Department noted that if the Commission denies Pilot H and CenterPoint wishes to proceed with the pilot, it may be eligible for funding using the Company's CIP/ECO R&D budget.

In response to this discussion, CenterPoint reiterated the information it provided in Exhibit I of its initial petition, explaining that the CarbinX units are appropriately included in NGIA because a substantial portion of the greenhouse gas savings from the units are associated with carbon capture rather than energy efficiency.[246] Although CenterPoint began piloting the technology through CIP/ECO prior to the passage of NGIA, the Company's primary focus in that context has been the energy efficiency savings for CarbinX units and the Company stated that it has not claimed carbon capture savings for CarbinX units through CIP/ECO. **[No Action on Decision Option 38]**

Regarding the concern about duplication of learnings between CIP/ECO and Pilot H, CenterPoint reiterated that its CIP/ECO pilot is focused on the level of energy savings made possible by the units, as CenterPoint did not have a way to claim carbon capture savings from the units prior to the enactment of the NGIA.[247]

The Department provided supplemental comments on this topic,[248] in which they maintained their position and explained that CIP/ECO's cost benefit analysis inputs do consider the benefits of avoided carbon emissions as part of the societal and Minnesota tests.[249] In fact, the Department explained that greenhouse gas emission reduction benefits are one of the key benefits of the ECO program and that CenterPoint's statement that ECO does not account for emissions reductions is wrong and misleading.[250] Although the framework does not address carbon sequestration explicitly, the Department stated that there is a framework to place value on carbon. Again, the Department concluded that CenterPoint has not sufficiently explained why Pilot H cannot be administered in ECO and recommended rejecting the pilot.

Staff notes that several parties voiced support for Pilot H, including Minneapolis, The University of Minnesota's Senior Director of Energy Management (Jeffrey Davis), Minneapolis Public Schools (Curtis Hartog), and Tim Rybak of Bloomington Public Schools.[251]

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[246] CenterPoint Reply Comments, pp.67-68.

[247] Id.

[248] Department Supplemental Comments, pp.37-38.

[249] The Department adopted changes to the Minnesota cost-effectiveness policies on March 31, 2023, which resulted in the adoption of the Minnesota Test as the primary tool to evaluate cost effectiveness in ECO.

[250] See the Environmental Damage Factor explanation in Appendix L of the Department's March 31, 2023, Order, Docket No. E,G999/CIP-23-46.

[251] It should be assumed that CenterPoint supports its own Pilot.

Minneapolis noted that the CarbinX process creates revenue streams for hosts who are unlikely to electrify their processes for several years.[252] One such host includes the University of Minnesota. Jeffrey Davis explained that carbon capture has shown promise on small scale facilities, and that the CarbinX systems included in Pilot H would be of interest to the University as it attempts to meet its ambitious carbon reduction goals.[253]

Minneapolis Public School and Bloomington Public Schools explained that the significant incentive provided by CenterPoint through this pilot provides an opportunity for additional non-residential customers to install CarbinX systems considering that CenterPoint's existing CIP R&D program has reached capacity.[254] [255] Minneapolis Public Schools stated that they will be installing two CarbinX units at Bryn Mawr Elementary and Edison Senior High School.

3. Staff Analysis

The Commission must decide whether to approve or reject Pilot H. Staff notes that no pilot modifications beyond denial were recommended. Approving the project would be accomplished by choosing not to reject the pilot when selecting plan modifications.

Staff notes that there is no statutory language or Commission Order paragraphs preventing Pilot H from being included in CenterPoint's innovation plan despite the existence of a similar pilot existing in the Company's CIP/ECO portfolio. For instance, the NGIA's definitions of "energy efficiency" and "strategic electrification" give the Commissioner of Commerce the authority to determine that a pilot could reasonably be included in a utility's CIP/ECO program, thus disqualifying the pilot from inclusion in an innovation plan. This language is not included in the NGIA's definition of "carbon capture."

Further, the Commission's September 12, 2022 Order similarly requires a utility to prove that energy efficiency and strategic electrification pilots are neither currently included nor able to be reasonably included in their CIP/ECO Triennial Plans. This requirement does not seem to extend to carbon capture projects.

Pilot H is in an interesting position as a carbon capture pilot with the ability to also improve energy efficiency. Although the Commission does not appear to be obligated to reject the pilot due the existence of a similar project in CIP/ECO, it would be reasonable to conclude that the statutory language preventing CIP/ECO overlap with energy efficiency and strategic electrification pilots was intended to reduce redundancy and give preference to CIP/ECO when possible. The legislature may not have known, or been able to predict, the existence of a CIP/ECO-eligible carbon-capture pilot with the ability to improve energy efficiency.

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[252] Minneapolis Initial Comments, p.6.

[253] Public Comment, U of M Energy Management.

[254] Public Comment, Curtis Hartog.

[255] Public Comment, Tim Rybak.

I. Pilot I: New networked geothermal systems

1. Pilot Summary

With Pilot I, CenterPoint Energy proposed to introduce a new networked geothermal system designed to heat and cool a neighborhood currently under its service.[256] The proposed system would feature a distributed geothermal model where customers would have a geothermal heat pump ("ground-source heat pump" or "GSHP") exchanging heat with a shared water loop as opposed to each individual customer owning their own geothermal wells or air source heat pumps. The pilot would cover all upfront costs for customers, requiring only a 5% co-payment / participation fee from customers in the participating neighborhood(s). In addition to converting gas space and water heating to ground-source heat pumps, any other gas appliances would be converted to electric appliances.

CenterPoint plans to begin the project with site identification and a feasibility study. CenterPoint stated that it anticipates significant impacts to the community in which the project will take place. Because of this, the Company intends to integrate community engagement and outreach into every stage of the project. CenterPoint will produce a community engagement and outreach plan as a part of the planning process and will consider modifications based on recommendations received.

Pilot I's feasibility study will include consideration of the land uses and demographics of the community and the area surrounding the potential sites. Additionally, the Company will assess the potential impact on local communities. CenterPoint stated that it will file its feasibility study with the Commission in an annual status report prior to beginning design or construction.

CenterPoint stated that Pilot I would be eligible for an ITC for the facility under 26 U.S.C. § 48E. The pilot could be eligible for a credit between 6 and 50% of costs depending on whether the project satisfies labor and domestic content requirements and whether the project is located in an energy community. For the purposes of its analysis, CenterPoint assumed it would achieve a 30% credit. It is also possible that the project would be eligible for IRA tax incentives or rebates, but CenterPoint did not include these in its calculation of participant cost due to uncertainty about the quantity of credit or rebates available to participants.

2. Discussion (Decision Options 39-44)

Several parties supported Pilot I, including CEE, the CEOs, CUB, GeoExchange, Minneapolis, and Public Commenter Lee Samelson. Broadly speaking, these parties identified Pilot I as the first step toward implementing a new technology in Minnesota with the potential to provide clean heat to customers, create new well-paying jobs, and utilize an existing workforce experienced in building and maintaining the gas distribution system toward the development a carbon-free resource. The technology was praised for its ability to provide clean and efficient heat even during the coldest months, and for its ability to scale up in the future to encompass additional

[256] CenterPoint Initial Filing, Exhibit D, pp.27-29.

neighborhoods.

While many parties provided comments in favor of Pilot I and the associated networked geothermal system and GSHPs, Staff believes the comments made by the CEOs sufficiently cover the points made by commenters. The bullets below provide a summary of Pilot I's benefits as discussed by the CEOs:

- The GSHPs that connect a building to the networked geothermal system are safer for customers than conventional natural gas or RNG due to the fact that they do not pose an explosion risk, don't produce the indoor air contamination caused by burning methane, and result in fewer greenhouse gas emissions than other heating technologies.[257]
- GSHPs in Minnesota could produce 62% fewer emissions than air source heat pumps, 85% fewer emissions than gas furnaces, and 90% fewer emissions than propane furnaces through 2050.[258]
- GSHPs can lower energy costs for customers because they are highly efficient, using 59% less energy than a typical air sourced heat pump, 78% less energy than a typical natural gas furnace, and 82% less than a typical propane furnace.[259]
- Due to the increased efficiency and lack of fuel costs, networked GSHPs can generate annual savings ranging from $48,000 (56,000 sq ft served) to greater than $2 million (5.5 million sq ft), depending on the characteristics of the project.[260]
- GSHPs can provide cooling in the summer and heating during the winter.
- Because of the load management benefits[261] of GSHPs and networked geothermal systems, one study from the Oak Ridge National Laboratory found that the widespread deployment of GSHPs could reduce transmission requirements by 38% and reduce the wholesale price of electricity between now and 2050 by up to 12%.[262]
- Networked geothermal systems can benefit natural gas utilities by providing a new business model that would allow the utilities to maintain their relationship with existing customers, apply the same skilled labor for laying pipes, utilize existing utility rights-of-

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[257] CEOs Initial Comments, p.34.

[258] Id., p.35. See, Lauren Reeg et al., Clean Energy 101: Geothermal Heat Pumps, Rocky Mountain Inst. (Mar. 29, 2023), https://rmi.org/clean-energy-101-geothermal-heat-pumps/.

[259] Id.

[260] Id., See Geo Micro District: Feasibility Study at Appendix B: Case Studies (Buro Happhold Engineering & HEET, 2019), https://heet.org/wp-content/uploads/2019/11/HEET-BH-GeoMicroDistrict-Final-Reportv2.pdf.

[261] The CEOs explained that in a networked geothermal system, waste heat from one part of the system (such as from refrigeration units in a grocery store) can be used to heat other parts of the system. Additionally, the stable temperature of the ground can act as a thermal battery for the system, providing further load management benefits.

[262] CEOs Initial Comments, p.36. See Xiaobing Lui et al., Grid Cost and Total Emissions Reductions Through Mass Deployment of Geothermal Heat Pumps for Building Heating and Cooling Electrification in the United States xii-xiii (Oak Ridge Nat'l Lab'y & U.S. Dep't of Energy, 2023), https://www.osti.gov/biblio/2224191.

> ways, and because these systems do not need to connect to existing natural gas infrastructure, they provide an opportunity for utilities to expand service to currently unserved areas of the state.[263]

While no party recommended outright rejecting Pilot I, the Department, the OAG, and the CEOs recommended modifying the scope and budget of the pilot.

The Department recommended only approving a modified version of CenterPoint's feasibility study, while the OAG and the CEOs recommended a staged approach where the Commission would only approve the funds necessary for the feasibility study now and would allow CenterPoint to seek additional funding after the feasibility study was published and further details about the project were known.

The Department recommended modifying Pilot I to instead fund a feasibility study for a networked geothermal system for new construction on a greenfield or brownfield site **[Decision Option 39]**. The Department stated that CenterPoint's proposal lacks many crucial pieces of information, including but not limited to a detailed site analysis that considers geological and hydrogeological conditions as well as the suitability of the ground for drilling or excavation; a breakdown of expenses that includes drilling/excavation costs, ground loop installation, heat pump equipment, distribution costs, incentives, rebates, and tax credits; operational considerations, such as maintenance requirements and lifespan; and a thorough financial analysis that calculates payback periods and return on investment. Instead, the Department explained that CenterPoint copied the calculations from Boston Gas Company's filing and scaled them up to a per ton estimate to generate the cost predictions of Pilot I. The Department contended that this methodology is likely inaccurate due to the differences in geology, climate, regulatory environment, energy prices, and labor and material costs between Minnesota and Boston.[264]

Having considered the many factors at play, the Department determined that the cost of implementing a networked geothermal system is contingent on the unique conditions and circumstances present in each location, and that the current cost estimates provided by CenterPoint were highly speculative. The Department could not condone the risk to ratepayers from such indeterminate costs.

Instead, the Department recommended that CenterPoint propose a new pilot targeted at new construction (a greenfield or brownfield site). The Department explained that new construction projects will be subject to fewer risks, including homeowner site access, building retrofits and technical/routing feasibility. The Department also recommended that CenterPoint propose a comprehensive feasibility study for a network geothermal system that encompasses a thorough analysis of geological, climatic, environmental conditions, and customer interest. The study should also include a detailed system design, cost estimation, risk analysis, and financial

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263 Id., p. 36.

264 Department Initial Comments, pp.50-51.

modeling. Further, the Department recommended that an environmental impact assessment be examined, and alternative energy solutions be explored.

In response, CenterPoint thanked the Department for its suggestions on the content of the feasibility study, and stated that it would incorporate these recommendations into the first stage of Pilot I.[265] However, CenterPoint, and the CEOs, opposed the addition of an environmental impact study and an exploration into alternative energy solutions. The parties argued that an environmental study would be premature for the initial feasibility study. CenterPoint stated that it intends to comply with all applicable regulations with respect to environmental review at the appropriate time in the project development process.[266] Regarding the alternative energy solutions analysis, CenterPoint explained that the purpose of the pilot is to explore the potential of networked geothermal systems, thus, an alternative energy analysis is not appropriate for this pilot. **[No Action on Decision Option 39]**

CenterPoint and the CEOs also opposed requiring the pilot to be located at new construction. CenterPoint stated that there will be many evaluation criteria for site selection, and no single site is likely to meet all desired characteristics. In its reply comments, CenterPoint committed to considering, among other things: whether a candidate site is a low- or moderate-income, disadvantaged community, or environmental justice area; whether the site is in an area of the Company's distribution system that may otherwise require near-term investments; and whether the site is a new development.[267]

Like the Department, the OAG and the CEOs noted faults in CenterPoint's current cost estimates and recommended funding CenterPoint's feasibility study. However, unlike the Department, the OAG and the CEOs also recommended allowing CenterPoint to seek additional funding for the rest of the pilot in an annual status report once the feasibility study has been published and additional details about the cost, site, and technology were known **[Decision Option 40]**. The CEOs stated that this arrangement would provide more certainty regarding the likelihood of the implementation phase moving forward and would keep the door open for customer to benefit from this promising technology.[268] The OAG explained that the NGIA does contemplate ongoing review and modification of utility proposals through the annual review process. **[Decision Option 41]**

In response to this request, CenterPoint stated that it was not opposed to receiving additional Commission approval based on the results of the feasibility study. However, CenterPoint requested flexibility in the timing of such review and approval to allow pilot implementation to proceed in the event the scoping is completed outside of the Company's annual status report filings.[269] **[No Action on Decision Option 41]**

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[265] CenterPoint Reply Comments, p.70.

[266] CenterPoint Supplemental Comments, p.13.

[267] Id.

[268] CEOs Reply Comments, pp.5-6.

[269] CenterPoint Supplemental Comments, pp.12-13.

The Department opposed the OAG and the CEOs recommendation but did not dispute the Commission's authority to withhold a portion of the project's budget.[270] The Department explained that there is a substantial amount of work required to develop a "shovel-ready project" and that the lack of site specification or any technical information means that the budget could swing dramatically based on the findings from any particular site. This uncertainty could result in over- or under-estimated benefits and cost effectiveness.

With its initial comments, Minneapolis also recommended expanding the size and scope of Pilot I to include two networked geothermal systems, one in new construction, and one in an existing corridor with both residential and commercial customers.[271] The City also proposed requiring dedicated support staff to assist customers with utility and federal incentive opportunities, developing monitoring and evaluation plans to track system performance, and evaluating the proposed budget to determine if more funds from year one could be allocated to serving additional customers though this pilot. In response, CenterPoint explained that it does not have the budget for multiple networked geothermal sites, nor does CenterPoint believe it would be possible to reallocate a substantial portion of the budget away from year one to later years as the Company will need early funding to complete the contemplated feasibility study and site selection process.[272] **[Decision Option 42]**

The CEOs and CUB also recommended requiring CenterPoint to prioritize the installation of the networked geothermal system in low-income and environmental justice areas within its service territory. In making this recommendation the CEOs noted the significant potential for customer benefits from this pilot. Further, the CEOs noted CenterPoint's ability to claim additional tax credits for citing the project in an energy community.[273] The CEOs also requested that CenterPoint give special attention to segments of its distribution due for pipe replacements or upgrades. **[Decision Option 43]**

In response, CenterPoint expressed hesitation in prioritizing low- or moderate-income, disadvantaged communities, or environmental justice areas for Pilot I. They explained that the best sites from an engineering or customer preference perspective might not align with these communities. Additionally, geothermal systems are new to both the U.S. and the Company, making them reluctant to involve vulnerable customers in piloting a new technology without a proven track record of success.[274] However, CenterPoint committed to including these communities as an evaluation criterion and supported considering parts of their distribution system needing near-term investments. **[No Action on Decision Option 43]**

In its supplemental comments, CUB reiterated that the recommendation is to require

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[270] Department Supplemental Comments, p.39.

[271] Minneapolis Initial Comments, p.6.

[272] CenterPoint Reply Comments, p.70.

[273] CEOs Initial Comments, pp.36-37.

[274] CenterPoint Reply Comments, p.70.

CenterPoint to prioritize these communities, which does not necessarily require that the pilot take place in these communities. Further, CUB noted appreciation for CenterPoint's concern about the impacts on vulnerable customers, but did not believe that concern should bar customers from participation in innovative pilots under the plan.[275]

Finally, CUB and the CEOs recommended that CenterPoint be required to describe how it will facilitate stakeholder engagement with the chosen community throughout the various phases of the project, and to provide additional information on how it will assess community support and customer interest in the implementation phase of Pilot I. The CEOs explained that the most important stakeholders to engage in the implementation phase of this pilot will be community members and customers in candidate install locations. While parties may engage CenterPoint through Commission processes the Company will need to assess community support and customer interest through various mechanisms.[276] **[Decision Option 44]**

3. Staff Analysis

The 2024 legislative session resulted in modifications to the NGIA that will require utilities with over 800,000 customers to include, in innovation plans filed after July 1, 2024, spending of at least 15% of a proposed innovation plan's total incremental cost for thermal energy network projects. The NGIA now defines thermal energy networks as a project that provides heating and cooling to multiple buildings connected via underground piping containing fluids that in concert with heat pumps, exchange thermal energy from the earth, underground or surface waters, wastewater, or other heat sources. Further, the legislature directed the Commission to establish a thermal energy network deployment work group to explore the regulatory opportunities for regulated natural gas utilities to deploy thermal energy networks, and directed the Department of Commerce to conduct a study to determine the suitability of sites to deploy thermal energy networks statewide.[277]

It is clear that the legislature intends to advance the exploration and deployment of thermal energy networks, like the one proposed in Pilot I. Staff notes that, as a utility with more than 800,000 customers, CenterPoint will be required to include spending of at least 15% of the innovation plan's total incremental costs on pilots such as the one proposed in Pilot I.

Given this information, it may be wise for the Commission to grant CenterPoint the budget required to complete its feasibility, and then permit the Company to present its findings and propose additional funding for project implementation, as proposed by the CEOs and the OAG with Decision Option 40. Staff notes that the OAG clarified its position through an ex parte communication with Staff and noted that any additional funding for Pilot I should be allocated through the annual review process, as this is where the statute permits consideration of pilot

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[275] CUB Supplemental Comments, pp.16-17.

[276] CEOs Supplemental Comments, p.10.

[277] See Omnibus Bill: Laws 2024, Chapter 127: https://www.revisor.mn.gov/laws/2024/0/Session+Law/Chapter/127/

modification.[278] Staff understands the OAG's position to be that CenterPoint could begin this process prior to the annual review, including allowing stakeholders to review and comment on the proposal and feasibility study results, but any official modification of the pilot would need to occur through the annual review process.

From the discussion on the record, it would appear as though much of the information the Department, the OAG, and the CEOs believe is missing from CenterPoint's petition would be discussed in detail in the feasibility study. Staff does not view this action to be a "conditional approval" of a budget as the Department stated in its supplemental comments. Instead, the Commission would only approve the $200,000 required for the feasibility study. The funds required for the implementation stage are not being held in reserve. Instead, CenterPoint will be required to petition the Commission to expand the pilot beyond just the feasibility study using the study's results.

Staff reached out to the OAG through an ex parte communication to get additional information on how its recommendation to permit CenterPoint to seek additional funds for Pilot I after publishing its feasibility study results would function in concert with its recommendation to limit Pilot C's budget to only what is necessary to reach the 50% budget threshold for low-carbon fuels. It was not clear if the OAG believed CenterPoint would be required to also request additional funding for Pilot C when seeking approval of expanding Pilot I to ensure that at least 50% of the budget was dedicated to procuring and distributing low-carbon fuels.

In response, the OAG explained that it interprets the 50% threshold requirement for low-carbon fuels as applying only to the costs comprising the Commission's approval of the initial plan rather than to the actual costs expended by the utility at the end of the five-year plan term. They explained that subdivision 2(d) of the NGIA directs the commission to "not approve a utility's initial plan filed under this section unless" at least 50% of the costs are for low-carbon fuels. According to the OAG, this language appears directed at the Commission's initial approval, modification, or rejection of a plan under subdivision 2(b), rather than some later, unspecified time. Further, the OAG argued that differing interpretations would lead to absurd results.[279]

Staff supports the OAG's interpretation of subdivision 2(d). Requiring the Commission to, at the time of approving or modifying an initial plan, apply the 50% threshold requirement for low-carbon fuels to the *final costs recovered by the utility* would require the Commission to somehow have advance knowledge of what pilots will be modified or discontinued through annual status reports, and whether CenterPoint will use all of its available funding prudently. In other words, it is clearly not possible for the Commission to know ahead of time whether the spending under approved budgets will be recoverable. Thus, if the Commission allowed CenterPoint to pursue a modification of Pilot I to include the implementation stage of the pilot, the Commission would not also need to adjust CenterPoint's budget for low-carbon fuel pilots.

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[278] June 12, 2024, Staff Ex Parte Communication.

[279] June 5, 2024, Staff Ex Parte Communication.

Only the initial version of the plan approved by the Commission is required to meet the 50% threshold requirement for low-carbon fuels.

Regarding the requests to mandate that the networked geothermal system be located in a new development or a disadvantaged community, Staff believes that CenterPoint should be permitted to use their discretion when selecting a site. CenterPoint has a tax credit incentive to select an energy community as the site of its networked geothermal system. Further, to the extent that the Department is correct that new construction is subject to fewer risks, CenterPoint has an incentive to select new construction as the location for its networked geothermal system as well. As CenterPoint explained in its reply comments, the most suitable sites from an engineering and technological perspective may not align with these proposed locations. The Company has already committed to including the following evaluation criteria: whether a candidate site is a low- or moderate-income, disadvantaged community, or environmental justice area; whether the site is in an area of the Company's distribution system that may otherwise require near-term investments; and whether the site is a new development. The benefits of mandating, or requiring CenterPoint to give additional weight to, any one of these evaluation criteria is unknown given we do not yet know where suitable sites for this technology are located.

One benefit of this technology is that it is scalable in the future. This means that it would be possible to add additional buildings or neighborhoods onto the existing networked geothermal system in the future. Knowing that networked geothermal projects are required to be included in future innovation plans, including expansion projects, Staff would hope that CenterPoint evaluates the area surrounding its selected site to determine the possibility and benefits of future expansions of the networked geothermal system included in Pilot I.

Finally, Staff has no issue with CUB and the CEO's recommendation to require a discussion of stakeholder and community engagement. However, it is not clear if these parties recommend withholding Commission approval of this pilot until this information is provided, or if they are requesting CenterPoint to provide this information in a compliance filing without the need to withhold Commission approval.

J. Pilot J: Decarbonizing Existing District Energy Systems

1. Pilot Summary

CenterPoint Energy proposed a two-part pilot program aimed at reducing the lifecycle GHG emissions of existing district energy systems that previously used geologic gas. The first part involves supporting customers in hiring expert engineering firms to conduct feasibility studies for decarbonization opportunities. The Company proposed to pay 20% of feasibility study costs, up to $30,000. In the second part, the Company will assist customers in implementing projects that utilized innovative NGIA resources to decrease GHG emissions.

During the NGIA portfolio development process, CenterPoint Energy stated it was engaged with Hennepin County who was seeking funding to support a decarbonization study for their

Hennepin County Energy Center ("HERC"). Because HERC is one of the largest users on CenterPoint's system, the Company believed the decarbonization study to be aligned with the goals of the NGIA and provided Hennepin county with $30,000 in funding prior to plan approval. CenterPoint is requesting recovery of these costs as part of its NGIA Plan as "costs to develop and administer programs." These costs have been counted toward the estimates for Pilot J.[280]

2. Discussion (Decision Options 45-48)

The Department recommended the rejection of Pilot J because the pilot does not meet the statutory definition of district energy **[Decision Option 45]**. CenterPoint explained in reply that this was addressed by the company in its initial filing. CenterPoint acknowledged that, depending on the specific projects implemented within this pilot, other innovative resources such as energy efficiency or strategic electrification may be used.[281] CenterPoint argued that all projects implemented under this pilot do not need to meet the definition of district energy to be included in an innovation plan. Knowing that this pilot may include energy efficiency and strategic electrification projects, CenterPoint included Pilot J in its CIP/ECO coordination discussion in Exhibit I of its initial petition. **[No Action on Decision Option 45]**

Because projects conducted under Pilot J could meet the definition of energy efficiency or strategic electrification, CenterPoint is required to demonstrate why the pilot could not be reasonably administered in CIP/ECO. As noted in the summary of the Department's position at the beginning of this section, the Department concluded that CenterPoint had not sufficiently demonstrated why several of its pilots, including Pilot J, could not be administered in CIP/ECO. The Department explained that CenterPoint has the responsibility to demonstrate why Pilot J could not be administered in CIP/ECO and it had not provided any additional information to justify its claim.

