Evaluation of Minnesota Investor-Owned Gas Utilities' Line Extension Subsidies

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1. Introduction

Many gas utilities—including all investor-owned gas utilities operating in Minnesota—currently subsidize the expansion of their utility service areas by allowing new customers to join the system without paying some or any of the costs of connecting to the existing distribution system. However, rapid advancements in heat pump technology and increasing attention on climate change and reducing greenhouse gas emissions from natural gas usage has led public utility commissions and state legislatures across the country to reassess these gas line extension subsidies. As of June 2025, eight states have taken action to phase out line extension subsidies for gas utilities.[1]

Javelina Energy was retained by Fresh Energy to examine the economic analyses used by Minnesota's investor-owned gas utilities to justify their line extension subsidies. These calculations share the same basic approach of comparing the estimated costs of adding a new customer to the estimated revenues received from the new customer over a given period of time. When it comes to specifics, however, the methodologies differ considerably.

Unfortunately, each Minnesota utility's line extension subsidy calculation evaluated in this report[2] both underestimates the costs of adding customers to the system and overestimates new customers' future gas usage. These flaws—which are detailed in Section 3 below—result in excessive line extension subsidies, and, as a result, considerable cost increases for existing utility customers.

To illustrate the cumulative impacts of the utilities' methodological errors, this report provides an updated line extension subsidy calculation for Xcel Energy in Section 4. This analysis finds that Xcel's current line extension subsidies are far too long, resulting in significant cost increases for existing customers: at Xcel's current footage subsidy levels, each new residential customer added will increase costs for existing customers by over **$11,000** over the study period. Moreover, each new residential customer's gas usage would produce 109 tons of carbon dioxide ("CO_2") emissions between 2025 and 2049, which translates to **$6,643** in externality costs for each new customer according to the Minnesota Public Utilities Commission's Environmental Cost Values for CO_2.

[1] For a detailed list of these state actions, see Fresh Energy and Minnesota Center for Environmental Advocacy's ("MCEA") Initial Comments in this docket.
[2] There are five investor-owned gas utilities operating in Minnesota. However, Greater Minnesota Gas did not respond to any of Fresh Energy and MCEA's Information Requests. Accordingly, this report considers only CenterPoint Energy, Great Plains Natural Gas, Minnesota Energy Resources Company, and Xcel Energy.

2. Line Extension Subsidy Background

Unlike electric utilities, which have an obligation to serve all potential customers in their exclusive service areas, gas utilities in Minnesota are not required to extend service to new customers. To connect a new customer, the utility will typically need to install a new service line to the customer's residence or place of business, as well as a meter to record customer usage. Depending on the new customer's location, the utility may also need to extend a distribution main. When deciding whether to extend service, a utility will compare the potential costs of adding the new customer with the expected revenues received from the new customer.

If the utility determines that the new customer revenues would not outweigh the costs of adding the customer, the customer could still join the system by paying a Contribution in Aid of Construction ("CIAC"). Customers' CIAC payments offset the upfront capital costs of the new infrastructure, so the portions of the installation costs paid for by CIAC do not enter into the utility's rate base.

In the absence of a CIAC payment, the addition of a new customer will increase rates for existing customers in the short run, when the capital costs of the installation are rolled into rate base and recovered through rates. Over time, however, the annual revenue requirements of the infrastructure costs will decrease as the assets depreciate, and the additional new customer gas usage can benefit existing customers by spreading the utility's fixed costs over a larger volume of sales. If the non-gas revenues paid by the new customer exceed the revenue requirements of adding the customer to the system, then existing customers will benefit from the addition. Conversely, if the new revenues are lower than the cost of adding a customer to the system, then existing customers will be harmed by the addition.

Importantly, investor-owned utilities may have a financial incentive to both expand their service area and to reduce CIAC payments. As noted above, new investments that are paid for by utility shareholders will be rolled-in to rate base in the utility's next rate case, and the utility will both recover the initial investment and earn a rate of return on the new rate base; in other words, investors will earn a return *of* and *on* their initial investment. Thus, over time, the more infrastructure a utility installs, the greater the allowed returns for its shareholders, all else equal.[3] CIAC payments, on the other hand, offset new infrastructure costs, thus reducing increases to rate base. New customer growth may also help assuage investors wary of investing in fossil fuel companies, given the evolving policy and technological landscape detailed in subsection 3.4.

[3] This phenomenon, known as the Averch-Johnson effect, is a frequently discussed topic in utility regulation. *See, e.g.* Regulatory Assistance Project, Electricity Regulation In the US: A Guide, Second Edition at pp 86-87; Averch, H., & Johnson, L. (1962). The Behavior of the Firm Under Regulatory Constraint. The American Economic Review, 52(5), 1052– 1069.

These rate base increases can have big impacts for both customers and shareholders: for example, in its 2021 rate case, CenterPoint provided an example calculation of the capital costs and revenue requirements of adding a new residential customer.[4] The capital costs to connect the customer to its system totaled $2,606. Over the 40-year time period of the study, CenterPoint's shareholders would both recover the initial $2,606 investment and earn a return of $4,179, for a total of $6,785. In addition, customers would also pay the property taxes on the new infrastructure.[5] In total, CenterPoint would need to collect over $9,000 from its customers to fund this $2,606 new customer addition.

