



February 4, 2022

Will Seuffert, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: Center for Energy and Environment's Comments in the Matter of a Petition by CenterPoint Energy and the City of Minneapolis to Introduce a Tariffed On-Bill Financing Pilot Program

Docket Number G-008/M-21-377

Dear Mr. Seuffert,

Center for Energy and Environment (CEE) respectfully submits to the Minnesota Public Utilities Commission (Commission) these Comments in response to the September 2, 2021 Petition by CenterPoint Energy and the City of Minneapolis to Introduce a Tariffed On-Bill Financing Pilot Program (TOB Program).

On September 17, 2021, the Commission issued a Notice of Comment Period (Notice), asking Parties to address the following topics:

1. Should the Commission allow deferred accounting for costs to be incurred to develop and operate the 3-year TOB pilot program as requested by CenterPoint/City? If deferred accounting is approved, who should bear the cost burden?
2. Should the Commission approve the tariff language, agreements, and other exhibits to implement the pilot offered in the proposal?
3. Is the CenterPoint/City TOB pilot proposal a program that (1) is likely to facilitate substantial energy savings, (2) is efficient at delivering energy savings, (3) is operationally sound, and (4) is consistent with Minnesota law?
4. What other factors could be relevant to the Commission's inquiry?

We appreciate the Commission's questions and will aim to answer each through the following review and analysis of CenterPoint Energy's TOB Petition.

Background

CEE is a Minnesota-based, certified, and independent 501(c)(3) nonprofit organization. Our mission is to discover and deploy the most effective energy solutions that strengthen the economy and improve the environment. With roots dating back to the late 1970s, CEE has long designed and delivered impactful energy efficiency services to Minnesotans. Currently, CEE employs over 160 people and implements some of the largest energy efficiency programs in the

state, including the One Stop Efficiency Shop,[®] Home Energy Squad,[®] Multifamily Energy Savings Program, Partners in Energy, and the Air Source Heat Pump Collaborative.

Each year, CEE:

- Serves over 11,250 businesses and homes;
- Helps residents and business save approximately 79 million kilowatt hours of electricity and 103,000 Dekatherms of natural gas;
- Saves customers approximately \$9 million in energy costs;
- Helps reduce greenhouse gas emissions in Minnesota by 75,602,000 pounds of carbon dioxide; and
- Partners with 75 different community partners.

Additionally, CEE provides residential and commercial financing for energy efficiency improvements and other energy needs. In 2021, CEE issued more than \$22.7 million in loans for nearly 1,200 home and business improvements in Minnesota. CEE's lending team works with the Minneapolis Neighborhood Revitalization Program to improve residential properties in over 30 Minneapolis neighborhoods and — with more than 20,000 loans under our belt — CEE has received a top producing lender award from Minnesota Housing Finance Agency every year since the awards began in 2013. CEE's lending team ran one of the first on-bill financing programs in the country and most recently started implementing a new on-bill financing program for CenterPoint Energy's energy efficiency program in 2020.

The Comments below reflect CEE's decades of experience and expertise in energy efficiency services and financing, as well as our deep commitment to ensuring that all Minnesotans have access to energy efficiency services and the benefits that energy efficiency provides.

CenterPoint Energy's Proposed Tariffed On-Bill Financing Pilot Program

CenterPoint Energy and the City of Minneapolis partnered to develop and submit the TOB Petition, which proposes a three-year pilot program to provide energy efficiency financing through a utility tariff. The program would allow a CenterPoint Energy customer to finance a portion of an energy efficiency improvement through their utility bill, using utility capital. The utility's return on its capital would be funded partially by program participants and partially by all ratepayers. The financing would not be attached to a particular customer, but rather to the natural gas meter of the building receiving the improvement. Therefore, the debt associated with the gas meter can be passed on to future residents until the energy efficiency improvement has been fully paid-off. Eligible customers include homeowners as well as tenants of buildings, with approval from the property owner.

The TOB financing model requires the participating customer to pay a combination of upfront fees and a copay, sized to achieve a financed amount that is estimated to have lower monthly

payments than the estimated ongoing utility bill cost savings. Utility bill savings would be estimated by a program implementer, using energy modeling software. The maximum term over which energy efficiency improvements may be financed through the TOB Petition is 12 years.

The TOB Petition describes the intended goal of the proposed program as providing greater access to energy efficiency services for low- and moderate-income renters and homeowners. The company states that it intends to market the TOB program with a specific focus on residents in Minneapolis Green Zones.¹ The TOB Petition states that renters have been historically underserved by Minnesota's utility-funded energy efficiency programs. CenterPoint Energy and the City of Minneapolis note that the proposed program may be attractive to customers who are not willing or able to participate in the company's Conservation Improvement Program (CIP).

CEE's Comments

CEE appreciates the company and the City of Minneapolis's concerns that utility energy efficiency programs do not currently adequately serve renters, particularly low- and moderate-income renters. We share those concerns. We also recognize the significant need for additional weatherization services in communities of color and low-income communities in Minneapolis.

The City of Minneapolis (City), CenterPoint Energy, and many community partners have worked extensively on the TOB Petition. This work has advanced and elevated important conversations around equity and access to energy efficiency services, and produced many innovative ideas and solutions. We commend the City, the company, and the many stakeholders who have worked, over several years, on ways to improve and expand access to energy efficiency services for low- and moderate-income households, with special attention to communities that have historically been underserved.

However, we believe that increased funding and improved program design through the utility's existing energy efficiency portfolio, CIP, is the best way to increase access and better serve low- to moderate-income renters and homeowners. To that end, we have been encouraging CenterPoint Energy to develop improved energy efficiency offerings in CIP for this market and we will continue to advocate for better and more programing and funding for low- to moderate-income renters and homeowners, particularly those in underserved communities.

CEE has deep concerns about the program proposed in the TOB Petition. First, we do not believe that the TOB program is the most cost-effective way to meet the energy efficiency needs of low- to moderate-income homeowners and renters. Further, we believe this model lacks critical consumer protections; shifts costs and risks to low- and moderate-income renters; adds outsized costs and risks to ratepayers; and detracts from lower-cost, lower-risk, and scalable energy

¹ <https://www2.minneapolismn.gov/government/departments/coordinator/sustainability/policies/green-zones-initiative/>

efficiency programs that can better serve this market. We encourage the Commission to reject CenterPoint Energy's TOB Petition and to order the company to work toward bold solutions for low- and moderate-income renters and homeowners through their existing energy efficiency program portfolio, under Minnesota Statute 216B.241.

In our comments below, we discuss the cost-effectiveness of the TOB proposal from three different perspectives: program participants, utility ratepayers, and society as a whole, comparing the cost-effectiveness of the TOB proposal to other utility energy efficiency programs. We then discuss additional concerns related to potential TOB participants and ratepayers. Finally, we offer recommendations to the Commission for how to more cost-effectively and effectively advance and expand energy efficiency services for low- to moderate-income Minnesotans in CenterPoint Energy's service territory.

I. Cost-Effectiveness

Minnesota regulators commonly use cost-benefit analyses to evaluate utility investment options, including in integrated resource planning proceedings, utility procurement proposals, and energy efficiency portfolio planning proceedings. These cost-benefit analyses vary based on the type of resource investment under consideration and other relevant factors. However, in all cases cost-benefit analyses are designed to assess whether a particular resource investment is appropriate for ratepayer cost-recovery, typically based on whether the benefits an investment provides outweigh the costs and whether there are better (i.e. less costly) ways to achieve those same benefits.

For Minnesota's utility energy efficiency investments, tests for cost-effectiveness involve a comparison of the total benefits of achieved energy savings and the total costs to achieve those energy savings. Results are reported in terms of the net present value dollars or as a ratio (i.e., benefits/costs). A project is considered cost-effective if the benefit-to-cost ratio is greater than one and the net present value of benefits (net benefits) is greater than zero.² The Minnesota Department of Commerce (Department) considers the cost-effectiveness of energy efficiency investments from the perspective of the utility system, society, participating customers, and non-participating customers³ by applying the utility cost test, societal cost test, participant cost test, and ratepayer impact measure test.

The Department does not require every energy efficiency investment to pass each of the above cost-effectiveness tests. The tests are considered within the context of the policy objectives for the energy efficiency program or investment under consideration. For example, the Department does not require investments in low-income energy efficiency programs to be cost-effective from

² https://www.mncee.org/sites/default/files/2021-05/MN-Potential-Study_Final-Report_Publication-Date_2018-12-04.pdf

³ Minn. Stat. 216B.241 subd 1c(e)

the perspective of the utility system or society broadly. Instead, the perspective of the participating household is typically elevated in the context of low-income programs, allowing utilities to provide additional funding for program participants to make energy efficiency services accessible to households in need.

CEE conducted a cost-benefit analysis of the TOB program in the same manner that our utilities conduct cost-benefit tests when evaluating and proposing ratepayer funded energy efficiency programs. The cost-benefit analysis provides cost-effectiveness results from the perspective of the participant, the utility system, society, and the ratepayer. To remain consistent in treating energy efficiency as a resource, we suggest that the Commission consider these tests in their evaluation.

Our analysis uses data from CenterPoint Energy’s most recent 2021-2023 CIP Triennial Plan filing and projected energy savings and program cost data from the TOB Petition and the company’s response to CEE’s information request number two. The company provided two energy savings estimates, a key input to our cost-effectiveness analysis, for the proposed TOB program: the “normal baseline” scenario and the “poor efficiency baseline” scenario. We reviewed the energy savings figures that the company provided for both scenarios and compared them to the energy savings planned for the company’s market rate and low-income CIP programs in 2022.⁴ For reference, Table 1 below provides energy savings estimates for the company’s CIP programs and the energy savings estimated for the TOB program for the “normal baseline” scenario and “poor efficiency baseline” scenario.

Table 1: Energy Savings per Participant for CIP and TOB Scenarios

| Market Rate Programs | Savings Per Participant (Dth) |
|--------------------------------|--------------------------------------|
| Home Insulation Rebates | 14.2 |
| Home Efficiency Rebates | 13.1 |
| Low Income Programs | |
| Low Income Weatherization | 11.7 |
| Low Income Rental Efficiency | 10.1 |
| Tariff On Bill Proposal | |
| “Normal Baseline” | 16 |
| “Poor Efficiency Baseline” | 52 |

As illustrated by Table 1, we found that the average estimated savings for participants in the company’s market rate and low-income CIP programs are most consistent with the “normal baseline” energy savings estimates for the proposed TOB program. We note that the company’s

⁴ CenterPoint Energy’s 2021-2023 CIP Triennial Plan, filed on July 1, 2020 in Docket Number G-008/CIP-20-478.

Low-Income Weatherization program and Low-Income Rental Efficiency program offer comprehensive retrofit services to low-income households and likely offer the most accurate comparison, in terms of housing stock and services, to the proposed TOB program.

While we expect that the company could encounter higher energy savings opportunities through the proposed TOB program, we think it is unrealistic to expect that TOB participants would, on *average*, achieve energy savings at or near the level of the “poor efficiency baseline.” Therefore, we conducted our cost-effectiveness analysis of the proposed TOB program using the “normal baseline” energy savings scenario. In keeping with this assumption, we also assumed project costs for the proposed TOB program to be the lowest estimated average cost per project provided in the TOB Petition. We believe that these assumptions provide a fair and realistic evaluation of the proposed TOB program.

Full results of our cost-effectiveness analysis are included as Attachment A and summarized in Table 2 below. Additionally, we discuss the results of each of the relevant tests⁵ and provide comparisons to other CenterPoint Energy energy efficiency programs. We note that there are some differences between how CIP programs and the proposed TOB model are administered and costs recovered that are not captured by cost-effectiveness testing. Nonetheless, we believe that the cost-effectiveness analysis and comparisons are informative and valid.

Table 2: TOB Cost-Effectiveness Results (Years 1-3 Combined)

| | Participant Cost Test | Societal Cost Test | Utility Cost Test |
|-------------------------------|------------------------------|---------------------------|--------------------------|
| Ratio (Benefits/Costs) | 0.52 | 0.24 | 0.30 |
| Net Benefits | (\$4,152,868) | (\$11,370,566) | (\$4,937,276) |

Participant Cost Test

To consider cost-effectiveness to energy efficiency program participants, evaluators use the participant cost test (PCT), which compares participant benefits with participant costs. Costs to the participant can include participant co-pays or program fees, as well as financial contributions that participants make toward an energy efficiency improvement. Participant benefits included

⁵ The structure of the ratepayer impact measure test makes it ill-suited to evaluate energy efficiency program investments. For this reason, we omit the ratepayer impact measure test from our analysis and discussion. We provide additional analysis and discussion of ratepayer impacts in Section II of our Comments.

in the PCT include utility rebates that buy down the cost of equipment and participant bill savings over the life of the energy efficiency improvement.

Below is a summary of the PCT ratio (benefits/costs) results for relevant⁶ CenterPoint Energy residential CIP programs⁷ and the proposed TOB program. A PCT ratio number above one demonstrates that there are greater benefits to the participant than there are costs. Note that the PCT for the company's Low-Income Weatherization program is infinite because there are high benefits and no costs to the participant. The PCT for the LIRE program includes the landlord's contribution. However, the PCT ratio score for tenants who receive services through that program is also infinite since tenants are not charged for participation.