The CEOs recognized CenterPoint's acknowledgement that not all projects under Pilot J may meet the statutory definition of "district energy" and opposed the Department's rejection of Pilots J stating that rejecting this pilot for the reasons described by the Department would be an "unnecessary limitation on utilities' ability to pursue electrification and energy efficiency projects in the NGIA."[282] Instead, the CEOs recommended that projects under Pilot J that do not meet the statutory definition of "district energy" not count toward CenterPoint's 20% statutory budget cap for the resource **[Decision Option 46]**. Additionally, the CEOs recommend that CenterPoint include a full electrification/decarbonization scenario in the project's feasibility study **[Decision Option 47]**.

CenterPoint disagreed with the CEOs recommendation, noting that the goal of this pilot is to support customers in making their own decarbonization choices. CenterPoint does not wish to

[280] CenterPoint Initial Filing, Exhibit D, p.33.

[281] CenterPoint Reply Comments, pp.71-72.

[282] CEOs Reply Comments, p.7.

limit customer choice by mandating consideration of full decarbonization options when other decarbonization strategies may be better options for the customer.[283] **[No Action on Decision Option 47]**

With its initial comments, Minneapolis also voiced support for Pilot J. However, the city noted that covering 20% of the feasibility study costs up to $30,000 may be too low. Instead, Minneapolis recommended maintaining the $30,000 cap but increasing the feasibility incentive to 50% of the costs. **[Decision Option 48]**

In response, CenterPoint explained that it chose its incentive structure because the study itself does not result in direct savings, and requiring a significant customer cost share discourages less motivated customers from completing the study just because it is low cost.[284] **[No Action on Decision Option 48]**

3. Staff Analysis

The issue at hand is whether Pilot J could reasonably be included in CenterPoint's CIP/ECO program. Although the Commission's September 12, 2022, Order in Docket G-999/CI-12-566 puts the burden of proof on the utility, as noted by the Department, the NGIA statute permits the Commissioner of Commerce to determine whether an "investment" in energy efficiency or strategic electrification could have reasonably been included in a utility's CIP/ECO program, thus removing its eligibility for inclusion in the NGIA.[285] Staff does not take the Department's recommendation as a "determination" by the Commissioner of Commerce due to the fact that Minn. Stat. § 216B.02 defines the "Commissioner" and the "Department" as separate entities.

This puts the Commission in a precarious position. Should the Commission disagree with the Department's conclusion for Pilot J, or any other pilot they recommended rejecting for similar reasons, and approve it with or without modification, the Commissioner of Commerce could theoretically make a determination that the pilot could have reasonably been included in the Company's CIP/ECO program. The NGIA does not place a time limit on the Commissioner's ability to make such a determination. However, Staff would argue that making this type of determination after months of record development and Commission approval may not be what the legislature intended.

Staff notes that the Department has not commented on the Commissioner of Commerce's authority.

In Exhibit I of its initial petition, CenterPoint explained that it would not allow customers to receive the NGIA rebates for energy efficiency or strategic electrification measures that would be eligible for the CIP/ECO custom, or prescriptive, rebate program, and that all energy

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283 CenterPoint Reply Comments, pp.72-73.

284 Id., p.73.

285 Minn. Stat. §216B.2427, subd 1. (f) and (q).

efficiency and strategic electrification projects would be screened for CIP/ECO eligibility. CenterPoint argued that Pilot J could not have been reasonably included in its CIP/ECO program because the pilot as a whole goes beyond what is possible through CIP/ECO. The Company explained that in addition to energy efficiency and strategic electrification measures, customers may seek to use other resources such as biogas, power-to-hydrogen, or district energy as defined by the NGIA. Further, the energy efficiency and strategic electrification measures that customers may wish to implement may or may not be possible through CIP/ECO.

Again, Staff's understanding of the Department's position is not that CenterPoint failed to discuss coordination with CIP/ECO, but that the information provided by CenterPoint was not adequate enough to prove that CenterPoint's pilot(s) could not have been reasonably included in the Company's CIP/ECO program.[286] With its supplemental comments, the Department indicated that it had met with its CIP/ECO staff to discuss these pilots, and that CenterPoint had not engaged the Department's CIP/ECO staff.[287]

K. Pilot K: New District Energy System

1. Pilot Summary

While Pilot J focuses on decarbonization with existing district energy systems, Pilot K is intended to aid the development of new district energy systems. The Company proposed a two-part pilot to assist current natural gas customers who were considering developing district energy systems. First, CenterPoint Energy proposed to support customers who hire expert engineering firms, or similar entities, to complete feasibility studies for new district energy systems. Second, CenterPoint Energy would support customers in developing these new district energy systems. Through Pilot K, CenterPoint would cover 50% of the expenses for an engineering study, up to a maximum of $10,000. Additionally, the Company will offer a rebate ranging from $10 to $25 per Dth of annual geological natural gas savings for implemented measures, with a cap of $1.5 million per project.[288]

CenterPoint explained the need for flexibility with the rebate amount by comparing Pilot K to the Company's CIP Commercial & Industrial Custom Rebate project. Through this CIP project, CenterPoint's cap on project cost coverage leads to incentives that do not exceed $10/Dth with many projects receiving lower amounts if determined to be sufficient to spur action by the Customer. For Pilot K, CenterPoint believes that higher rebate amounts are necessary to drive customer action as measures will be less cost-effective in terms of natural gas bill savings.

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[286] DOC Supplemental Comments, pp.5-8.

[287] DOC Supplemental Comments, p.8, "The Company was given an opportunity before submitting its reply comments to provide further justification why its proposed pilots could not be included in ECO, and largely it chooses to rely on the comments summarized in the previous subsection. As an example, the Department met internally to discuss whether the proposed justification shows the programs would be ineligible for ECO, and the conclusion of the Department was that the Company's justification is inaccurate. CPE could have had the same conversation with the Department's ECO unit, but elected not to do so. Consequently, the Department stands by the recommendations made in its initial comments on this topic."

[288] CenterPoint Reply Comments, p.74.

CenterPoint noted that while the statutory definition of "district energy" requires the system to include multiple buildings, the Company would permit customers that intend to use the systems in a single building that would otherwise qualify as district energy systems. CenterPoint explained that such projects would qualify for the NGIA as a strategic electrification measure.[289]

2. Discussion (Decision Options 49-51)

The Department recommended rejecting Pilot K. After hearing from the Company in response to an information request, the Department concluded that it wasn't clear that any of the candidates for this pilot would meet the statutory definition of "district energy."[290] **[Decision Option 49]**

Further, when asked to explain why Pilot K is ineligible for inclusion in the Company's CIP/ECO program, CenterPoint explained "if the costs are low enough, it is theoretically possible that certain similar projects as those envisioned for Pilot K would be eligible for custom rebates under [CenterPoint's] 2024-2026 ECO Triennial plan."[291] The Department stated that from this response, it is not clear what was meant by costs "being low enough" and what caps, if any, would be breached if costs were not "low enough."

In response, CenterPoint explained that it expects most potential participants in Pilot K to satisfy the statutory definition of "district energy." However, the Company is aware of one potential project that would not meet the definition because the project involves one large building rather than multiple buildings. CenterPoint does not believe the legislature intended to exclude such projects from participating in the NGIA, and such projects would easily fit under the definition of "strategic electrification."[292] **[No Action on Decision Option 49]**

Further, in response to the CEOs, who made an identical recommendation for Pilots J and K – to consider a full decarbonization scenario during feasibility studies **[Decision Option 50]** and to ensure that projects under Pilot K that do not meet the statutory definition of "district energy" do not count against the statutory cost cap for the resource **[Decision Option 51]**[293] – CenterPoint explained that it was hesitant to require consideration of full decarbonization scenarios because the facility studies will be conducted by the customer in consultation with a vendor they select. If a full electrification/decarbonization scenario is not of interest to the customer, CenterPoint would prefer not to force them to include such a scenario.[294] **[No Action on Decision Option 50]**

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289 CenterPoint Initial Comments, Exhibit D, pp.35-36.

290 See CenterPoint's response to Department Information Request 20 [Trade Secrete].

291 CenterPoint in response to the Department's Information Request 20, Department Initial Comments, p.53.

292 CenterPoint Reply Comments, pp.73-74.

293 CEOs Initial Comments, pp.38-39.

294 CenterPoint Reply Comments, pp.73-74.

The Department stated that CenterPoint's unwillingness to require full decarbonization highlights their concern about Pilot K. Because CenterPoint does not wish to require full decarbonization for a customer to participate, all of the proposed projects under this pilot that do not meet the definition of district energy should be requested under a strategic electrification or energy efficiency pilot instead.[295] Again, the Department concluded that CenterPoint has failed to demonstrate why its pilots cannot be administered through CIP/ECO and how its projects meet the definition of innovative resources.

As with Pilot J, the CEOs opposed the Department's rejection of Pilot K stating that rejecting this pilot for the reasons described by the Department would be an "unnecessary limitation on utilities' ability to pursue electrification and energy efficiency projects in the NGIA."[296]

Minneapolis voiced general support for building a new district heating system and called it a promising approach to decarbonizing and improving heating system efficiency.[297] However, Minneapolis noted that CenterPoint's comment stating, "while the statutory definition requires the system to include multiple buildings, CenterPoint Energy would allow participation by customers that intend to use the systems in a single building that would otherwise qualify as district energy systems"[298] is contrary to the way conventional district systems work.

3. Staff Analysis

Staff's analysis for Pilot K is, for the most part, identical to the analysis provided for Pilot J. Disagreeing with the Department may result in a determination by the Commissioner of Commerce that the pilot could be reasonably included in CIP/ECO, thus preventing the pilot from being included in CenterPoint's innovation plan. Again, the Commission has the authority to disagree with the Department's analysis should it believe the information provided by CenterPoint is sufficient. However, it appears that even with Commission approval, the Commissioner of Commerce could determine that the pilot could reasonably be included in CenterPoint's CIP/ECO portfolio and disqualify it from inclusion in CenterPoint's innovation plan. Again, Staff notes that the Department did not commented on the Commissioner of Commerce's authority.

Unlike Pilot J, which parties admitted was largely an energy efficiency and strategic electrification pilot, CenterPoint asserted that Pilot K is primarily a district energy project.[299] To avoid issues with CIP/ECO coordination, the Commission could require that Pilot K only fund projects that fit the statutory definition of district energy. However, it is not known what budget modifications, if any, would be necessary after making this requirement.

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[295] Department Supplemental Comments, pp.43-44.

[296] CEOs Reply Comments, p.7.

[297] Minneapolis Initial Comments, p.7.

[298] CenterPoint Initial Filing, Exhibit D, p.33.

[299] Id., Exhibit I, p.2.

In Exhibit I of its initial petition, CenterPoint explained that its current CIP/ECO Triennial Plan does not include any commercial strategic electrification measures. Thus, Pilot K does not overlap with any of the Company's current or planned CIP/ECO project. CenterPoint stated that it would cause confusion and inequitable treatment of similar projects to allow multi-building participants to participate in this NGIA pilot but require single-building participants to participate in CIP/ECO and be required to pass CIP/ECO cost-effectiveness testing.[300]

Further, CenterPoint addressed CIP/ECO coordination in Exhibit D of its initial petition, explaining that the following steps will be taken for energy efficiency and strategic electrification projects:

- CenterPoint will determine whether the measure could qualify for CIP/ECO as a custom measure or otherwise. If it can, the measure will be processed through CIP/ECO and no NGIA rebate will be paid for that measure.
- If the measure is not eligible for CIP/ECO, CenterPoint Energy will determine if the measure will cost less than $150/ton CO2e from the NGIA utility perspective, considering only quantitative costs and benefits. Only measures that pass this screen will be eligible for an NGIA incentive.
- Measures rebated through this pilot will be subjected to measurement and verification as described in Exhibit W.[301]

Staff notes that, while the NGIA's definition of district energy is more restrictive than a conventional interpretation of the resource due to the requirement for the district energy system to be solar thermal powered or a networked geothermal system, both of which are assumed to be carbon-free, all interpretations known to Staff involve multiple buildings, or a "district," as opposed to a single building. Thus, Staff concurs with Minneapolis that a single building district energy system is contrary to the way traditional district energy systems operate.

L. Pilot L: Industrial Electrification Incentives

1. Pilot Summary

With Pilot L, CenterPoint Energy proposed to support industrial customers in electrifying low-to-medium heat processes using heat pump technologies. This pilot will be implemented in three phases: 1) A study will be conducted to examine the technical potential of various heat pump technologies and identify potential customers who could pilot these technologies; 2) Heat pumps installation at three facilities; 3) The performance of the heat pumps will be measured and verified. CPE anticipated 3 industrial customers would participate in this pilot. CenterPoint will pay the full cost for the heat pumps and their installation, up to $1.5 million per facility.

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300 Id.

301 Id., Exhibit D, p.35.

2. Discussion (Decision Options 52-55)

The Department recommended rejecting Pilot L for several reasons. First, the Department stated that CenterPoint had not identified a sufficient number of potential customers with a willingness to participate in Pilot L. Second, the Department stated that Pilot L would be better suited for CIP/ECO, where CenterPoint offers rebates for electrification. Finally, the Department noted that CenterPoint's CIP/ECO R&D budget, with over $16 million available, has sufficient funding to test new and innovative solutions.[302] The Department also opposed CenterPoint's plan to cover the full cost of heat pump installation, noting that participants would not be eligible for IRA incentives. Although CenterPoint explained that there is hesitation with respect to customer adoption of these technologies, the Department remained supportive of the use of federal funds though sources like the IRA to reduce ratepayer burden.[303] **[Decision Option 52]**

In response to the Department's analysis, CenterPoint clarified that its June 30, 2023, CIP/ECO triennial plan did not include industrial strategic electrification. Although such projects can qualify for custom rebate programs if they meet CIP/ECO's cost effectiveness criteria, less developed projects are better suited for the NGIA. CenterPoint argued that industrial electrification technologies are still nascent, and the Company proposed Pilot L to support and evaluate these technologies with significant customer involvement.[304] Regarding the Department's comments on participating customers, CenterPoint explained that customer identification for the pilot requires substantial effort and expertise, which was out of the scope of the innovation plan's development. CenterPoint reiterated that Pilot L will start with a study phase to identify participants, and CenterPoint remained optimistic about finding three customers for Pilot L. **[No Action on Decision Option 52]**

The Department stated that CenterPoint's response failed to explain why the projects under Pilot L could not be funded using the Company's CIP/ECO R&D budget. The Department also noted that CenterPoint did not affirm if any of these projects would be referred to the NGIA only if the project does not meet the CIP/ECO cost effectiveness criteria and remained dissatisfied with the lack of identified participants. The Department stated that "industrial facilities have unique processes and operating requirements, which cannot be delivered off-the-shelf to an already limited pool of potential industrial customers."[305] For this reason, the Department stated that, at a minimum, CenterPoint should have demonstrated interest from potential customers. Finally, the Department maintained that its request for a customer cost share to obtain IRA incentives is not unreasonable and would maximize ratepayer benefits.

The CEOs supported Pilot L and disagreed with the Department that this pilot would be better suited for ECO. They explained that Pilot L will include investments in strategic electrification that go beyond the scope of ECO. While CIP/ECO is the "bedrock" program for energy efficiency

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302 Department Supplemental Comments, p.44.

303 Department Initial Comments, p.56.

304 CenterPoint Reply Comments, p.75.

305 Department Supplemental Comments, p.46.

and strategic electrification measures in Minnesota, the CEOs asserted that its goal is not to achieve market transformation.[306] In other words, the CEOs explained that innovation plans should achieve energy savings and greenhouse gas reductions that go beyond CIP/ECO, even if the measures or programs included in both have overlap. Additionally, the CEOs explained that adding this pilot to CenterPoint's 2024-2026 ECO triennial plan would be inconvenient due to the fact that it has already been finalized.

Despite its support for the pilot, the CEOs did recommend modifications. Specifically, the CEOs recommended that the Commission ensure that Pilot L not be limited to hybrid heating systems, prioritize investments in electric heating equipment rather than the installation of new gas backup equipment in hybrid heating systems, consider the use of geothermal heat pumps, and collect data on the use of gas backups in hybrid heat pump systems.[307] **[Decision Option 53]**

In response to the CEOs recommendations, CenterPoint explained that Pilot L is not limited to hybrid heating systems for the specific process or application being electrified. However, the NGIA's definition of "strategic electrification" states the need for natural gas as a backup, or natural gas use for one or more end-uses. CenterPoint explained that this definition indicates a legislative intent to ensure that a customer receiving a strategic electrification measure remain a CenterPoint customer following the installation of the strategic electrification measure. Requiring the customer to remain a CenterPoint energy customer as a criterion for participation ensures the customer receiving program benefits also pays a portion of the associated costs via their CenterPoint Energy bill. CenterPoint stated that this arrangement avoids subsidization and equity issues associated with having remaining gas customers pay for others to discontinue their gas service.

Minneapolis voiced support for Pilot L but recommended that the end use applications for the three projects included in Pilot L be "truly novel and innovative" to ensure eligibility **[Decision Option 54]**.[308] Minneapolis also recommended requiring participants to contribute a cost share rather than the program paying for 100% of the costs. **[Decision Option 55]**

Although Pilot L does not explicitly discuss geothermal heat pump technology, GeoExchange stated that the pilot has the potential to utilize this technology to meet the industrial heating needs envisioned in the pilot. GeoExchange encouraged CenterPoint to study and consider geothermal heat pump options as they implement Pilot L.[309] Staff notes that this recommendation was picked up by the CEOs, who included a requirement to consider the use of geothermal heat pumps within their proposed Decision Option.

CEE commented in support of Pilot L explaining that electric heat pumps have great potential to

[306] CEOs Initial Comments, pp.14-15.

[307] CEO Reply Comments, pp.2-3.

[308] Minneapolis Initial Comments, p.7.

[309] GeoExchange Initial Comments, p.2.

increase energy efficiency and reduce emissions. Further, CEE stated that Pilot L would advance the state's understanding of this technology's role in commercial and industrial applications.[310]

CEE disagreed with the Department's analysis, noting that industrial electrification is very nascent and faces significant market barriers.[311] CEE stated that no industrial electrification projects are currently being implemented in Minnesota, including through the ECO program. They argued that while industrial electrification holds promise, more investment is needed to demonstrate its applicability, economics, and technical feasibility before inclusion in ECO programming. CEE further stated that the intensive programming proposed in Pilot L, which involves research, customer recruitment, high incentives, and in-depth field testing, would not be cost-effective through ECO and is precisely the type of innovative initiative suited for NGIA.

Members of the public also voiced support for Pilot L. Lee Samelson noted that electrification is a proven pathway for reducing greenhouse gas emissions. They explained that electrification will improve air quality by eliminating PM, NOx, and CO pollution that comes with burning natural gas. Kristin Dawkins noted that Pilot L would avoid a long term commitment to gas projects, and would aid the transition toward more renewable resources.

3. Staff Analysis

The Commission finds itself in a familiar position with Pilot L as the Department recommends rejecting the pilot due to CenterPoint's inability to sufficiently demonstrate why a similar project could not be conducted through CIP/ECO.

Staff reminds the Commission that the NGIA considers energy efficiency and strategic electrification to be innovative resources, and thus utilities are permitted to propose pilots that include these resources. Further, the NGIA states that "investments"[312] in these resources should not be able to be reasonably included in a utility's CIP/ECO program. CenterPoint and many of the commenting parties agreed to an interpretation of this requirement, putting emphasis on the term "investment" to create flexibility regarding what type of efficiency and electrification programs, measures, or approaches may qualify for inclusion in innovation plans.[313] Importantly, the Department also signed off on this shared interpretation.

Many parties that opposed the Department's recommendations to reject pilots, including Pilot L, cited this shared interpretation of the statute and stated that the Department is now recommending the rejection of any energy efficiency and strategic electrification pilot despite signing off on this shared interpretation of the statute.

Importantly, the Department rejected these claims and, again, recommended rejecting these

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310 CEE Initial Comments, p.2.

311 CEE Reply Comments, pp.5-6.

312 Minn. Stat. §216B.2427, subd 1. (f) and (q).

313 July 1, 2022, Joint Comments in Docket No. G-999/CI-21-566, pp.3-4.

pilots due to the fact that CenterPoint had not sufficiently proven that they cannot be included in the utility's CIP/ECO program and not simply because they utilize energy efficiency and strategic electrification measures.

At the risk of being repetitive, Staff notes that the Commission is able to disagree with the Department's analysis and approve the pilot. However, the NGIA gives authority to the Commissioner of Commerce to determine that an energy efficiency or strategic electrification pilot could reasonably be included in a utility's CIP/ECO program. Approving pilots that the Department recommends rejecting due to the pilot's potential eligibility though CIP/ECO may result in a determination by the Commissioner of Commerce that would make the pilot ineligible for inclusion in CenterPoint's innovation plan, effectively rejecting the pilot. Ideally, such a determination would have occurred prior to a Commission agenda meeting to avoid ambiguity around the status of proposed pilots.

Should the Commission choose to approve Pilot L, it must consider several modifications.

Staff does not oppose the CEO's recommended modification. However, CenterPoint explained that Pilot L is not limited to hybrid systems so long as the customer remains a customer. This means that CenterPoint may support a full electrification effort for one or more end-uses so long as the customer receiving aid has other uses for natural gas and thus remains a customer of CenterPoint energy. Staff supports this decision and agrees that there would otherwise be equity issues associated with having CenterPoint's remaining customers pay for others to leave the gas distribution system entirely.

Staff has several comments regarding requests to require participants to contribute a cost share. First, requiring CenterPoint to propose a new pilot structure where the participants contribute a cost share will postpone approval of the innovation plan. Second, CenterPoint proposed Pilot L's structure in part due to perceived hesitation on the part of customers in adopting these technologies. Although CenterPoint only planned for three customers to participate in this pilot, requiring a cost share may make it more difficult for CenterPoint to identify participants. The Commission may wish to consider the impact of requiring a cost share for this pilot given the reported nascency of the proposed measures.

M. Pilot M: Commercial hybrid heating

1. Pilot Summary

CenterPoint proposed to support commercial buildings that want to replace their existing Heating, Ventilation, and Air Conditioning ("HVAC") systems with hybrid systems that consist of electric heat pumps and gas backups. The pilot will primarily focus on dual-fuel rooftop units but may also include other types of hybrid heating systems, such as split system hybrid heat pumps. A third-party vendor would be hired via RFP to conduct targeted customer outreach, provide technical support for project sizing and design, perform custom savings calculations, and handle the direct installation of the systems.

CenterPoint will offer customer incentives covering 40% of the hybrid system costs, up to $100,000, while customers will cover the remaining 60%. The average cost for converting a heating system is estimated at $81,000 per participant, with an average rebate of about $32,400. CenterPoint noted that Pilot M will coordinate with the Energy Technology Accelerator ("ETA") Program where appropriate. The ETA is a market transformation initiative that will work to accelerate adoption of energy technologies.[314] High-performance rooftop units, including several dual fuel units, are included in the ETA's starter portfolio.

2. Discussion (Decision Options 56-57)

The Department recommended rejecting Pilot M, stating that CenterPoint had not demonstrated why the pilot could not be reasonably administered through ECO. While CenterPoint explained in its initial petition that Pilot M would not meet the Minnesota Test for cost effectiveness, the Department did not receive an explanation as to why other utilities are able to cost effectively run similar programs in ECO. Further, the Department stated that CenterPoint did not explain why a vendor that works in other programs is able to cost effectively administer the programs. **[Decision Option 56]**

In response, CenterPoint explained that, although other utilities have offered commercial hybrid heating measures in bundles that are cost-effective under CIP/ECO cost effectiveness tests, the specific program proposed in Pilot M is not cost effective due to its significant customer support elements. CenterPoint argued that these customer support elements are valuable to encourage a market shift towards broader adoption of these technologies.[315]

Regarding the Department's conversation with the vender, CenterPoint clarified that, while this vender submitted a response to the Company's RFI that inspired Pilot M, the Company has not yet selected a vender for this pilot. Thus, the entity the Department spoke to does not speak for CenterPoint.