3. Minnesota Utilities' Line Extension Subsidy Calculations

Each of Minnesota's investor-owned gas utilities has its own methodology for calculating its line extension subsidy. These calculations share the same basic approach of comparing the estimated costs of adding a new customer to the estimated revenues received from the new customer over a given period of time. When it comes to the specifics of the calculations, however, the methodologies differ considerably. For example, Great Plains' calculation considers costs over a 29-year period, while MERC's Customer Extension Model spans 49 years. Given the variations in the utilities' calculations and the crucial role these studies play in determining line extension subsidy levels and CIAC requirements, the utilities' methodologies warrant careful consideration.

Unfortunately, each Minnesota utility's line extension subsidy calculation has significant flaws, and as a result, each utility's calculation both underestimates the costs of adding customers to the system and overestimates new customers' future gas usage. These flaws bias the studies toward larger subsidies and lower CIAC requirements.

Specifically, one or more Minnesota utility methodology includes the following errors:

- Underestimating construction costs
- Omitting metering costs
- Omitting ongoing customer costs
- Overestimating gas usage
- Omitting statutory compliance costs
- Using unreasonably long time periods
- Omitting fixed labor costs
- Omitting service line costs

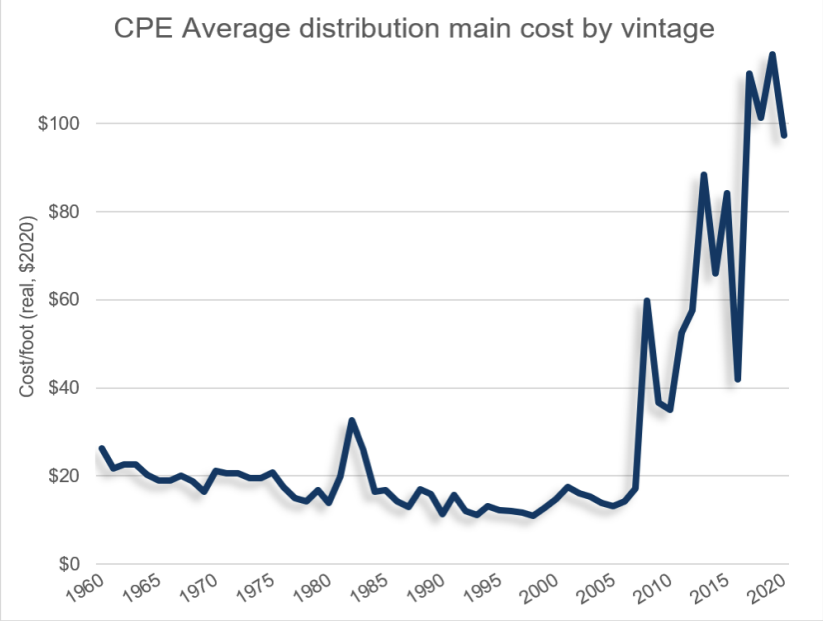
[4] CenterPoint Energy, Workpapers of Dave Poppie, Filed November 1, 2021 in Docket No. 21-435, at Schedule 17, Workpaper 2 (eDocket No. 202111-179354-07).
[5] In reality, customers would also be required to pay O&M expenses for the upkeep of the service line and distribution main, as well as meter reading, billing, and customer service expenses; however, CenterPoint did not include these costs in its calculation (for more on this issue, see Section 3.3, below).

These flaws are detailed individually in the following subsections.

3.1 Underestimating Construction Costs

In order to determine the revenue requirements of adding a new customer to its system, a utility must first estimate the costs of connecting the customer to the utility's distribution system. The costs of these installations have increased rapidly over the past two decades. The Minnesota Attorney General's Office highlighted this trend in CenterPoint's 2021 rate case, noting that CenterPoint's inflation-adjusted distribution main installation costs began to increase sharply in 2008, as illustrated in Figure 1.[6] The Attorney General's Office also found that CenterPoint's transmission line and service line installation costs increased significantly over this time.[7]

Figure 1 Minnesota OAG depiction of distribution main installation cost increases



These cost increases have continued in recent years: across the four utilities who responded to Fresh Energy and MCEA's information requests ("IR") in this docket, the average installation cost for a two-inch distribution main in Minnesota increased from $30.57/foot in 2020 to $44.33/foot in 2024, an increase of 45 percent in just five years.[8] Service line and meter installation costs also increased from 2022 to 2024 for all utilities who provided cost data.[9]

Construction costs are one of the most important components of utilities' line extension calculations, as they are the primary driver of the revenue requirements of serving a new customer.

[6] Minnesota Office of the Attorney General, Direct Testimony and Schedules of Andrew Twite, filed February 7, 2022 in Docket 21-435, at pp 45-46 (eDocket No. 20222-182506-02).
[7] *Id.* at pp 47-48.
[8] Utilities' responses to Fresh Energy and MCEA IR 4, included in Attachment C to this report.
[9] Utilities' responses to Fresh Energy and MCEA IR 3, included in Attachment C to this report.