Table 3: Participant Cost Test Scores for CenterPoint Energy CIP and TOB

| Market Rate CIP Programs | Participant Cost Test Score (PCT) |
|---------------------------------|--|
| Home Insulation Rebates | 1.27 |
| Home Efficiency Rebates | 3.19 |
| Low Income CIP Programs | |
| Low Income Weatherization | ∞ |
| Low Income Rental Efficiency | 2.86 |
| TOB Petition | |
| Tariff On Bill Proposal | 0.52 |

The TOB program PCT ratio is well below one, indicating that participants receive less benefits than they incur in costs to participate. Specifically, the program fees, upfront copays, and financing costs of the TOB program make participating in TOB more costly for participants than other CIP programs and therefore the TOB program does not achieve a PCT ratio above one. For reference, the company's 2021-2023 CIP Triennial Plan does not include a single program with direct energy savings with a PCT ratio of less than one. Given the high participant benefits of other existing CIP programs, we believe it would be irresponsible to market a program to any customer, let alone to low- to moderate-income customers, especially those living in Minneapolis Green Zones, when the cost-benefit analysis suggests they will come out behind rather than ahead.

Utility Cost Test

⁶ CEE selected CenterPoint Energy CIP programs based on residential and low-income CIP programs that provide energy efficiency improvements similar to those expected through the TOB program. These services include air sealing and insulation, furnace and water heater equipment upgrades, and full-service retrofits (both air sealing and insulation and heating and water heating equipment upgrades combined).

⁷ CIP program PCT ratio results reflect the three-year analysis provided on page 13 of CenterPoint Energy's 2021-2023 CIP Triennial Plan for all listed programs.

Evaluators use the utility cost test (UCT) to assess the costs and benefits of an energy efficiency program or investment on the utility system. The UCT is often also called the program administrator test. This test is particularly important because it indicates whether an energy efficiency investment or program will lower or raise the costs of the utility system, which ultimately affects ratepayers. Importantly, this test is not designed to evaluate cost-effectiveness from the perspective of utility shareholders, but instead the broad utility system. As mentioned above, while the Department and utilities pay close attention to the UCT when evaluating market rate CIP offerings and the CIP portfolio overall, there are policy reasons to accept lower UCT scores for certain programs, particularly low-income programs.

Below is a summary of the UCT ratio (benefits/costs) results for relevant CenterPoint Energy residential CIP programs and the proposed TOB program. Again, a UCT ratio number above one demonstrates that there are more benefits to the utility system than there are costs associated with the investment. Table 4 illustrates that CenterPoint Energy's market rate CIP offerings are very cost-effective from the perspective of the utility system. Conversely, CenterPoint Energy's low-income CIP programs have low UCT ratio results. As noted, this is because low-income programs provide greater funding to participants to make those programs more accessible. This is an important policy trade-off that is supported by Minnesota Statute 216B.241, as well as many CIP regulatory decisions by the Department.

The proposed TOB program has a UCT ratio similar to those of CenterPoint Energy's low-income CIP offerings. We do not believe that failing the UCT alone should be disqualifying for the TOB program. However, the TOB program fails both the PCT and the UCT, indicating that the typical policy trade-off regulators make to better serve low-income customers, is not occurring in the proposed TOB program.

Table 4: Utility Cost Test Scores for CenterPoint Energy CIP and TOB

| Market Rate CIP Programs | Utility Cost Test Score (UCT) |
|---------------------------------|--------------------------------------|
| Home Insulation Rebates | 2.13 |
| Home Efficiency Rebates | 3.41 |
| Low Income CIP Programs | |
| Low Income Weatherization | 0.43 |
| Low Income Rental Efficiency | 0.44 |
| TOB Petition | |
| Tariff On Bill Proposal | 0.30 |

Societal Cost Test

The societal cost test (SCT) is used to evaluate an energy efficiency program or investment from the perspective of society as a whole. In Minnesota, the SCT includes participant costs, avoided fuel costs, avoided utility system costs, utility program costs, and avoided greenhouse gas and

criteria pollutant emissions. The Department applies the SCT as the primary cost-effectiveness test to evaluate utility energy efficiency programs in CIP, as it includes the broadest set of costs and benefits.

Given the low cost of natural gas approved for the 2021-2023 CIP triennium,⁸ some natural gas energy efficiency programs do not currently pass the SCT. This is especially true of low-income programs. Table 5 shows the SCT ratio (benefits/costs) results for relevant CenterPoint Energy residential CIP programs and the proposed TOB program. An SCT ratio number above one demonstrates that there are more benefits to society than there are costs associated with the investment.

Table 5 shows that CenterPoint Energy's market rate CIP programs pass the SCT or nearly pass the SCT. CenterPoint Energy's low-income CIP programs do not pass the SCT. Finally, the proposed TOB program fails the SCT and has the lowest ratio score of all the programs listed.

Table 5: Societal Cost Test Scores for CenterPoint Energy CIP and TOB

| Market Rate CIP Programs | Societal Cost Test Score (SCT) |
|---------------------------------|---------------------------------------|
| Home Insulation Rebates | 0.96 |
| Home Efficiency Rebates | 2.51 |
| Low Income CIP Programs | |
| Low Income Weatherization | 0.73 |
| Low Income Rental Efficiency | 0.58 |
| TOB Petition | |
| Tariff On Bill Proposal | 0.24 |

Overall Cost-Effectiveness

As stated above, we do not believe that energy efficiency programs should always be required to pass any single cost-effectiveness test. There are valid and important policy reasons to elevate the cost-effectiveness of one perspective over another. Programs for low- to moderate-income Minnesotans are great examples of this. Minnesota policymakers and regulators have a long history of elevating cost-effectiveness to the low-income program participant in order to make energy efficiency services more accessible and affordable for those customers. Additionally, we recognize the limitations of cost-effectiveness testing and understand and support the need for regulatory flexibility in administering energy efficiency programs.

⁸ At the time that cost-effectiveness test inputs were approved for the 2021-2023 CIP triennium, gas costs had been exceptionally low for several years. The Department used a 24-month weighted average price of natural gas based on purchased gas adjustment filings for Minnesota natural gas utilities. The approved commodity cost of natural gas for the 2021-2023 triennium is \$3.25 (Docket Number G999/CIP-18-782).

However, based on our analysis the proposed TOB program is not even close to cost-effective from the perspective of the participant, the utility system, or society as a whole. Failing, markedly, all of the cost-benefit analyses used to evaluate ratepayer-funded energy efficiency programs in Minnesota should be disqualifying. We believe the proposed TOB program would be an inappropriate and unjustifiable use of ratepayer funds, especially when there are other ways to achieve greater benefits for low- to moderate-income renters and homeowners at lower costs. Below we describe additional issues and concerns with the TOB Petition that are not quantified in the cost-effectiveness analysis provided and discussed above.

II. TOB Shifts Costs and Risks to Participants, Especially Low-Income and Tenant Participants

The TOB program model, as compared to Minnesota's CIP model of delivering energy efficiency services, increases costs to participating customers and places an unfair obligation on participants to realize, over a 12-year period,⁹ a specific, forecasted amount of energy savings. Additionally, under the proposed TOB program participants face an extreme and unreasonable penalty for non-payment of the TOB debt obligation. The increased costs and additional risks to participants is true for all potential participants, but has added detrimental implications for low-income participants as well as renter participants.

Low-Income TOB Participants

Currently, CenterPoint Energy offers a suite of energy efficiency services to its low-income customers through its CIP portfolio. CenterPoint Energy's low-income CIP programs are free to all single-family homeowner and renter participants. Low-income CIP services for residential rental buildings typically require the property owner to fund a portion of the energy efficiency upgrades, though services are significantly subsidized.^{10,11}

CEE is concerned that the TOB program will be marketed to CenterPoint Energy customers who are eligible for free energy efficiency services through CIP. We think this is a particular risk given CenterPoint Energy's expressed marketing focus for the proposed TOB program on Minneapolis Green Zones and low-income customers generally.

The Department recently approved CenterPoint Energy's request to allow automatic eligibility for its Low-Income Rental Efficiency program and Low-Income Weatherization program for customers living in Minneapolis Green Zones and Areas of Concentrated Poverty.^{12,13} This means

⁹ Based on TOB program assumptions, the typical term of a TOB debt obligation would be 12 years.

¹⁰ CenterPoint Energy's Low-Income Rental Efficiency program services are free to renter residents. Property owners are required to pay 50 percent of the project cost. No contribution is required for property owners facing financial hardship. The program is available for one-to-four-unit rental properties.

¹¹ CenterPoint Energy's Low-Income Multi-Family Housing Rebate program is available to multifamily properties with five or more units. Rebates are provided to the property owner. Residents are not charged.

¹² The Department's November 1, 2021 Decision in Docket Number G008/CIP-20-478.

¹³ The Department's January 31, 2022 Decision in Docket Number G008/CIP-20-478.

that any single-family home or rental property with one-to-four units in a Minneapolis Green Zone or an Area of Concentrated Poverty¹⁴ is automatically approved to receive comprehensive weatherization and equipment upgrades at no cost to the resident or residents. CEE commends the company and the Department for making this modification to program eligibility requirements for CenterPoint Energy's low-income programs. We believe this change will result in more customers receiving energy efficiency services in the areas of CenterPoint Energy's territory most in need, including the Minneapolis Green Zones.

The Green Zones, however, are the very geographic areas in which the company intends to market the TOB program. CEE is very concerned that the TOB program marketing effort, in an area where all residents in buildings with fewer than five units are automatically eligible for low-income CIP services, will result in low-income-CIP-eligible residents inadvertently enrolling in the costly, long-term financing obligations of the TOB program instead of receiving free CIP services.

Moreover, the costs and obligations of the TOB program are passed on from one resident to the next over the course of the financing term, likely 12 years. This means that not only will one CenterPoint Energy customer incur unnecessary, higher costs for energy efficiency services, but any future resident will be obligated to continue to pay off the debt incurred at that building, including future tenants who may otherwise be eligible for free CIP services themselves. Targeting Minneapolis Green Zones or other low- to moderate-income communities could have long-term implications for residents, current and future, and the community broadly.

Low-income CIP provides no-cost, no-risk energy efficiency services to Minnesotans in need and should be provided to any eligible customer in Minneapolis Green Zones and other areas of CenterPoint Energy's territory. While we acknowledge that low-income CIP is not currently reaching enough eligible customers, we do not support the idea of replacing free, comprehensive services with long-term financing and fees that will be handed down to future residents for years to come. Instead, we believe that the company should direct its attention, energy, and funding into improving and increasing low-income CIP services. We discuss specific opportunities through CIP further below.

All TOB Participants

Even for residential customers who are not eligible for free CIP services, the TOB program is likely to be far more expensive than implementing the same measure through market-rate CIP programs¹⁵ and seeking out alternative financing options. First, the TOB program model requires participants to finance energy efficiency project costs over a relatively long period of time to

¹⁴ Areas of Concentrated Poverty are defined as areas where the overall poverty rate is over 40 percent. Minneapolis Green Zones are defined by the Green Zones Initiative, City of Minneapolis (<https://www2.minneapolismn.gov/government/departments/coordinator/sustainability/policies/green-zones-initiative/>).

¹⁵ "Market rate programs" refers to CIP programs intended for CenterPoint Energy's residential customers with no income-eligibility requirements.

meet the program's cost-effectiveness criteria. Even at a relatively low interest rate, financing energy efficiency projects over a long term can add significant costs. Further, unlike most home improvement loans, once participants enroll in the TOB program, they are not permitted to pay the investment off early and avoid any portion of the interest applied over the full term of the financing.

Minneapolis residents are eligible for zero-percent-interest loans for insulation and air sealing work, or to upgrade to heat pump electric water heaters, air source heat pumps, or solar. While not all residents will be able to qualify, for many residential customers in Minneapolis, this financing option, paired with existing CIP incentives, will be a far less costly option than the TOB program.

Additionally, according to the Company's TOB petition and further described in the company's response to CEE's information request number seven, the proposed TOB program will require participants to pay an upfront "\$475 pilot administration charge."¹⁶ Participants will also be required to pay an upfront co-pay, calibrated to the amount necessary to result in annual financing payments that are estimated to be 80 percent or less of the estimated weather-normalized annual electric and gas bill savings that will result from the upgrades.¹⁷

In the company's responses to CEE's information request number 16, CenterPoint Energy estimated the total upfront charges to participating customers, including the \$475 administration charge, for six measures or sets of measures that are expected for the TOB program. The table below shows the initial cost of the improvement, the total amount financed on a participating customer's bill, and the total upfront payment required from customers for each of the six expected project types.

¹⁶ Note that this charge applies to all TOB program participants, including low-income participants.

¹⁷ Page 18 of the TOB Petition.

Table 6. Participant Costs for TOB Program Improvements

| No. | | Cost of Improvement | Amount Financed and Recovered on Customer Bills (over 12 years) | Total Expected Upfront Charge to Customers | Interest Paid by Participant |
|-----|---|---------------------|---|--|------------------------------|
| 1 | 90% AFUE Boiler | \$8,500 | \$1,546 | \$7,791 | \$211 |
| 2 | Attic insulation, Air sealing, Wall Insulation | \$6,134 | \$2,195 | \$3,964 | \$300 |
| 3 | Water Heater | \$2,000 | \$184 | \$3,063 | \$572 |
| 4 | 96% AFUE Furnace | \$4,633 | \$3,066 | \$2,424 | \$332 |
| 5 | 96% AFUE Furnace + 16 SEER AC | \$10,966 | \$2,761 | \$7,958 | \$378 |
| 6 | Under-insulated attic, Empty walls, Direct install of low-cost materials in Home Energy Squad | \$6,055 | \$5,252 | \$612 | \$719 |

In all but one case, the upfront charge to customers is several thousand dollars and represents more than 50 percent of the total project install cost. In the case of the high-efficiency boiler upgrade example, a customer would be asked to pay 92 percent of the total project cost upfront in order to participate in the TOB program. In the case of the high-efficiency water heater example, the participant would be asked to pay over \$1,000 more than the actual total cost of the improvement as the upfront charge to participate in the TOB program.