Having heard CenterPoint's response, the Department concluded that, although additional information was provided regarding how level of effort CenterPoint proposes though Pilot M is higher than similar programs provided by other utilities, CenterPoint still had not provided the information necessary to explain why the program cannot be administered in CIP/ECO.[316]

CEE commented in support of Pilot M, and disagreed with the Department's conclusions related to the eligibility of the pilot. CEE explained that hybrid heating systems are uncommon in the commercial sector despite increasing popularity among residential customers. Although it may be possible to bundle commercial hybrid heating systems with other cost-effective measures to allow a broader program to be cost effective under the ECO framework, CEE stated that this

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[314] The ETA complements ECO efforts by identifying and working to eliminate market barriers that cannot be addressed by incentives to accelerate the deployment and reduce the cost of innovative technologies and approaches.

[315] CenterPoint Reply Comments, pp.76-77.

[316] Department Supplemental Comments, p.47.

fact should not disqualify the measure from inclusion under the NGIA. Even if incentives for commercial hybrid heating were included in ECO, CEE noted that such hybrid heating systems are rare enough that customers and contractors may be reluctant to invest in and recommend the technology, respectively.[317]

CEE also elaborated on Pilot M's coordination with the ETA program within ECO to accelerate the availability of high-performance dual fuel rooftop units for commercial applications. CEE noted that the ETA does not provide customer incentives, but instead addresses market barriers.[318] CEE stated that Pilot M would supplement the work being done through the ETA on dual fuel rooftop units by providing opportunities to monitor product performance in the field and collect and share data with utilities, contractors, and other relevant stakeholders.

CUB,[319] the CEOs, GeoEchange, and Minneapolis also voiced support for Pilot M. The CEOs and GeoExchange made identical recommendations for Pilots L and M **[Decision Option 57]**.[320] Minneapolis noted that in environmental justice areas, businesses may require an incentive of greater than 40%.

In response to these recommendations, CenterPoint stated that it would be willing to monitor the location and type of customers that enroll in the pilot and discuss the findings in annual status reports. CenterPoint stated if there was disproportionately low participation from environmental justice areas or among small businesses, CenterPoint would consider modifications to the pilot to improve participation among these groups. Regarding geothermal heat pumps, CenterPoint explained that Pilot M is focused on dual-fuel rooftop units rather than geothermal systems.

3. Staff Analysis (Decision Option 58)

As noted previously with other pilots, the Commission must decide if enough information has been provided to determine whether Pilot M could be reasonably included in the Company's CIP/ECO program. Again, if approved, the Commissioner of Commerce could make a determination that the pilot could have reasonably been included in the utility's CIP/ECO program, making it ineligible for inclusion in an innovation plan.

Of note with Pilot M is that other similar pilots have been included in the CIP/ECO plans of

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317 CEE Reply Comments, pp.7-8.

318 ETA activities related to high-performance dual fuel rooftop units include: conducting research and pilot studies in partnership with manufacturers, distributers, contractors, and building decision makers; partnering with manufacturers and distributors to learn about their approaches to high performance duel fuel rooftop unit technology and provide market information and resources; working with contractors to understand their needs and provide support by offering tools/resources and training opportunities; and providing educational resources and tools for building owners and decision-makers to help them understand efficient duel fuel rooftop unit technologies and make the most of their benefits. CEE Reply Comments, p.8.

319 CUB Initial Comments, p.2.

320 CEO Reply Comments, pp.2-3.

other utilities. However, parties in favor of Pilot M suggest that these CIP/ECO projects do not include the same level of customer support, and bundle several measures together to make the overall project pass CIP/ECO's cost effectiveness tests. Although the Department contends that CenterPoint has not provided the information necessary to determine whether the proposed pilot could be included in CIP/ECO, the Commission could find that the modifications required to make Pilot M mirror other utilities' CIP/ECO projects – and thus be cost effective under ECO – is not "reasonable." If modified enough, many proposed pilots may eventually fit within the CIP/ECO framework. However, at what point does a modified pilot stray so far away from what was originally proposed that it should be considered a new pilot?

Regarding requested modifications, Staff notes that the CEOs recommended identical modifications for both Pilots L and M. While several of these modifications may have made sense for Pilot L, they do not appear to align with the goals of Pilot M. For instance, Pilot M is specific to dual fuel rooftop units, thus requiring the pilot not be limited to hybrid heating systems may not be possible. Similarly, the Company may not be able to prioritize electric heating systems over new gas systems or geothermal heat pumps if it intends to pilot dual fuel rooftop units. However, Staff would support the Company collecting data on the frequency in which gas backups are utilized.

CenterPoint stated in its reply comments that it would be willing to monitor the location and type of customers that enroll in the pilot and may propose modifications to the pilot if it found disproportionately low participation from environmental justice areas or among small businesses. Staff has proposed a Decision Option that would require CenterPoint to make these considerations. **[Decision Option 58]**

N. Pilot N: Residential deep energy retrofits and electric air source heat pumps

1. Pilot Summary

With Pilot N, CenterPoint proposed a three-phase program to explore the use of deep energy retrofits combined with electric air-source heat pumps ("ASHPs") with gas back-ups across various residential building types. The pilot is expected to have 238 participants, including 204 single-family homes and 34 multifamily homes. The phases of this pilot include:

- Study Scoping and Program Design: CenterPoint will model different combinations of residential building types and energy conservation strategies, including innovative and emerging weatherization measures.
- Demonstration Projects: Based on the results of phase 1, CenterPoint will select single and multi-family buildings to field test selected technologies and measure home performance.
- Broader Development: Following the field tests, CenterPoint will shift to an ongoing incentive program considering equitable deployment to a larger number of buildings.

CenterPoint plans to fully fund the installations during the pilot's second phase. For the third

phase, CenterPoint anticipated rebates of $16,933 for each single-family home and $115,000 for each multi-family building, which is equal to 25% of the estimated project costs. CenterPoint stated that it plans to revisit the appropriate level of rebate per participant before launching Phase 3.

The exact amount of federal funding available is currently uncertain. CenterPoint Energy will reassess the potential for participant tax credits and/or rebates before starting phase 3 and will provide updates in its first annual NGIA status report.

If approved, CenterPoint will include an assessment and discussion of approaches to address equity and inclusion during the design of phases 2 and 3, including community outreach and workshops. CenterPoint stated goal to ensure that 40% of residential units served by the pilot qualify as low-income as defined in CIP/ECO, or are located in a disadvantaged community, as defined by the federal government for the IRA.

Staff notes that through subd. 8, the NGIA requires that CenterPoint include a pilot, such as Pilot N, that provides deep energy retrofits and the installation of cold climate electric ASHPs in existing residential homes that have natural gas heating systems.

2. Discussion (Decision Option 59-62)

The Department recommended approving Pilot N with a modified budget of $4,885.520 (from 13,617,633) **[Decision Option 59]**. This recommendation was due to CenterPoint proposing a budget did not conform to the budget proposed by the original RFI respondent's proposal. The Department noted that, compared to the initial proposal presented to CenterPoint in response to its RFI – which the Department believed had a reasonable level of participation and budget estimates for the stated goal of the project – CenterPoint predicted more than double the number of participants without justification.[321] Further, the Department noted that similar projects are included in CenterPoint's ECO plan, and higher participation numbers than the limit set by the Department could be met through ECO.

In response, CenterPoint explained that the scope of Pilot N is broader than what was included in the RFI response because the proposed pilot includes deep energy retrofits of multi-family buildings, where the RFI responses were focused only on single family buildings. Additionally, CenterPoint reminded the Department that the RFI responses were used as a starting point to inform pilot design. Additional information was used to develop pilot budgets. The cost and participation estimates were not always taken directly from the RFI responses.[322] **[No Action on Decision Option 59]**

The Department noted that CenterPoint's response does not provide any information about a multifamily program, but instead simply clarifies its existence and states that it is the cause of

[321] Department Initial Comments, p.58.

[322] CenterPoint Reply Comments, pp.78-79.

the increased budget. The Department concluded that there remained ambiguity surrounding CenterPoint's participation estimates and maintained its position the Pilot N should be modified with a lower budget than what was initially proposed by the Company.[323]

CEE stated that it was pleased to see cold climate heat pumps included in CenterPoint's innovation plan with Pilot N, as this technology is currently not included in CenterPoint's ECO triennial plan for 2024-2026.[324] CEE expressed its hope that CenterPoint is able to take its learnings from this pilot and incorporate it into its ECO plan when appropriate. CEE, which has been studying cold climate air source heat pumps in Minnesota for ten years, stated that these systems work well and can result in a 90% reduction in greenhouse gas emissions when paired with building shell efficiency improvements.[325]

In response to the Department's comments regarding the price discrepancy between the RFI submissions and CenterPoint's proposed pilot, CEE stated that it was one of the vendors that provided a proposal for Pilot N during the Company's RFI process. Although their proposal included lower participation and budget targets, CEE supports CenterPoint's proposed Pilot N. CEE explained that they did not conduct a rigorous assessment of market potential for Pilot N when developing their proposal but believe that CenterPoint's proposed participation goal of 140 buildings with a $5.5 million budget by year five is attainable.[326]

Regarding Pilot N's use of deep energy retrofits, CEE agrees with CenterPoint that the statutory definition of a "deep energy retrofit" may be more expensive than the traditional weatherization measures included in residential energy efficiency programs through ECO. However, CEE disagreed with CenterPoint that the deep energy retrofit measures will be infeasible or cost-prohibitive to implement in most homes.[327] CEE explained that, based on its 2021 study *Exploring High-Performance Envelope Retrofits, the Next Step in Single-Family Building Weatherization,*[328] the statutory requirements for deep energy retrofits can be met (in most cases) through a fixed set of complementary measures:

- Traditional air sealing and insulation
- Continuous exterior insulation
- High performance windows

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[323] Department Supplemental Comments, pp.48-49.

[324] CEE noted that several other utilities, including Xcel Energy, Minnesota Power, and Ottertail Power, included electric cold climate heat pumps for residential space heating in their 2024-2026 ECO plans.

[325] Based on CEE's analysis of one-to-four-unit residential buildings in Minneapolis for the Minneapolis Pathways study with the assumption that the cold climate air source heat pumps with a natural gas backup switch over to gas heat at 5-degrees Fahrenheit, traditional air sealing and insulation upgrades, all-electric appliances, and a carbon-free electric supply: (https://www.mncee.org/electrificationminneapolis).

[326] CEE Reply Comments, pp.8-9.

[327] On page 116 of its NGIA plan, CenterPoint stated that deep energy retrofits "may be infeasible or cost prohibitive in many homes."

[328] CEE included its 2021 study *Exploring High-Performance Envelope Retrofits, the Next Step in Single-Family Building Weatherization*, as Attachment A in its initial comments.

- An energy recovery ventilator ("ERV")

In response to this information, CenterPoint stated that it would consider the measures identified in CEE's 2021 study during Phase 1 of Pilot N.[329]

CEE stated that few Minnesota companies offer deep energy savings in residential retrofits due to low demand. CEE noted that CenterPoint's inclusion of these measures in its innovation plan will demonstrate their efficacy and value to customers and provide contractors with experience. CEE's research suggests that these retrofits, combined with cold-climate heat pumps, are likely to become the most cost-effective way to reduce greenhouse gas emissions from natural gas in buildings.

The CEOs also supported Pilot N, noting that, while it is one of the most expensive pilots proposed in CenterPoint's innovation plan, it will deliver substantial benefits to customers. For instance, the CEOs noted that strategic electrification is a safe, effective, and highly scalable option for reducing natural gas throughput and therefore greenhouse gas emissions. Citing several studies, the CEOs provided the following metrics to reinforce the benefits of the measures proposed in Pilot N:

- Electric ASHPs are 2-4.5 times more efficient than gas furnaces (even in cold climates) and reduce carbon emissions by 38-53% compared to gas furnaces (even on electric grids powered by coal and natural gas).
- Electrifying heating, cooling, and cooking equipment would create 4,200 installation jobs in Minnesota, and an additional 80,000 manufacturing jobs nationally.
- In cold climates, deep energy retrofits can produce carbon emission reductions of 41-49%, natural gas throughput reductions as high as 98%, customer bill savings of $500-1,750 per year, and energy savings of 44%-52%.[330]

However, the CEOs stated that Pilot N misses several opportunities.[331] The CEOs suggested adding a study on how different retrofit levels impact the need for natural gas backup for winter heating. For phase 2, which involves fully funded field tests, they recommended including only low-income residents, as deep energy retrofits are costly and those who would benefit most likely can't participate without significant help **[Decision Option 60]**. Finally, the CEOs advised that Pilot N should not be limited to hybrid heating systems and should prioritize electric heating equipment over new gas backup installations.[332] **[Decision Option 61]**

In response, CenterPoint agreed evaluate how different retrofits affect the use of gas backup equipment, stating that "this represents and important source of learning from this Pilot."[333]

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[329] CenterPoint Reply Comments, pp.78-79.

[330] CEOs Initial Comments, pp.39-41.

[331] Id., pp.41-42.

[332] CEOs Reply Comments, p.3.

[333] CenterPoint Reply Comments, p.79.

Staff notes that because CEOs and CenterPoint came to an agreement, this information will be collected by the Company upon approval of this pilot, and a decision to require CenterPoint to collect this information is not necessary.

CenterPoint opposed CEOs recommendation to require that 100% of the filed tests in phase 2 be conducted on low-income residences. CenterPoint explained that low-income residents have diverse priorities and circumstances that may influence their decision to participate in an opportunity that could be disruptive to their lives. Further CenterPoint stated that it could be difficult to test the technologies in an optimal variety of housing types if it is limited to only low-income households in field testing.[334] **[No Action on Decision Option 60]**

CenterPoint again opposed recommendations to not limit pilots to hybrid heating systems by referencing their previous comment that the NGIA requires that proposed strategic electrification investments be limited to participants who receive natural gas service[335] and that fully electrifying customers would cause subsidization issues where remaining gas customers would be required to pay for others to leave the gas distribution system.[336] **[No Action on Decision Option 61]**

Minneapolis voiced support for Pilot N, stating that deep energy retrofitting is a valuable tool to decarbonize the economy. Minneapolis recommended that Pilot N make up a larger share of the overall plan, noting that the pilot is one of the few pilots proposed that has the potential to lead to improved comfort, health, and bill savings for customers. Minneapolis also appreciated CenterPoint's goal to ensure that 40% of residential units under pilot N qualify as low income or be located in a disadvantaged community but recommended that the Commission make this goal a requirement.[337] **[Decision Option 62]**

In response to Minneapolis' request to increase Pilot N's budget, CenterPoint noted that the pilot represents roughly 13% of the total incremental costs of the Plan counting toward the statutory cost cap. CenterPoint agreed that deep energy retrofits are a promising opportunity that is worthy of investment, but CenterPoint does not plan in increase the pilot's budget at this time.

Members of the public Lee Samelson and Kristin Dawkins voiced support for Pilot N. Lee Samelson stated that deep energy retrofits with air source heat pumps holds the most promise for reducing GHG emissions and creating opportunities for participating customers to save money. They explained that Heat pumps provide heating and cooling, and are upwards of 300-400% efficient.

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334 Id.

335 In reference to the NGIA's definition of "strategic electrification" which states that strategic electrification means "the installation of electric end-use equipment in an existing building in which natural gas is a primary fuel source."

336 CenterPoint Supplemental Comments, p.16.

337 Minneapolis Initial Comments, p.8.

Staff notes that CUB also requested approval of Pilot N[338] and had a single recommendation regarding CenterPoint's ability to modify the pilot's budget. This recommendation will be discussed below in the briefing paper section dedicated to CenterPoint's request so spend 25% more than budgeted for pilots with higher-than-expected expenditures.

3. Staff Analysis

Staff questions the Department's emphasis on the RFI respondents' participation predictions after CEE – one of the RFI respondents in question – supported CenterPoint's participation predictions and stated that their proposal did not include a rigorous assessment of market potential. Staff reviewed the RFI responses and found that CenterPoint's predicted rebate per single family home was in line with what was proposed by the RFI respondents, despite the various incentive levels across the proposals. This means that the increased incentive budget is largely the result of the higher predicted participation levels in CenterPoint's pilot and the addition of multi-family retrofits.

As noted by the Department, neither RFI respondent included any information about the costs of retrofitting a multi-family property. This puts into question the accuracy of CenterPoint's estimated costs.

The Department was not satisfied with the detail provided by CenterPoint regarding the predicted costs associated with the multi-family portion of Pilot N. However, Staff notes that the Department's recommendation does nothing to resolve this issue. Under the Department's scaled down budget CenterPoint would still be permitted to spend a portion of the available funds to retrofit multi-family buildings. If the budget allocated for the retrofit of multifamily buildings is the primary unresolved issue, it may be more appropriate to modify Pilot N to remove that portion of the budget instead of scaling down the budget of the whole pilot, thus reducing the budget available for single family retrofits.

Should the Commission agree with the Department's conclusion that changes are necessary to Pilot N's budget, it may benefit the Commission to ask the Department why simply scaling down the budget is sufficient enough a change to ease worries about CenterPoint's cost predictions for multi-family retrofits.

Regarding Minneapolis' recommendation to require 40% of participating residential units be qualified as low-income or be located in a disadvantaged community, Staff notes that this goal is included as a cost-effectiveness objective for the Company's entire plan. Approving this requirement and the associated cost effectiveness objective may be duplicative and reduce the value of the objective.

Regarding the CEO's request to require CenterPoint to pursue a goal of having 100% of the

[338] CUB Supplemental Comments, p.29.

residences participating in phase 2 of Pilot N be low-income residences, Staff shares CenterPoint's concern that the Company's ability to test technologies in a variety of housing types may be impacted by restricting phase 2 to only low-income residences. Phase 1 of Pilot N has CenterPoint modeling different combinations of residential building types with various energy conservation strategies. To test these findings, CenterPoint likely requires access to the housing types modeled in phase 1.

Finally, the CEOs and Minneapolis recommended that CenterPoint not limit Pilot N to hybrid heating systems and prioritize investments in electric heating equipment rather than the installation of new gas backups in hybrid heating systems. As noted by CenterPoint, the NGIA's definition of strategic electrification requires the use of a gas back up in existing buildings. While CenterPoint may be able to prioritize the installation of the electric heating system over new gas systems, the statute does not contemplate full electrification or the removal of gas backups in existing buildings.

O. Pilot O: Small/medium business GHG audit

1. Pilot Summary

CenterPoint proposed to expand its Natural Gas Energy Analysis (NGEA) CIP/ECO project to identify non-CIP greenhouse gas reducing opportunities for small and medium businesses. While NGEA requires a copay, CenterPoint stated that new services provided under this pilot will be offered at no additional charge to customers. Measures that may be recommended under Pilot O may include measures available under the Carbon Capture Rebates for Commercial Buildings Pilot (Pilot H) and the Commercial Hybrid Heating Pilot (Pilot M).[339]

CenterPoint will recognize businesses that implement the top three recommendations from their thermal energy audit, or implement one or more recommendations that reduce site greenhouse gas emissions from current natural gas end uses by at least 50%, as "thermal energy leaders." Thermal energy leaders will be recognized with a certificate and/or window decal identifying them as a thermal energy leader, with an additional rebate of up to $5,000, and by honoring them at CenterPoint's annual Energy Efficiency and Technology Conference.

CenterPoint proposed to pay the same rebates through Pilot O as are available through other NGIA pilots for the same measures. The Company assumes that 2% of audit recipients will choose to participate in an NGIA pilot, with these participants evenly split between commercial hybrid heating (pilot M) and commercial carbon capture (pilot H). The longer ramp up period for the CarbinX technology which impacted Pilot H required CenterPoint to reduce predicted participation levels in Pilot O. However, the number of GHG audits to be completed under this

[339] CenterPoint explained that the costs associated with the expansion of its greenhouse gas audits and the measures installed as a result of the audits will count toward the incremental costs of this Pilot. Further, this Pilot will be credited with greenhouse gas savings from the NGIA measures installed and those savings will not count toward other NGIA projects that may also include those measures. CenterPoint will continue to attribute savings and costs for CIP/ECO measures to the appropriate CIP/ECO projects.

pilot remains unchanged.[340]

CenterPoint intends for Pilot O to meet the NGIA's requirement under subd. 6 to provide thermal energy audits to small- and medium-sized businesses to identify opportunities to reduce or avoid greenhouse gas emissions from natural gas use.

2. Discussion (Decision Options 63-64)

The Department recommended that Pilot O not be approved due to the fact that it previously recommended the removal of Pilots H and M. Pilot O is intended to promote the NGIA measures that may be of interest to small- and medium-sized commercial customers through the CIP/ECO NGEA program. The Department has recommended rejecting all other proposed NGIA pilots targeting small and medium businesses. Thus, the Department determined that Pilot O will not provide much value if the Commission adopts its recommendation to reject Pilots H and M.[341] **[Decision Option 63]**

CenterPoint agreed with this assessment and used it to highlight why the Department's approach to CIP/ECO coordination is problematic as it excludes entire customer segments from the NGIA framework.[342]

Through ex parte communication, Staff asked the Department how the Commission could approve its preferred plan if the Department recommends rejecting Pilot O. Pilot O fulfills requirements under subd. 6 of the NGIA, and CenterPoint did not propose another project to meet these requirements.

The Department responded, recommending that the Commission require CenterPoint to file another independent version of Pilot O that is compliant with subd. 6 within 60 days of the Commission's Order on the Company's innovation plan. The Department explained that, if the Commission approves Pilot O, but rejects Pilots H and M, the resulting pilot would be unable to provide incentives for businesses to implement the NGIA measures and would thus not meet the requirements of subd. 6.[343]

Minneapolis supported the pilot with modifications. Minneapolis stated that it is in favor of small to medium businesses having greenhouse gas audits, but questioned Pilot O's use of carbon capture technologies noting that such technologies may be better suited for other pilots. Instead, deep-energy retrofits for businesses could lead to additional greenhouse gas emissions reductions and reduce customer's utility bills. According to Minneapolis, Pilot O should aim to supplement ECO program funding to make it easier for customers to invest in

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340 CPE's reply comments on March 15, 2024, at 80.

341 Department Supplemental Comments, p.49-51.

342 CenterPoint Reply Comments, p.81.

343 May 31, 2024, Department Letter.

insulation and high-efficiency appliances rather than carbon capture.[344] The CEOs agreed with Minneapolis' comments and recommendation.[345] **[Decision Option 64]**

In response, CenterPoint explained that Pilot O was designed to expand on an existing CIP/ECO project which already promotes CIP/ECO measures through small business audits. Thus, traditional efficiency measures such as efficient appliances are already promoted through the existing NGEA program which Pilot O will expand to encompass additional NGIA measures.[346] **[No Action on Decision Option 64]**

Staff notes that CUB also voiced support for Pilot O in its initial comments. CUB noted general support for several pilots, including Pilot O.[347]

3. Staff Analysis

Staff concurs with the Department that if the Commission rejects Pilots H and M, CenterPoint will need to file a new version of Pilot O that fulfills the requirements under subd. 6 of the NGIA before the Commission will able to approve CenterPoint's innovation plan.

Should the Commission approve both Pilots H and M, Staff notes that the Commission could also approve Minneapolis' and the CEO's proposed modification. Staff's understanding of the CIP/ECO NGIA program is that the Company performs a thermal energy audit and recommends various measures to improve efficiency and reduce greenhouse gas emissions. This list currently includes CIP/ECO measures, but Pilot O would expand this project to include the NGIA measures in the list of options available to customers upon completing an audit. Staff understands that these measures are ranked or sorted based on which one's may have the greatest impact for the customer.

Staff's understanding of Minneapolis' and the CEO's proposal is for CenterPoint to ensure that CIP/ECO energy efficiency and weatherization measures are ranked over carbon capture measures in whatever list of options is presented to a customer that has competed an audit. Although this will create an artificial ranking of interventions that the customer could take to increase efficiency and reduce greenhouse gas emissions, it does seem possible should the Commission agree with Minneapolis and the CEOs.

P. Pilot P: Residential gas heat pumps

1. Pilot Summary

With Pilot P, CenterPoint proposed to fund the development and testing of a limited number of 'combi' space and water heating gas heat pump systems in Minnesota homes. Customer

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344 Minneapolis Initial Comments, p.8.

345 CEOs Reply Comments, p.7.

346 CenterPoint Reply Comments, p.81.

347 CUB Initial Comments, pp.2-3.

outreach will be conducted to recruit participants, and contractors will be engaged and trained to install and maintain the heat pumps with support from equipment manufacturers. The installation cost per residential gas heat pump is $30,000. Although gas heat pumps generally qualify for the energy-efficient home improvement credit under 26 U.S.C. § 25C, CenterPoint Energy does not expect participants to be eligible for this tax credit since CenterPoint will cover the full cost of the units. The installations will be metered, and trial data will be analyzed to develop reporting metrics that can better inform opportunities for gas heat pumps to be integrated into future CIP/ECO or the NGIA programs. The pilot is expected to involve 6 participants.