Thus, underestimating construction costs will bias the line extension calculation towards excessive line extension subsidies.

In nearly all cases, Minnesota's gas utilities do not appear to be using up-to-date costs in their calculations, as illustrated in Figure 2, below.[10]

Figure 2, Minnesota investor-owned utility service line and distribution main cost comparison

	Cost used in utility calculations	Actual 2024 cost
CenterPoint Energy		
Service line	$17.73 / foot	$18.07 / foot
2" distribution main	$7.08 / foot	$35.24 / foot
Great Plains		
Service line	Not provided	Not provided
2" distribution main	$15.33 / foot	$34.66 / foot
MERC		
Service line	$19.13 / foot[11]	$30.64 / foot[12]
2" Distribution main	Not provided	$37.25 / foot
Xcel Energy		
Service line	$9.10 / foot	$21.38 / foot[13]
2" Distribution main	$12.09 / foot	$96.02 / foot

As the figure shows, except for CenterPoint's service line cost, the per-foot costs used in the utilities' economic analyses are dramatically lower than their actual 2024 installation costs.

Underestimating construction costs biases line extension subsidy calculations toward larger subsidies and lower CIAC requirements. For example, the sample calculation provided by Great Plains included 94.7 feet of distribution main, for a total capital cost of $1,452. For comparison, the capital cost of 94.7 feet of 2-inch main at Great Plains' actual 2024 per-foot cost would be $3,282, or more than double the amount listed by the utility.

[10] Utilities' responses to Fresh Energy and MCEA IRs 3 and 4, included in Attachment C to this report.
[11] MERC designates its Customer Extension Model as trade secret in its entirety, so the actual per-foot service and main costs used in the model are unknown. The service line cost listed here is taken from the service line cost used in the Scenario Analyses of MERC's Line Extension Policy Study, filed November 14, 2024 in Docket 22-504 (eDocket No. 202411-211947-02).
[12] The service line costs provided by MERC in its response to Fresh Energy and MCEA IR 3 include overhead cost adders and contributions in aid of construction, inclusive of excess footage charges, winter construction charges, and abnormal construction charges.
[13] The service line costs provided by Xcel Energy in its response to Fresh Energy and MCEA IR 3 is the total cost for all customer classes, not just the Residential class as requested.

3.2 Omitting Metering Costs

Installing a meter is an essential part of providing utility service; without a meter, a utility would be unable to measure individual customer usage. However, despite the necessity of a meter installation, at least two Minnesota utilities did not include the cost of the meter installation in their footage subsidy calculation.

Xcel Energy's line extension subsidy calculations only include the cost of installing service lines and distribution mains, not the cost of a meter.[14] Similarly, in its response to Office of the Attorney General Information Request 9, Great Plains stated that it "does not include any meter costs in the cost of an extension."[15] Finally, MERC's Customer Extension Model is proprietary, and it is unclear whether or not MERC includes meter installation costs in its calculations. However, MERC did not include the cost of meter installations in the sample calculations included in its recently filed Line Extension Policy Study.[16] Moreover, when asked to provide the average meter installation cost for new Residential customers, MERC stated that it "does not maintain records for meters at the detailed level of installations for new customers, nor at the detailed level of customer class."[17] Thus, it is unclear how MERC *could* include the cost of meter installation in its model, if it does not know how much its meter installations cost.

When meter installation costs are omitted, the capital cost of adding a new customer will be underestimated, thus biasing line extension subsidy calculations toward larger subsidies and lower CIAC requirements. This bias can be significant: the from 2022-2024 average cost for the three utilities that responded to Fresh Energy's and MCEA's IR 3 was roughly $500 per meter. According to MERC's Customer Extension Model, a $500 capital cost would result in over $2,000 in revenue requirements recovered from customers over the study period.[18]

3.3 Omitting ongoing costs of adding a new customer to the system

In addition to the upfront capital costs of connecting a customer to the utility's distribution system, adding a new customer will also require ongoing costs, such as customer accounts costs—e.g., meter reading and billing expenses—and the ongoing operations and maintenance ("O&M") expenses needed to maintain safe and reliable service.

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[14] Xcel's response to Fresh Energy and MCEA IR 2, included in Attachment C to this report.
[15] Great Plains' response to OAG IR 9, included in Attachment C to this report.
[16] Minnesota Energy Resources Corporation Line Extension Policy Study, filed November 14, 2024 in Docket 22-504 (eDocket No. 202411-211947-02). Note: MERC's response to Office of the Attorney General IR 8 claimed that MERC included metering in its Scenario Analysis. However, MERC's November 14, 2024 filing clearly states (at page 10, footnote 14) that the capital cost used in the scenario analysis is the average cost of a new residential service line from May 1, 2017 through April 30, 2022.
[17] MERC response to Fresh Energy and MCEA IR 3, included in Attachment C to this report.
[18] MERC designates its Customer Extension Model as trade secret in its entirety. However, MERC has confirmed that this specific model output may be designated as public.

But, while these ongoing costs are essential to providing service to a new customer, some Minnesota utilities appear to omit all or part of these costs from their line extension subsidy calculations. For example, Great Plains' calculation includes infrastructure O&M costs, but omits customer accounts costs, while CenterPoint appears to not include any of the ongoing costs of keeping a customer on its system.