In our experience, paying over 50 percent of a project cost upfront is likely to be impossible or unattractive to most customers. For low-income customers, paying any cost upfront would be even more difficult. Customers seek out financing because they do not have or do not wish to pay a large sum of money upfront for an energy efficiency improvement. This is especially true for low- to moderate-income customers, who are the primary focus of the proposed program. While we think most customers would decline to move forward with the TOB program given the examples provided, we have concerns about customers potentially incurring a \$475 charge just to see the upfront charges associated with the program. We are even more concerned that some subset of customers may be confused by the complicated structure of the program and move forward with expensive projects when cheaper, better options exist.

In the case of example number six in Table 6, the company provided a project with eight different energy efficiency measures. Five of the measures included are funded fully through CIP to cost nothing to the customer. In the calculation of the TOB upfront customer fee, the company

included the energy savings associated with all of the CIP-funded measures, but none of the costs of those measures. We do not think that is an appropriate analysis. The TOB program should be evaluated on its own. CIP is funded by ratepayers. Using the energy savings associated with those CIP ratepayer investments without considering their costs ignores the investments ratepayers are making through CIP and skews the TOB analysis to appear more cost-effective than it truly is. Nonetheless, even with all the additional CIP-funded energy savings included, the customer would still be required to pay over \$600 up front and over \$700 in additional interest charges. We believe there are less expensive ways to provide these energy efficiency services to customers. In fact, the company is already doing so through its CIP.

TOB Renter Participants

As discussed in the TOB Petition, renters face a unique barrier in accessing traditional energy efficiency programs known as the “split incentive.” Renters are often the utility customer, paying monthly utility bills for their energy use. However, renters do not own the building or equipment in the building that consumes the energy they pay for. Conversely, the property owner owns the building and the equipment that serves the building, but does not pay the monthly utility bill. This dynamic leaves the property owner with little to no incentive to invest in energy efficiency upgrades to the building envelope or equipment, and the renter either unable or unlikely to make such investments.

The proposed TOB program attempts to address this barrier, by allowing renters to fund energy efficiency improvements to the building through their own utility bill. In theory, under this model the property owner is willing to approve energy efficiency upgrades because it improves the property and property value, reduces operation and maintenance costs to the property owner, and does not cost the property owner any money. The renter is willing to finance the improvements to the building because the program promises to reduce their energy bill by more than the renter will be charged for the energy efficiency upgrade.

While this model may help to overcome the split incentive, it shifts the costs of building improvements that would and should be paid for by the property owner to the renter. Providing space heat and domestic hot water are a property owner’s responsibility in a rental property. We must not forget people choose to own and rent residential property to either build wealth, earn a profit, or both. Tenants should not be expected to pay for, much less finance, the property owner’s mechanical equipment or building upgrades. Under the TOB model, not only would tenants pay for building upgrades, they would pay over a long period of time, increasing the amount of interest they pay in total.

Further, the TOB model puts renter participants, including future renters, at risk for realizing the full modeled energy savings of the TOB program improvement over the term of the financing, typically a 12-year period. The long duration of the financing term makes it likely that energy usage patterns will change at the residence, which may change or negate the modeled energy

savings at the building. This leaves the tenant on the hook for potentially increased utility bills, plus TOB payments. Renter participant or future renters would be subject to disconnection if they are not able to make payments on the TOB investment on top of their utility bills.

Participants Could Fall Victim to Imprecise Energy Savings Models

The TOB program design requires that energy savings are modeled on a home-by-home basis, rather than a program wide average, as is typical in most efficiency programs. This is because TOB model requires that a customer's utility bill savings - based on energy savings of the home - will be greater than the payments they have to make in an average month. The company suggests that the customer will always be held harmless, and that any future occupant - who never agreed to the upgrade - will pay less than they would have if no upgrade had occurred.

The problem with this concept is that energy savings models for any one home, are imprecise. While energy modeling tools can, on average, predict the savings in a group of homes, the predictability of energy savings in any one home can vary widely. National evaluations of residential energy modeling tools often note a margin of error between ten and 30 percent.

CenterPoint Energy's proposed TOB program includes a process that allows for an investigation if a participating customer's savings are not realized. However, they limit this investigation to whether the installer made errors or the occupant is responsible for savings not being realized. This determination is made by the program operator, who modeled the projected energy savings in the first place. The problem with this approach is that the most likely reason that energy savings, and therefore utility bill savings, are not being realized is inaccuracy of the model itself. In most cases, there is no way, after the project is completed, to determine why modeled savings were inaccurate.

Additionally, the TOB program model requires a 20 percent difference between modeled savings and estimated payments for the TOB project. The 20 percent difference between expected savings and payments, is not enough to protect participants from increased utility bills.

When asked how the company would monitor the accuracy of the model, CenterPoint Energy responded: "The Company will attempt to determine and investigate instances of energy modeling errors that contribute to unrealized savings."¹⁸ We appreciate that CenterPoint Energy will investigate instances in which residents do not realize the savings promised through the TOB program. However, given our experience with energy modeling tools, we find the company's reassurance inadequate to sufficiently protect participants. We also note that based on the TOB Petition, we expect the company to market the TOB program to customers as a program that will lower their utility bills by 20 percent. If approved, the company should make clear to any potential participants that the 20 percent estimated savings is, as the company described in

¹⁸ CenterPoint Energy's response to CEE's Information Request Number 13.

response to CEE's information request 13, a "cushion built into the program design to protect against unpreventable errors in estimation and project modeling."¹⁹

Service Disconnections

Minnesota has a long track record of protecting customers from utility service disconnection. This includes protections written into Minnesota statute, interventions made by state agencies that aid low-income customers, a variety of utility bill affordability programs, and numerous actions taken by the Commission. To date, service disconnections only take place due to arrearages associated with the utility's provision of energy to the customer. In its proposal, CenterPoint Energy would disconnect customers for missed TOB program service payments.

The Minnesota Legislature contemplated the potential for utility on-bill repayment programs to cause, or contribute to, service disconnections particularly for cash-strapped customers. CEE worked extensively on this bill with CenterPoint Energy at the Minnesota State Capitol. Both organizations agreed with the provision that explicitly prevented utilities from disconnecting service for missed on-bill financing charges:

A public utility may not suspend or terminate a customer's utility service for delinquency or default on a loan that is being serviced through the public utility's on-bill repayment program.²⁰

The same principle should apply in this case. Natural gas is currently the primary source of space heating for millions of Minnesotans. As such it is unquestionably an essential utility service to those households. CenterPoint Energy should not be permitted to disconnect customers, some of whom never agreed to participate in the TOB program to begin with, due to missed payments associated with the TOB program. Not only do we believe it is the wrong thing to do, we also believe doing so is illegal. The TOB program is not an essential utility service and should not interfere with a customer's essential utility service.

Property transfer

In the typical process of a home sale, a title search is done to ensure that a home is "free and clear" of all liens, debts, and obligations. As a condition of a sale, the seller typically pays-off any remaining liens (such as a mortgage lien) at closing. A buyer expects a property clear of any obligations when they agree to the purchase price of the home.

We understand that a buyer and seller can certainly agree to terms that allow for the transfer of a lien from the seller to the buyer, however that is unusual and should not be the only option. If it were the only option, many property sales could fall through at the closing table.

CenterPoint Energy does not allow for program participants or any other party to pay off the TOB investment early (i.e. before the full term of the financing) through the TOB program. As noted

¹⁹ CenterPoint Energy's response to CEE's Information Request Number 13.

²⁰ Minn. Stat. 216B.241 Subd. 5d (g)

above, the full term of the TOB obligation will typically be 12 years. When asked about pre-payment during their engagement with stakeholders, CenterPoint Energy responded:

The model tariff defines the Program Service Charge in a tariffed on-bill program in a way that is similar to other charges for essential utility services. Utilities do not permit pre-payment of charges assessed for cost recovery of specific investments in supply, and the same is true in a program based on the Pay As You Save system. If a customer makes a lump sum payment to the utility in excess of charges owing, it is assigned to the customer's account as a credit from which future bill payments are deducted.²¹

First, the TOB program is not an essential utility service and, based on the results of our cost-effectiveness analysis, the TOB program would never be approved as a utility supply side resource investment, subject to ratepayer cost-recovery as described by CenterPoint Energy.

Regarding property transfers, rather than allowing for prepayment of the TOB obligation to enable a simpler transfer of property, CenterPoint Energy seems to suggest that customers figure out the remaining amount of future obligations on their own and pay a credit toward the buyer's future bills. This restriction on paying off the TOB debt early, which is extremely uncommon in lending, ensures that customers, as well as ratepayers, pay the full amount of interest associated with TOB projects. This, in turn, ensures that CenterPoint Energy will earn their full rate of return on the TOB improvement over the full term of the TOB obligation. We believe that it is more important to facilitate a clean transfer of property for the buyer and seller than to guarantee CenterPoint Energy earnings on that expense.

Additionally, and perhaps a more common problem in this transfer process is whether a buyer, or a renter in the case of a property where a tenant pays the natural gas bill, will even know about the TOB program charge when they purchase or rent a property. While CenterPoint Energy has developed agreements that require a seller, or a landlord to disclose future TOB obligations, there is no way to enforce or even monitor this requirement. Therefore, customers will not even discover they are participating in a TOB program until they receive their first bill.

III. The TOB Model Adds Outsized Costs and Risks to Ratepayers

The TOB program model, as compared to Minnesota's CIP model of delivering energy efficiency services, also increases costs and risks to CenterPoint Energy ratepayers. The proposed TOB pilot program is expensive, with a significantly higher rate of return, paid for by ratepayers, than the company's CIP investments.

Total Costs of the Proposed TOB Pilot Program

²¹ TOB Petition, Exhibit C – Stakeholder Engagement Q&A, p. 6, Answer to question #15.

CenterPoint Energy estimates that, if approved, the TOB program would cost ratepayers between \$5.6 and \$23.9 million over the three-year pilot term,²² which averages to between \$1.87 million and \$7.97 million annually. This level of spending on an energy efficiency pilot project is unprecedentedly high. Utility pilot programs are intended to test a new program model or technology to determine if it is worth deeper, longer-term ratepayer funding. We are concerned with the proposed spending level to pilot (i.e. test) this new program model. For comparison, the company's latest CIP filing to increase spending on low-income programs includes a total annual budget of about \$6.5 million for the company's entire low-income CIP portfolio.

TOB Costs are Additive to CIP Ratepayer Costs

The proposed TOB program is designed to work as a financing mechanism to complement the company's existing CIP program. As such, the TOB model provides no funding for energy efficiency improvements, relying instead on the rebates and services of CenterPoint Energy's CIP, the costs of which are already recovered from CenterPoint Energy ratepayers.

Nonetheless, the TOB program adds significant costs to ratepayers on a per-energy-savings and per-participant basis. The TOB program, over the full three years of the proposal, would cost ratepayers \$3,733 per TOB participant and \$233 per dekatherm of savings²³. These costs are noteworthy considering that the TOB program provides no funding to offset the costs of energy efficiency improvements, so participants continue to pay the full cost of energy efficiency measures, minus CIP rebates.

We recommend that the Commission consider these TOB costs as additional overhead costs to the company's CIP and weigh the opportunity costs of using ratepayer funds in this way. For illustration, what would the impact be of using the proposed budget for the TOB program in CIP? Could the company serve an additional 1,500 households by adding \$5.6 million to the budget for company's low-income CIP programs over three years? Would adding \$3,700 of incentive-per-participant for low- to moderate-income customers in existing CIP programs increase the accessibility and thus uptake of those programs? Using the company's cost assumptions for the TOB Petition, the company could pay the full costs of weatherizing (providing air sealing and insulation) approximately 1,120 homes.²⁴ Is a preferable option to avoid participant costs for 1,120 low- to moderate-income customers? We do not suggest these questions as recommendations, but rather as a helpful way of framing the TOB proposal. We discuss

²² Page 14 of the TOB Petition.

²³ These figures were calculated using a projected cost to ratepayers of \$5.6 million, which is the company's lowest estimated cost to ratepayers as filed on page 14 of the TOB Petition.

²⁴ This figure was calculated using the company's estimated average cost of TOB projects of \$5,000, which is based on the company's residential air sealing and insulation CIP program and included on page 14 of the TOB Petition as footnote 33.

alternative uses of this funding, which we believe would be more impactful and cost-effective, below. First, we examine the specific types of costs proposed by the company in the TOB Petition.

Start-Up Costs

In its filing, CenterPoint Energy outlines a proposed investment in start-up costs for the TOB program.

CenterPoint Energy anticipates investing \$1 million in capital to design and build systems and process for customers to interact with the TOB pilot (e.g. utility bill print, My Account Online, Interactive voice response system, program webpage and request forms, call center interaction) and automated internal and vendor information exchange systems (e.g. customer eligibility verification, security check, payment processing, payment tracking details, funds transfer, CIP integration, etc.).²⁵

In addition to the \$1 million investment, CenterPoint Energy proposes a capital rate of return of 7.42 percent over 15 years for a total of \$556,500 on the investment, and utility administration of \$200,000 solely for start-up, bringing the total program startup costs to ratepayers to \$1,756,500.²⁶ These start-up costs are far outside of ordinary for an efficiency program, particularly one that is a pilot program, which may prove unsuccessful and be short-lived.