2. Discussion (Decision Option 65)

The Department, Minneapolis, the CEOs, 147 of CenterPoint Energy's Customers, Kristin Dawkins, and Lee Samelson recommended rejecting Pilot P **[Decision Option 65]**. The primary argument for rejecting Pilot P among these parties was due to the comparative strength of electric air source heat pumps, which are more efficient, commercially mature, cost effective, and have higher adoption rates. As noted by the Department, subd. 2(a)(6) of the NGIA provides justification for the removal of Pilot P:

> *the cost-effectiveness of innovative resources calculated from the perspective of the utility, society, the utility's nonparticipating customers, and the utility's participating customers compared to other innovative resources that could be deployed to reduce or avoid the same greenhouse gas emissions targeted for reduction by the utility's proposed innovative resource;*

The Department explained that, given that residential air source heat pumps and gas heat pumps both accomplish the same primary heating goals, a comparative apples-to-apples exercise is reasonable and justifies the exclusion of the pilot.[348]

In addition to making arguments similar to those made by the Department, the CEOs stated Pilot P goes against the spirit of the NGIA by funding a gas-fired appliance, and that the objective of Pilot P is unclear given that CenterPoint had not described how installing the gas heat pumps will better inform opportunities for gas heat pumps to be part of future CIP/ECO or the NGIA programs. Without identifying target goals or success metrics, the CEOs stated that CenterPoint risks wasting customer funds.[349]

The CEOs also noted that Pilot P will not deliver health benefits to customers the same way that electric heat pumps would. The CEOs explained that electric heat pumps avoid the risks associated with combusting gas in buildings.

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[348] Department Supplemental Comments, p.53.

[349] CEOs Initial Comments, pp.43-46.

CenterPoint responded to many of these criticisms through its reply comments.[350] In response to arguments that the technology may not be commercialized in the near term, CenterPoint explained that one manufacturer of gas heat pumps, Stone Mountain Technologies Inc., announced the market availability of its Anesi-branded gas absorption heat pumps for residential and commercial applications in February 2024. Regarding comments that compared the cost, availability, and benefits of gas heat pumps to electric heat pumps, CenterPoint stated that parties incorrectly assumed that gas heat pumps need to be better than electric heat pumps in most ways in order for them to play an important role in supporting CenterPoint's customers in reducing greenhouse gas emissions. The Company suggested that both technologies will likely have a role to play in reducing emissions in Minnesota, and they do not suggest that gas heat pumps will be more important or achieve more adoption than electric heat pumps. Finally, regarding arguments that the use of gas fired appliances goes against the spirit of the NGIA, CenterPoint explained that gas heat pumps fit within the NGIA definition of "energy efficiency" as they present a significantly more efficient alternative to furnaces for customers who want the benefits of gas heating.

Should the Commission approve Pilot P, the Department maintained that IRA benefits should be maximized. Although the overall level of funding available for Pilot P is small, the Department stated that CenterPoint has a responsibility to ensure maximum ratepayer value.

In response to suggestions from the Department that Pilot P failed to take advantage of federal tax support, CenterPoint explained that Pilot P consists of only six systems. The maximum amount of federal tax incentives that could result from the pilot would be $12,000. To leverage the full $12,000 a customer contribution of $4,600 per customer would be required, and each customer would have to have a large enough tax liability to take advantage of the credit.[351]

3. Staff Analysis

Should the Commission reject Pilot P, it should do so because of the comparative strength of electric air source heat pumps. As noted by the Department, innovation plans must include the cost-effectiveness of an innovative resource compared to other innovative resources that could be deployed to reduce or avoid the same greenhouse gas emissions targeted for reduction by the utility's proposed innovative resource. In this case, the Commission would be comparing two energy efficiency resources against one another. As the utility is proposing a less efficient, and less commercially mature gas resource when other more efficient and more mature technologies exist within the Plan, the utility must provide the information necessary to convince the Commission that this investment is warranted.

Although there are arguments that funding a gas resource through an innovation plan goes against "the spirit" of the NGIA, Staff concurs with CenterPoint that the proposed gas heat pumps fit within the NGIA framework as an energy efficiency measure, so long as the proposed

[350] CenterPoint Reply Comments, pp.81-84.

[351] Id.

gas heat pumps replace less efficient gas units. However, fitting within the framework of the NGIA as an energy efficiency resource does not mean the Commission has an obligation to approve the pilot.

As an energy efficiency measure, Pilot P must also not be reasonably able to be included in a utility's CIP/ECO program. Staff notes that the Department did not discuss the co-application of CIP/ECO and the NGIA for Pilot P.

Q. Pilot Q: Gas heat pumps for commercial buildings

1. Pilot Summary

CenterPoint proposed to fund the development and testing of a small number of gas heat pump systems in commercial buildings. The initial phase involves identifying suitable sites, including outreach to CenterPoint Energy customers who are willing to participate in the pilot. Following site identification, demonstration equipment will be installed. The installations will then be metered, and trial data will be analyzed to develop reporting metrics that could better inform future CIP/ECO or the NGIA programs.

The pilot will target a multifamily building with gas boiler heat, a small commercial property with gas boiler heat, and a recreational facility with high hot water usage. The installation cost per commercial gas heat pump is approximately $117,000. While commercial gas heat pumps contribute to eligibility for the Commercial Buildings Energy Efficiency Tax Deduction under 26 U.S.C. § 179D, participants cannot claim deductions for the heat pumps as the Company will pay the full cost as of Pilot P. The pilot is expected to involve 3 participants.

2. Discussion (Decision Options 66-67)

The Department recommended approval of Pilot Q with a modification to require CenterPoint to ensure the maximal utilization of federal funds to cover installation costs. The Department noted that this modification was requested as Pilot Q was the only pilot left that addresses the heating needs for the Commercial sector after the Department's recommended rejection of Pilot M. **[Decision Option 66]**

In response, CenterPoint explained that the Company proposed to pay the full project cost for this technology because it is still an emerging technology. Additionally, there is uncertainty regarding whether the projects completed under Pilot Q would be eligible for IRA benefits, and even if they were, the dollar amount of the IRA benefits would be a fraction of the participant co-pay. CenterPoint also explained that fully funding the gas heat pumps may make additional IRA benefits more likely by helping customers to achieve the 20% greenhouse gas savings threshold required for IRA tax credit eligibility.[352] **[No Action on Decision Option 66]**

Despite CenterPoint's explanation, the Department maintained that the Company should

[352] CenterPoint Reply Comments, p.84.

maximize the benefits of the IRA when able. The Department stated that the installation of gas heat pumps, even with a moderate cost share, offers short paybacks given the operating efficiencies of gas heat pumps compared to conventional gas systems.

The CEOs and Minneapolis made the same recommendations for Pilot Q as they did for Pilot P.[353,354] They believe that, when compared to electric heat pumps, gas heat pumps are a less efficient, less commercially mature, and less cost effective. They argued again that Pilot Q, like Pilot P, had unclear objectives as CenterPoint had not detailed how installing the proposed gas heat pumps would inform opportunities for gas heat pumps to be part of future CIP/ECO or the NGIA programs. The CEOs stated that the use of gas heat pump technology would not deliver health or safety benefits to customers and that funding gas appliances through the NGIA goes against the spirit of the NGIA. **[Decision Option 67]**

3. Staff Analysis

Staff's analysis of Pilot Q is the same as Pilot P. Gas heat pumps are permitted under the NGIA framework as an energy efficiency initiative. However, the Utility must demonstrate why such an investment is warranted given the existence of a seemingly more cost-effective option.

Notably, the Department did not oppose Pilot Q, but did oppose Pilot P. This is due to the fact that the Department recommended rejecting the other pilots within the Plan that would provide a heating solution for commercial customers. Thus, in the Department's preferred plans, there are no other innovative resources proposed dedicated to reducing commercial customer's greenhouse gas emissions that can be compared to the proposed resource in Pilot Q.

If the Commission were to reject Pilot Q, it could do so because of the arguments made against funding new gas appliances through the NGIA. However, if the Commission did not use these arguments to reject Pilot P, it would be inconsistent to apply them when rejecting Pilot Q.

R. Pilot R: Industrial and large commercial GHG audit

1. Pilot Summary

While Pilot O promotes measures available through other NGIA offerings to small and medium businesses, Pilot R targets industrial and large commercial customers. With Pilot R, the Company proposed to expand its existing CIP/ECO Process Efficiency and Commercial Efficiency projects to include the identification of non-CIP/ECO greenhouse gas reduction measures and the provision of incentives for their installation. Measures that may be recommended include electric heat pumps or hybrid heating systems, CarbinX carbon capture units, industrial heat pumps, solar thermal walls, onsite biogas production/use, and energy efficiency and strategic electrification measures that are not cost-effective under the CIP/ECO societal test. CenterPoint

[353] CEOs Initial Comments, pp.43-46.

[354] Minneapolis Initial Comments, pp.8-9.

plans to include the incremental costs associated with this expansion in its NGIA Plan for cost recovery, along with the costs of rebates for the NGIA measures installed as a result of greenhouse gas audits. This program will receive credit for the greenhouse gas savings achieved by these measures, which will not count toward other NGIA projects incorporating the same technologies. CenterPoint estimated completing 10 audits each year, with one of those participants implementing a GHG Reduction pilot annually. The proposed incentive for Pilot R is $25 per Dth of annual gas savings up to $1.5 million per project, paid upfront to the customer, with no additional rebates for ongoing savings.

2. Discussion (Decision Option 68)

The Department recommended rejecting Pilot R due to the fact that CenterPoint did not adequately justify why Pilot R cannot be administered in ECO. The Department has also already recommended rejecting CenterPoint's commercial hybrid heat pump pilot, and CenterPoint's CarbinX carbon capture pilot, which could include the large commercial segment of this pilot.[355] **[Decision Option 68]**

The Department also argued that Pilot R's incentive of $25/Dth is unreasonably high given the current CIP/ECO incentive cap of $10/Dth. Instead, the Department stated that a maximum incentive of $15/Dth is more reasonable despite still being higher than what is provided through CIP/ECO. Further, the Department noted that the CIP/ECO societal cost effectiveness test should be replaced by the Minnesota Test. However, the Department's ultimate recommendation is to reject Pilot R.

CenterPoint opposed a modification to its proposed incentive cap. The Company stated that the value of the pilot, or any NGIA pilot, should be boiled down exclusively to greenhouse gas emissions. Therefore, incentives should not be determined by any simple comparison to pilots on a cost per emissions basis.[356]

Minneapolis voiced support for Pilot R, noting that the pilot could help the city address a priority to impactfully reduce commercial and industrial natural gas use under the Minneapolis Clean Energy Partnership Work plan. However, Minneapolis questioned whether 10 audits and one greenhouse gas reduction project per year is enough to demonstrate how successful greenhouse gas audits would be at scale. Minneapolis also voiced concern that the project delivery costs were on par with customer incentives to take.[357]

In response, CenterPoint explained that Pilot R has a substantial audit/customer assistance component to help customers identify greenhouse gas solutions that will satisfy their needs. Further, regarding the size of the pilot, CenterPoint noted that it had requested the ability to vary NGIA pilot budgets by up to 25% and would endeavor to use that flexibility to increase

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[355] Department Supplemental Comments, p.58.

[356] CenterPoint Reply Comments, pp.85-86.

[357] Minneapolis Initial Comments, p.9.

resources for Pilots with higher customer demand than anticipated.[358]

3. Staff Analysis (Decision Options 69-70)

The only recommended modification to Pilot R was the rejection of the pilot. Staff again notes that, should the Commission approve Pilot R, the Commissioner of Commerce may make a determination that the pilot could reasonably be included in CIP/ECO, thus making the pilot ineligible for inclusion in an innovation plan. Should the Commission approve Pilot R, it may consider several of the Points made by the Department regarding potential modifications to the pilot:

- Reduce Pilot R's maximum incentive to $15/Dth from $25/Dth. **[Decision Option 69]**
- Require CenterPoint to use the Minnesota Test instead of the Societal Test to check for cost effectiveness under CIP/ECO for Pilot R. **[Decision Option 70]**

Staff notes that the Department did not officially propose these decisions, as its ultimate recommendation was to reject Pilot R.

Regarding the co-application of CIP/ECO, CenterPoint stated that it proposed to take the following steps for energy efficiency and strategic electrification projects:

- CenterPoint will determine whether the measure could qualify for CIP/ECO as a custom measure or otherwise. If it can, the measure will be processed through CIP/ECO and no NGIA rebate will be paid for that measure.
- If the measure is not eligible for CIP/ECO, CenterPoint will determine if the measure will cost less than $150/metric ton from the NGIA utility perspective, considering only quantitative costs and benefits. Only measures that pass this screen will be eligible for an NGIA incentive.
- Measures rebated through this pilot will be subject to measurement and verification, as described in Exhibit W of CenterPoint's initial petition.[359]

CenterPoint further explained that it is reasonable to include this pilot in NGIA as it is intended to encourage measures that are not included in CIP/ECO.[360]

V. Discussion of R&D Project Modifications

As a reminder, under Minn. Stat. § 216B.2427, subd. 4(g), the NGIA allows utilities to spend up to 10 percent of the proposed total incremental costs related to innovation plans on R&D. However, the NGIA does not define the term R&D and CenterPoint Energy used two criteria to classify potential pilots:

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[358] CenterPoint Reply Comments, p.86.

[359] CenterPoint Initial Petition, Exhibit D, p.56.

[360] Id., Exhibit I, p.7.

1) The pilot is a research project or study that is relatively small in scale compared to other pilots being considered;
2) The lifecycle GHG benefits of the pilot are uncertain, difficult to quantify, or likely to be nominal (although learnings from the pilot may lead to significant future reductions).[361]

CenterPoint stated that given the rapidly changing landscape of GHG reduction technologies, it would be more practical to just propose specific projects for only the first two years of the Plan and defer selection of other R&D projects to future annual NGIA status report filings until full available budget for R&D is utilized over the five-year Plan term. Staff has summarized the proposed R&D projects in Table 10 below with the corresponding budget proposal in Table 11.

Table 10: Proposed R&D Project Summaries for Innovation Plan Years 1 and 2

R&D Project ID	R&D Project Name	Description
1	CenterPoint Energy Minnesota Net Zero Study	CenterPoint Energy proposes to conduct a study to help it and interested parties better understand the different pathways for CenterPoint Energy Minnesota Gas to reach net zero emissions by 2050, including Scope 1, and 3 emissions. The plan includes steps such as reviewing emissions data, analyzing reduction strategies, engaging stakeholders, identifying viable paths, modeling impacts, and compiling a final report for the Commission.
2	Weatherization Blitzes	CenterPoint Energy proposed a comprehensive pilot project to boost participation in its existing Energy Conservation and Optimization (ECO) weatherization offerings. The initiative focuses on community-based marketing and outreach, targeting both low-income and non-low-income neighborhoods, with an aim to explore effective tactics, cost-effectiveness, and the impact of neighborhood. The project includes hiring a contractor, conducting customer surveys, neighborhood selection, and research design and implementation, with outreach tactics such as community events, door-to-door canvassing, media promotions, workshops, and geotargeted social media ads.
3	High Performance Commercial New Construction Building Envelope Initiative	CenterPoint Energy proposes to test a multi-prong strategy to address barriers to integrating high-performance commercial building envelopes in new commercial construction. The strategy includes surveys, data analysis of existing buildings, prototype modeling, guidance on envelope definitions, and training. The project aims to provide insights into the cost and energy-saving impacts of these envelopes, analyze current design practices, and promote best practices through training. This comprehensive initiative seeks to improve utility program planning and increase the adoption of high-performance building envelope design in Minnesota.
4	Assessing Next-Generation Micro-Carbon Capture for Commercial	This proposed R&D project is in collaboration with GTI Energy and is intended to demonstrate CleanO2's carbon capture technology for reducing emissions from gas-fired appliances in residential and commercial buildings. The project aims to evaluate CarbinX technology's performance,

[361] CPE's initial Filing on June 28, 2023, at 15.

	Buildings	carbon capture effectiveness, energy savings, and economic feasibility, with a focus on its compatibility with both non-condensing and condensing appliances. An 18–24-month plan includes a comprehensive measurement and verification campaign, including baseline data collection, CarbinX installation, and real-time monitoring. The results will provide insights into distributed carbon capture technologies, contributing to Minnesota's greenhouse gas reduction goals and informing CNP's regulatory engagement.
5	Green Ammonia Novel Technology	CenterPoint Energy proposed a $100,000 initiative to support the testing of a Modular One Vessel Ammonia Production System (MOVAPS) for green ammonia production, aiming to enhance efficiency and reduce costs. The 24-month project focuses on mitigating risks associated with ammonia exposure and odors. The project differentiates itself from power-to-hydrogen processes by specifically targeting improvements in ammonia production. The proposal also includes a separate project to develop a Green Ammonia reactor vessel, the MOVAPS, in two phases. Phase I, conducted by Colorado State University, focuses on developing the reactor, with a year-long proof of concept. Phase II involves detailed design, construction cost estimates, and commercial readiness. Green Nitrogen Energy LLC will contribute significant funding, with potential support from federal DOE and USDA grants.
6	RNG Potential Study	CenterPoint Energy proposed a study to assess the feasibility of developing RNG production facilities at three sites within its service territory. The study, with an estimated cost of $60,000 and expected to conclude by the end of 2023, will support issuing an RFP and subsequent benchmarking. The techno-economic analysis will focus on feedstock availability within a 50–75-mile radius of the proposed sites, including organic waste from farming operations, agricultural commodity processing, and urban areas. The study also includes a vendor-neutral class 5 capital and operating cost analysis for a digester facility, estimating digestate quality and quantity, and identifying disposal and valorization opportunities. This analysis aims to inform the Company’s business model and potential participation in RNG projects, aligning with its NGIA Plan for research and development related to innovative resources.
7	Utilization of Green Ammonia for Thermal Energy Applications	CenterPoint Energy proposed a two-year, $205,000 research project to explore the use of green ammonia in industrial-scale burners for grain drying and district heating boilers. The project aims to develop burner concepts by experimenting with ammonia blended with reactive fuels like hydrogen, syngas, and natural gas in a laboratory test burner. It seeks to provide insights into flame stability, emissions metrics, and potential burner designs for industrial heating equipment. The research will also inform a follow-on demonstration project at the University of Minnesota Morris, including tasks such as setting up the laboratory burner, performing experiments, and disseminating findings through reports and presentations. The project offers a comprehensive approach to applying green ammonia in industrial burners, from experimentation to analysis and dissemination.

Table 11: Proposed R&D Project Budget for Innovation Plan Years 1 and 2

R&D Project Number	Project Name	Estimated Cost
1	CenterPoint Energy Minnesota Net Zero Study	$220,000
2	Weatherization Blitzes	$800,000
3	High Performance Commercial New Construction Building Envelope Initiative	$400,000
4	Assessing Next-Generation Micro-Carbon Capture for Commercial Buildings	$275,000
5	Green Ammonia Novel Technology	$100,000
6	RNG Potential Study	$60,000
7	Utilization of Green Ammonia for Thermal Energy Applications	$205,000
Year 1-2 R&D Costs		$2,060,000
Total Budget over Five Years		$10,570,462
Reserved Fundings		$8,510,462

Below, Staff summarizes the discussion surrounding CenterPoint's R&D projects with specific attention paid to projects where parties recommended modifications or rejections.

A. Project #1 CenterPoint Energy Net Zero Study (Decision Options 71-72)

The Department expressed general support for this project noting that the five-step process outlined, starting with a comprehensive review of current emissions and concluding with a final report, exhibits a systematic approach.[362] Further, The Department applauded CenterPoint's plan to leverage the G21 Report and engage stakeholders in discussions stating that the plan "exemplifies a collaborative and informed methodology." However, the Department stated that a critical evaluation would require assurance of the contractor's independence and expertise and should consider potential challenges in accurately modeling the long-term impacts of the proposed pathways. The Department did not recommend any modifications.

The CEOs requested a process for stakeholder input on the study and assumptions. Additionally, the CEOs stated that this study should include a full decarbonization scenario **[Decision Option 71]**.[363] In its reply comments, the Company expressed its openness to stakeholder input and assured that at least one stakeholder meeting should be anticipated for this project.

In response to comments made by the CEOs to require the CenterPoint to address the Company's role in meeting Minnesota's greenhouse gas reduction goals (discussed in more detail below)[364], CUB stated that it would be useful, for informational purposes, for CenterPoint to provide an estimation of the Company's role in producing GHG emissions in Minnesota and

[362] Department Initial Comments, p.66.

[363] CEOs Initial Comments, p.45.

[364] CEO Supplemental Comments, pp.2-3.

describe how the Plan helps the Company reduce GHG emissions:

- In proportion to the emissions associated with CPE's service, and
- According to the timeline and incremental goals established by the legislature.

The Commission could order CenterPoint to modify its Plan to include this information. Alternatively, CUB suggested that this information could be included in the Company's Minnesota Net Zero Study R&D Project.[365] **[Decision Option 72]**

B. Project #2 Weatherization Blitzes (Decision Options 73-74)

CUB, the CEOs, Minneapolis, and the Department expressed support for this project in their initial comments. The Department noted that a critical evaluation should consider challenges in community engagement, scalability, and integrating successful outcomes into CenterPoint Energy's broader initiatives.

The CEOs supported the plan to use IRA tax credits and rebates alongside CIP programs, aiming to maximize the impact of federal and utility funding, but suggested offering a bonus rebate for customers combining incentives for electric ASHP installations with building shell improvements, similar to Xcel Energy's upcoming ECO Triennial initiative **[Decision Option 73]**.[366] In its reply comments, the Company stated that it didn't included any separate rebated in its current ECO offerings, but agreed to consider such bonus rebated as part of its CIP/ECO starting no later than January 1, 2026.[367]

Minneapolis voiced support for CenterPoint's goal to have 40% of the residential units served by the project to qualify as low-income, but recommended that this goal instead be a requirement.[368] **[Decision Option 74]**

C. Project #4 Assessing Next-Generation Micro-Carbon Capture for Commercial Buildings (Decision Options 75-76)

Both the CEOs and the Department of Commerce Opposed CenterPoint's R&D project to assess next generation micro-carbon capture for commercial buildings. The CEOs emphasized that ratepayer funds should not be used to "shore up GTI's budget to test their technologies." The Department suggested that the project could be included in CenterPoint's 2024-2024 ECO Triennial Plan and is thus not eligible for inclusion in innovation plans. **[Decision Option 75]**

The Department concluded that the other six R&D projects were reasonable and should be funded. However, the Department questioned the approval of additional R&D funding when the Company has not yet identified projects for those funds. The Department recommended

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[365] CUB Supplemental Comments, p.5.

[366] CEOs Initial Comments, p.47.

[367] CenterPoint Reply Comments, p.88-89.

[368] Minneapolis Initial Comments, p.8.

that the Commission approve the R&D budget necessary for CenterPoint to carry out its proposed projects (minus Project #4) and reject the remaining $8,785,462 proposed for unspecified future R&D projects.[369] **[Decision Option 76]**

D. Project #6 RNG Potential Study (Decision Option 77)

The CEOs requested a stakeholder process for stakeholder input on the study and assumptions. The Company expressed openness to stakeholder input on this project and noted the study's budget was just $60,000 and that the R&D project aimed only to assess the RNG potential near three specific sites in CenterPoint Energy's service area, not to provide a comprehensive quantification.[370] **[Decision Option 77]**

E. Additional Project Requested (Decision Option 78)

The CEOs recommended that CenterPoint propose another R&D project that will promote heat pump water heaters and ground source heat pumps to evaluate what pilot strategies are effective and could be included in ECO or future NGIA efforts **[Decision Option 78]**.[371] The CEOs explained that CenterPoint finalized its CIP/ECO triennial plan without including heat pump water heaters or ground source heat pumps. However, CenterPoint had stated a willingness to include such resources through an innovation plan.

In response, CenterPoint explained that the Company had considered including heat pump water heaters in response to RFI responses, but concluded that a market transformation approach would be the best way to increase penetration of heat pump water heaters and that a market transformation program is unlikely to be a good fit for an innovation plan.[372] The Company's perspective has not changed since making this determination. **[No Action on Decision Option 78]**

F. Staff Analysis

Should the Commission not wish to approve a budget for yet to be determined projects, Staff believe CenterPoint should not be restricted from proposing additional R&D pilots in the future. Additional R&D projects may be proposed through the utility's annual reports, and R&D spending may be approved up to 10% of the innovation plan's total incremental costs.