Omitting the ongoing costs of providing utility service biases line extension subsidy calculations upward, as the full cost of a new customer addition is not included.

3.4 Overestimating gas usage

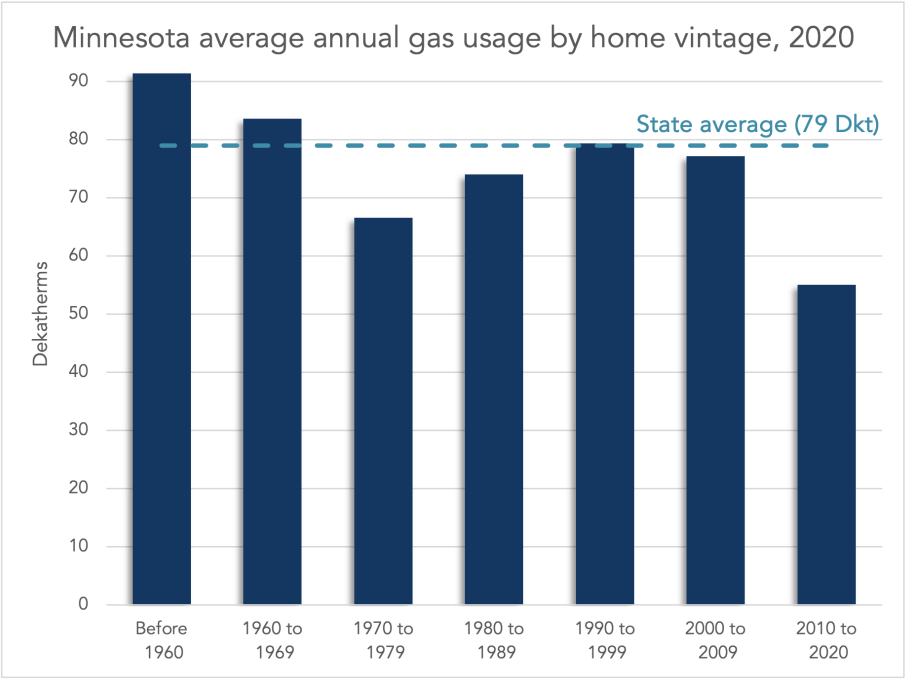
Just as it is essential to accurately calculate the upfront and ongoing *costs* of a new customer addition, it is equally important that utilities accurately forecast the amount of gas a new customer will use. For nearly all customers, the largest component of each bill is the per-therm usage charge; this means the more gas customers use, the more revenues the utility receives. Accordingly, if new customer usage is lower than assumed in the utility's line extension subsidy calculation, there will be fewer revenues to offset the infrastructure costs resulting from the new customer. Similarly, underestimating new customer usage will bias line extension subsidy calculations downward.

Most Minnesota utilities' line extension subsidy calculations assume that new residential customer usage will be roughly equal to the utility's current residential average. The exception is CenterPoint, whose study assumes new customer usage will be seven percent higher than its residential class average.

Setting customer usage levels above or even at the residential class average will likely overstate new customer usage. Minnesota's building codes have required greater energy efficiency over time and construction techniques and materials have improved, so newer homes tend to be much better insulated and air-sealed than older homes. New homes also tend to have newer, more energy-efficient appliances. As a result, new homes tend to use considerably less gas than the average home. This is illustrated in the chart below.[19]

[19] Compiled using data from the U.S. Energy Information Administration's 2020 Residential Energy Consumption Survey (RECS). Note: the averages only include residences in Minnesota that use natural gas.

Figure 3, Average gas usage by home vintage



As the figure shows, newer homes in Minnesota use much less gas than the state average. In 2020, homes built between 2010 and 2020 used 30% less gas than the state average.

Not only do the utilities appear to overestimate new customers' initial gas usage, but all four utilities also assume gas usage will stay flat throughout the study period. This assumption runs counter to the state's strong commitment to energy efficiency and greenhouse gas reductions. Minnesota's greenhouse gas emissions statute aims to reduce emissions to 50 percent below 2005 levels by 2030 and to net zero emissions by 2050.[20] By statute, Minnesota also has a "vital interest" in promoting energy efficiency,[21] and the Energy Conservation and Optimization ("ECO") Act increases utilities' annual energy savings requirements and allows for promotion of "beneficial electrification"—i.e. using electricity rather than gas for space heating, water heating, cooking, clothes drying, etc.[22]

In addition to these strong policy directives, technological advancements will also likely reduce new customers' gas usage over time. Electric space and water heating technology has advanced dramatically in recent years, while household appliances have also become more energy efficient. If these improvements continue and/or if new technologies are developed, gas usage could fall considerably over the time periods considered in line extension subsidy calculations.

[20] Minn. Stat. § 216H.02.
[21] Minn. Stat. § 216C.05.
[22] Minn. Stat. § 216B.241.