In its filing, CenterPoint Energy references a Minnesota-specific feasibility study of the TOB model conducted by Cadmus.²⁷ In this study, Cadmus found relatively low opportunity for the TOB model to work given Minnesota's housing stock. Cadmus concluded that electrically-heated homes, which exists but are relatively uncommon in the Twin Cities Metropolitan Area, would be the best opportunity for a TOB program in Minnesota. Given the limited opportunity, Cadmus highlighted the importance of managing utility administrative costs to remain cost-effective.

Based on this analysis, a TOB program achieving participation levels in line with CenterPoint [TOB] program assumptions would provide adequate scale to justify fixed program development costs. However, should participation levels fall below these levels or administrative costs exceed them, utility cost effectiveness may be harmed.²⁸

²⁵ Page 3 of Exhibit L in the TOB Petition.

²⁶ Page 14 of the TOB Petition.

²⁷ "Tariffed On-Bill Financing Feasibility: Assessment of Innovative Financing Structures for Minnesota." Cadmus. August 2019. http://energytransition.umn.edu/wp-content/uploads/2019/08/Minnesota-TOB-Financing-FINAL_AH-1.pdf

²⁸ "Tariffed On-Bill Financing Feasibility: Assessment of Innovative Financing Structures for Minnesota." Cadmus. August 2019. 68-69. http://energytransition.umn.edu/wp-content/uploads/2019/08/Minnesota-TOB-Financing-FINAL_AH-1.pdf

The startup costs proposed in the Cadmus study were \$475,000, just 27 percent of what CenterPoint Energy has proposed in this filing. CenterPoint Energy's high startup costs add an unreasonably high burden for ratepayers for an untested program model.

Program Delivery Costs

CenterPoint Energy's budget also includes inordinately high program delivery costs. In addition to the \$900,000 in program costs recovered from program participants, CenterPoint Energy plans to expend more than \$2.2 million in pilot delivery costs paid for by ratepayers over the three-year term.²⁹ The cost-benefit analysis in the 2019 Cadmus study included only \$650,000 in program costs to serve 500 customers per year, the same number of participants proposed in the TOB Petition. The overall program costs in the Cadmus study, which only found very under-insulated homes to be cost effective, were 29 percent of what CenterPoint Energy proposes here.

We note that we do not believe that the delivery costs estimated in the TOB Petition are inflated. Instead, we think the estimated costs in the TOB Petition are likely accurate to account for the complex nature of the TOB model. The TOB program involves a custom energy assessment, energy modeling, convincing customers to sign a very complex agreement, management of installation contractors, a billing analysis of every customer one year after installation, additional inspections if savings are not realized including potential repair work, utility administration, marketing, outreach services, developing community partnerships, and a third-party evaluation. The TOB model is simply a very expensive and inefficient way to deliver energy efficiency services to residential customers.

Additional Costs Not Outlined in the Petition

There are additional costs that would be assigned to ratepayers that are not quantified in CenterPoint Energy's TOB Petition. For instance, on page 19 of the TOB Petition the company notes that if energy savings do not materialize for participants and the program implementer cannot determine the reason, the company will end the TOB obligation. CenterPoint Energy elaborated on this point in response to CEE's information request number 14, stating that ratepayers would pay for the project costs in those instances. As discussed above, we expect that there may be a significant number of cases where participants do not realize expected energy savings and it will be impossible to determine why. This could leave ratepayers with significant additional costs, both to pay for the energy efficiency improvement and the participants' portion of the company's rate of return.

Another potential cost to ratepayers is the CIP financial incentive associated with energy efficiency measures that result from the TOB program. As discussed above, the TOB program is designed as a complement to CIP. The TOB model relies on CIP rebates and services as part of the delivery model and for additional funding and therefore would drive participants toward CIP. CenterPoint Energy claims energy savings for all energy efficiency measures rebated or partially

²⁹ Page 15 of the TOB Petition.

funded through CIP and counts these savings toward their statutory energy savings goal. CenterPoint Energy also earns a financial incentive on the net benefits of CIP-funded energy savings and programs.

In response to CEE's information request number 19, the company stated that they intend to count the net benefits from CIP program participants who also participate in TOB toward their CIP financial incentive. This means that not only will CenterPoint Energy earn their full rate of return on the total cost of energy efficiency projects through the TOB program, but they will also claim the energy savings of those projects in CIP to earn an additional financial incentive.

It was not imagined either in legislation or in Commission deliberations around the CIP financial incentive that a utility would be earning a CIP incentive and a rate of return on the same energy efficiency improvement. We believe that this is an unreasonable cost to ratepayers. Moreover, it potentially incentivizes CenterPoint Energy to push customers toward the TOB program in order to earn more money, rather than pushing customers toward CIP, which is cheaper for ratepayers and participants.

In summary, the proposed TOB program would add significant costs and risks to ratepayers which are not worth absorbing when other options provide greater benefit at lower costs with less risk. TOB program costs to ratepayers are significant due to high program startup costs, high delivery costs, a significant rate of return paid by ratepayers, and potential program cost shifts.

IV. Recommendations

As stated above, we agree with the company, the City of Minneapolis, and the many advocates and community leaders who have identified the need for more and better energy efficiency services for low- to moderate-income renters and homeowners. We believe that it is critical to expand services to those customers with innovative program designs and increased funding.

We do not, however, believe that the TOB model offers the type of energy efficiency support and services needed to serve low- to moderate-income customers. A program design with both high upfront costs and ongoing charges is not compelling in the general residential market and is especially troubling when targeted to low-income and renter customers in underserved neighborhoods.

We recommend that parties focus collective efforts on expanding and improving CenterPoint Energy's CIP services for low- to moderate-income customers. CIP is a low-cost, well-established way to provide energy efficiency services to all utility customers. The CIP regulatory framework provides for innovation and flexibility. We are confident that the company can innovate, improve, and expand services for low- to moderate-income customers through CIP, beyond what is possible through the TOB model.

The conversations around the TOB program proposal have uncovered many actionable steps that the company can and should take to improve its CIP. For example, CenterPoint Energy could

improve equitable outcomes in its efficiency programs, by marketing its CIP offerings in historically underserved neighborhoods like the Green Zones.³⁰ Additionally, parties identified the need for additional funding and targeted services for moderate-income customers. Based on Department precedent,³¹ the company can develop a CIP program specifically for moderate-income customers, with higher incentives and funding levels than traditional market rate programs. We thank the City, the company, and parties for such deep and thoughtful engagement through this process.

The recently enacted Energy Conservation and Optimization Policy Goal (ECO) legislation significantly increased the amount of money a natural gas utility must spend on low-income energy efficiency services, starting in 2022. CEE believes that ECO's increased spending requirement offers an excellent opportunity for the company to provide deeper incentives for property owners and improved program design to serve more renters.

On November 1, 2022, CenterPoint Energy proposed spending approximately \$1.75 million per year more on low-income energy efficiency CIP programs in 2022 and 2023.³² In that docket process, the company committed to developing new low-income CIP programs and proposing those to the Department in 2022. Now is the time for parties and the company to work together toward bold and innovative solutions for low- to moderate-income homeowners and renters for inclusion in the company's 2022 CIP proposal.

We recommend that the Commission:

1. Reject the TOB Petition.
2. Order CenterPoint Energy to work with interested parties to develop and file, no later than December 31, 2022, CIP offerings to target and better serve low- and moderate-income homeowners and renters.
3. Order the company to, no later than December 31, 2022, propose in its CIP a robust program for renters living in multifamily housing with five or more units or expand the company's LIRE program to include services for five-20-unit multifamily properties and increase funding for LIRE by at least \$1.1 million each year for this purpose.

³⁰ In the company's response to CEE's information request number four, the company stated, "CenterPoint Energy has also not previously engaged in targeted marketing campaigns in the Minneapolis Green Zones. The Company is working on targeted marketing efforts for the Minneapolis Green Zones for the 2021/2022 heating season, but these marketing efforts are still in-progress."

³¹ The Department approved Minnesota Energy Resources' 4U2 program as part of their low-income CIP portfolio. The 4U2 program provides services to customers with annual incomes above the typical low-income-eligibility requirement. This program provides additional support for participants to increase accessibility of energy efficiency services.

³² Docket Number G-008/CIP-20-478

4. Order the company to, no later than December 31, 2022, propose in its CIP an expansion of the LIRE program of at least an additional \$1 million each year for one-to-four-unit multifamily properties
5. Order the company to, as soon as possible, increase targeted marketing of its CIP services in Minneapolis Green Zones, with specific focus on increasing customer awareness of automatic eligibility for free CIP services through the company's LIW and LIRE programs.
6. Order the company to, as soon as possible, increase targeted marketing of its CIP services in Minneapolis Green Zones, with specific focus on increasing property-owner awareness of automatic eligibility for the company's LIRE program.

We note that the company's TOB Petition proposed ratepayer costs estimated to be between \$5.6 and \$23.9 million dollars over three years. We urge the company to keep the scale of that budget in mind when determining an appropriate and meaningful budget for the additional CIP efforts noted above.

We appreciate the opportunity to provide input to this important docket. We thank the Commission for considering our remarks.

Please contact me at apartridge@mncee.org with any questions.

Sincerely,

/s/ Audrey Partridge

Director of Regulatory Policy

Center for Energy and Environment

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **CenterPoint Energy**
 Project: **TOB Pilot**

| Input Data | | | First Year | Second Year | Third Year |
|--|----------|---|------------|-------------|------------|
| 1) Retail Rate (\$/Dth) = | \$6.21 | 16 Utility Project Costs | | | |
| Escalation Rate = | 4.69% | 16 a) Administrative & Operating Costs = | 3,263,235 | 1,716,590 | 1,579,590 |
| 2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) = | \$0.000 | 16 b) Incentive Costs = | 250,000 | 250,000 | 250,000 |
| Escalation Rate = | 3.59% | 16 c) Total Utility Project Costs = | 3,513,235 | 1,966,590 | 1,829,590 |
| Non-Gas Fuel Units (ie. kWh,Gallons, etc) = | kWh | 17) Direct Participant Costs (\$/Part.) = | 5,901 | 5,901 | 5,901 |
| 3) Commodity Cost (\$/Dth) = | \$3.25 | 18) Participant Non-Energy Costs (Annual \$/Part.) = | - | - | - |
| Escalation Rate = | 4.69% | Escalation Rate = | 2.30% | 2.30% | 2.30% |
| 4) Demand Cost (\$/Dth/Yr) = | \$115.55 | 19) Participant Non-Energy Savings (Annual \$/Part) = | - | - | - |
| Escalation Rate = | 4.69% | Escalation Rate = | 2.30% | 2.30% | 2.30% |
| 5) Peak Reduction Factor = | 1.00% | 20) Project Life (Years) = | 20 | 20 | 20 |
| 6) Variable O&M (\$/Dth) = | \$0.0500 | 21) Avg. Dth/Part. Saved = | 16 | 16 | 16 |
| Escalation Rate = | 4.69% | 22) Avg Non-Gas Fuel Units/Part. Saved = | 55 | 55 | 55 |
| 7) Non-Gas Fuel Cost (\$/Fuel Unit) = | \$0.000 | 22a) Avg Additional Non-Gas Fuel Units/ Part. Used = | - | - | - |
| Escalation Rate = | 3.59% | 23) Number of Participants = | 500 | 500 | 500 |
| 8) Non-Gas Fuel Loss Factor | 7.70% | 24) Total Annual Dth Saved = | 8,000 | 8,000 | 8,000 |
| 9) Gas Environmental Damage Factor (\$/Dth) = | \$2.0700 | 25) Incentive/Participant = | 500 | 500 | 500 |
| Escalation Rate = | 2.30% | | | | |
| 10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) : | \$0.0198 | | | | |
| Escalation Rate = | 2.30% | | | | |
| 11) Participant Discount Rate = | 3.02% | | | | |
| 12) CIP Utility Discount Rate = | 5.39% | | | | |
| 13) Societal Discount Rate = | 3.02% | | | | |
| 14) General Input Data Year = | 2020 | | | | |
| 15a) Project Analysis Year 1 = | 2021 | | | | |
| 15b) Project Analysis Year 2 = | 2022 | | | | |
| 15c) Project Analysis Year 3 = | 2023 | | | | |

| Cost Summary | 1st Yr | 2nd Yr | 3rd Yr | Test Results | Triennial NPV | Triennial B/C | |
|---------------------------------|------------|------------|------------|-------------------------------|----------------|---------------|------------------|
| Utility Cost per Participant = | \$7,026.47 | \$3,933.18 | \$3,659.18 | Ratepayer Impact Measure Test | (\$7,850,766) | 0.21 | (\$2,616,922.11) |
| Cost per Participant per MCF = | 807.94 | 614.61 | 597.48 | Utility Cost Test | (\$4,937,276) | 0.30 | (\$1,645,758.54) |
| Lifetime Energy Reduction (MCF) | 480,000 | | | Societal Test | (\$11,370,566) | 0.24 | (\$3,790,188.59) |
| Societal Cost per MCF | 31.27 | | | Participant Test | (\$4,152,868) | 0.52 | (\$1,384,289.22) |