Regarding Minneapolis' recommendation to require that 40% of participants in the weatherization blitz project qualify as low-income, Staff again notes that CenterPoint has included this goal as a cost effectiveness objective for the Company's entire plan. Approving this requirement and the associated cost effectiveness objective may be duplicative and reduce the value of the objective.

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[369] Department Initial Comments, p.70.

[370] CenterPoint Reply Comments, p.88.

[371] CEOs Initial Comments, p.48.

[372] CenterPoint Reply Comments, p.96.

Should the Commission wish to require the additional R&D pilot requested by the CEOs, Staff recommend specifying that it be proposed as a part of one of CenterPoint's annual reports instead of postponing the implementation of CenterPoint's innovation plan.

VI. Consideration of Greenhouse Gas Emissions and Recommendations for Future Plans

A. Discussion (Decision Option 79)

The CEOs made several suggestions regarding how the Commission should judge the predicted emissions reductions achieved under the proposed plan, and how the Commission might improve future innovation plans.

First, the CEOs asserted that an estimate of CenterPoint's "fair share" of economy-wide greenhouse gas emission reductions should be considered by the Commission as it reviews the reasonableness of the estimated greenhouse gas emissions reductions anticipated to be avoided under the plan given Minnesota's emission reduction goals.[373] The NGIA does not specify specific greenhouse gas reduction targets for utilities, so any determination about whether the greenhouse gas reductions achieved in an NGIA plan are reasonable is the Commission's to make.[374]

The CEOs provided two avenues to measure CenterPoint's fair share of economy wide emissions reductions. The first estimate would align CenterPoint's emissions reductions with the state's target of a 50% reduction by 2030, relative to a 2005 baseline. Meeting this objective would require CenterPoint to reduce its emissions by 50% relative to a 2005 baseline by 2030.

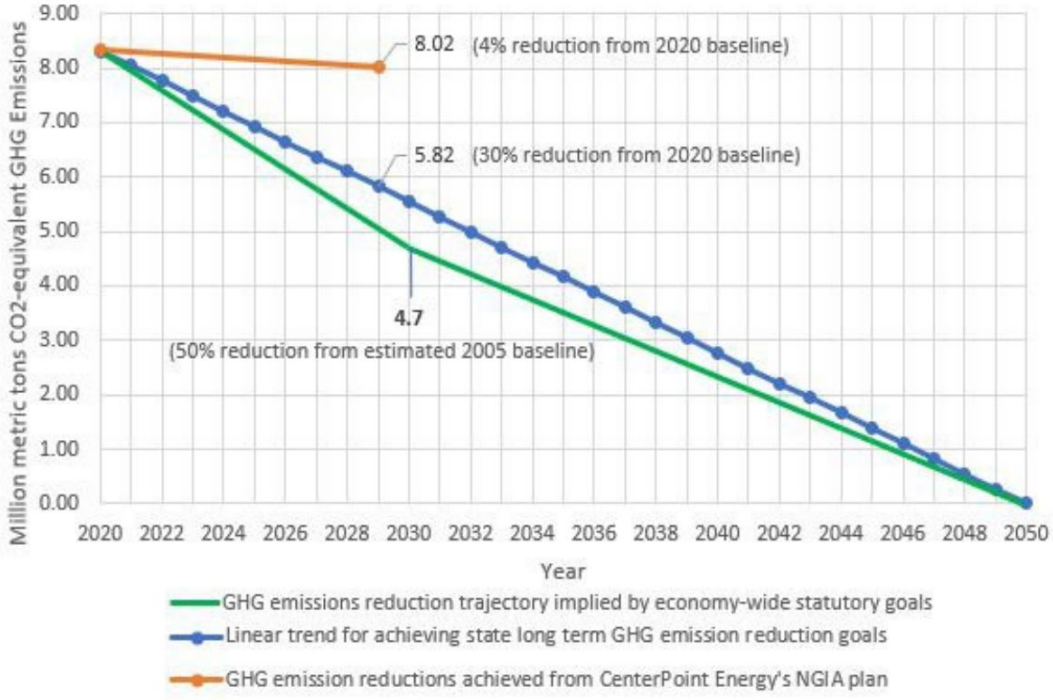
The second estimate plots CenterPoint's greenhouse gas emissions along a straight line from the Company's 2020 baseline to the ultimate goal of net zero by 2050. Meeting this objective would require CenterPoint to reduce its emissions by 30% relative to a 2020 baseline by 2029.

The figure below was taken from the CEO's reply comments and displays these objectives in comparison to the emissions reductions predicted to be achieved through CenterPoint's innovation plan.

[373] The consideration referenced by the CEOs is a required consideration under the NGIA. See Minn. Stat. § 216B.2427, subd. 2(b)(7).

[374] CEOs Supplemental Comments, p.3.

Figure 2: Greenhouse Gas Emission Reductions Achieved by CenterPoint Energy's NGIA plan and Reductions Needed to Achieve State Goals.[375]



CenterPoint's customers agreed with the CEOs and noted that CenterPoint's innovation plan does not provide a clear strategy for achieving Minnesota's greenhouse gas reduction goals.

In response, CenterPoint did not dispute that achieving greenhouse gas reductions is an important goal of the NGIA, but explained that "the NGIA is not singularly focused on GHG reduction and does not provide, on its own, all of the necessary tools needed to achieve aggressive GHG reduction goals."[376] CenterPoint continued, noting that while the NGIA requires utilities to contribute to the state's greenhouse gas reduction goals it does not provide a schedule for overall natural gas decarbonization.

As noted previously, CUB supported the goal of the CEOs but instead recommended modifying CenterPoint's R&D project #1 (CenterPoint Energy Net Zero Study), to include an estimation of the Company's role in producing GHG emissions in Minnesota and describe how the Plan helps the Company reduce GHG emissions.

Ultimately, the CEOs recommended that the Commission require the following be included in CenterPoint's future NGIA plans:

- Define clear learning objectives and metrics of success for all proposed pilots;
- Articulate how the plan will meet its fair share of state greenhouse gas emission reductions; and

375 CEOs Reply Comments, p.9.

376 CenterPoint Reply Comments, p.7.

- Prioritize district energy pilots that meet the statutory definition of the resource.

[Decision Option 79]

B. Staff Analysis

The Commission may certainly consider the estimates provided by the CEOs when determining whether the greenhouse gas emissions predicted to be avoided under CenterPoint's innovation plan are reasonable. However, Staff concurs with CenterPoint that the NGIA does not establish a pathway for, or require, the full decarbonization of natural gas utilities, nor does it define or require an estimation of a utility's "fair share" of emissions reductions.

Minn. Stat. § 216B.2427, subd. 2(a)(16) requires utilities to provide a collection of pilot programs that could be used to achieve 50%, 150%, and 200% of the greenhouse gas emission reductions anticipated to be achieved under the base plan. Achieving 200% (or double) of CenterPoint's predicted greenhouse gas emissions reductions would be equal to reducing 0.596 million metric tons of CO_2, which is still significantly less than the CEO's "more modest target"[377] of 5.8 million metric tons.

When considering CenterPoint's emission reductions, the Commission should be cognizant of the many bounds put on innovation plans, including a cost cap, a requirement for 50% of the budget to consist of low-carbon fuels, and several required pilot projects dedicated to specific resources, such as district energy and deep energy retrofits.

Staff's understanding of the NGIA is that, by proposing innovation plans, utilities will be able to test innovative technologies and programs that have the potential to scale up or expand in the future and progressively reduce greenhouse gas emissions.

VII. Cost Allocation Considerations

A. Discussion (Decision Option 80)

The OAG expressed concern that small commercial customers would be forced to bear the cost of pilot programs that would not benefit them, and that they would not be eligible to participate in.[378] The OAG recommended, at a minimum, that the Commission should direct CenterPoint to allocate the costs of the non-system pilots to only the customer classes that are eligible to participate. Specifically, Pilots E, F, and J through R. **[Decision Option 80]**

The OAG noted that CenterPoint planned to match cost recovery to the classes of customers receiving the benefits of the pilot. However, CenterPoint intends to allocate costs using generalized customer types (e.g., residential, commercial, industrial) while using more specific customer types to determine eligibility for participation.

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377 CEOs Supplemental Comments, p.2.

378 OAG Supplemental Comments, pp.19-25.

Table 12: Eligible Customer Classes and Proposed Cost Allocation Comparison[379]

Pilot	Description	Eligible Customer Classes	CPE Cost Allocation
Pilot E	Industrial or Large Commercial Hydrogen and Carbon Capture Incentives	• Small Volume Dual Fuel B • Large Volume Dual Fuel Commercial/Industrial Firm C • Large Volume Firm	C&I
Pilot F	Industrial Methane and Refrigerant Leak Reduction Program	• Small Volume Dual Fuel B • Large Volume Dual Fuel • Commercial/Industrial Firm C • Large Volume Firm	C&I
Pilot J	Decarbonizing Existing District Energy Systems	• All Customers Operating District Energy Systems	C&I
Pilot K	New District Energy Systems	• All Commercial and Industrial Customers	C&I
Pilot L	Industrial Electrification	• Small Volume Dual Fuel B • Large Volume Dual Fuel • Commercial/Industrial Firm C • Large Volume Firm	C&I
Pilot M	Commercial Hybrid Heating	• All Non-Residential Customers	C&I
Pilot N	Residential Deep Energy Retrofits and Electric Air Source Heat Pumps	• Single Family and Multifamily Residential Buildings	Residential
Pilot O	Small/Medium Business GHG Audit	• All Commercial and Industrial, but Targeted at Small and Medium Business Customers	C&I
Pilot P	Residential Gas Heat Pumps	• Residential Customers	Residential
Pilot Q	Gas Heat Pumps for Commercial Buildings	• All Commercial and Industrial Customers	C&I
Pilot R	Industrial and Large Commercial GHG Audit	• Small Volume Dual Fuel B • Large Volume Dual Fuel • Commercial/Industrial Firm C • Large Volume Firm	C&I

The OAG argued that "the Commission should ensure that CenterPoint appropriately allocates the costs of these projects to the classes of eligible customers, as they will derive the direct

[379] Id., p.23.

benefits of these projects and the learnings are unlikely to provide future benefits for residential customers, small business, and other non-participating customers."[380] As an example, the OAG pointed to Pilots E, F, L, and R which are only available to CenterPoint's largest customers. The OAG asserted that offering these pilots to larger customers may be appropriate, non-participating customers who are not eligible and will not see the benefits of these pilots should not have to pay for them.

B. Staff Analysis

CenterPoint stated that it plans to match cost recovery to the classes of customers receiving benefits from the proposed pilots.[381] However, it appears that CenterPoint's plan would still require non-participating customers to pay for others to benefits from various pilots. From the information provided by the OAG, this appears to impact small commercial customers the most, as they are lumped in with all other commercial and industrial customers for the cost allocation of pilots dedicated to large commercial and industrial customers.

Staff has no direct opposition to the OAG's recommendation, especially the recommendation to require CenterPoint to track and report on the costs and participation of the classes of customers for all customer participation pilots (Pilots E through R). However, Staff notes that because this discussion took place in supplemental comments, other parties, including the Department of Commerce and CenterPoint, have not been able to weigh in. The extent of the rate impact on participating customers is also not clear at this time.

VIII. Staff Analysis: Pilot and R&D Project Portfolios

In Table 13 below, Staff has provided a summary of parties' comments on each of the proposed pilots.

Table 13: Pilot Comment Summary

Pilot ID.	Pilot Name	Supports	Modify	Opposes
B	RNG Produced From Ramsey & Washington Counties Organic Waste	CPE, IUOE, RNG Coalition	DOC, CUB, CEOs, MPLS	
C	RNG RFP	CPE, LIUNA, RNG Coalition, IUOE	DOC, CUB, OAG, CEOs, MPLS	
D	Green Hydrogen Blending into Natural Gas Distribution System	CPE, RNG Coalition, IUOE, LIUNA	OAG, CUB	DOC, MPLS, CEOs, CenterPoint

[380] Id., p.24.

[381] CenterPoint Initial Petition, p.20.

Pilot ID.	Pilot Name	Supports	Modify	Opposes
				Customers
E	Industrial or Large Commercial Hydrogen and Carbon Capture Incentives	CPE, OAG, RNG Coalition, IUOE, LIUNA	DOC, MPLS, CUB, CEOs	
F	Industrial Methane and Refrigerant Leak Reduction	CPE	DOC, CUB, OAG, MPLS, CEOs	
G	Urban Tree Carbon Offsets	CPE		DOC, CUB, CEOs, OAG, MPLS, CenterPoint Customers
H	Carbon Capture Rebates for Commercial Buildings	CPE, CEE, GeoExchange, MPLS, Tim Rybak, Curtis Hartog,		DOC, CEOs, CUB
I	New networked geothermal systems	CPE, CEE, GeoExchange, Lee Samelson, Kristin Dawkins	DOC, CUB, CEOs, OAG, MPLS	
J	Decarbonizing Existing District Energy Systems	CPE	CEOs, MPLS	DOC
K	New District Energy System	CPE, MPLS	CEOs	DOC
L	Industrial Electrification Incentives	CPE, CEE, Lee Samelson, Kristin Dawkins	CEOs, MPLS, GeoExchange	DOC
M	Commercial hybrid heating	CPE, CEE	CEOs, MPLS, GeoExchange	DOC
N	Residential deep energy retrofits and electric air source heat pumps	CPE, CUB, Lee Samelson, Kristin Dawkins	DOC, CEOS, CEE, MPLS	
O	Small/medium business GHG audit	CPE, CUB	MPLS, CEOs,	DOC
P	Residential gas heat pumps	CPE		DOC, CEOs, MPLS, CenterPoint Customers, Lee Samelson,

Pilot ID.	Pilot Name	Supports	Modify	Opposes
				Kristin Dawkins
Q	Gas heat pumps for commercial buildings	CPE	DOC	CEO, MPLS, CenterPoint Customers
R	Industrial and large commercial GHG audit	CPE	OAG, MPLS	DOC

Staff has identified six pathways for the Commission to take based on the preferred plans provided by CenterPoint, the Department, the CEOs, CUB, and the OAG. As a reminder, the Department proposed two budget alternatives, and thus has provided the Commission with two pathways to consider. The Commission is not required to select every decision option proposed by a single party, and is generally able to combine decision options from different paths without creating a Plan that does not comply with statutory requirements. Further, the Commission is not obligated to approve a plan at this time if it determines additional information or alternative pilots are necessary.

Below, Staff highlights the differences across the various pathways available to the Commission including where recommendations were made to reject, modify, or approve various pilots. The table also highlights the final total incremental costs of each pathway and identifies whether the proposals achieve the NGIA's statutory budget and pilot content requirements.

Table 14: Summary of Preferred Plans (Budget)

Pilots	CenterPoint	DOC #1	DOC#2	CEO	CUB	OAG
A	-	-	-	-	-	-
B	$6,520,485	$1,828,882	$2,767,203	✓	✓	✓
C	$40,271,426	$6,633,036	$10,108,622	✓	$36,669,000*	$25,855,250*
D	$4,646,943	$0	$0	$0[382]	$0	$0
E (hydrogen)	$1,156,798	✓	✓	✓	$5,803,741	$5,803,741
E (carbon capture)	$2,637,113	$255,000	$255,000	✓	✓	✓
F	$1,247,828	$499,131	$499,131	✓	✓	✓
G	$329,301	$0	$0	$0	$0	$0
H	$612,377	$0	$0	$0	$0	✓
I	$11,625,947	$200,000	$200,000	✓	✓	$200,000
J	$598,794	$0	$0	✓	✓	
K	$215,644	$0	$0	✓	✓	✓
L	$504,436	$0	$0	✓	✓	✓
M	$7,068,602	$0	$0	✓	✓	✓
N	$13,617,633	$4,885,520	$4,885,520	✓	✓	✓
O	$1,997,007	$0	$0	✓	✓	✓
P	$308,761	$0	$0	$0	✓	✓
Q	$749,464	✓	✓	$0	✓	✓
R	$950,494	$0	$0	✓	✓	✓
R&D	$10,570,462	$1,785,000	$1,785,000	$10,295,462	✓	✓
Total Incremental Costs	**$105,701,515**	**$17,992,832**	**$22,406,739**	**$103,354,611**	**$101,157,410**	**$79,530,090**
Is RNG bonus necessary?	Yes	**No**	**No**	Yes	Yes	**No**
Low-Carbon Fuel >= 50%	Yes	Yes	Yes	Yes	Yes	Yes
District Energy <20%	Yes	Yes	Yes	Yes	Yes	Yes
R&D < 10%	Yes	Yes	Yes	Yes	**No**	Yes
subd. 6	Yes	**No**	**No**	Yes	Yes	Yes
subd. 7	Yes	Yes	Yes	Yes	Yes	Yes
subd. 8	Yes	Yes	Yes	Yes	Yes	Yes
subd. 9	Yes	Yes	Yes	Yes	Yes	Yes

✓ = Approve CenterPoint's proposed pilot budget
(Note: this does not account for other requested modifications that do not impact the budget)

Staff has included updated budgets anywhere a party's modification impacts the budget of a pilot.

*CUB and the OAG recommended modifying Pilot C's budget to only what is necessary to meet the 50% threshold. Staff provided budget estimates based on this recommendation

[382] The CEOs recommended rejecting Pilot D and requiring CenterPoint to propose an alternative Pilot. The budget of this alternative Pilot is unknown. Although the budget of the current Pilot could be used as a placeholder, Staff chose to represent the CEO's recommendation with an "X" to indicate their rejection of the currently proposed Pilot.

Below, Staff provides several notes to remind the Commission about key considerations from each party's preferred plan.

The Department:

- The difference between the Department's budget alternatives is that Alternative 1 limits CenterPoint's purchase of bundled RNG in Pilots B and C to 25%, while Alternative 2 limits CenterPoint's purchase of bundled RNG to 40%. The remaining RNG purchased through Pilots B and C would be unbundled brown gas.
- The Department's recommended budget modifications for Pilots B and C remain one of the most consequential decisions for the Commission due to their impact on the innovation plan's total incremental costs. Approving either of these budget modifications make it difficult for the Commission to deviate from the Department's proposed plan. However, these budget modifications appear to only be possible if the Commission also permits CenterPoint to purchase unbundled brown gas as RNG under its innovation plan.
- The Department recommended rejecting Pilot O. Without Pilot O, CenterPoint's innovation plan will not comply with requirements under subd. 6 of the NGIA. Of note, Pilot O is not valuable without Pilots H and M, as the purpose of Pilot O is to expand an existing audit program in the Company's CIP/ECO program to include the NGIA offerings included in these proposed pilots.
- The Department recommended the Company propose a new pilot to fulfill subd. 6's requirements.
- The Department recommended approving Pilot I's feasibility study, but did not recommend permitting CenterPoint to seek additional funds to implement the networked geothermal system through this NGIA plan and instead recommended that CenterPoint wait for its next innovation plan in five years, or seek funding elsewhere outside the NGIA.
- The Department recommended rejecting CenterPoint's R&D Project #4, and only approving the R&D budget necessary to cover the remaining proposed R&D projects.

The CEOs

Note: Table 14 above is not an accurate representation of the CEO's opinion on several of the proposed pilots as many of the modifications proposed by the CEOs do not impact the budget. Further, the CEO's table on page 13 of their supplemental comments does not account for changes in pilot budgets that may result from the CEO's recommendations. Staff has done what it can to provide estimates. Finally, the CEOs recommended multiple follow-up filings by CenterPoint, and a replacement for Pilot D that is not accounted for in the budget summary above.

- The CEOs recommended withholding approval of Pilots B and C until CenterPoint provides additional information on its ability to consider industrial off-takers or other innovative ways to utilize RNG.
- The CEOs recommended requiring CenterPoint to propose an alternative to Pilot D that consists of a Hydrogen facility dedicated only to hard-to-electrify customers.

- Regarding Pilot G, the CEOs recommended finding that offset projects of any type do not meet the definition of carbon capture and requiring that all NGIA pilots must satisfy the NGIA's throughput goal (subd. 10) to be included in innovation plans.
- Although the CEOs recommended only approving Pilot I's feasibility study, they included Pilot I's full budget in their proposed plan table on page 13 of their supplemental comments. However, as noted previously, this table did not account for changes in pilot budgets resulting from their recommendations, so it is likely that their recommendation for Pilot I more closely mirrors the OAG's.
- Like the Department, the CEOs recommended rejecting R&D Project 4. However, they did not recommend rejecting the remaining budget proposed for future R&D projects.

CUB

- CUB and the OAG proposed identical solutions to the NGIA's 50% requirement. First, CUB recommended requiring that Pilot C's budget be set to no more than what is necessary to achieve the 50% requirement. Second, instead of rejecting Pilot D and removing the budget from the innovation plan (as proposed by DOC and the CEOs), CUB recommended moving this to fund the power-to-hydrogen project archetype of Pilot E.

The OAG

- As noted above, CUB and the OAG proposed identical solutions to the NGIA's 50% requirement.
- The OAG recommended only approving Pilot I's feasibility study at this time. However, they also recommended permitting CenterPoint to modify the Pilot through an annual status report and request additional funding for the implementation stage of Pilot I once the feasibility study was complete.
- The OAG interpreted the NGIA's 50% requirement as applying only to the costs comprising the Commission's approval of the initial plan rather than to the actual costs expended by the utility at the end of the five-year plan term. This means that a future expansion of Pilot I to include the costs necessary for the implementation phase of the pilot would not also require an increased low-carbon fuel budget.

No party pointed to the Commission's required considerations as an argument for rejecting CenterPoint's innovation plan as a whole. However, parties did use these considerations when recommending the rejection or modification of specific pilots.

As a reminder, CenterPoint requested that the Commission expand the statutory cost cap consistent with subd. 3(b) of the NGIA (the RNG bonus) for use on specific RNG pilots. The RNG bonus would expand the statutory cost cap from roughly $90,590,900 to $105,704,610 (a roughly $15 million increase). Staff notes that if the Commission's approved plan has a budget of less than the initial $90 million statutory cost cap, it may not be necessary to approve the additional funding for specific RNG projects. However, no party recommended rejecting CenterPoint's request, and doing so may prevent the Company from proposing new pilots, or requesting expansions of approved pilots, in the future.

INNOVATION PLAN: CENTERPOINT'S REQUEST TO SPEND UP TO 25% MORE THAN BUDGETED FOR PILOTS WITH HIGHER-THAN-EXPECTED EXPENDITURES

In this section Staff provides a summary of the discussion surrounding CenterPoint's request to spend up to 25% more than budgeted on pilots with higher-than-expected expenditures. This section begins with a description of CenterPoint's proposal, followed by a brief summary of party positions, and a review of parties' discussion and recommendations. This section concludes with Staff's analysis and recommendations.

I. CenterPoint's Request (Decision Option 81)

CenterPoint requested some flexibility with actual spending to allow the Company to reallocate funds from pilots with lower-than-expected expenditures, due to low participation or other factors, to pilots with higher-than-expected expenditures. Specifically, the Company requests that it be allowed to spend up to 25% more than budgeted for pilots with higher-than-expected expenditures without seeking any additional approval from the Commission, provided that the increase does not cause the Plan, as a whole, to exceed its statutory cost cap or fail to satisfy any other requirements. This proposal is based on the budget flexibility found in CIP/ECO, which allows utilities to spend up to 25% more in any segment without notifying or gaining approve from the Department. **[Decision Option 81]**

II. Party Positions (Decision Option 82)

LIUNA and IUOE Local 49 Supported CenterPoint's request and explained that there is a need for flexibility due to the uncertainty surrounding the cost of deploying the proposed measures. This cost uncertainty was reportedly due to both the innovative nature of the proposed resources, and the cost pressures facing construction and other capital projects at the moment.[383] The parties explained that some level of flexibility will help CenterPoint maximize the use of ratepayer dollars in the deployment of innovative resources.

The Department, the OAG, CUB, and Minneapolis opposed the Company's request and recommend denial. These parties generally believe that the NGIA statute does not provide the flexibility which CenterPoint is seeking and that the Commission needs to continue to be involved in determining the prudency of such investments. Additionally, such flexibility was argued to have the potential to impact the size and cost effectiveness of pilot programs.[384,385] **[Decision Option 82]**

The CEOs partially supported the Company's request. The CEOs support the Company's request for flexibility but emphasize that the Commission needs to ensure the Company acts prudently in its spending on approved NGIA pilots.

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383 LIUNA reply comments, p.1.