Thus, the utilities' line extension subsidy calculations likely overstate both initial and ongoing gas usage. Overestimating new customer usage will bias utilities' calculations toward larger subsidies and lower CIAC requirements, as there will be fewer volumetric sales to offset the cost of adding and maintaining the new customer. And since volumetric revenues make up the bulk of new customer revenues, even a relatively small overestimation can significantly increase the calculated subsidy.

3.5 Omitting statutory compliance costs

Despite Minnesota's many policies promoting energy efficiency and greenhouse gas reductions, none of the Minnesota utilities' calculations incorporates the cost of complying with these statutes. Notably, Northwest Natural Gas' failure to adequately account for greenhouse gas reduction costs was one of the reasons cited by the Oregon Public Utilities Commission in its decision to eliminate the utility's line extension subsidies.[23]

All Minnesota investor-owned utilities have programs to incentivize customers to reduce energy usage in order to meet their annual ECO Act energy savings goals. Adding a new customer will increase a utility's sales, and thus require additional action to meet its annual energy savings requirements; however, these costs are not included in any Minnesota utility's line extension subsidy calculation.

Similarly, new customer gas usage will increase the difficulty of meeting Minnesota's goal to reduce greenhouse gas emissions 50 percent by 2030 and to achieve net zero emissions by 2050. Achieving this goal will require some combination of energy efficiency and conservation, increased usage of renewable natural gas and/or hydrogen, and efficient fuel-switching; many of these tactics are currently being piloted at significant costs in CenterPoint's[24] and Xcel's[25] Natural Gas Innovation Act plans. Yet, no Minnesota utility included any of these costs in its line extension subsidy analysis. In fact, as detailed in the following section, MERC's calculation assumes that a customer added in 2025 will continue to use the same amount of gas annually *through 2073*—i.e. over two decades beyond the state's net zero emissions target—all without including any costs for complying with state statutes.

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[23] Oregon Public Utilities Commission, Order No. 24-359, October 25, 2024 at 10-12 ("[U]pon evaluating parties' perspectives on the model's inputs and assumptions, we find that the benefits to existing customers erode quickly when alternative inputs and assumptions are tested. We credit Staff and intervenors for raising numerous questions about the inputs used in NW Natural's [discounted cash flow] model for demonstrating the customer benefit of LEAs. In particular, Staff, CUB, and the Coalition argue that the 25-year payback timeline is still too high, the assumed price for RNG is too low, and non-RNG alternative fuel costs are not appropriately accounted for.")

[24] *See, e.g.*, Minnesota Public Utilities Commission Order Approving Natural Gas Innovation Plan with Modifications, filed October 9, 2024 in Docket No. 23-215 (eDocket No. 202410-210845-01).

[25] *See, e.g.*, Minnesota Public Utilities Commission Order Approving Natural Gas Innovation Plan with Modifications, filed May 16, 2025 in Docket No. 23-518 (eDocket No. 20255-219016-01).

Excluding statutory compliance costs biases utilities' line extension calculations toward larger subsidies and lower CIAC requirements, because a significant portion of the cost of providing service to the new customer is not accounted for.

3.6 Using unreasonably long time periods

One particularly challenging design consideration for a line extension subsidy calculation is the length of time to be analyzed. Longer time periods better align with the relatively long useful life potential of utility assets, but also increase the risk of forecast error, which is especially problematic in a rapidly evolving policy and technology landscape.

Minnesota's gas utilities use a wide range of time periods in their line extension subsidy calculations. Great Plains' calculation is based on a 29-year period, CenterPoint's analysis covers 39.5 years, and MERC's Customer Extension Model encompasses a 49-year period. The wide range of approaches shows the subjectivity of the time period determination.

While there is no objectively correct time period for a line extension subsidy calculation, excessively long time periods are at odds with Minnesota's policy directives. As noted above, Minnesota aims to achieve net zero greenhouse gas emissions by 2050, and the state has implemented energy efficiency and efficient fuel-switching programs to help achieve this goal. By comparison, MERC's Customer Extension Model assumes that a customer added to its system in 2025 will continue to use the same amount of gas annually *through 2073*, or more than two decades after the state aims to achieve net zero emissions. In other words, 47% of the new customer usage assumed by MERC would occur after 2050.

Excessively long time periods—especially when combined with the assumptions that gas usage will not decline and there will be no statutory compliance costs—bias line extension subsidy calculations toward larger subsidies and lower CIAC requirements by overestimating future revenues recovered from the new customer.

3.7 Omitting fixed labor costs

The cost of installing a distribution main and/or service line includes both fixed and variable costs. This installation process was explained well by CenterPoint in its 2021 rate case:

> To extend gas service to a typical residential subdivision, the utility must first design the gas system. Based on this design, the utility determines the length and size of pipe needed to serve the area and procures the necessary material. A field crew is then dispatched to the site and the facilities and equipment required to install the natural gas facilities. The activities required to install gas mains include digging a trench, installing the main into the trench, and backfilling the trench. Pipeline boring (i.e., a

> trenchless installation method) may be necessary to install some main segments if the utility cannot open a portion of the line due to existing surface conditions along the route of the main. After the main is installed, it will be pressure tested, tied into the existing gas system, and purged and filled with natural gas. The main is then ready to provide utility service to the new customers. These steps are necessary regardless of how much gas the new customers are projected to use during the year or a peak day. The design work must still be completed, the crews, materials, and equipment dispatched to the site, the trench dug, the main installed in the trench, the trench backfilled, testing performed, and the other activities performed.[26]