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|---------------------------------|------------------------------|---------------------------------|------------------------------|--------------------------|--|-------|-----------------------|---------------------------------|------------------------------|---------------------------------|------------------------------|------|-----|-------|--------|--------|--------|------|-------|--------|--------|--------|---------|------|-------|--------|--------|--------|---------|
| CEE 02 | <p>Please provide:</p> <ul style="list-style-type: none">total estimated energy savings for the Tariffed on Bill (TOB) program for each year of the program,the methodology used for estimating energy savings for the program,the weighted average lifetime for energy savings for each year of the program,estimated O&M savings, if applicable, for each year of the program, andany additional estimated non-energy benefits included in the calculation of cost-effectiveness for TOB for each year of the program. <p>Response:</p> <p>The following table describes a low and high total natural gas and electric savings estimate for each year of the TOB pilot program.</p> <table><tr><th></th><th></th><th colspan="2">Normal Baseline</th><th colspan="2">Poor Efficiency Baseline</th></tr><tr><th>Years</th><th>Assumed # of Projects</th><th>Total Natural Gas Savings (Dth)</th><th>Total Electric Savings (kwh)</th><th>Total Natural Gas Savings (Dth)</th><th>Total Electric Savings (kwh)</th></tr><tr><td>2023</td><td>500</td><td>8,000</td><td>27,500</td><td>26,000</td><td>90,500</td></tr><tr><td>2024</td><td>1,000</td><td>16,000</td><td>55,000</td><td>52,000</td><td>181,000</td></tr><tr><td>2025</td><td>1,500</td><td>24,000</td><td>82,500</td><td>78,000</td><td>271,500</td></tr></table> <p>The Normal Baseline (low estimate) assumes energy savings of 16 Dth and 55 kwh per project/year based on inputs for attic insulation/air sealing measures in homes with normal levels of existing insulation used in the 2019 TOB Financing Feasibility Study by the Cadmus Group.[1]</p> | | | Normal Baseline | | Poor Efficiency Baseline | | Years | Assumed # of Projects | Total Natural Gas Savings (Dth) | Total Electric Savings (kwh) | Total Natural Gas Savings (Dth) | Total Electric Savings (kwh) | 2023 | 500 | 8,000 | 27,500 | 26,000 | 90,500 | 2024 | 1,000 | 16,000 | 55,000 | 52,000 | 181,000 | 2025 | 1,500 | 24,000 | 82,500 | 78,000 | 271,500 |
| | | Normal Baseline | | Poor Efficiency Baseline | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Years | Assumed # of Projects | Total Natural Gas Savings (Dth) | Total Electric Savings (kwh) | Total Natural Gas Savings (Dth) | Total Electric Savings (kwh) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2023 | 500 | 8,000 | 27,500 | 26,000 | 90,500 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2024 | 1,000 | 16,000 | 55,000 | 52,000 | 181,000 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2025 | 1,500 | 24,000 | 82,500 | 78,000 | 271,500 | | | | | | | | | | | | | | | | | | | | | | | | | | |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

The Poor Efficiency Baseline (high estimate) assumes energy savings of 52 Dth and 181 kwh per project/year based on inputs for wall insulation energy savings for homes with poor levels of existing insulation used in the 2019 TOB Financing Feasibility Study. These inputs factored into the Avoided Carbon Emissions estimates in Exhibit M – Quantification of Certain TOB Pilot Benefits.

The Company provided energy savings estimates based on the assumption that each year each project would include insulation measures, which have a lifetime of 20 years. The Company and Minneapolis did not make more detailed assumptions into the number and type of projects installed each year of the TOB pilot which would affect the weighted average lifetime.

[1] The Cadmus Group. Tariffed On Bill Financing Feasibility Assessment of Innovative Financing Structures for Minnesota. Aug. 2019. http://energytransition.umn.edu/wp-content/uploads/2019/08/Minnesota-TOB-Financing-FINAL_AH-1.pdf

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 03 | <p>As buildings become tighter through air sealing and other building shell improvements, there is often a need for additional mechanical ventilation and/or combustion safety measures to ensure the health and safety of occupants. Additionally, some buildings require upgrades before mechanical equipment or insulation measures can be installed to ensure code compliance and the safety of the contractor and occupants. Most CIP programs include screening criteria and education on these measures as part of the project scope and many low-income CIP programs require implementation of health and safety measures as part of the program if needed. The screening methodology typically includes Minnesota code metrics and/or nationally recognized standards (ASHRAE 62.2, BPI 1200) to determine whether ventilation and combustion safety mitigation measures are needed.</p> <p>Will there be a method to evaluate the need for these measures in the TOB program? How will you ensure that these measures are included in the scope of work when a potential health and safety hazard could result from a building envelope or equipment upgrade? How will such health and safety measures be funded?</p> <p>Response: CenterPoint Energy will specify health and safety tasks and requirements as part of the Request for Proposals (RFP) process to solicit a qualified TOB pilot Program Operator. The Company and Minneapolis will provide health and safety screening and education consistent with existing CIP programs. Health and safety measures add costs without adding energy savings to TOB pilot projects which will make projects that require substantial health and safety measures less likely to qualify for TOB without a co-pay amount paid</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

| by the TOB pilot participant or other external party.

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 04 | <p>On page 10 of CenterPoint Energy's September 1, 2021, <i>Petition by CenterPoint Energy and the City of Minneapolis to Introduce a Tariffed on Bill Pilot Program</i> (Petition) the company stated, "The Company will target [TOB] pilot marketing at high energy users and high energy burden customers including customers living in and property owners of single and multifamily rental buildings, with a particular focus on Minneapolis Green Zones, Minneapolis designated communities that have been deeply affected by pollution, racism and other factors."</p> <p>Does the company target these customers for its existing low-income Conservation Improvement Program (CIP) offerings, including Low-Income Rental Efficiency, Multi-Family Building Efficiency, Low-Income Weatherization, and Low-Income Home Energy Squad? If not, does the company have plans to target these customers for its CIP low-income offerings in the future?</p> <p>Response:</p> <p>The Minneapolis Green Zones have historically been an area of implicit if not explicit focus for the implementation of Low-Income Weatherization and Low-Income Rental Efficiency programs. Participation in energy assistance programs is relatively high in the Green Zones and participation in the Company's low-income programs has historically been higher than average. Recently approved geographic based low-income eligibility will potentially further reduce barriers to program participation in those areas and increase program participation.[1]</p> <p>CenterPoint Energy has also not previously engaged in targeted marketing campaigns in the Minneapolis Green Zones. The Company is working on</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

targeted marketing efforts for the Minneapolis Green Zones for the 2021/2022 heating season, but these marketing efforts are still in-progress.

[\[2\]](#)

[\[1\]](#) *In the Matter of CenterPoint energy's 2021-2023 Natural Gas Conservation Improvement Program Triennial Plan*, Docket No. G-008/CIP-20-478, Decision, (DOC, Nov. 1, 2021).

[\[2\]](#) Targeted marketing efforts are not solely focused on the Minneapolis green zones, but also include customers potentially in need of energy assistance services.

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 05 | <p>On page 10 of CenterPoint Energy's September 1, 2021, Petition, the company describes the "Pre-Screening" process for the proposed TOB program. The company states, "the [TOB] program operator will educate all customers at the location, and the property owner, about CIP and no-cost income qualified services and confirm interest in moving forward with TOB pilot participation."</p> <p>Will the TOB program pre-screening process include an assessment of whether a customer is eligible for no-cost, income-qualified services through CIP? If so, what will CenterPoint Energy direct the TOB program operator to do if the customer is eligible for no-cost, income qualified services through CIP? Would the TOB program implementer continue to market TOB to any customers who are eligible for no-cost, income qualified services through CIP? Will the TOB program implementer provide additional support or assistance in accessing no-cost, income-qualified CIP services for eligible customers? If so, please describe what types of assistance and support will be provided.</p> <p>Response: As described on page 10 of the TOB petition, TOB pilot messaging will be aligned with CIP and Energy Assistance Services so that customers are able to make well-informed choices about the services and resources that will work best for them. Although Minneapolis and CenterPoint Energy do not propose to prevent low-income customers from participating in the TOB pilot, we will take steps, in the marketing of the TOB pilot and in participant disclosures, to inform customers about income-qualified offerings and encourage income-qualified customers to take advantage of no-cost options rather than the TOB pilot. The TOB Program Operator will</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

refer customers who self-identify as low-income to operators of low-income programs upon customer request.

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 06 | <p>On page 10 of the Petition, the company notes that the TOB program operator will conduct on-site energy assessments for the TOB program. Please provide detail on what is included in the on-site energy assessment.</p> <p>Response: TOB Pilot Petition Exhibit N – Program Operator Scope of Work, page 3, describes services provided during the on-site energy assessment: On-site walkthrough: A visual inspection will be performed to confirm the property is structurally sound and meets basic eligibility for an energy assessment. For example, the property is not under major renovation (missing walls) or there are no signs of roof damage or standing leaks. On-site Energy Assessment: Program Operator will coordinate with Home Energy Squad providers to complete an inspection to identify energy savings opportunities. The following services will be completed during this inspection as applicable:</p> <ul style="list-style-type: none"> 1 Attic and wall insulation inspection and data collection 1 Appliance efficiency inspection and data collection 1 Home performance diagnostic testing, including but not limited to blower door tests to inspect air leaks and collect data points for energy modeling. <p>Direct Install: Program Operator will evaluate the home for potential installation of measures outlined in the most recent approved Minnesota Technical Resource Manual or otherwise specified. Staff will obtain customer consent to install agreed-upon measures. Measures will be installed at the visit and customer will be educated on proper use of measures and the energy savings they provide. Measures are subject to the Company's approval, as well as subject to change, and may include:</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

- 1 Programmable thermostat
- 1 Programming existing thermostat
- 1 Door weather stripping
- 1 Attic hatch weather stripping
- 1 Low flow showerhead
- 1 Kitchen aerator
- 1 Bathroom aerator
- 1 Water heater blanket
- 1 Water heater setback
- 1 Domestic hot water pipe insulation
- 1 CO monitor

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 07 | <p>On page 11 of the Petition, the company notes that the TOB program operator will conduct a quality assurance review after energy upgrades have been installed through the program. Please provide detail on what is included in the quality assurance review. How is the quality assurance review funded through the TOB program?</p> <p>Response:</p> <p>TOB Pilot Petition Exhibit N – Program Operator Scope of Work, page 4, describes the Program Operator’s role in providing quality assurance.</p> <p>The Program Operator will coordinate the installation of Energy Upgrade Scope of Work with contractors and provide post installation verification that the work was completed. The Program Operator will provide a post-install billing analysis 1-2 years after project installation, upon customer requests, and if a customer is at risk of disconnect. The Program Operator will serve as the point of contact with the customer and coordinate any follow up service or repairs related to the TOB Program Scope of Work. The Program Operator will track and report to CenterPoint Energy agreed upon progress metrics.</p> <p>This service is part of the \$475 pilot administration charge paid by the pilot participant as described on page. 11 of the TOB pilot petition.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 08 | <p>On page 12 of the Petition, the company states, "According to the Participant Owner Agreement, the property owner is responsible for ordinary maintenance of installed upgrades, however any needed repairs will be arranged and paid for by the program operator." The company then states in footnote 25 on the same page of the Petition that if a property owner, a customer, or another individual at the location negligently or deliberately causes damage to the upgrades they can be charged for necessary repairs.</p> <p>How will the company determine who caused the need for repair? Who makes this determination and what are their qualifications?</p> <p>If a landlord is responsible for a repair in a rental property, but the landlord is not the CenterPoint Energy customer, how will the company require that the landlord to pay for the repair?</p> <p>Response: The TOB pilot Program Operator investigates failing installations at the TOB participant's request or if triggered by the post-installation billing review. The TOB pilot Program Operator will have a conversation with the TOB participant and conduct an on-site assessment, as necessary, to determine any obvious cause for the installation failure. As described in the Participant Owner Agreement, paragraph 10, property owners may appeal program operator determinations to CenterPoint Energy.</p> <p>In the case of a landlord who is not a CenterPoint Energy customer, the landlord will have signed the Participant Owner Agreement, Petition Exhibit G, or the Successor Owner Notice and Acknowledgement, Petition Exhibit I, agreeing to circumstances in which CenterPoint Energy may charge the</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

| owner for necessary repairs.