384 OAG Supplemental Comments, pp.28-29.

385 CUB Supplemental Comments, pp.5-6.

III. Discussion (Decision Options 83-85)

In response to the parties who opposed the Company's proposal, CenterPoint stated that the opposition is based on a misunderstanding of the Company's intent behind the proposal. CenterPoint explained that it is requesting the Commission recognize the need for flexibility in pilot implementation and that actual project costs, participation levels, and other factors may differ from the Company's forecasts. The Company is not suggesting that such costs be subject to an advance determination of prudence.

CenterPoint stated that rejecting its variance request and instead requiring the Company to request a formal modification through its annual NGIA report filing for any deviation from individual pilot budget forecasts would create challenges in implementing the Plan. CenterPoint argued that a requirement to seek budget variances would risk disrupting successful pilot delivery.[386]

While CUB favors a decision to reject CenterPoint's request, it did propose modifications should the Commission choose to approve the Company's proposal. CUB's first modification, which was not opposed by the CEOs, was to include restrictions aimed to protect ratepayers **[Decision Option 83]**. Those restrictions include:

- Prohibiting CenterPoint from using the variance to reduce any single pilot budget by more than 25%.
- Requiring any budget increases or decreases exceeding 25% to go through the annual review process. The Company's annual review filing must identify any avenues that could be taken to increase enrollment or improve performance of underperforming pilots and provide a justification for why these options are not reasonable.
- Requiring CenterPoint to explain how budgets were modified and why such modifications were warranted in annual review filings.
- Prohibiting CenterPoint from using the variance until the third year of the Plan to provide sufficient time for pilots to reach maturity and enroll participants.
- Requiring CenterPoint to conduct a wide-ranging analysis of pilot performance that takes into account both participation levels and realized cost-effectiveness when determining whether the variance can be employed to alter pilot budgets.

CUB's second recommendation was to exclude Pilot N and the Weatherization Blitz R&D program from being cut or reduced in size as they are the only two projects proposed that offer direct and targeted benefits for residential customers. **[Decision Option 84]**

CUB explained that due to differences between CIP/ECO and the NGIA, it would not be wise to simply transpose CIP/ECO's 25% variance threshold into NGIA without developing additional parameters that constrain the scope and scale of sub-annual project modifications.[387] While

[386] CenterPoint Reply Comments, p.16.

[387] CUB Supplemental Comments, p.7.

both programs reduce natural gas throughput, ECO has no cost cap, allowing budget increases without reducing other expenditures. The NGIA, under Minn. Stat. § 216B.2427, subd. 3, requires utilities to keep costs below a statutory threshold. Since CenterPoint's planned investments nearly match this cap, increasing one pilot's budget requires cutting another's.

Should the Commission choose to approve the Company's request, the OAG also proposed a modification that would clarify that any budget flexibility between individual pilots is capped by the total amount of the approved NGIA plan budget, and not the statutory cost cap. **[Decision Option 85]**

The OAG highlighted CenterPoint's decision to remove Pilot A from its proposal and explained that developments during the Company's 5-year innovation plan may result in a pilot being no longer viable or realistic, and that the removal or discontinuation of such projects should not automatically change the funding parameters for a different project.[388] Further, the OAG explained that CenterPoint's proposal would not cap the Company at the budget approved by the Commission but instead at the statutory cost cap allowing the company to potentially far exceed the budget approved by the Commission.[389]

IV. Staff Analysis

Before deciding whether to approve or modify CenterPoint's request, the Commission must decide whether such a request is permitted under the NGIA. As noted by CUB in its initial comments, the NGIA already contemplates a process for proposing budget amendments through annual status reports.[390] Through these annual reports, utilities are able to request modifications to elements of the plan, and the Commission is able to approve pilot modifications, order that a new or modified pilot be filed, or disapprove the continuation of a pilot or plan. The NGIA does not consider pilot modifications outside of annual status reports.

Should the Commission believe it is able to grant CenterPoint's request, and wish to do so, Staff would support the modifications proposed by CUB and the OAG. With regards to the OAG's recommendation, Staff believes that such a clarification is necessary if not already required under the NGIA.

The definition of "total incremental costs" specifically states that the total incremental costs of a utility's innovation plan are the costs "approved by the Commission."[391] Although the statutory cost cap establishes an upper limit to the total incremental costs a utility may propose under an innovation plan, the final total incremental costs of an innovation plan are established by the Commission through its approval of the Plan. CenterPoint's implied ability to exceed the Commission's approved incremental costs so long as the Company does not exceed the statutory cost cap is not supported by the NGIA.

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388 OAG Supplemental Comments, pp.26-27.

389 Id., pp.27-28.

390 Minn. Stat. § 216B.2427, subd. 2(f).

391 Minn. Stat. § 216B.2427, subd. 1(r).

INNOVATION PLAN: COST RECOVERY PROPOSAL

In this section, Staff provides a summary of the discussion surrounding CenterPoint's innovation plan cost recovery proposal. This section begins with a description of CenterPoint's proposal, followed by a summary of party positions, and a review of parties' discussion and recommendations. This section concludes with Staff's analysis and recommendations.

I. CenterPoint's Cost Recovery Proposal

Minn. Stat. § 216B.2427, subd. 2(c) states that prudently incurred costs under an approved innovation plan are recoverable either:

- Via the utility's purchased gas adjustment ("PGA");
- In the utility's next general rate cate; or
- Via annual adjustments.

CenterPoint's cost recovery proposal makes use of all three of these recovery mechanisms. First, CenterPoint proposed to recover certain fuel costs – including the costs associated with the purchase of RNG and the costs for electricity purchased under Pilot D as fuel used in the manufacture of gas – through the PGA mechanism. CenterPoint requested that the Commission grant rule variances to Minn. R. 7825.2390 – 7825.2920 to allow the company to recover such costs through the PGA.[392]

Second, CenterPoint has included certain NGIA costs in its rate case filed on November 1, 2023, in Docket No. G-008/GR-23-173, for inclusion in delivery charges (the "Innovation Act Charge" or "IAC"). CenterPoint proposed to set the IAC to be included in base rates to recover innovation plan development costs incurred prior to filing the rate case, as well as projected costs through calendar years 2024 and 2025. CenterPoint explained that this baseline rate recovery was intended to parallel the Conservation Cost Recovery Charge utilized to recover forecasted CIP/ECO expenses through base rates. CenterPoint proposed to begin this charge when the final rates are implemented following a final Order in the rate case.

Finally, CenterPoint proposed an annual rider mechanism with true-up to match actual NGIA expenses with recoveries (the "Innovation Act Adjustment" or "IAA"). With each annual NGIA status report, CenterPoint will file an "NGIA tracker" that displays the differences between NGIA recovery and expenses and proposes adjustments to the IAA to eliminate any disparities. The NGIA tracker will track all NGIA expenses and recoveries through the approved IAC and IAA mechanisms. CenterPoint stated that it will set up accounting for each pilot program as well as the R&D portfolio and general NGIA expenses to ensure all NGIA costs are tracked, reported,

[392] Minn. R. 7829.3200 states that the Commission shall grant a variance to its rules when it determines that the following requirements are met: A. enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule; B. granting the variance would not adversely affect the public interest; and C. granting the variance would not conflict with standards imposed by law.

and recovered appropriately. CenterPoint noted that this recovery mechanism is analogous to the Conservation Cost Recovery Adjustment used for CIP/ECO. The first IAA would go into effect upon approval of the Company's first annual status report.

Below, Staff included a table from CenterPoint's reply comments that displays the Company's innovation plan cost recovery by mechanism:

Table 15: NGIA Cost Recovery by Mechanism (Millions)[393]

Mechanism	2025	2026	2027	2028	2029	Total
PGA	$4.2	$9.8	$11.1	$11.3	$5.8	$42.4
IAC	$15.0	$15.0	$15.5	$15.3	$15.3	$76.0
IAA	$-	$(0.01)	$-	$-	$(6.8)	$(6.8)
Total	$19.2	$24.8	$26.6	$26.7	$14.3	$111.6

Below illustrates the expected customer impact, divided by customer class, of the cost recovery apportionment.

Table 16: NGIA Recovery by Class (Thousands)[394]

Class	2025	2026	2027	2028	2029	Total
Residential	$7,959	$10,054	$12,396	$14,328	$8,146	$52,883
Comm Firm A	$363	$412	$431	$368	$209	$1,783
Comm/Ind Firm B	$1,018	$1,170	$1,224	$1,053	$572	$5,036
Comm/Ind Firm C – Sales Service	$6,237	$7,384	$7,744	$6,754	$3,445	$31,564
Comm/Ind Firm C – Transport	$117	$105	$98	$75	$39	$433

II. Party Positions (Decision Option 86)

Parties have generally supported the Company's Proposed Cost Recovery **[Decision Option 86]**. Embedded in party positions are two main considerations for this proposal:

1) the variance request of the PGA; and
2) the method proposed to recover prudently incurred costs.

Each party position will touch on these considerations and the general position of the proposed cost recovery.

393 CenterPoint Reply Comments, Exhibit A, Table A.3

394 CenterPoint Initial NGIA filing at 23

Table 17: Party Positions on CenterPoint's Cost Recovery Proposal

	Support	Modify	Reject
Requested PGA Variance	DOC, CUB	-	-
Cost Recovery Proposal	DOC	CUB	-

III. Discussion of Cost Recovery Proposal (Decision Options 87-89)

Staff notes that few stakeholders commented on this issue. Both the Department and CUB supported the Company's requested variance for the PGA mechanism. The Department had no recommended modifications to the cost recovery proposal, but CUB offered a few modifications.

First, CUB recommended the Company's cost recovery for investments in biogas upgrading systems to be included in the general rate case **[Decision Option 87]**. CUB made this recommendation because it believes the Commission should specify whether certain future, yet-to-be determined costs described in the NGIA Plan are only recoverable through a general rate case. Regarding biogas upgrading systems, the Company has yet to determine which equipment to invest in and what the cost would be, therefore making it a future, yet-to-be determined cost. CUB's opinion is that the best way to ensure the Commission holds CenterPoint accountable for ensuring these investments are prudent and cost effective is through a general rate case.[395]

In response, CenterPoint disagreed with CUB's recommendation because the NGIA allows the Company to seek cost recovery through three different avenues. The NGIA statute allows cost recovery from three sources, not exclusively from the general rate case, and the Company believes all three cost recovery sources should be utilized as all three are subject to a prudency review.[396] **[No Action on Decision Option 87]**

Second, CUB requested that the Commission require CenterPoint to report in its first NGIA filing on how it will, or plans to, reduce NGIA plan costs for low- and moderate-income customers.[397] The NGIA requires utilities to take steps to reduce the expected costs on low- and moderate-income customers **[Decision Option 88]**.[398] CenterPoint proposed to include information in NGIA customer communications about how customers can learn more about existing bill

[395] CUB Initial Comments, p.12.

[396] CenterPoint Reply Comments, p.95.

[397] CUB Supplemental Comments, p.15.

[398] Minn. Stat. § 216B.2427, subd. 2(a)(13).

assistance programs, such as the Gas Affordability Program ("GAP"). However, CUB believed CenterPoint's plan to provide information about GAP is insufficient based on the requirement in statute.

CUB explained that GAP provides eligible customers with forgiveness credits that help reduce customer payments to a percentage of their annual income. However, GAP is only available to participants enrolled in LIHEAP, which is only available to households who have an annual income below 50 percent of the state median income. While the NGIA statue does not define who qualifies as low- and moderate-income customer, CUB believes the LIHEAP-enrolled customers as defined by GAP is insufficient to capture the statute's intended range because it does not include moderate-income customers. Further, GAP participation also fails to capture the majority of low-income customers due to insufficient funding of the program. Therefore, CUB recommended the Commission require the Company to consider cost impacts on low- and moderate-income customers and provide a review in its first annual NGIA report filing of the steps the Company has taken or plans to take to reduce Plan costs on a wider scale to better include moderate-income customers. As an example of how the Company could reduce impacts on low-income customers, CUB proposed an exemption for LIHEAP customers with respect to the IAA rider.

CenterPoint replied with a suggestion to incorporate the IAA rider exception for LIHEAP customers into the Gas Affordability Program ("GAP"). CenterPoint stated a preference to build off an existing stakeholder process in the GAP instead of creating a new exemption process in NGIA.[399] However, as explained above CUB position is that GAP does not give adequate consideration to expected innovation plan cost impacts on moderate-income households, and many low-income households, as required by the NGIA.[400]

Finally, CUB recommended the Commission require CenterPoint to include relevant information from the monthly PGA filings and AAA reports in its annual NGIA filings to allow for comprehensive review of the cost recovery mechanism **[Decision Option 89]**.[401] If this information is siloed into separate dockets, CUB is concerned that it will be difficult to identify future problems in the NGIA program. Staff notes that CenterPoint did not respond to this recommendation.

IV. Staff Analysis (Decision Option 90)

Staff supports CenterPoint's request for variance of the PGA rules. Minn. R. 7829.3200 states that the Commission shall grant a variance to its rules when it determines that enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule, granting the variance would not adversely affect the public interest, and granting the variance would not conflict with standards imposed by law. The Department and CUB both agree that

[399] CenterPoint Reply Comments, p.95.

[400] CUB Supplemental Comments, p.15.

[401] Id., pp.9-10.

the Company has satisfied the criteria to approve the variance.

The Company requests the cost recovery proposal be approved without modifications. The Department did not oppose the Company's cost recovery proposal and offered no modifications to the proposal.
Staff notes that CenterPoint's true-up of its proposed Innovation Act Adjustment rider does not explicitly explain if the revenue requirements related to capital investments will be included in the true-up calculation. Since riders are "special recovery vehicles", consistent with prior Commission practice, any such true-up would be asymmetrical and can only result in a ratepayer refund. In these instances, if the capital investments' revenue requirements are higher than what is approved, the Company can apply to for recovery in a rate case.
Absent a "capital true-up", the Company may end up over-recovering if those capital expenditures do not materialize. For this reason, at the time of the hearing, the Commission may want to ask CenterPoint to confirm that a capital true-up will be part of the annual calculation. In case the Commission is persuaded that a capital true-up is necessary, Staff has provided a decision option to that effect. **[Decision Option 90]**

CUB offered numerous modifications to the Company's cost recovery proposal. First, CUB recommended the Company be required to seek cost recovery of upgrading biogas systems exclusively through the general rate case because it is a future, yet-to-be determined cost. CUB believes this is the best way to ensure the Commission holds CenterPoint accountable for ensuring these investments are prudent and cost-effective is through a general rate case, despite the fact that the other cost recovery mechanisms would also include a prudency review. Staff notes that all NGIA expenses will go through a prudency review. Staff has no preference for where these expenses are reviewed.

Second, CUB recommends the Company be required to include in its first NGIA filing show it will, or plan to, reduce NGIA plan costs for low- and moderate-income customers. Staff clarifies that the NGIA requires utilities to include the steps they have taken, or propose to take, to reduce the expected cost of the innovation plan on low- and moderate- income residential customers. By discussing the steps it proposes to take, Staff believes CenterPoint fulfilled this requirement from the standpoint of having a "complete plan."

However, CUB's argument is that these steps are not adequate as GAP only covers a subset of low-income customers and arguably does not cover any moderate-income customers. Although the NGIA does not contemplate the adequacy of the utility's proposed steps, the legislature clearly expected utilities to consider the impact of plan costs on both low- and moderate-income residential customers. Should the Commission agree with CUB, Staff notes that CUB's proposal is not intended to delay the approval of CenterPoint's innovation plan.

Lastly, CUB recommends requiring CenterPoint to include relevant information from monthly PGA and AAA filings in annual reports to help stakeholders and the Commission review for comprehensive cost recovery of NGIA programs. Given that there was no opposition to this request, Staff does not believe any harm would be done by approving this request.

INNOVATION PLAN: COST EFFECTIVENESS OBJECTIVES

In this section Staff provides a summary of the discussion surrounding CenterPoint's cost-effectiveness objectives. This section begins with a description of CenterPoint's proposal, followed by a summary of party positions, and a review of parties' discussion and recommendations. This section concludes with Staff's analysis and recommendations.

I. CenterPoint's Proposed Cost Effectiveness Objectives (Decision Options 91-92)

Minn. Stat § 216B.2427, subd. 2.(e) states that, upon approval of a utility's plan, the Commission shall establish cost-effectiveness objectives based on the cost-benefit test for innovative resources developed by the Commission.

If the Commission determines that the utility has successfully achieved its cost-effectiveness objectives, the utility's statutory incremental cost cap will increase for its next innovation plan.[402] This is the primary purpose of utilities' cost-effectiveness objectives under the NGIA.

CenterPoint proposed cost-effectiveness objectives for Commission consideration[403] based on the categories of costs and benefits identified in the Commission's Framework Order **[Decision Option 91]**:

Perspectives[404]

1) Overall GHG savings achieved by all approved pilots is achieved at a cost of no more than $200/MTCO2e. For this objective, costs are measured on a lifetime basis using the utility cost test and GHG savings are also measured on a lifetime basis.
2) At least 40%[405] of residential units served by the Residential Deep Energy Retrofit and Electric Air Source Heat Pumps Pilot and the Weatherization Blitzes R&D project qualify as low-income, as that term is defined in CIP/ECO, or are located in a disadvantaged community, as that term is defined for the Inflation Reduction Act programs.
3) Over the course of the five-year Plan, CenterPoint Energy supports the development of four new sources of low-carbon fuels produced in Minnesota. This may include one or more anaerobic digesters that produces RNG, projects that produce hydrogen via power-to-hydrogen, biogas projects, or projects that create ammonia via power-to-ammonia.

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[402] Minn. Stat. § 216B.2427 subd. 3(c).

[403] CenterPoint Reply Comments, Exhibit B.

[404] In addition to these objectives, CenterPoint proposed to track and report on residential, commercial/industrial, low-income, tribal, and urban vs. rural participation. The Company explained that it does not have an adequate baseline to propose an objective related to customer participation levels, but CenterPoint is interested in developing objectives for future innovation plans based on increasing participation for certain customer types.

[405] CenterPoint explained that 40% was chosen to align with the federal government's Justice40 initiative which aims to direct at least 40% of the benefits of certain federal investments toward disadvantaged communities.

Environment

1) The Plan achieves overall lifetime GHG emissions reductions equivalent to 13% of emissions from CenterPoint Energy's 2020 sales.[406] For purposes of this objective, CenterPoint Energy's 2020 sales include only sales to non-exempt customers and no transport volumes.
2) Over the five-year term of the Plan, the Plan achieves annual, first-year GHG emissions reductions equal to 1% of emissions from CenterPoint Energy's 2020 sales. For purposes of this objective, CenterPoint Energy's 2020 sales include only sales to non-exempt customers and no transport volumes. Annual, first-year GHG emissions reductions are the sum of GHG reductions expected to be achieved by all projects implemented under the Plan in the first full year of their operation.[407]
3) In year five of the Plan, CenterPoint Energy has reduced annual emissions from sales of natural gas by 51,000 metric tons as a result of low-carbon fuels included in the NGIA Plan.[408] This goal includes reductions from RNG, power-to-hydrogen, biogas, and power-to-ammonia provided to non-exempt sales customers.
4) To support the state's renewable energy goal,[409] CenterPoint Energy procures 610,000 Dth of gas sales from renewable resources.[410] This goal includes RNG, biogas, power-to-hydrogen, and power-to-ammonia provided to non-exempt sales customers.
5) To support the state's economy-wide net zero GHG emissions goal,[411] CenterPoint Energy completes an analysis of pathways that would allow it to achieve net zero emissions by 2050. CenterPoint Energy anticipates satisfying this goal through the proposed R&D pilot, CenterPoint Energy Minnesota Net Zero Study.

Socioeconomic

1) The Plan supports 4 projects that satisfy Inflation Reduction Act requirements around prevailing wages and support for apprenticeships.
2) The Plan supports workforce development through trainings, tours, educational conferences, or similar supportive activities reaching 200 participants per year, or 1,000 participants over the five-year Plan period.

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[406] CenterPoint noted that the achievement of this objective would represent a total lifetime GHG reduction of approximately 1,131,000 tons CO2e and is the expected total lifetime GHG emissions reductions from all pilots.

[407] CenterPoint noted that the achievement of this objective would represent annual, first-year, GHG emissions reductions of approximately 82,000 metric tons and is the expected annual, first year reduction from all pilots.

[408] CenterPoint noted that is approximately the expected greenhouse gas emissions reductions from Pilots B and C. According to CenterPoint, the achievement f this objective would represent approximately an 0.5 percent reduction in GHG intensity of supplied fuels, assuming total throughput (on a Dth basis) equal to 2020 sales gas to non-exempt customers.

[409] Minn. Stat. § 216C.05, subd. 2, clause (3).

[410] CenterPoint explained that this objective is measured as renewable volumes procured or produced in program year 5 from RNG or hydrogen.

[411] Minn. Stat. § 216H.02, subd 1.

Innovation

1) The Plan supports projects using at least six of the eight innovative resources.
2) 100% of completed R&D projects result in a report summarizing learnings and suggesting next steps that will be filed with the Commission and the Company take action on learnings that are within CenterPoint Energy's control and reasonable to pursue, such as incorporating insights into a subsequent NGIA plan or other Company initiative.

CenterPoint also requested clarification on how the Commission will evaluate whether the Company has "successfully achieved" its cost-effectiveness objectives at the end of the innovation plan's 5-year term, which would qualify the Company for an increased statutory cost cap in its next innovation plan. CenterPoint recommended that the test for an increase in funding be the achievement of "a majority" of the proposed objectives **[Decision Option 92]**.[412] CenterPoint explained that several of its proposed objectives are in tension with one another. Although the Company stated that it would strive to achieve each of the proposed objectives, it believes that requiring the achievement every objective before allowing additional funding for future innovation plans would be an "unreasonably high bar."[413] CenterPoint argued that achieving a majority of the proposed objectives would demonstrate substantial value to its customers and the state.

II. Party Positions (Decision Option 93)

The Department, the CEOs, CUB, and Minneapolis provided comments on CenterPoint's proposed cost-effectiveness objectives.

No party recommended approving CenterPoint's request to use the achievement of "a majority" of the proposed objectives as the test for whether the Company would qualify for an increased statutory cost cap in future innovation plans **[Decision Option 93]**. Instead, the Department, the CEOs, and CUB proposed their own alternatives.

The CEOs and CUB recommended modifications to CenterPoint's proposed cost-effectiveness objectives. The Department recommended the inclusion of a cost-effectiveness objective that would review pilots and the overall plan using an annualized cost metric per annual greenhouse gas reduction metric.

III. Discussion (Decision Options 94-104)

In their supplemental comments, the Department explained that it did not take a position on the reasonableness of the specific cost-effectiveness objectives proposed by CenterPoint. Instead, the Department focused on the process of cost-effectiveness evaluation.

The Department referenced comments made by the CEOs and CUB and stated that there would

412 CenterPoint Initial Petition, p.32.

413 Id.

be value in reviewing the performance of individual pilots when evaluating the Plan's cost-effectiveness when possible. The Department highlighted the imbalance of cost between CenterPoint's pilots as a reason why an evaluation of individual pilots remains necessary.[414] To provide an example, the Department explained that Pilot C's budget, as proposed by CenterPoint, represents 42% of the Plan's pilot budget. Thus, when evaluating the cost-effectiveness of the innovation plan as a whole, the success or failure of Pilot C may overshadow the cost effectiveness of other smaller pilots. The Department also explained the cost-effectiveness of the innovation plan would be further obscured if CenterPoint is permitted to re-allocate spending from unsuccessful pilots to successful pilots.

The Department recommended that each pilot be evaluated based on its verified GHG reductions during the NGIA planning period using a $/MTCO$_2$e such as what was recommended in CenterPoint's first objective under "perspectives" **[Decision Option 94]**. However, the Department suggested that any one of CenterPoint's other objectives could also be evaluated at the pilot-level.[415] The Department explained that, counter to CenterPoint's suggestion that the plan must be evaluated as a whole, there is no statutory limitation to define how the whole plan be evaluated. Further, the Department argued that the evaluation of the sum of total outcomes accomplishes the goal of evaluating the whole plan.

As noted above, the Department did not agree with CenterPoint's proposal to allow for the "majority" of cost-effectiveness objectives be the standard for success. Instead, the Department recommended that three-quarters of the cost-effectiveness objectives be required to meet at least 90% of their stated goals for CenterPoint to succeed in "achieving" its cost-effectiveness objectives. **[Decision Option 95]**

The CEOs recommended several modifications to CenterPoint's cost-effectiveness objectives:

- The CEOs recommended modifying CenterPoint's second objective under "perspectives" to state that <u>at least</u> 40% of residential units served by the Residential Deep Energy Retrofit and Electric Air Source Heat Pump Pilot and the Weatherization Blitzes R&D project qualify as low-income or are located in a disadvantaged community. However, the CEOs recommendation was adopted by CenterPoint in the Company's reply comments.[416] Staff notes that no commission action is necessary.