In short, the fixed costs of installing a distribution main or service line are significant. In its most recent rate case, Xcel estimated that 42% of the capital costs of installing a service line are fixed.[27] Similarly, CenterPoint's line extension subsidy analysis assumes that 44% of total service line costs are fixed.[28]

However, despite the fact that fixed service line costs can be considerable, Xcel Energy omits them from its line extension subsidy calculation and instead only includes the incremental costs of installing a service line. Omitting fixed costs biases Xcel's calculation toward larger subsidies and lower CIAC requirements, as a significant portion of the cost of providing service is not included.

3.8 Omitting service line costs

Perhaps the most egregious flaw in any of the Minnesota utilities' line extension calculations is the fact that MERC's Customer Extension Model does not include any of the capital costs of a service line installation for residential customers. MERC is the only Minnesota utility to omit service line costs entirely from its line extension subsidy calculations. This omission was identified by the Minnesota Attorney General's Office in MERC's 2022 rate case and was a topic of repeated conversation in the ensuing stakeholder meetings convened by MERC in 2024. However, despite the considerable attention paid to this issue thus far, MERC stated in its November 14, 2024 Line Extension Policy Study that it does not intend to modify its Customer Extension Model to correct this error.[29]

Omitting service line costs biases MERC's line extension toward larger subsidies and lower CIAC requirements, as a significant portion of the capital costs required to connect a customer to its system are ignored. The impact of this omission can be considerable: MERC's average service line

[26] CenterPoint Energy, Direct Testimony of Ralph Zarumba, filed November 1, 2021 in Docket 21-435 at 32 (eDocket No. 202111-179374-04).
[27] Xcel Energy, Direct Testimony and Schedules of Christopher J. Barthol, filed November 1, 2021 in Docket 21-678, at Schedule 7 (eDocket No. 202111-179345-05).
[28] CenterPoint response to Fresh Energy and MCEA IR 2, at sheet "WP3 Cost Summary19."
[29] Minnesota Energy Resources Corporation Line Extension Policy Study, filed November 14, 2024 in Docket 22-504 at 7 (eDocket No. 202411-211947-02).

installation cost in 2024 was $1,835.[30] According to MERC's 2024 Customer Extension Model, an $1,835 capital cost would lead to nearly $7,500 in revenue requirements to be recovered from MERC's customers over the study period.[31]

4. Updated Line Extension Subsidy Calculation

To illustrate the cumulative impacts that these errors can have, below is an updated line extension subsidy calculation for Xcel Energy.[32] This calculation is based on CenterPoint Energy's Extension Free Footage Justification formula, modified to include Xcel-specific cost inputs. CenterPoint's calculation was selected as the basis for the updated calculation because it provides a clear, transparent calculation of the annual customer cost impacts throughout the study period.[33] Like the utilities' analyses, this calculation compares the revenue requirements of adding a new residential customer with the expected non-gas revenues paid by the new customer. The study determines the line extension subsidy that would make existing customers economically indifferent to the addition of a new customer; in other words, the subsidy at which existing customers would neither benefit from nor be harmed by the addition of a new customer over the study period (in net present value).

The key inputs in this analysis include:

- Xcel's actual distribution main, service line, and meter capital costs;[34]
- Xcel's actual customer accounts and information expenses;[35]
- Xcel-specific distribution system O&M costs;[36]
- Xcel's most recently approved residential usage per customer forecast, adjusted to reflect the fact that new homes tend to have lower gas usage than the class average;[37]
- A 25-year time period (i.e. 2025 through 2049); and
- Inclusion of fixed service line costs (per Xcel's fixed/incremental cost methodology).

[30] MERC's response to Fresh Energy and MCEA IR 3, included in Attachment C to this report.
[31] MERC designates its Customer Extension Model as trade secret in its entirety. However, MERC has confirmed that this specific model output may be designated as public.
[32] Xcel Energy was selected for the updated calculation because it provided Minnesota-specific cost data in response to all Fresh Energy and MCEA Information requests and has also filed a service line fixed cost calculation and utility-specific customer usage data by home vintage (via its Residential Energy Use Study).
[33] Xcel's and Great Plains' analyses do not include an annual cost breakdown, and while MERC's Customer Extension Model does provide annual detail, MERC designates its model as trade secret in its entirety.
[34] Xcel Energy's response to Fresh Energy and MCEA IRs 3 and 4, included in Attachment C to this report. Specifically, the calculation uses the 2022-2024 average cost for each component.
[35] Xcel Energy's supplemental response to Fresh Energy and MCEA IR 6, included in Attachment C to this report. Specifically, the calculation uses the 2022-2024 average cost.
[36] Specifically, the calculation uses the same distribution O&M cost percentage used in Xcel's Levelized Annual Revenue Requirement calculation.
[37] Specifically, the per-customer usage is 9.3% lower than the rate case class average. In Xcel's 2020 Residential Home Use Survey, respondents living in residences built within five years had an average gas usage that was 9.3% lower than the average for all respondents.