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 09 | <p>On page 18 of the Petition, the company states, "Minneapolis and the Company propose to require the program operator, selected via [request for proposals], to provide the modeling software, and therefore details regarding modeling software are not available at this time."</p> <p>Who will evaluate, assess, and approve the energy modeling software for the TOB program? What, if any, role will the Minnesota Department of Commerce staff have in the evaluation of the software? Will the estimated energy savings be calibrated to the customer's current bills?</p> <p>Response: CenterPoint Energy plans on evaluating, assessing, and approving the energy modeling software through the RFP process. The Company does not plan on claiming energy savings through its CIP programs based on an assessment from the energy modeling software use in the TOB program. The purpose of the modeling software is to ensure, on a project basis, a reasonable certainty in customer savings on their bill and not to claim energy savings for CIP. This process would require calibration to customer's current bills.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 10 | <p>On page 19 of the Petition, the company states, "The program operator will review gas and electric bills for each participating customer at a location and confirm that the total annual gas and electric bills for each customer decreased, on a weather-normalized basis, during the first year of program participation. If the program operator determines that savings were not realized they will conduct an investigation to determine the cause."</p> <p>Will the program operator determine if the savings are greater than the customer payments, or just that the "total annual gas and electric bills for each customer decreased"?</p> <p>When the company says, "If the program operator determines that savings were not realized they will conduct an investigation to determine the cause," what is meant by "savings were not realized"? Does this mean that if the predicted amount of energy savings were not realized or that any energy savings were not realized? Specifically, what criteria triggers the investigation?</p> <p>Response: The TOB Pilot Program Operator will investigate if, on a weather-normalized basis, the customer is paying more, including TOB program charges, than what they paid prior to TOB pilot participation. A billing review will take place at least one year after the installation of the upgrades and again if the participant requests it.</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 11 | <p>On page 19 of the Petition, the company states, "if the program operator determines that savings did not materialize due to malfunction of measures installed, the program operator will arrange to have the equipment repaired."</p> <p>Who will pay for the repair of the equipment? For how long does this repair guarantee last? Additionally, the guarantee noted above only mentions "equipment." Does this guarantee apply to building shell measures such as air sealing and insulation as well?</p> <p>Response: The TOB pilot Program Operator will work with installation contractors and warranties and arrange for the repair of malfunctioning measures installed through the TOB program (Exhibit N). We anticipate, based on conversations regarding how existing programs operate, that in most cases, an equipment malfunction or contractor error will be covered under warranty and the installation contractor will cover the expense of the repair. If the program operator determines an owner or occupant at the property deliberately or negligently caused the failure, such as in the case of a remodel, the utility may seek to recover repair costs from the TOB participant owner (as described in Exhibit G and H). The requirement for CenterPoint Energy to repair failed measures includes all measures financed through the TOB program, including air sealing and insulation as applicable, and, pursuant to the Participant Owner Agreement, extends for the term of that agreement. Note, pursuant to paragraph 8B of the Participant Owner Agreement, that in the event that CenterPoint Energy determines that measures cannot be repaired or replaced in a cost-effective manner, we will waive recovery of outstanding TOB Program charges from the individual participant rather than repair or replace the measure.</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 12 | <p>On page 19 of the Petition, the company provides three possible reasons energy savings may not be realized through the TOB program: 1) equipment malfunction, 2) a change in participant behavior or participant inflicted damage to installed measures, 3) unknown and undetermined.</p> <p>Who makes the final determination of why energy savings are not realized?</p> <p>Response: In the TOB Petition Exhibit G – Participant Owner Agreement and Exhibit H – Renter Agreement, Section 8 and 9 describes how the TOB Program Operator determines if and why energy savings are not realized. Section 10 describes that the owner/renter may appeal to the Utility if they disagree with the Program Operator’s determination.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)
Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 13 | <p>National evaluations of residential energy modeling tools often site a margin of error between 10-30% in predicted energy savings or energy consumption. Errors in predicted savings could easily be the most common reason that expected energy savings are not realized for TOB program participants. Does CenterPoint Energy intend to investigate or determine instances where energy savings are not realized due to energy modeling errors? Who will pay for the cost of projects for which energy savings are not realized due to energy modeling errors?</p> <p>Response:</p> <p>CenterPoint Energy and Minneapolis agree that it will be important for estimates to be as accurate as possible, so a key consideration in selecting the Program Operator will be the quality of the energy modeling software and estimating protocols that the Program Operator will propose, as described on page 18 of the TOB pilot petition. The Company will attempt to determine and investigate instances of energy modeling errors that contribute to unrealized savings.</p> <p>The Company and Minneapolis designed the TOB pilot to hold the participant harmless in the event that the participant experiences higher bills due to failure to accurately predict energy savings and cost-effective TOB pilot payment amounts. The Company and Minneapolis propose several mechanisms outlined in the filing to predict and verify energy savings and take corrective measures if savings are not achieved. The cost of projects with unrealized savings that cannot be remedied will be paid by ratepayers, as described in the TOB pilot petition Exhibit L – Pilot Cost Estimate Details, page 2.</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

Note that a project is not eligible for inclusion in TOB unless expected energy savings will result in energy costs that are 20% lower or more than the pre-project baseline including TOB program charges. Accordingly, there is some cushion built into program design to protect against unpreventable errors in estimation and project modeling.

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 14 | <p>On Page 19 of the Petition, the company states, "If the program operator cannot determine why savings did not materialize, CenterPoint Energy will terminate the location's participation in the program and waive remaining charges."</p> <p>Who pays for the remaining unpaid charges? Where, if anywhere, are those estimated costs in the program budget?</p> <p>Response: The cost of projects with unrealized savings that cannot be remedied will be paid by ratepayers, as described in the TOB pilot petition Exhibit L – Pilot Cost Estimate Details, page 2.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: 0

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 15 | <p>On page 19 of the Petition, the company states, "If the program operator determines that savings did not materialize due to a major change in participant behavior or because a participant deliberately or negligently caused damage to the installed measures, TOB pilot charges will continue for the customer."</p> <p>How does the company define "major change in participant behavior"? How will the program operator measure a change in participant behavior? Will the customer have an opportunity to appeal or respond to such a determination? If so, how?</p> <p>Response:</p> <p>The TOB pilot Program Operator will have a conversation with the TOB pilot participant and conduct a site visit to determine if behavioral changes, such as adding more occupants, adding new energy consuming equipment, or changing the thermostat settings, may have contributed to increased energy use at the property. The TOB pilot petition Exhibits G and H – Participant Agreements, Section 10, describe the owner or renter's right to appeal to the Utility if they disagree with the Program Operator's determination. The owner or renter initiates the appeal process by providing notice to the Utility's dedicated email or phone number. The appeal will be considered by the Utility and a decision provided within 30 days.</p> |

Response By: Emma Schoppe
 Title: Local Energy Policy Manager
 Department: Mng Smr Reg Svc Enrgy Prog
 Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)
Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 16 | <p>Please complete participant examples for the following energy efficiency measures in the format provided in the document labeled "TOB Participant Examples_08.06.21" in CenterPoint Energy's August 2, 2021, email to TOB stakeholders, including any updated variables reflecting the September 1, 2021, Petition. Please cite the source for estimated natural gas savings, estimated electric savings, and installed energy upgrade costs.</p> <ol style="list-style-type: none"> 1. 96% AFUE furnace replacement from a typical 80% AFUE furnace 2. 96% AFUE furnace replacement from a typical 80% AFUE furnace with 16 SEER AC replacing a 13 SEER unit 3. 90%+ AFUE high efficiency condensing boiler replacement from a typical 80% AFUE boiler 4. Attic air sealing (assume air sealing improvement of a 20% reduction in air flow), attic insulation (assume R19 to R50); and wall insulation (assume R9 to R14, including R-2.37 for wall assembly) 5. 0.69 UEF water heater replacement from a typical baseline 0.55 UEF water heater 6. Continuous running ENERGY STAR rated exhaust fan <p>If the company does not expect to include any of the above equipment examples or baselines in TOB, please explain.</p> <p>Response: The TOB pilot petition, page. 18, discusses how the program operator will use energy modeling software to perform the cost-effectiveness test to determine eligible TOB payment amounts. Energy modeling inputs and outputs such as natural gas savings, electric savings, and measure cost assumptions will not be known until the Request for Proposals process to select a program operator. The inputs provided in Exhibit O – Example</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

Cost-Effectiveness Calculations are intended to be illustrative of reasonable measure savings and costs. Therefore inputs provided in Exhibit O – Example Cost-Effectiveness Calculations and this Information Request are intended to be illustrative of reasonable measure savings and costs.

At the time of this Information Request, staff discovered an adding error in the “TOB Participant Examples_08.06.21” that was provided to stakeholders in an email but was not included in the TOB pilot petition.

Example TOB pilot cost-effectiveness calculations for No. 1-5 of this information request are provided in Attachments 1-5 to this response. No example was provided for No. 6 exhaust fan because the Company could not determine a reference to make electric saving assumptions. However, this measure will be bundled with other TOB pilot project measures, as necessary for health and safety.

The natural gas savings, electric savings, and measure cost assumptions for Exhibit O and the requested measures are provided in Attachment 6 to this information request. Please note the example provided in Exhibit O was updated to correct water heater electric savings assumptions from 245 kwh to 99 kwh to be consistent with Minnesota Technical Resource Manual, pgs. 134-136. An update to Exhibit O is provided in Attachment 7.

CenterPoint Energy Responses to CEE Information Requests

Docket No. G-008/M-21-377

CEE 16, No. 1

| | Energy Upgrades | Lifetime (years) | Base | Improved | Estimated Natural Gas Savings (Dth/yr) | Estimated Natural Gas Saving (\$) | Estimated Electric Savings (kWh/yr) | Estimated Electric Cost Savings (\$) | Energy Upgrade Cost (\$) | CIP Incentive (\$) |
|---|---------------------------|------------------|------|----------|--|-----------------------------------|-------------------------------------|--------------------------------------|--------------------------|--------------------|
| 1 | On-Site Energy Assessment | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 700 | 250 |
| 2 | 96% efficient furnace | 20 | 80% | 96% | 22.70 | 159 | 720 | 94 | 4,633 | 400 |
| | Totals | | | | 23 | 159 | 720 | 94 | 5,333 | 650 |

| | | |
|-------------------------|--------|---------|
| Energy Cost Assumptions | \$/Dth | \$ 7.00 |
| | \$/kWh | \$ 0.13 |

| | Natural Gas | Electric | Annual Total | Monthly Total |
|---------------------------------------|-------------|----------|--------------|---------------|
| Total Energy Cost Savings | 159 | 94 | 253 | 21 |
| Allowable TOB Service Charge (x80%) | 127 | 75 | 202 | 17 |
| Estimated Utility Bill Savings (x20%) | 32 | 19 | 51 | 4 |

| | Years | Months |
|-----------------------------------|-------|--------|
| Allowable TOB Service Charge Term | 12 | 144 |

| | |
|---|-------|
| TOB Participant Cost Assessment | |
| On-Site Assessment & Energy Upgrades | 5,333 |
| TOB Pilot Program Operator Services | 475 |
| CIP Incentives | (650) |
| Utility Rate of Return - Participant (2.5%) | 332 |
| Net TOB Pilot Project Cost | 5,490 |
| Total Eligible TOB Pilot Participation Charge | 2,424 |
| Participant Upfront Co-payment Required | 3,066 |

| | |
|---|-----|
| Rate of Return recoverd by ratepayers (4.92%) | 653 |
|---|-----|

CenterPoint Energy Responses to CEE Information Requests

Docket No. G-008/M-21-377

CEE 16, No. 2

| | Energy Upgrades | Lifetime (years) | Base | Improved | Estimated Natural Gas Savings (Dth/yr) | Estimated Natural Gas Saving (\$) | Estimated Electric Savings (kWh/yr) | Estimated Electric Cost Savings (\$) | Energy Upgrade Cost (\$) | CIP Incentive (\$) |
|---|---------------------------|------------------|---------|----------|--|-----------------------------------|-------------------------------------|--------------------------------------|--------------------------|--------------------|
| 1 | On-Site Energy Assessment | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 700 | 250 |
| 2 | 96% efficient furnace | 20 | 80% | 96% | 22.70 | 159 | 720 | 94 | 4,633 | 400 |
| 3 | 16 SEER AC | | 13 SEER | 16 SEER | 0.00 | 0 | 270 | 35 | 5,633 | 450 |
| | Totals | | | | 22.70 | 159 | 990 | 129 | 10,966 | 1,100 |

| | | |
|-------------------------|--------|---------|
| Energy Cost Assumptions | \$/Dth | \$ 7.00 |
| | \$/kWh | \$ 0.13 |

| | Natural Gas | Electric | Annual Total | Monthly Total |
|---------------------------------------|-------------|----------|--------------|---------------|
| Total Energy Cost Savings | 159 | 129 | 288 | 24 |
| Allowable TOB Service Charge (x80%) | 127 | 103 | 230 | 19 |
| Estimated Utility Bill Savings (x20%) | 32 | 26 | 58 | 5 |

| | Years | Months |
|-----------------------------------|-------|--------|
| Allowable TOB Service Charge Term | 12 | 144 |

| | |
|---|---------|
| TOB Participant Cost Assessment | |
| On-Site Assessment & Energy Upgrades | 10,966 |
| TOB Pilot Program Operator Services | 475 |
| CIP Incentives | (1,100) |
| Utility Rate of Return - Participant (2.5%) | 378 |
| Net TOB Pilot Project Cost | 10,719 |
| Total Eligible TOB Pilot Participation Charge | 2,761 |
| Participant Upfront Co-payment Required | 7,958 |

| | |
|---|-----|
| Rate of Return recoverd by ratepayers (4.92%) | 743 |
|---|-----|

CenterPoint Energy Responses to CEE Information Requests

Docket No. G-008/M-21-377

CEE 16, No. 3

| | Energy Upgrades | Lifetime (years) | Base | Improved | Estimated Natural Gas Savings (Dth/yr) | Estimated Natural Gas Saving (\$) | Estimated Electric Savings (kWh/yr) | Estimated Electric Cost Savings (\$) | Energy Upgrade Cost (\$) | CIP Incentive (\$) |
|---|---------------------------|------------------|------|----------|--|-----------------------------------|-------------------------------------|--------------------------------------|--------------------------|--------------------|
| 1 | On-Site Energy Assessment | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 700 | 250 |
| 2 | 90%+ AFUE Boiler | 20 | 80% | 90% | 23.00 | 161 | 0 | 0 | 8,500 | 300 |
| | Totals | | | | 23 | 161 | - | - | 9,200 | 550 |

| | | |
|-------------------------|--------|---------|
| Energy Cost Assumptions | \$/Dth | \$ 7.00 |
| | \$/kWh | \$ 0.13 |

| | Natural Gas | Electric | Annual Total | Monthly Total |
|---------------------------------------|-------------|----------|--------------|---------------|
| Total Energy Cost Savings | 161 | 0 | 161 | 13 |
| Allowable TOB Service Charge (x80%) | 129 | 0 | 129 | 11 |
| Estimated Utility Bill Savings (x20%) | 32 | 0 | 32 | 3 |

| | Years | Months |
|-----------------------------------|-------|--------|
| Allowable TOB Service Charge Term | 12 | 144 |

| | |
|---|-------|
| TOB Participant Cost Assessment | |
| On-Site Assessment & Energy Upgrades | 9,200 |
| TOB Pilot Program Operator Services | 475 |
| CIP Incentives | (550) |
| Utility Rate of Return - Participant (2.5%) | 211 |
| Net TOB Pilot Project Cost | 9,336 |
| Total Eligible TOB Pilot Participation Charge | 1,546 |
| Participant Upfront Co-payment Required | 7,791 |

| | |
|---|-----|
| Rate of Return recoverd by ratepayers (4.92%) | 416 |
|---|-----|