- The CEOs recommended removing the third objective under "perspectives" as they believe that innovation plans should not be evaluated based on the type or diversity of innovative resources deployed, but rather the extent to which approved pilots succeed in meeting greenhouse gas reduction goals **[Decision Option 96]**.

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414 Department Supplemental Comments, p.72.

415 Id.

416 CenterPoint Reply Comments, Exhibit B "Updated Cost-Effectiveness Objectives."

Perspectives:

~~3) Over the course of the five-year Plan, CenterPoint Energy supports the development of four new sources of low-carbon fuels produced in Minnesota. This may include one or more anaerobic digesters that produces RNG, projects that produce hydrogen via power-to-hydrogen, biogas projects, or projects that create ammonia via power-to-ammonia.~~

- The CEOs recommended a new objective under CenterPoint's "perspectives" category that would require all low-carbon fuel projects for commercial/industrial customers utilize the fuels on-site or nearby and that none of the alternative fuel projects involve the blending of alternative fuels into the distribution system. **[Decision Option 97]**

- The CEOs recommended replacing the first and second objectives under CenterPoint's "environment" category with a single objective that states that the plan achieves, or makes meaningful progress toward achieving, Company-wide emission reductions of at least 30% by 2029 relative to a 2020 baseline **[Decision Option 98]**. CUB supported this recommendation noting that the evaluation of this objective would involve a subjective assessment of the Company's "meaningful progress" toward that goal.[417]

Environment:

~~1) The Plan achieves overall lifetime GHG emissions reductions equivalent to 13% of emissions from CenterPoint Energy's 2020 sales. For purposes of this objective, CenterPoint Energy's 2020 sales include only sales to non-exempt customers and no transport volumes.~~

~~2) Over the five-year term of the Plan, the Plan achieves annual, first-year GHG emissions reductions equal to 1% of emissions from CenterPoint Energy's 2020 sales. For purposes of this objective, CenterPoint Energy's 2020 sales include only sales to non-exempt customers and no transport volumes. Annual, first-year GHG emissions reductions are the sum of GHG reductions expected to be achieved by all projects implemented under the Plan in the first full year of their operation.~~

1) The Plan achieves, or makes meaningful progress toward achieving, Company-wide emission reductions of at least 30% by 2029 relative to a 2020 baseline.

- The CEOs recommended removing the third and fourth objective under CenterPoint's "environment" category **[Decision Option 99]**. The CEOs stated that innovation plans should be evaluated with respect to whether they help Minnesota meet its greenhouse gas emission-reduction goals rather than the volume of innovative low-carbon fuels consumed.

Like the Department, the CEOs did not support CenterPoint's proposal to allow for the "majority" of cost effectiveness objectives be the standard for success. Instead, the CEOs

[417] CUB Supplemental Comments, p.3.

recommended specifying that the test for increased funding will be the Commission's assessment of whether the plan achieved or made meaningful progress toward achieving Company-wide emission reductions of at least 30% by 2029 relative to the Company's 2020 baseline **[Decision Option 100]**.

CUB was not satisfied with the difficulty of several of CenterPoint's cost-effectiveness objectives. To resolve this issue, CUB recommended that the Commission adopt a holistic evaluation methodology that would give weight to certain objectives or metrics when evaluating whether CenterPoint was successful in achieving its cost-effectiveness objectives **[Decision Option 101]**. CUB noted that this approach acknowledges that there are tradeoffs when attempting to achieve different objectives, and that some objectives may be more difficult to achieve than others. Alternatively, CUB stated that it would be reasonable for the Commission to refrain from setting a standard of evaluation in this proceeding.

In response to an ex parte Communication from Staff, CUB explained that it does not believe that a specific methodology for weighing cost-effectiveness objectives is needed at this time. Instead, CUB's recommendation is that the Commission adopt a high-level approach. CUB explained:

> *Part of the reason for recommending a holistic evaluation approach is to provide the Commission with a degree of flexibility when determining cost-effectiveness. We do not offer a mathematical equation for how these objectives should be weighed, nor do we believe such a determination is necessary. Instead of a formulaic analysis, we view a holistic approach as capturing the "bigger picture" surrounding Plan success. For example, we do not think the Company's next NGIA budget should be increased simply because the "majority" of easily-met objectives are achieved. This leaves open the possibility of budget increases even when emissions reductions and gas throughput objectives—the core focus of the NGIA—remain unmet.*[418]

Should the Commission not adopt this evaluation criteria, CUB recommended rejecting several objectives that it believed to be easily met, or otherwise unambitious, including:

- Objective #3 under "perspectives" (already proposed by the CEOs);
- Objective #1 under "innovation" **[Decision Option 102]**; and
- Objective #2 under "innovation" **[Decision Option 103]**.

In its reply comments, CenterPoint responded to several criticisms made by parties. Regarding Objective #3 under "perspectives" CenterPoint explained that this objective is not so easily met as the Company would be required to support four new sources of low-carbon fuels produced *in Minnesota* (staff added emphasis). CenterPoint explained that it is not a foregone conclusion that the Company will receive bids though Pilot C for four Minnesota sources of RNG **[No**

[418] May 28, 2024, Staff Ex Parte Communication.

Action on Decision Option 96]. CenterPoint explained that the achievement of this objective is likely to hinge on the success of the hydrogen portion of Pilot E, or the development of in-state power-to-ammonia projects through R&D projects.[419] CUB continued to assert that this objective is unambitious, noting that both Pilots B and E will contribute to CenterPoint's objective meaning Pilot C only needed to identify two sources of Minnesota RNG to satisfy this objective.[420]

With regards to CUB's comments on Objective #1 under "innovation" CenterPoint explained the successful deployment of innovative resources is much different than simply planning to deploy an innovative resource. CenterPoint's hope with this objective was to ensure that a wide variety of innovative resources were actually deployed under the Plan so stakeholders could benefit from learnings related to their deployment **[No Action on Decision Option 102]**.[421] CUB voiced appreciation for CenterPoint's explanation, but maintained that the deployment of a resource alone is not an indication of plan success.[422]

Regarding Objective #2 under "innovation," CenterPoint modified this objective with its reply comments to ensure that it was sufficiently ambitious. Originally, the objective was to ensure that 100% of completed R&D projects resulted in reports filed with the Commission that summarized learnings and suggested next steps. CenterPoint modified this objective to also require the Company to also take action on learnings identified in R&D pilots to the extent that the identified steps are within the Company's control and can be initiated prior to the Company's next innovation plan **[No Action on Decision Option 103]**.[423] Despite supporting this modification, CUB maintained their position, noting that internalizing the outcomes of NGIA projects is standard practice and should not be included as an objective, especially if the Commission approves CenterPoint's request to let the completion of a majority of its objectives count as the "successful achievement" of its cost-effectiveness objectives.[424]

To balance accuracy and administrative efficiency, CUB recommended the Commission establish cost-effectiveness objectives contemporaneously with the approval or modification of CenterPoint's innovation plan but also require a compliance filing with updated objectives subject to a 30-day negative checkoff **[Decision Option 104]**. CUB explained that this will allow the Commission to make a timely decision on the high-level objectives while maintaining oversight of the revisionary process.[425]

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419 CenterPoint Reply Comments, p.25.

420 CUB Supplemental Comments, p.13.

421 CenterPoint Reply Comments, p.27.

422 CUB Supplemental Comments, pp.13-14.

423 CenterPoint Reply Comments, p.27.

424 CUB Supplemental Comments, p.14.

425 Id., p.11.

IV. Staff Analysis (Decision Option 105-106)

As explained by CUB in its supplemental comments,[426] if CenterPoint "successfully achieves" its cost-effectiveness objectives, the Company could request an additional $68 million[427] from customers in its next innovation plan. This highlights the importance of these objectives and the criteria used to evaluate CenterPoint's success. Notably, failure to achieve cost-effectiveness objectives does not affect a utility's ability to file future innovation plans. These objectives only impact a utility's ability to increase the proposed budget of future innovation plans.

While several parties, including CenterPoint, requested that the Commission adopt a methodology for measuring whether CenterPoint was successful in achieving its cost-effectiveness objectives, Staff notes that it is not necessary to do so. Should the Commission not adopt an evaluation methodology, CenterPoint would be required to make its case for why it did, or did not, "successfully achieve" the Commission-approved objectives at the end of its innovation plan's 5-year term. Parties would then be able to respond to CenterPoint's arguments and the Commission would make its decision based on the discussion in the record.

Staff believes that taking no action would operate similarly to CUB's proposed holistic methodology. The Commission would review both the objectives CenterPoint achieved and those it did not, along with any discussion of why certain objectives were unmet. However, instead of relying on a yet-to-be-determined system for weighing the various objectives, the Commission's decision would be based on the arguments presented on the record.

Staff understands why CenterPoint requested clarity on how the Commission would measure the "successful achievement" of its cost-effectiveness objectives. However, if the Commission does not agree with the methodologies recommended by parties, not acting appears to be a valid option.

Regarding the CEO's recommended evaluation criteria, specifying that a single objective will determine whether CenterPoint is eligible for an increased cost cap in future innovation plans defeats the purpose of establishing multiple cost-effectiveness objectives.

Staff is not opposed to the Department's recommendation for an objective that would evaluate each pilot using an annualized cost per greenhouse gas reduction metric. However, in the Department's comments, it references CenterPoint's first objective under "perspectives" while making this recommendation. It is not clear if the Department's intention was to modify this objective to include an evaluation of individual pilots, or to add a new objective.

There was disagreement among parties regarding whether, or how, individual pilots should be evaluated to determine the Plan's cost-effectiveness. The Department supported cost-

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[426] CUB Supplemental Comments, pp.12-13.

[427] This is an estimate provided by CUB. The final number will depend on CenterPoint's gross operating revenues from natural gas service provided in Minnesota at the time of filing, CenterPoint Energy's Minnesota customers, and CenterPoint's CIP-exempt customers.

effectiveness objectives at a pilot level, while the CEOs, CUB, and CenterPoint supported providing individual pilot metrics through annual status reports to aid the evaluation of CenterPoint's plan-wide objectives. Consistent with CenterPoint's arguments, the NGIA does note that the cost-effectiveness objectives approved by the Commission are "for the plan" or "for each plan."[428] However, as noted by the Department, the evaluation of the sum of total outcomes would accomplish the goal of evaluating the whole plan. Thus, it appears that the Commission would be able establish pilot-level cost-effectiveness objectives, so long as the sum of those individual objectives provides insight into the effectiveness of the entire plan.

CUB and the CEOs recommended that several objectives be removed from CenterPoint's list of cost-effectiveness objectives because the proposed objectives were not sufficiently ambitious or otherwise not effective at measuring the effectiveness of the Plan. These include:

- Perspectives #3
- Environment #3 and #4
- Innovation #1 and #2

CUB only recommended removing perspectives objective #3 and Innovation objectives #1 and #2 if the Commission does not approve its recommended holistic methodology for evaluating whether CenterPoint succeeded in achieving its cost-effectiveness objectives. However, because the value of these objectives was questioned, Staff does not believe it would be unreasonable for the Commission to remove them regardless of what evaluation methodology is selected.

Staff questions the value of the fifth objective under CenterPoint's "environment" category for similar reasons. It would appear that this objective will be accomplished with the completion of CenterPoint's R&D project #1. Thus, it is not clear what value this objective has in evaluating the Plan's effectiveness.

CUB and the CEOs also recommended removing objectives #1 and #2 under CenterPoint's "environment" category and replacing it with an objective that requires the Company to achieve, or makes meaningful progress toward achieving, Company-wide emission reductions of at least 30% by 2029 relative to a 2020 baseline. Staff continues to note that the NGIA does not require, or otherwise establish goals or benchmarks, for how utilities' innovation plans should contribute to Minnesota's greenhouse gas reduction goals. Additionally, neither CUB nor the CEOs have recommended a path forward capable of achieving emissions reductions of at least 30% by 2029. This means that, should the Commission agree with CUB and the CEOs, the achievement of this objective will be a subjective assessment of the greenhouse gas emissions reduced by CenterPoint's plan, as noted by CUB.

Should the Commission choose to keep the environment #1 objective, Staff would recommend requiring CenterPoint to modify the objective to compare emissions from the Company's 2020

[428] Minn. Stat § 216B.2427, subd. 2.(e)

sales to annual emission reductions achieved through the Plan **[Decision Option 105]**. Currently, the objective compares the Company's emissions from 2020 sales to lifetime emissions achieved under the plan. Comparing annual emissions to lifetime emissions reductions makes it appear as though CenterPoint has achieved more short-term emissions reductions than reality.

Staff would also recommend requiring CenterPoint to include an objective to support the NGIA's throughput goal. While many parties discuss the need for CenterPoint's innovation plan to support the state's greenhouse gas reduction goals, the stated goal of the NGIA is to reduce the overall amount of natural gas produced from conventional geologic sources delivered to customers. Although CenterPoint's environment #3 objective is close to accomplishing this, it is specific to only CenterPoint's low-carbon fuel pilots and not the plan as a whole. **[Decision Option 106]**

INNOVATION PLAN: ANNUAL REPORTS

In this section Staff provides a summary of the discussion surrounding CenterPoint's annual reports. This section begins with a description of CenterPoint's proposal, followed by a summary of party positions, and a review of parties' discussion and recommendations. This section concludes with Staff's analysis.

I. CenterPoint's Proposed Annual Report Filing Schedule and Content

Minn. Stat § 216B.2427, subd. 2.(f) states that utilities operating under an approved Plan must file annual reports to the Commission on the work completed under the plan, including:

- Costs incurred;
- Lifecycle greenhouse gas emissions reductions or avoidance achieved;
- A description of the process used to track and verify the innovative resources and to retire the associated environmental attributes;
- An assessment of the degree to which the lifecycle greenhouse gas accounting methodology is consistent with current science;
- The economic impact of the plan, including job creation;
- The utility's progress toward achieving the cost-effectiveness objectives established by the commission; and
- Modifications to elements of the plan proposed by the utility.

When reviewing annual reports, the Commission may approve the continuation of a pilot program within the Plan, with or without modifications; require the utility to file a new or modified pilot program or plan; or disapprove the continuation of a pilot program or plan.

CenterPoint requested that the Commission consider its petition by July 2024. Assuming approval on or before July 1, 2024, CenterPoint proposed the following as the innovation plan's five program years:

- Program Year 1: July 1, 2024 – June 30, 2025
- Program Year 2: July 1, 2025 – June 30, 2026
- Program Year 3: July 1, 2026 – June 30, 2027
- Program Year 4: July 1, 2027 – June 30, 2028
- Program Year 5: July 1, 2028 – June 30, 2029

Although the innovation plan's program years run from July through June, CenterPoint stated that it would be administratively easier to have annual reports reflect calendar year achievements. CenterPoint proposed to file its annual NGIA status reports on June 1st of each year and to have these reports cover the achievements from the prior calendar year.

II. Party Positions (Decision Option 107)

The CEOs and CUB supported CenterPoint's plan for filing annual status reports **[Decision Option 107]**. The Department did not directly support CenterPoint's proposal, but instead stated that the Commission should Order CenterPoint to file annual status reports for the pilots approved or modified by the Commission.[429]

III. Discussion (Decision Option 108)

With their initial comments, CUB noted that the Commission should evaluate pilot-specific outcomes in addition to aggregate-level emissions reductions. According to CUB, this pilot-specific information will aid the Commission in determining whether certain pilots should be modified or discontinued.[430] Additionally, CUB recommended that the continue evaluating whether and how to utilize IRA funding and requested that CenterPoint include updates in its annual reports documenting lessons learned though this evaluation.

CenterPoint agreed with CUB that individual pilot-level data will be informative for the Commission and other parties working to maximize the benefits of the Company's innovation plan and supported filing pilot-specific greenhouse gas information in annual status reports. CenterPoint also had no objections to providing updates regarding IRA implementation within its innovation plan.[431] However, CenterPoint continued to disagree that the achievement of cost effectiveness objectives be evaluated based on pilot-specific outcomes.[432]

CUB appreciated CenterPoint's acceptance of its recommendations, noting that these modifications will provide greater transparency into Plan performance. With no objection from CenterPoint, CUB recommended that the Commission require CenterPoint to include information on IRA implementation and outcomes, as well as pilot-specific greenhouse gas

[429] Department Initial Comments, p.8.

[430] CUB Initial Comments, p.15.

[431] CenterPoint Reply Comments, pp.99.

[432] Id., pp.26-27.

emissions reduction data **[Decision Option 108]**.[433]

IV. Staff Analysis (Decision Option 109)

The timing of CenterPoint's annual reports was an undisputed topic. However, when reviewing CUB's recommendation, Staff found it difficult to identify what information CenterPoint intended on providing with its annual reports.

The annual reports allow the Commission to not only review the effectiveness of CenterPoint's Plan, but each individual pilot as well. In fact, outside of annual reports and cost recovery filings, it is not clear where, or if, the Commission would get updates on the performance of an approved innovation plan's pilots. Upon reviewing pilot and Plan performance, the Commission may Order a utility to modify or discontinue a pilot or plan.

Given the importance of these annual filings, Staff was surprised with the lack of information provided by CenterPoint. No plan for these annual reports was provided by CenterPoint outside of annual filing schedule. Although CenterPoint's initial petition and subsequent commitments include some details about what information we might expect in its annual filings, these details are scattered throughout and not discussed in a manner that is easy to interpret.

Below, Staff attempts to summarize the information expected to be included in CenterPoint's annual reports based on statutory requirements, Commission Orders, CenterPoint's petition and comments, and decisions before the Commission that would add additional information to annual reports:

Required Inclusions

- Costs incurred.
- Lifecycle greenhouse gas emissions reductions or avoidance achieved.
- A description of the process used to track and verify the innovative resources and to retire the associated environmental attributes.
- An assessment of the degree to which the lifecycle greenhouse gas accounting methodology is consistent with current science.
- The economic impact of the plan, including job creation.[434]
- The utility's progress toward achieving the cost-effectiveness objectives established by the commission.
- Modifications to elements of the plan proposed by the utility.

Commission Framework Order

- Actual participation and estimated lifetime savings for all measures installed, calculated in accordance with the Technical Reference Manual or other approved methodology

[433] CUB Supplemental Comments, p.14.

[434] CenterPoint acknowledges this requirement in footnote 16 of its initial petition (p.8).

and incorporating any updates to the greenhouse gas intensity of electricity used.[435]
- Updated structural cost-benefit values.[436]

CenterPoint Additions
- Requests for Additional R&D projects.[437]
- Progress and results of R&D projects.[438]
- An NGIA Tracker showing the differences, if any, between NGIA recovery and expenses along with proposals to adjust the IAA to eliminate any disparities found.[439]
- "The work completed under the plan."[440]
- Pilot B: Updates on CenterPoint's community engagement efforts.[441]
- Pilot C: Local co-benefits of RNG projects and community engagement activities.[442]
- Pilot C: Costs and performance of the pilot.[443]
- Pilot D: Information on hired contractors that satisfy the IRA's prevailing wage, and apprenticeship requirements.[444]
- Pilot E: The Company's efforts to encourage and support community engagement.[445]
- Pilot G: The Company's support and participation in Green Minneapolis' community engagement efforts.[446]
- Pilot H: Any proposed rebate reductions for the CarbinX units.[447]
- Pilot H: Updated energy savings algorithms with the implementation of CarbinX 4.0.[448]
- Pilot I: Community engagement efforts.[449]
- Pilot I: Updated cost and estimated greenhouse gas reduction information.[450]
- Pilot I: Feasibility study results.[451]
- Pilot J: CenterPoint's support of pilot participants' community engagement efforts.[452]

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435 June 1, 2022, Order in Docket NO. G-999/CI-21-566, Order Paragraph 20.
436 Id., Order Paragraph 29.
437 CenterPoint Initial Petition, p.16.
438 Id., Exhibit K, p.32.
439 Id., p.20.
440 Id., p.32.
441 Id., Exhibit D, p.7.
442 Id., Exhibit D, p.9.
443 CenterPoint Reply Comments, p.46.
444 CenterPoint Initial Petition, Exhibit D, p.13.
445 Id., Exhibit D, p.17.
446 Id., Exhibit D, p.22.
447 Id., Exhibit D, p.26.
448 Id.
449 Id., Exhibit D, p.29.
450 Id., Exhibit D, p.29.
451 CenterPoint Reply Comments, p.69.
452 CenterPoint Initial Petition, Exhibit D, p.32.

- Pilot K: CenterPoint's support of pilot participants' community engagement efforts.[453]
- Pilot L: Information on the frequency in which gas backups are used in hybrid systems.[454]
- Pilot M: A proposed methodology to calculate annual energy savings and carbon reductions in subsequent years of the program.[455]
- Pilot M: Information on the location and type of customers enrolled in the pilot, and potential modifications should there be disproportionately low levels of participation in environmental justice areas or among small businesses.[456]
- Pilot N: CenterPoint will reevaluate the likelihood of participant tax credits and/or rebates prior to lunching phase three of the pilot and will provide updated information in its first status report.[457]
- Pilot N: Efforts to ensure that 40% of Pilot N's participants are residential units that qualify as low-income or are located in a disadvantaged community.[458]

Decisions Before the Commission

- Decision Option 34: Modify Pilot F to: (1) Include the evaluation of both indoor piping and appliances; (2) detail repair costs separately for piping and appliances; (3) require CenterPoint to replace gas appliances with electric appliances when possible to avoid future leaks; (4) require CenterPoint to provide a justification for why any appliances replaced with gas technology could not have been replaced with an electric appliance; and extend the pilot with any unused funds to include additional customer leak surveys if the Company cannot verify that a significant number of super-emitting leaks were detected.
- Decision Option 41: A requested modification of Pilot I to include additional costs for the implementation stage of the pilot.
- Decision Option 54 and 58: (D) Require CenterPoint to collect data on how often gas backups are needed in any hybrid heat pump system included.
- Decision Option 59: Require CenterPoint to monitor the number and type of customers that enroll in Pilot M and report its findings in annual status reports. If CenterPoint finds that a disproportionately low number of participants are small businesses or are located in environmental justice areas, CenterPoint shall propose modifications to Pilot M though an annual status report.
- Decision Option 90: Require CenterPoint to include relevant information from monthly PGA filings and AAA in annual reports.
- Decision Option 106: Require CenterPoint to provide updates on IRA implementation and pilot-specific data on greenhouse gas emissions reductions in annual status report filings.

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453 Id., Exhibit D, p.35.

454 CenterPoint Supplemental Comments, p.15.

455 CenterPoint Initial Comments, Exhibit D, p.40.

456 CenterPoint Reply Comments, p.77.

457 CenterPoint Initial Petition, Exhibit D, p.45.

458 Id., Exhibit D, p.46.

Staff understands that CenterPoint intends to include a great deal of information in its annual status reports including several updates to specific pilots and the results of any completed R&D projects. However, Staff also found a lack of consistency regarding what information will be provided at a pilot level and what information will be provided at a plan level. For instance, the NGIA requires utilities to discuss the work completed under the plan, including the costs incurred and the lifecycle greenhouse gas emissions reductions or avoidance achieved. Although CenterPoint indicated that it intends to provide cost and performance updates for each pilot, [459] the Company seemingly did not plan to report pilot-level lifecycle greenhouse gas emissions reductions until it was requested by CUB. Consequently, with the information available it is unclear what information required by Minn. Stat § 216B.2427, subd. 2(f) CenterPoint intends to discuss at the pilot level.

CenterPoint remained open to collecting other pilot-specific information in annual status reports so long as the collection of such information "is not unduly administratively burdensome to assemble."[460] However, without a clear look at the information CenterPoint currently plans to provide, it would be difficult to identify and recommend additional or modified reporting requirements for the Plan or individual pilots.

Below, Staff has proposed a Decision Option that will require CenterPoint to articulate what information it intends to, or is required to, provide with its annual reports.

> **Decision Option 109:** Within 30 days of the Commission's final Order, require CenterPoint to propose reporting requirements for its NGIA innovation plan's annual status reports in this docket. The proposed list of reporting requirements shall include content required by the NGIA and relevant Commission Orders, and shall clearly articulate what information will be provided for each individual pilot and research and development project (including updates on progress, project results, project cost and budget impacts, and relevant updates to cost-benefit metrics using project data), and the plan in aggregate.
>
> Delegate authority to the Executive Secretary to approve the compliance filing via notice if no objections are filed within 30 days of the Company's filing.
>
> Additionally, the Commission shall:
> A. Require CenterPoint to propose updates to its list of reporting requirements when proposing new or modified pilots and/or research and development projects;
> B. Require CenterPoint to file similar list of reporting requirements for its NGIA annual status reports with future NGIA innovation plans; and
> C. Delegate authority to the Executive Secretary to update the approved reporting requirements list consistent with decisions made in this, and subsequent, NGIA-related

[459] See CenterPoint addition for Pilot C above (CenterPoint Reply Comments, p.46.).