This calculation includes neither statutory compliance costs nor the externality costs resulting from the new gas usage. While these costs are real and significant, incorporating them into a subsidy calculation would require subjective assumptions regarding the costs and emissions rates of gas alternatives over time. Similarly, the calculation also does not account for declining customer gas usage over time, which would require a forecast of customer usage reductions over the study period. To avoid subjectivity and potential controversy, this study considers only documented utility costs already included by Minnesota utilities as well as Xcel-specific customer usage data. Thus, the results listed here would still result in excessive line extension subsidies.

The full calculation is included as Attachment B, and the results are summarized in Figure 4.

Figure 4, Xcel Energy Line Extension Subsidy Calculation Comparison

	Xcel Energy Current Policy	Fresh Energy / MCEA Calculation
Distribution main footage	80	10.2
Service line footage	75	9.6
Upfront capital cost	$10,132	$2,514
Total revenue requirements	$30,617	$8,654
NPV existing customer benefit/(harm)	**($11,367)**	**$0**

As the figure shows, Xcel's current line extension subsidies are far too long, resulting in significant cost increases for existing customers. At Xcel's current footage subsidy levels, each residential customer added will increase costs to existing customers by over $11,000. In order to ensure existing customers are not subsidizing new customers, Xcel's line extension allowances would need to be reduced to 10.2 feet of distribution mains and 9.6 feet of service lines. Moreover, as noted above, even these dramatically smaller line extension subsidies would still be excessive, because the calculations listed above do not account for the externality costs resulting from new gas usage, the costs of meeting state policy requirements, or declining gas usage over time.

5. Externality costs

The calculations in Figure 4 only detail the effect of Xcel's subsidies on existing customers' utility bills; they do not include the costs to society—e.g., greenhouse gas emissions and public health costs—resulting from increased gas usage.

Burned (and unburned) natural gas in homes is a source of indoor air pollution, which can exacerbate respiratory and cardiovascular conditions, especially among children.[38] Burning

[38] *See, e.g.* Taylor Gruenwald et al., Population Attributable Fraction of Gas Stoves and Childhood Asthma in the United States, 20 Int'l J. Env't Rsch. Pub. Health 1, 1-4 (2023); Brady Anne Seals & Andee Krasner, Health Effects

natural gas also generates greenhouse gas emissions, which contribute to climate change. Electric space and water heating alternatives, on the other hand, virtually eliminate these public health impacts while also dramatically reducing greenhouse gas emissions.[39] Excluding these externality costs underestimates the true cost to society of adding new gas customers.

Minnesota Statutes section 216B.2422 requires the Public Utilities Commission to "quantify and establish a range of environmental costs associated with each method of electricity generation." In response, the Commission has established cost values for CO_2, sulfur dioxide, nitrogen oxides, carbon monoxide, lead, and particulate matter. To reflect the true costs to society of new gas usage, it is necessary to also consider these Commission-determined externality costs.

In the Fresh Energy/MCEA analysis detailed in Figure 4, each new customer's gas usage would produce 109 tons of CO_2 emissions over the 25-year period, or **$6,643** in externality costs for each new customer.[40] Moreover, these figures do not include the externality costs of any other pollutants—such as the health impacts of leaked and combusted gas in the home—nor do they account for indirect emissions, such as methane leakage in gas extraction, transportation, or distribution. Thus, this calculation considerably underestimates the full environmental and public health costs of adding a new customer.

For comparison, a recent analysis by the Rocky Mountain Institute found that an electric heat pump would have 71% lower greenhouse gas emissions than a high-efficiency gas furnace in Minnesota, while a heat pump water heater would have 78% lower emissions than a high-efficiency gas water heater.[41]

Thus, the externality costs of new customer additions far exceed any potential benefits to existing customers, especially when statutory compliance costs and declining usage over time are considered. In their initial comments in this docket, Fresh Energy and MCEA recommend eliminating line extension subsidies for Minnesota's investor-owned gas utilities, citing numerous policy justifications for doing so. This analysis shows that, in addition to the policy rationale detailed by Fresh Energy and MCEA, there is also an economic justification for eliminating line extension subsidies.

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from Gas Stove Pollution (May 2020); Eric. D. Lebel et al., Composition, Emissions, and Air Quality Impacts of Hazardous Air Pollutants in Unburned Natural Gas from Residential Stoves in California, 56 Envtl. Sci. & Tech. 15828 (2022).

[39] *See, e.g.* Rocky Mountain Institute, Now Is the Time to Go All In on Heat Pumps, July 6, 2023.

[40] These figures were calculated using the U.S. Energy Information Administration's Carbon Dioxide Emissions Coefficient for natural gas of 116.65 pounds CO_2/MMBtu, and the Minnesota Public Utilities Commission's Environmental Cost Values for CO_2 (2017–2050), Order Updating Environmental Cost Values, filed January 3, 2018 in Docket 14-643 (eDocket No. 20181-138585-01). The annual externality cost values were adjusted for inflation using the Consumer Price Index for All Urban Consumers: All Items Less Energy in Midwest (CUUR0200SA0LE) for 2015-2025, and at a flat rate of 2% per year from 2026 onward.