CenterPoint Energy Responses to CEE Information Requests

Docket No. G-008/M-21-377

CEE 16, No. 4

| | Energy Upgrades | Lifetime (years) | Base | Improved | Estimated Natural Gas Savings (Dth/yr) | Estimated Natural Gas Saving (\$) | Estimated Electric Savings (kWh/yr) | Estimated Electric Cost Savings (\$) | Energy Upgrade Cost (\$) | CIP Incentive (\$) |
|---|--------------------------------|------------------|------|----------|--|-----------------------------------|-------------------------------------|--------------------------------------|--------------------------|--------------------|
| 1 | On-Site Energy Assessment | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 700 | 250 |
| 2 | Air sealing + attic insulation | 20 | R=19 | R=50 | 11.00 | 77 | 158 | 21 | 1,968 | 500 |
| 3 | Wall insulation* | 20 | R=9 | R=14 | 7.20 | 50 | 621 | 81 | 3,466 | - |
| | Totals | | | | 18 | 127 | 779 | 101 | 6,134 | 750 |

*Does not meet CIP Incentive Requirement; Baseline less than R-5

| | | |
|-------------------------|--------|---------|
| Energy Cost Assumptions | \$/Dth | \$ 7.00 |
| | \$/kWh | \$ 0.13 |

| | Natural Gas | Electric | Annual Total | Monthly Total |
|---------------------------------------|-------------|----------|--------------|---------------|
| Total Energy Cost Savings | 127 | 101 | 229 | 19 |
| Allowable TOB Service Charge (x80%) | 102 | 81 | 183 | 15 |
| Estimated Utility Bill Savings (x20%) | 25 | 20 | 46 | 4 |

| | Years | Months |
|-----------------------------------|-------|--------|
| Allowable TOB Service Charge Term | 12 | 144 |

| | |
|---|-------|
| TOB Participant Cost Assessment | |
| On-Site Assessment & Energy Upgrades | 6,134 |
| TOB Pilot Program Operator Services | 475 |
| CIP Incentives | (750) |
| Utility Rate of Return - Participant (2.5%) | 300 |
| Net TOB Pilot Project Cost | 6,159 |
| Total Eligible TOB Pilot Participation Charge | 2,195 |
| Participant Upfront Co-payment Required | 3,964 |

| | |
|--|-----|
| Rate of Return recovered by ratepayers (4.92%) | 591 |
|--|-----|

CenterPoint Energy Responses to CEE Information Requests

Docket No. G-008/M-21-377

CEE 16, No. 5

| | Energy Upgrades | Lifetime (years) | Base | Improved | Estimated Natural Gas Savings (Dth/yr) | Estimated Natural Gas Saving (\$) | Estimated Electric Savings (kWh/yr) | Estimated Electric Cost Savings (\$) | Energy Upgrade Cost (\$) | CIP Incentive (\$) |
|---|---------------------------|------------------|---------|----------|--|-----------------------------------|-------------------------------------|--------------------------------------|--------------------------|--------------------|
| 1 | On-Site Energy Assessment | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 700 | 250 |
| 2 | Water Heater (UEF .69) | 10 | .55 UEF | .69 UEF | 4.10 | 29 | 0 | 0 | 2,000 | 250 |
| | Totals | | | | 4 | 29 | - | - | 2,700 | 500 |

| | | |
|-------------------------|--------|---------|
| Energy Cost Assumptions | \$/Dth | \$ 7.00 |
| | \$/kWh | \$ 0.13 |

| | Natural Gas | Electric | Annual Total | Monthly Total |
|---------------------------------------|-------------|----------|--------------|---------------|
| Total Energy Cost Savings | 29 | 0 | 29 | 2 |
| Allowable TOB Service Charge (x80%) | 23 | 0 | 23 | 2 |
| Estimated Utility Bill Savings (x20%) | 6 | 0 | 6 | 0 |

| | Years | Months |
|-----------------------------------|-------|--------|
| Allowable TOB Service Charge Term | 8 | 96 |

| | |
|---|-------|
| TOB Participant Cost Assessment | |
| On-Site Assessment & Energy Upgrades | 2,700 |
| TOB Pilot Program Operator Services | 475 |
| CIP Incentives | (500) |
| Utility Rate of Return - Participant (2.5%) | 572 |
| Net TOB Pilot Project Cost | 3,247 |
| Total Eligible TOB Pilot Participation Charge | 184 |
| Participant Upfront Co-payment Required | 3,063 |

| | |
|---|-------|
| Rate of Return recoverd by ratepayers (4.92%) | 1,126 |
|---|-------|

Docket No. G-008/M-21-377
CEE 16, Attachment 6

| No. | Energy Upgrades | Lifetime (years) | Base | Improve d | Estimate d Natural Gas Savings (Dth/yr) | NG Savings Source | Estimate d Electric Savings (kWh/yr) | Electric Savings Source | Energy Upgrade Cost (\$) | Cost Source | CIP Incentive (\$) |
|------------------------------|---|------------------|---------------|------------|---|---------------------------------------|--------------------------------------|---------------------------|--------------------------|---|--------------------|
| Exhibit O - Energy Upgrades | | | | | | | | | | | |
| 1 | Bathroom aerators (0.5 GPM) and Direct Install (DI) | 10 | 0 | 2 | 0.98 | MN TRM 3.2 (pgs. 144-147) | 0 | N/A | \$ 15 | Estimate based on CenterPoint Energy CIP; Not Actual Vendor Costs | \$ 15 |
| 2 | Showerheads (1.5 GPM) and DI | 10 | 0 | 2 | 3.52 | MN TRM 3.2 (pgs. 163-165) | 0 | N/A | \$ 30 | Estimate based on CenterPoint Energy CIP; Not Actual Vendor Costs | \$ 30 |
| 3 | Kitchen aerator (1.5 GPM) and DI | 10 | 0 | 1 | 0.56 | MN TRM 3.2 (pgs. 144-147) | 0 | N/A | \$ 10 | Estimate based on CenterPoint Energy CIP; Not Actual Vendor Costs | \$ 10 |
| 4 | Water heater piping insulation and DI | 13 | 0 | 6ft | 1.22 | MN TRM 3.2 (pgs. 168-169) | 0 | N/A | \$ 10 | Estimate based on CenterPoint Energy CIP; Not Actual Vendor Costs | \$ 10 |
| 5 | Water heater blanket and DI | 7 | 0 | 1 | 1.07 | MN TRM 3.2 (pgs. 151-154) | 99 | MN TRM 3.2 (pgs. 151-154) | \$ 20 | Estimate based on CenterPoint Energy CIP; Not Actual Vendor Costs | \$ 20 |
| 6 | Tier 3 Thermostat DI & Programming | 10 | Unknown | er 3-Smart | 3.80 | MN TRM 3.2 (pgs. 98-102) | 64 | MN TRM 3.2 (pgs. 98-102) | \$ 170 | Estimate based on CenterPoint Energy CIP; Not Actual Vendor Costs | \$ 50 |
| 7 | Air sealing + attic insulation | 20 | R=18.9 | R=51.8 | 17.00 | 2018-2019 CNP ASI Rebate Program Data | 95 | 2019 Cadmus Study | \$ 2,200 | 2018-2019 CNP ASI Rebate Program Data | \$ 500 |
| 8 | Wall insulation | 20 | R=.9 | R=15.2 | 41.00 | 2018-2019 CNP ASI Rebate Program Data | 227 | 2019 Cadmus Study | \$ 2,900 | 2018-2019 CNP ASI Rebate Program Data | \$ 500 |
| CEE 16 - Information Request | | | | | | | | | | | |
| 1 | 96% AFUE Furnace | 20 | 80% | 96% | 22.73 | MN TRM 3.2 (pgs. 81-86) | 720 | MN TRM 3.2 (pgs. 81-86) | \$ 4,633 | https://www.homeadvisor.com/cost/heating-and-cooling/install-a-furnace/ | \$ 400 |
| 2 | 16 SEER Air Conditioner | 18 | 13 SEER | 16 SEER | 0.00 | N/A | 270 | MN TRM 3.2 (pgs. 45-50) | \$5,633 | https://www.homeadvisor.com/cost/heating-and-cooling/install-an-ac-unit/ | \$ 450 |
| 3 | 90% AFUE Boiler | 20 | 80% | 90% | 23.00 | MN TRM 3.2 (pgs. 81-86) | 0 | N/A | \$ 8,500 | https://www.homeadvisor.com/cost/heating-and-cooling/install-a-boiler/ | \$ 300 |
| 4 | Attic air sealing | 20 | 20% reduction | | 7.00 | MN TRM 3.2 (pgs. 110-118) | 138 | MN TRM 3.2 (pgs. 110-118) | \$ 1,968 | MN TRM 3.2 (pgs. 110-118) | \$ 500 |
| 5 | Attic insulation | 20 | R19 | R50 | 3.95 | MN TRM 3.2 (pgs. 110-118) | 20 | MN TRM 3.2 (pgs. 110-118) | | | |
| 6 | Wall insulation | 20 | R9 | R14 | 7.18 | MN TRM 3.2 (pgs. 110-118) | 621 | MN TRM 3.2 (pgs. 110-118) | \$ 3,466 | MN TRM 3.2 (pgs. 110-118) | \$ - |
| 7 | Water Heater | 10 | 0.55 | 0.69 | 4.08 | MN TRM 3.2 (pgs. 151-158) | 0 | N/A | \$ 2,000 | https://www.homeadvisor.com/cost/plumbing/install-a-water-heater/ | \$ 250 |
| 8 | Exhaust Fan | | 0 | 1 | 0 | N/A | 0 | Unknown | \$ 380 | https://www.homeadvisor.com/cost/bathrooms/install-a-bath-fan/ | 0 |

CenterPoint Energy Responses to CEE Information Requests

Docket No. G-008/M-21-377

Updated Exhibit O - Example Cost-Effectiveness Calculation

| | Energy Upgrades | Lifetime (years) | Base | Improved | Estimated Natural Gas Savings (Dth/yr) | Estimated Natural Gas Saving (\$) | Estimated Electric Savings (kWh/yr) | Estimated Electric Cost Savings (\$) | Energy Upgrade Cost (\$) | CIP Incentive (\$) |
|---|------------------------------------|------------------|---------|--------------|--|-----------------------------------|-------------------------------------|--------------------------------------|--------------------------|--------------------|
| 1 | On-Site Energy Assessment | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 700 | 250 |
| 2 | 2 bathroom aerators (0.5 GPM) | 10 | 0 | 2 | 0.98 | 7 | 0 | 0 | 15 | 15 |
| 3 | 2 showerheads (1.5 GPM) | 10 | 0 | 2 | 3.52 | 25 | 0 | 0 | 30 | 30 |
| 4 | 1 kitchen aerator (1.5 GPM) | 10 | 0 | 1 | 0.56 | 4 | 0 | 0 | 10 | 10 |
| 5 | Water heater piping insulation | 13 | 0 | 6ft | 1.22 | 9 | 0 | 0 | 10 | 10 |
| 5 | Water heater blanket | 7 | 0 | 1 | 1.07 | 7 | 99 | 13 | 20 | 20 |
| 7 | Tier 3 Thermostat DI & Programming | 10 | Unknown | Tier 3-Smart | 3.80 | 27 | 64 | 8 | 170 | 50 |
| 8 | Air sealing + attic insulation | 20 | R=18.9 | R=51.8 | 17.00 | 119 | 95 | 12 | 2,200 | 500 |
| 9 | Wall insulation | 20 | R=.9 | R=15.2 | 41.00 | 287 | 227 | 30 | 2,900 | 500 |
| | Totals | | | | 69.15 | 484 | 485 | 63 | 6,055 | 1,385 |

| | | |
|-------------------------|--------|---------|
| Energy Cost Assumptions | \$/Dth | \$ 7.00 |
| | \$/kWh | \$ 0.13 |

| | Natural Gas | Electric | Annual Total | Monthly Total |
|---------------------------------------|-------------|----------|--------------|---------------|
| Total Energy Cost Savings | 484 | 63 | 547 | 46 |
| Allowable TOB Service Charge (x80%) | 387 | 50 | 438 | 36 |
| Estimated Utility Bill Savings (x20%) | 97 | 13 | 109 | 9 |

| | Years | Months |
|-----------------------------------|-------|--------|
| Allowable TOB Service Charge Term | 12 | 144 |

| TOB Participant Cost Assessment | |
|---|---------|
| On-Site Assessment & Energy Upgrades | 6,055 |
| TOB Pilot Program Operator Services | 475 |
| CIP Incentives | (1,385) |
| Utility Rate of Return - Participant (2.5%) | 719 |
| Net TOB Pilot Project Cost | 5,864 |
| Total Eligible TOB Pilot Participation Charge | 5,252 |
| Participant Upfront Co-payment Required | 612 |

| | |
|---|-------|
| Rate of Return recoverd by ratepayers (4.92%) | 1,414 |
|---|-------|