[460] CenterPoint Reply Comments, p.23.

dockets.

Xcel Energy's Annual EV Reporting Requirements may serve as an example of a reporting requirements list for annual reports on utility-led pilot projects.[461] Staff understands that CenterPoint is concerned with delays in plan implementation. Staff does not believe that articulating these reporting requirements will further delay an approved Plan. To the extent that CenterPoint views this requirement as a delay, there is nothing preventing CenterPoint from working with stakeholders and filing its list as a joint filing to display that a consensus has been reached and potentially avoid objections.

[461] May 9, 2024 Order in Docket No. E-002/M-23-452, Attachment A: https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={A0085F8F-0000-CA1D-8953-628CAFD1F118}&documentTitle=20245-206560-01

DECISION OPTIONS

Plan Approval or Modification (Proposed Pilots and Research & Development Projects)

1. Approve CenterPoint's 2023 Natural Gas innovation plan as described by CenterPoint in its March 15, 2024, reply comments. [CenterPoint, CEE, RNG Coalition, GeoExchange, IUOE Local 49]

-OR-

2. Approve CenterPoint's 2023 Natural Gas innovation plan as described by CenterPoint in its March 15, 2024, reply comments, with the modifications identified below. [DOC, OAG, CUB, MPLS, CEOs]

Plan Modifications

Staff notes that the decision options below are all modifications of proposed pilots. Should the Commission wish to proceed with a pilot as proposed by CenterPoint, it should not select a decision option to modify that specific pilot.

Pilot B

3. Require CenterPoint to use the same Request for Proposals ("RFP")/Competitive bidding process for Pilot B as it will with Pilot C. [DOC]

4. Modify Pilot B such that CenterPoint is allowed to buy up to 25% of the environmental attributes associated with the RNG volume proposed for this pilot. The total incremental costs for Pilot B should thus be $1,828,882. [DOC Budget Alternative 1]

-OR-

5. Modify Pilot B such that CenterPoint is allowed to buy up to 40% of the environmental attributes associated with the RNG volume proposed for this pilot. The total incremental costs for Pilot B should thus be $2,767,203. [DOC Budget Alternative 2]

6. Withhold approval of the innovation plan until CenterPoint has provided information demonstrating that it has considered nearby industrial off-takers or other innovative ways, including incorporation of federal funding or tax credits, to utilize the RNG resource in Pilot B rather than injecting the RNG into the distribution system. [CEOs, Minneapolis]

Pilot C

7. Limit CenterPoint's authorized budget for Pilot C to no larger than necessary to bring the low-carbon fuel pilots up to 50 percent of CenterPoint's NGIA Plan budget. That is, Pilot C's budget shall be reduced dollar-for-dollar with the elimination or reduction of any non-low-carbon fuel pilot project in the approved plan. [OAG, CUB, MPLS]

-OR-

8. Reject CenterPoint's proposal to reallocate cost reductions from Pilots A, B, D, H, and O to Pilot C. [CUB, Minneapolis]

-OR-

9. Modify Pilot C such that CenterPoint is allowed to buy up to 25% of the environmental attributes associated with the RNG volume proposed for this pilot. The total incremental costs for Pilot C should thus be $6,633,036. [DOC Budget Alternative 1]

-OR-

10. Modify Pilot C such that CenterPoint is allowed to buy up to 40% of the environmental attributes associated with the RNG volume proposed for this pilot. The total incremental costs for Pilot C should thus be $10,108,622. [DOC Budget Alternative 2]

11. Modify Pilot C to require CenterPoint to only accept bids that include the procurement and delivery of physical RNG. Do not allow CenterPoint to accept bids under its request for proposals solely for the environmental attributes of RNG. [CEOs, OAG, CUB]

-OR-

12. Direct CenterPoint to assign the lowest priority to purchasing unbundled environmental attributes through Pilot C. [CUB Alternative]

-OR-

13. Allow Participants in the Pilot C Request for Proposals to sell bundled RNG (brown gas and environmental attributes), unbundled RNG (just environmental attributes), and unbundled RNG (just brown gas). [DOC]

14. Clarify that greenhouse gas emissions reductions from RNG sources outside of Minnesota should not be considered in Commission findings under Minn. Stat. § 216B.2427, subd. 2(b)(2) and (7). [OAG]

15. Modify Pilot C to require CenterPoint to only accept bids for projects that are interconnected with CenterPoint's Minnesota distribution system, or otherwise located within Minnesota. [CEOs, MPLS]

16. Deny the RNG Archetype of Wastewater and Landfill. [DOC]

-OR-

17. Encourage CenterPoint to identify customers for its wastewater and landfill project archetypes. [CEOs]

18. Deny the RNG Archetype of Food Waste and Dairy Manure. [CEOs]

19. Require CenterPoint to define clear objectives for the RFPs in Pilot C. [CEOs]

20. Require CenterPoint to Consider nearby industrial off-takers or other innovative ways, including incorporation of federal funding or tax credits, to utilize the RNG resource in Pilot C rather than injecting the RNG into the distribution system. [CEOs]

Pilot D

21. Deny Pilot D. [DOC, OAG, CUB, MPLS, CEOs]

-AND-

22. Reallocate Pilot D's budget to Pilot E's green hydrogen archetype. This additional budget for Pilot E shall be specific to projects that target large industrial and commercial customers for power-to-hydrogen projects, and are not to be used to fund Pilot E's carbon capture project archetype. [OAG, CUB]

-OR-

23. Require CenterPoint to specify the source of power it will use for Pilot D. [OAG Alternative]

-OR-

24. Direct CenterPoint to pursue an alternative to Pilot D that consists of a hydrogen facility that is dedicated only to hard-to-electrify customers. [CEO Alternative]

Pilot E

25. Approve the Power-to-Hydrogen Archetype for Pilot E ($1,156,798). [DOC]

26. Deny all Pilot E Carbon Capture Archetype budgeted amounts beyond the cost of the scoping study scheduled to be completed in year 1 of the pilot ($255,000) until CenterPoint has provided additional information on applicable cost-effectiveness of the technology and the Company has identified one or more customers interested in participating in the carbon capture archetype of Pilot E. [DOC]

27. Require a minimum amount of Dth of natural gas savings for customers to qualify for the Pilot E Power-to-Hydrogen Archetype. [CEOs, CUB]

28. Encourage CenterPoint to continue working with its customers to identify opportunities to work on a hydrogen project for a dedicated hard-to-decarbonize customer within the Pilot E Power-to-Hydrogen Archetype. [CEOs]

29. Modify Pilot E to require the customer to contribute at least 50% of project installation costs instead of CenterPoint's proposal to pay 100% of capital costs for project installation, up to a maximum of $1.5 million for a single project. [MPLS]

Pilot F

30. Modify Pilot F by reducing its budget to what would be required for supporting 10 participants in each year for the first two years of the NGIA Plan ($499,061). [DOC]

31. Approve Pilot F conditioned on CenterPoint filing the information necessary to support its claims of environmental benefits for the project within 30 days of the order. [OAG]

32. Require CenterPoint to solicit contractors from in-state to maximize the local economic development benefits of Pilot F. [MPLS]

32 Alternative. Require CenterPoint to prioritize contractors from in-state to maximize the local economic development benefits of Pilot F. [Staff Alternative to MPLS]

33. Modify Pilot F to: [CEOs]

A. Include the evaluation of both indoor piping and appliances;
B. Detail repair costs separately for piping and appliances;
C. Require CenterPoint to replace gas appliances with electric appliances when possible to avoid future leaks;
D. Require CenterPoint to provide a justification for why any appliances replaced with gas technology could not have been replaced with an electric appliance; and
E. Extend the pilot with any unused funds to include additional customer leak surveys if the Company cannot verify that a significant number of super-emitting leaks were detected.

Pilot G

34. Deny Pilot G. [DOC, CEOs, OAG, CUB]

35. Require CenterPoint to propose a modified Pilot G that ensures the spending through this pilot ensures additional trees are planted such that the GHG emission reductions are additional. [DOC]

-OR-

36. Find that greenhouse gas offset projects of any type do not meet the statutory definition of carbon capture in the NGIA. [CEOs]

-AND-

37. Find that NGIA pilots must satisfy the NGIA's throughput goal (subd. 10) goal to reduce the amount of natural gas delivered to customers. [CEOs]

Pilot H

38. Deny Pilot H. [DOC, CUB, CEOs]

Pilot I

39. Modify Pilot I to fund a feasibility study for a networked geothermal system for new construction on a greenfield or brownfield site that includes the information and analysis described in the Department of Commerce's January 17, 2024, initial comments. Require CenterPoint to file the modified version of Pilot I in this docket. [DOC, CEOs opposed]

-OR-

40. Modify Pilot I to only fund the feasibility study ($200,000) and permit CenterPoint to request a modification of Pilot I to include additional costs for the implementation stage of Pilot I. CenterPoint's request shall be made after, or in conjunction with, the publication of Pilot I's feasibility study results and shall include, but is not limited to, at least the following information:

A. A description of the geothermal system's characteristics (including assumed heating capacity, location, and lifespan), the type of geothermal technology to be installed, the suitability of the proposed location for the installation, the number and types of buildings to be connected, and the customers that would be served by the system;
B. A description of the project costs, broken down by installation, equipment, and operation and maintenance costs while taking into account any incentives, rebates, and tax credits assumed to reduce these costs; and
C. A description of the estimated benefits of the project, including throughput reduction, efficiency gains, load management possibilities, and customer financial benefits. [OAG, CEOs]

-AND-

41. Specify that any additional funding for Pilot I will be allocated during the annual review process. [OAG]

-OR-

42. Approve Pilot I with the following requirements: [MPLS]

A. Complete at least two networked geothermal systems with distinct profiles: 1) new construction (mixed use development and/or multifamily); and 2) An existing corridor with both residential and commercial customers.
B. Provide dedicated staff to assist customers with utility and federal incentive opportunities.
C. Develop monitoring and evaluation plans to track system performance, emissions reductions, identify potential issues, and optimize operations.
D. Evaluate the proposed budget to determine if more funds from year one could be allocated to serving more customers.

43. Require CenterPoint to prioritize the installation of the networked geothermal system for low-income and environmental justice areas within the Company's service territory with special attention to segments due for pipe replacements or upgrades. [CEOs, CUB]

44. Require CenterPoint to file additional information about how it will facilitate stakeholder engagement with chosen communities during each stage of Pilot I, and assess community support and customer interest in the implementation phase of Pilot I. This discussion shall detail how CenterPoint will use this information to inform decisions about the project location. [Staff interpretation of CEOs and CUB]

Pilot J

45. Deny Pilot J. [DOC, CEOs opposed]

46. Find that Pilot J does not count toward the statutory 20% district energy floor unless the resulting district energy system meets the statutory definition. [CEOs]

47. Require the feasibility study for Pilot J to include a full electrification/decarbonization scenario. [CEOs]

48. Maintain the cost cap and increase the feasibility incentive to 50% of the costs up to $30,000 from 20% of the costs up to $30,000. [MPLS]

Pilot K

49. Deny Pilot K. [DOC, CEOs Opposed]

50. Require the feasibility study for Pilot K to include a full electrification/decarbonization scenario. [CEOs]

51. Find that Pilot K does not count toward the statutory 20% district energy floor unless the resulting district energy system meets the statutory definition. [CEOs]

Pilot L

52. Deny Pilot L. [DOC; CEOs Opposed]

-OR-

53. Modify Pilot L as follows: [CEOs]

A. Require Pilot L to not be limited to hybrid heating systems.
B. Require the prioritization of electric heating equipment rather than the installation of new gas backup in hybrid heating systems.
C. Require CenterPoint to consider including geothermal heat pumps.
D. Require CenterPoint to collect data on how often gas backups are needed in any hybrid heat pump systems included.

54. Require that the end use applications be truly novel and innovative to be eligible for inclusion in Pilot L. [MPLS]

55. Require CenterPoint to propose a pilot structure where the participants contribute cost share rather than the program paying for 100% of the cost. [MPLS]

Pilot M

56. Deny Pilot M. [DOC; CEE Opposed]

57. Modify Pilot M as follows: [CEOs]

A. Require Pilot M to not be limited to hybrid heating systems.
B. Require the prioritization of electric heating equipment rather than the installation of new gas backup in hybrid heating systems.
C. Require CenterPoint to consider including geothermal heat pumps.
D. Require CenterPoint to collect data on how often gas backups are needed in any hybrid heat pump systems included.

58. Require CenterPoint to monitor the number and type of customers that enroll in Pilot M and report its findings in annual status reports. If CenterPoint finds that a disproportionately low number of participants are small businesses or are located in environmental justice areas, CenterPoint shall propose modifications to Pilot M through an annual status report. [Staff Proposed Decision Option]

Pilot N

59. Modify Pilot N by scaling its budget down to $4,885,520. [DOC]

60. Require CenterPoint to pursue a goal of having 100% of the residences participating in phase 2 of Pilot N, where CenterPoint proposed to fund the retrofit projects with no required participant contribution, be low-income residences. [CEOs; CenterPoint Opposed]

61. Require that Pilot N not be limited to hybrid heating systems, and require that Pilot N prioritize investments in electric heating equipment rather than the installation of new gas backup in hybrid heating systems. [CEOs, MPLS; CenterPoint Opposed]

62. Require 40% of participating residential units be qualified as low-income or be located in a disadvantaged community. [MPLS]

Pilot O

63. Deny Pilot O and require CenterPoint to file a new pilot proposal compliant with subd. 6 of the NGIA within 60 days of the Commission's Order on the Company's innovation plan. [DOC]

64. Require that CenterPoint prioritize incentives for weatherization and energy efficiency over carbon capture. [Minneapolis, CEOs; CenterPoint Opposed]

Pilot P

65. Deny Pilot P. [DOC, MPLS, CEOs]

Pilot Q

66. Modify Pilot Q by Requiring CenterPoint to ensure the maximal utilization of federal funds

to cover the installation costs associated with this project. [DOC, CEOs opposed]

67. Deny Pilot Q [MPLS, CEOs]

Pilot R

68. Deny Pilot R. [DOC]

-OR-

69. Reduce Pilot R's maximum incentive to $15/Dth from $25/Dth. [Staff interpretation of DOC]

-AND-

70. Require CenterPoint to use the Minnesota Test instead of the Societal Test to check for cost effectiveness under CIP/ECO for Pilot R. [Staff interpretation of DOC]

Research and Development Projects

71. Modify R&D project #1, "CenterPoint Energy Minnesota Net Zero R&D Study," as follows: [CEOs]

A. Require CenterPoint to add and describe a process for including stakeholder input on the design assumptions.
B. Require CenterPoint to include a full decarbonization scenario.

72. Modify R&D project #1, "CenterPoint Energy Minnesota Net Zero R&D Study," to require an estimation of CenterPoint's role in producing greenhouse gas emissions in Minnesota and a description of how the Plan, as a whole, helps the company reduce greenhouse gas emissions in proportion to the emissions associated with CenterPoint's Minnesota service, and according to the timeline and incremental goals established by the legislature. [CUB]

73. Modify R&D project #2, "Weatherization Blitzes," to require CenterPoint to promote a "bonus rebate" for when customers pair incentives for installation of electric air source heat pumps with incentives for building shell improvements. [CEOs]

74. Modify R&D Project #2, "Weatherization Blitzes," to require that 40% of participating residential units be qualified as low-income or be located in a disadvantaged community. [MPLS]

75. Deny R&D Project #4 (assessing next generation micro-carbon capture for commercial buildings). [CEOs]

-OR-

76. Deny R&D Project #4 (assessing next generation micro-carbon capture for commercial buildings) and approve the R&D budget associated with the other proposed R&D projects ($1,785,000). Additionally, deny the remaining $8,785,462 of the requested R&D budget not associated with specific R&D projects proposed in CenterPoint's innovation plan. [DOC]

77. Modify R&D Project #6, "Renewable Natural Gas Potential Study," to include a process for

including stakeholder input on the design and assumptions for project. [CEOs]

78. Require CenterPoint to propose an R&D pilot to promote heat pump water heaters and ground source heat pumps and evaluate what pilot strategies are effective and could be included in ECO or future NGIA efforts. [CEOs]

Consideration of Greenhouse Gas Emissions and Future Plan Recommendations

79. In future NGIA plans, require CenterPoint to: [CEOs]

A. Define clear learning objectives and metrics for success for all proposed pilots.
B. Articulate how the plan will help it meet its fair share of state greenhouse gas emission reductions.
C. Prioritize district energy pilots that meet the statutory definition of the resource.

Cost Allocation

80. Require CenterPoint to limit the allocation of costs for Pilots E, F, H, and J though R to only customer classes that are eligible to participate in the pilots, and require CenterPoint to track and report on the costs and participation of the classes of customers for all customer participation pilots (Pilots E through R) to ensure fair cost allocation and provide pilot learnings. [OAG]

Request to Spend up to 25% More Than Budgeted for Pilots with Higher-Than-Expected Expenditures

81. Approve CenterPoint's request to spend up to 25% more than budgeted for pilots with higher-than-expected expenditures [CenterPoint]

-OR-

82. Deny CenterPoint's request to spend up to 25% more than budgeted for pilots with higher-than-expected expenditures. [DOC, OAG, CUB, MPLS]

-OR-

83. Approve CenterPoint's request for a 25% variance subject to the following restrictions: [CUB Alternative; CEOs not opposed]

A. Prohibit using the variance to reduce any single pilot budget by more than 25%
B. Require any budget increases or decreases exceeding 25% to go through the annual review process. The Company's annual review filing must identify any avenues that could be taken to increase enrollment or improve performance of underperforming pilots and provide a justification for why these options are not reasonable.
C. Require CenterPoint to explain how budgets were modified and why such modifications were warranted in annual review filings.
D. Prohibit using the variance until the third year of the Plan in order to provide sufficient time for pilots to reach maturity and enroll participants.
E. Require CenterPoint to conduct a wide-ranging analysis of pilot performance that

takes into account both participation levels and realized cost-effectiveness when determining whether the variance can be employed to alter pilot budgets.

-AND-

84. Require that CenterPoint exclude Pilot N and the Weatherization Blitz research and development project from being cut or reduced in size. [CUB Alternative]

Only consider if approving any version of CenterPoint's request.

85. Clarify that any budget flexibility between individual pilots is capped by the total amount of the approved NGIA plan budget, and not the statutory cost cap. [OAG]

Cost Recovery Proposal

86. Approve CenterPoint's cost recovery proposal, including the requested five-year variance to recover renewable natural gas costs and the costs associated with electricity used to create hydrogen through the purchased gas adjustment (PGA). [CenterPoint, DOC, CUB]

-AND-

87. Require CenterPoint to seek recovery for investments in biogas upgrading systems through general rate cases. [CUB; CenterPoint Opposed]

-AND-

88. Require CenterPoint to consider cost impacts to low- and moderate-income customers and provide a review of these impacts in its first annual NGIA report filing. CenterPoint must detail the steps it has taken or plans to take to reduce plan costs on a wider scale to account for both low- and moderate-income customers. [CUB]

-AND-

89. Require CenterPoint to include relevant information from monthly PGA filings and AAA in annual reports. [CUB]

90. Order CenterPoint to incorporate, in its annual filing, a capital true-up that reconciles capital investments' revenue requirements to actuals. [Staff Proposed]

Cost Effectiveness Objectives

Staff notes that Decision Options 91, 94, 99, and 100 each involve the evaluation of CenterPoint's Cost-Effectiveness objectives and should therefore be considered mutually exclusive.

91. Approve CenterPoint's proposed cost effectiveness objectives without modification. [CenterPoint]

92. Approve CenterPoint's request to evaluate cost-effectiveness based on the "majority" of cost effectiveness objectives being met. [CenterPoint]

-OR-

93. Reject CenterPoint's request to evaluate cost-effectiveness based on the "majority" of cost effectiveness objectives being met. [DOC, CUB, MPLS]

94. Require CenterPoint to include a cost effectiveness objective that would evaluate each pilot based on its verified greenhouse reductions during the NGIA planning period using an annualized cost metric per annual greenhouse gas reduction metric such as $/MTCO$_2$e [Staff interpretation of DOC]

95. Require that three-quarters of the cost-effectiveness objectives meet at least 90% of their stated goals, and three quarters of all individual pilots meet at least 90% of their stated goals, for CenterPoint to be eligible for the increased incremental cost cap for the Company's next innovation plan under Minn. Stat. § 216B.2427, subd. 3(d). [DOC]

96. Remove the third cost-effectiveness objective under CenterPoint's "perspectives" category. [CEOs; CUB not opposed; CenterPoint Opposed]

97. Add a new cost-effectiveness objective under CenterPoint's "perspectives" that states the following: "All alternative fuel project(s) for commercial/industrial customers utilize the fuels on-site or nearby and none of the alternative fuel projects involve blending the alternative fuels into the distribution system." [CEOs]

98. Replace the first and second cost effectiveness objectives under CenterPoint's "environment" category with a single objective which states: "The Plan achieves, or makes meaningful progress toward achieving, Company-wide emission reductions of at least 30% by 2029 relative to a 2020 baseline." [CEOs, CUB]

99. Remove the third and fourth cost effectiveness objectives under CenterPoint's "environment" category. [CEOs]

100. CenterPoint's ability to claim the increased incremental cost cap for the Company's next innovation plan under Minn. Stat. § 216B.2427, subd. 3(d) shall be based on the Commission's assessment of whether the Plan achieved, or made meaningful progress toward achieving, Company-wide emissions reductions of at least 30% by 2029 relative to the Company's 2020 baseline. [CEOs].

101. Commit to adopting a holistic evaluation methodology for reviewing Plan cost-effectiveness and determining whether CenterPoint's next innovation plan may utilize the increased incremental cost cap for the Company's next innovation plan under Minn. Stat. § 216B.2427, subd. 3(d). [CUB]

-OR-

102. Remove the first objective under CenterPoint's "innovation" category. [CUB Alternative; CenterPoint Opposed]

-AND-

103. Remove the second objective under CenterPoint's "innovation" category. [CUB Alternative; CenterPoint Opposed]

104. Require CenterPoint to file a compliance filing with updated cost-effectiveness objectives within 30 days of the Commission issuing its Order approving the Plan, subject to a 30-day negative check-off. If no parties raise disagreements with the updated objectives within 30 days of the Company's filing, the comment period will close and the cost-effectiveness objectives will go into effect. If any filed comments raise contested issues, the Commission will issue a Notice of Comment and the matter will be brought to an agenda meeting. [CUB]

Decision Option 104 is only available if the Commission does not adopt Decision Option 97.

Decision Options 104 and 105 are available if the Commission approves Decision Option 103.

105. Modify CenterPoint's first cost-effectiveness objective under the "environment" category of objectives to compare the Company's 2020 emissions to actual annual emissions reductions achieved during each year of the 5-year innovation plan term. Through a compliance filing updating its cost-effectiveness objectives within 30 days of the Commission's order, CenterPoint shall propose goals for each year based on predicted annual emissions reductions from each approved pilot. [Staff Proposed]

106. Require CenterPoint to propose a new cost-effectiveness objective that supports the NGIA's throughput goal (Minn. Stat. § 216B.2427, subd. 10) through its compliance filing updating its cost-effectiveness objectives. [Staff Proposed]

Proposed Plan for filing Annual Status Reports

107. Approve CenterPoint's proposed plan for filing its annual status reports. [CenterPoint, CUB, CEOs]

108. Require CenterPoint to provide updates on IRA implementation and pilot-specific data on greenhouse gas emissions reductions in annual status report filings. [CUB; CenterPoint not Opposed]

109. Within 30 days of the Commission's final Order, require CenterPoint to propose reporting requirements for its NGIA innovation plan's annual status reports. The proposed list of reporting requirements shall include content required by the NGIA and relevant Commission Orders, and shall clearly articulate what information will be provided for each individual pilot and research and development project (including updates on progress, project results, project cost and budget impacts, and relevant updates to cost-benefit metrics using project data), and the plan in aggregate. CenterPoint may file earlier as a joint filing with relevant stakeholders in this Docket, including the Department.

Delegate authority to the Executive Secretary to approve the compliance filing via notice if no objections are filed within 30 days of the Company's filing.

Additionally:

A. Require CenterPoint to propose updates to its list of reporting requirements when proposing new, or modified, pilots and/or research and development projects.
B. Require CenterPoint to file similar list of reporting requirements for its NGIA annual status reports with future NGIA innovation plans.
C. Delegate authority to the Executive Secretary to update the approved reporting requirements list consistent with decisions made in this and subsequent NGIA-related dockets.
[Staff Proposed]