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 17 | <p>What are the total estimated annual net benefits from CenterPoint Energy's residential CIP segment in the most recently approved CIP Plan for 2021-2023 according to the utility cost test?</p> <p>Response: CenterPoint Energy's most recent approved version of the Triennial Plan estimates net benefits of \$216,185,775 based on the utility cost test.[1]</p> <p>[1] Post approval of the Company's most recent program modifications filed on September 1, 2021. <i>In the Matter of CenterPoint energy's 2021-2023 Natural Gas Conservation Improvement Program Triennial Plan</i>, Docket No. G-008/CIP-20-478, Decision, (DOC, Nov. 1, 2021).</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 18 | <p>Does CenterPoint Energy plan to use energy savings from CIP programs (including direct install measures through the Home Energy Squad, and insulation and equipment rebates) in the calculations of energy savings for the TOB program? If so, will the costs associated with those CIP programs also be included in the calculations for eligibility and cost-effectiveness for the TOB program?</p> <p>Response: Energy savings from CIP measures (including direct install and rebates) will be counted towards project energy savings when determining eligibility of a project for TOB. Savings from TOB projects will be determined using modeling software to be provided by the program operator and may or may not match savings as calculated by the TRM. Any project costs covered by CIP will not be included in the calculation to determine the TOB participant's payment.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 19 | <p>Will the net benefits from projects completed through the TOB program that receive CIP funded services and/or rebates be counted in the calculation of CenterPoint Energy's CIP net benefits? Specifically, does the company plan to include the net benefits associated with projects completed through the TOB program with CIP funded services and/or rebates into the calculation of CenterPoint Energy's CIP financial incentive?</p> <p>Response: CenterPoint Energy plans on counting the net benefits from CIP program participants in CIP who are also TOB participants. When counting CIP net benefits, the Company will count the net benefits from TOB participants using the same calculations as all CIP participants. The Company does not plan on incorporating any additional benefits from TOB (e.g., additional energy savings or measures) into its net benefit calculations for CIP.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 20 | <p>In Exhibit D of the Petition, the company explains that it will charge a \$475 program operation fee through a fixed monthly service charge assigned to the location where upgrades are installed through the TOB program and that the \$475 fee will be paid by customers occupying that location.</p> <p>Please explain whether the \$475 fee will incur any financing charges, interest rates, or rate of return. If the \$475 fee is subject to financing charges, interest rates, or rate of return, please provide the rate(s) applied to the fee, the term over which the fee will be recovered, and who (ratepayers, the participating customer, or company shareholders) will be responsible for paying the applicable financing charge, interest rate, or rate of return.</p> <p>Response: The \$475 program operation charge is considered an operations and maintenance expense and is not subject to financing charges, interest rates, or rate of return. TOB pilot participants are responsible for paying this charge.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 21 | <p>Please provide a detailed breakdown of the activities and systems that will be funded through the "Start-Up" activities budget listed on Exhibit K of the company's TOB Petition?</p> <p>Response:</p> <p>The TOB pilot petition Exhibit L provides a spending estimate of \$1,756,500 for Start-Up activities. Start-Up activities include \$1,000,000 capital spend for the Company to design and build software systems and processes for customers to engage with the TOB pilot (specifically through bill payment processes online, over the phone, or by mail) and for the internal and external exchange of information (e.g. customer eligibility verification, data transfer security checks, processing and tracking payment details, third party coordination, integration with CIP, etc). The Utility Capital return on \$1,000,000 capital investment would be \$556,500 based on a rate of return of 7.42 over 15 years, the useful life of software. The Company estimates \$200,000 for Utility Administration to develop business systems and acquire resources (e.g. Program Operator, Installers, call center training) for TOB pilot delivery.</p> |

Response By: Emma Schoppe

Title: Local Energy Policy Manager

Department: Mng Smr Reg Svc Enrgy Prog

Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 22 | <p>Will the infrastructure and systems developed through the "Start-Up" activities budget listed in Exhibit K of the Petition be used for CIP programs as well? For example, will the company use software or system upgrades developed for TOB to also target high energy users in CIP and/or provide instant rebates in CIP programs beyond those that overlap with TOB?</p> <p>Response: Beyond potential information exchange between the two programs, the Company does not expect that the business systems created for the TOB pilot would have value for CIP programs. The TOB business system requirements primarily have to do with upgrades to the Company's billing system and are unique to the TOB pilot program. The Company intends to leverage existing resources to identify and target high energy users and rely on existing CIP systems and processes to provide CIP instant rebates.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

**State of Minnesota
Center for Energy and Environment (CEE)**

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot
Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|--|
| CEE 23 | <p>What will happen if a customer wishes to remove the gas meter from a residence before fully paying off investments made through the TOB program?</p> <p>Response: The Company does not propose to require that TOB participants continue to receive gas service. In the event that gas service is discontinued Service Charges will be suspended until such time as gas service is restored to the location.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

State of Minnesota
Center for Energy and Environment (CEE)

Utility Information Request

Docket Number: G008/M-21-377 - Tariffed On Bill Pilot Program

Date of Request: 11/1/2021

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/24/2021

Analyst Requesting Information: Audrey Partridge

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

| Request No. | |
|-------------|---|
| CEE 24 | <p>How will the TOB program interact with existing bill payment assistance programs? Specifically, will TOB participation affect customer eligibility for bill payment assistance programs and/or the amount of assistance customers would be eligible to receive through bill payment assistance?</p> <p>Response: The TOB pilot should lower participants' overall bills and therefore reduce the need for payment assistance. However, the Company proposes to consider TOB Service Charges to be like any other utility service that appears on customers' bills. Accordingly, TOB participation should not affect eligibility for energy assistance except to the extent that reducing the amount of a customer's total utility bill affects their eligibility.</p> |

Response By: Emma Schoppe
Title: Local Energy Policy Manager
Department: Mng Smr Reg Svc Enrgy Prog
Telephone: 612-321-4318

AFFIDAVIT OF SERVICE

DOCKET NO. G-008/M-21-377

I, Audrey Partridge, herby certify that on this 4th day of February 2022, I served Center for Energy and Environment's Comments in the Matter of a Petition by CenterPoint Energy and the City of Minneapolis to Introduce a Tariffed On-Bill Financing Pilot Program in Docket Number G-008/M-21-377 on the following persons on the attached Service Lists by:

XX placing such filing in envelopes, properly addressed, and depositing the same in the Post Office at the City of Minneapolis, for delivery by the United States Post Office as directed by said envelopes.

XX electronic filing

/s/ Audrey Partridge
Audrey Partridge

[illegible]

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|------------|-----------|-----------------------------------|--|---|--------------------|-------------------|------------------------|
| Dean | Dalzell | ddalzell@caphennepin.org | Community Action Partnership of Hennepin County | 8800 Highway 7 Ste 401 St. Louis Park, MN 55426 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Marie | Doyle | marie.doyle@centerpointenergy.com | CenterPoint Energy | 505 Nicollet Mall P O Box 59038 Minneapolis, MN 554590038 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Paul | Eger | peger@mnrealtor.com | Minnesota Realtors | 11100 Bren Road West Minnetonka, MN 55343 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Sharon | Ferguson | sharon.ferguson@state.mn.us | Department of Commerce | 85 7th Place E Ste 280 Saint Paul, MN 551012198 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Edward | Garvey | garveyed@aol.com | Residence | 32 Lawton St Saint Paul, MN 55102 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Kim | Havey | kim.havey@minneapolismn.gov | City of Minneapolis | 350 South 5th Street, Suite 315M Minneapolis, MN 55415 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Annete | Henkel | mui@mnutilityinvestors.org | Minnesota Utility Investors | 413 Wacouta Street #230 St.Paul, MN 55101 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Bruce L. | Hoffarber | bhoffarber@kinectenergy.com | Kinect Energy Group | 605 North Highway 169 Ste 1200 Plymouth, MN 55441 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Mary | Holly | mholly@winthrop.com | Winthrop & Weinstine, P.A. | 225 S Sixth St Ste 3500 Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Nicolle | Kupser | nkupser@greatermngas.com | Greater Minnesota Gas, Inc. & Greater MN Transmission, LLC | 1900 Cardinal Ln PO Box 798 Faribault, MN 55021 | Electronic Service | No | OFF_SL_21-377_M-21-377 |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|------------|-----------|------------------------------------|---|--|--------------------|-------------------|------------------------|
| Erica | Larson | erica.larson@centerpointenergy.com | CenterPoint Energy | 505 Nicollet Avenue P.O. Box 59038 Minneapolis, Minnesota 55459-0038 | Electronic Service | Yes | OFF_SL_21-377_M-21-377 |
| Daniel | LeFevers | dlefevers@gti.energy | GTI | 1700 S Mount Prospect Rd Des Plains, IL 60018 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Amber | Lee | Amber.Lee@centerpointenergy.com | CenterPoint Energy | 505 Nicollet Mall Minneapolis, MN 55402 | Electronic Service | Yes | OFF_SL_21-377_M-21-377 |
| Roger | Leider | roger@mnpropane.org | Minnesota Propane Association | PO Box 220 209 N Run River Dr Princeton, MN 55371 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Eric | Lindberg | elindberg@mncenter.org | Minnesota Center for Environmental Advocacy | 1919 University Avenue West Suite 515 Saint Paul, MN 55104-3435 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Michael | Loeffler | mike.loeffler@nngco.com | Northern Natural Gas Co. | CORP HQ, 714 1111 So. 103rd Street Omaha, NE 681241000 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Alice | Madden | alice@communitypowermn.org | Community Power | 2720 E 22nd St Minneapolis, MN 55406 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Pam | Marshall | pam@energycents.org | Energy CENTS Coalition | 823 7th St E St. Paul, MN 55106 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Joseph | Meyer | joseph.meyer@ag.state.mn.us | Office of the Attorney General-RUD | Bremer Tower, Suite 1400 445 Minnesota Street St Paul, MN 55101-2131 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| David | Moeller | dmoeller@allete.com | Minnesota Power | 30 W Superior St Duluth, MN 558022093 | Electronic Service | No | OFF_SL_21-377_M-21-377 |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|----------------|--------------------------------|--------------------------------------|--|---|--------------------|-------------------|------------------------|
| Andrew | Moratzka | andrew.moratzka@stoel.com | Steel Rives LLP | 33 South Sixth St Ste 4200 Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Samantha | Norris | samanthanorris@alliantenergy.com | Interstate Power and Light Company | 200 1st Street SE PO Box 351 Cedar Rapids, IA 524060351 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Mike | OConnor | moconnor@ibewlocal949.org | Local 949 IBEW | 12908 Nicollet Ave S Burnsville, MN 55337 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Janice | Owens | | NARUC Nuclear Waste Program Office | 1101 Vermont Avenue, NW Suite 200 Washington,, DC 20005 | Paper Service | No | OFF_SL_21-377_M-21-377 |
| Greg | Palmer | gpalmer@greatermngas.com | Greater Minnesota Gas, Inc. & Greater MN Transmission, LLC | 1900 Cardinal Ln PO Box 798 Faribault, MN 55021 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.state.mn.us | Office of the Attorney General-RUD | 1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131 | Electronic Service | Yes | OFF_SL_21-377_M-21-377 |
| Kevin | Reuther | kreuther@mncenter.org | MN Center for Environmental Advocacy | 26 E Exchange St, Ste 206 St. Paul, MN 551011667 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Joseph L | Sathe | jsathe@kennedy-graven.com | Kennedy & Graven, Chartered | 150 S 5th St Ste 700 Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Elizabeth | Schmiesing | eschmiesing@winthrop.com | Winthrop & Weinstine, P.A. | 225 South Sixth Street Suite 3500 Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| | | | | | | | |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|------------|-----------|--------------------------------------|---|---|--------------------|-------------------|------------------------|
| Emma | Schoppe | emma.schoppe@centerpointenergy.com | CenterPoint Energy Minnesota Gas | 505 Nicolette Mall Minneapolis, MN 55402 | Electronic Service | Yes | OFF_SL_21-377_M-21-377 |
| Will | Seuffert | Will.Seuffert@state.mn.us | Public Utilities Commission | 121 7th Pl E Ste 350 Saint Paul, MN 55101 | Electronic Service | Yes | OFF_SL_21-377_M-21-377 |
| Peggy | Sorum | peggy.sorum@centerpointenergy.com | CenterPoint Energy | 505 Nicollet Mall Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| James M | Strommen | jstrommen@kennedy-graven.com | Kennedy & Graven, Chartered | 150 S 5th St Ste 700 Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Andrew | Sudbury | Andrew.Sudbury@CenterPointEnergy.com | CenterPoint Energy Minnesota Gas | 505 Nicollet Mall PO Box 59038 Minneapolis, MN 55459-0038 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Eric | Swanson | eswanson@winthrop.com | Winthrop & Weinstine | 225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Amelia | Vohs | avohs@mncenter.org | Minnesota Center for Environmental Advocacy | 1919 University Avenue West Suite 515 St. Paul, Minnesota 55104 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Samantha | Williams | swilliams@nrdc.org | Natural Resources Defense Council | 20 N. Wacker Drive Ste 1600 Chicago, IL 60606 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| Joseph | Windler | jwindler@winthrop.com | Winthrop & Weinstine | 225 South Sixth Street, Suite 3500 Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-377_M-21-377 |
| | | | | | | | |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|------------|-----------|-------------------------------|---------------------------|--|--------------------|-------------------|------------------------|
| Jonathan | Wolfgram | Jonathan.Wolfgram@state.mn.us | Office of Pipeline Safety | Minnesota Department of Public Safety 445 Minnesota Street Suite 147 St. Paul, MN 55101-1547 | Electronic Service | No | OFF_SL_21-377_M-21-377 |