[41] Rocky Mountain Institute, Now Is the Time to Go All In on Heat Pumps, July 6, 2023.

	REVENUE REQUIREMENTS ANALYSIS:																										
1	Footage scaler	0.128																									
2	Allowed main footage	10.2																									
3	Allowed service footage	9.6																									
4	Main cost per foot	$97.91																									
5	Incremental service cost	$12.00																									
6	Incremental main and service cost	$1,114																									
7	Fixed service cost	$652																									
8	Meter cost	$747																									
9	Capital cost at allowed footage:	$2,514																									
		Rate	Year Placed in Service	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
10	Beginning Balance		$0	$2,462	$2,360	$2,257	$2,154	$2,052	$1,949	$1,847	$1,744	$1,642	$1,539	$1,436	$1,334	$1,231	$1,129	$1,026	$923	$821	$718	$616	$513	$410	$308	$205	$103
11	Depreciation expense (excl. salvage)		$51	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103
12	Ending Balance - Net Plant		$2,462	$2,360	$2,257	$2,154	$2,052	$1,949	$1,847	$1,744	$1,642	$1,539	$1,436	$1,334	$1,231	$1,129	$1,026	$923	$821	$718	$616	$513	$410	$308	$205	$103	($0)
13	Average Net Plant		$1,231	$2,411	$2,308	$2,206	$2,103	$2,001	$1,898	$1,795	$1,693	$1,590	$1,488	$1,385	$1,282	$1,180	$1,077	$975	$872	$769	$667	$564	$462	$359	$256	$154	$51
14	Tax Depreciation rate (15 year MACRS)		5.000%	9.500%	8.550%	7.700%	6.930%	6.230%	5.900%	5.900%	5.910%	5.900%	5.910%	5.900%	5.910%	5.900%	5.910%	2.950%									
15	Tax Depreciation amount		$126	$239	$215	$194	$174	$157	$148	$148	$149	$148	$149	$148	$149	$148	$149	$74	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Book - Tax Depr difference		($74)	($136)	($112)	($91)	($72)	($54)	($46)	($46)	($46)	($46)	($46)	($46)	($46)	($46)	($46)	$28	$103	$103	$103	$103	$103	$103	$103	$103	$103
17	Cumulative difference		($74)	($211)	($323)	($414)	($485)	($539)	($585)	($631)	($677)	($723)	($768)	($814)	($860)	($906)	($952)	($923)	($821)	($718)	($616)	($513)	($410)	($308)	($205)	($103)	$0
18	Accum Def tax	28.74%	($21)	($61)	($93)	($119)	($140)	($155)	($168)	($181)	($195)	($208)	($221)	($234)	($247)	($260)	($274)	($265)	($236)	($206)	($177)	($147)	($118)	($88)	($59)	($29)	$0
19	Average ADIT		($11)	($41)	($77)	($106)	($129)	($147)	($162)	($175)	($188)	($201)	($214)	($227)	($241)	($254)	($267)	($269)	($251)	($221)	($192)	($162)	($133)	($103)	($74)	($44)	($15)
20	Rate Base		$1,220	$2,370	$2,232	$2,100	$1,974	$1,853	$1,736	$1,621	$1,505	$1,389	$1,273	$1,158	$1,042	$926	$810	$705	$621	$548	$475	$402	$329	$256	$183	$110	$37
21	Return Requirement @ 9.19% (pre-tax cost of capital)		$112	$218	$205	$193	$181	$170	$160	$149	$138	$128	$117	$106	$96	$85	$74	$65	$57	$50	$44	$37	$30	$24	$17	$10	$3
22	Customer accounts and O&M expenses		$51	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103
23	Depreciation Expense		$51	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103	$103
24	Property Taxes	3.75%	$46	$90	$87	$83	$79	$75	$71	$67	$63	$60	$56	$52	$48	$44	$40	$37	$33	$29	$25	$21	$17	$13	$10	$6	$2
25	Total Revenue Requirement		$261	$514	$497	$481	$466	$451	$436	$422	$407	$393	$378	$364	$349	$335	$320	$307	$295	$285	$274	$263	$253	$242	$232	$221	$211
26	Gas usage per customer (therms)	762	381.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00
27	Annual usage reduction	0.000																									
28	Distribution Charge/Therm	$ 0.38024	$145	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290
29	Customer Charge/year	$108	$54	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108
30	(Non-gas) average annual revenue		$199	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398
31	**Revenue excess (deficiency)**		**($62)**	**($116)**	**($99)**	**($83)**	**($68)**	**($53)**	**($38)**	**($24)**	**($9)**	**$5**	**$20**	**$34**	**$49**	**$63**	**$78**	**$91**	**$103**	**$113**	**$124**	**$134**	**$145**	**$156**	**$166**	**$177**	**$187**
32	NPV of revenue excess (deficiency)	**$0**																									

Notes:

1	Scaler used to determine footage allowance = $0 NPV																										
2	Existing main footage allowance times scaler																										
3	Existing service footage allowance times scaler																										
4	2022-2024 average per-foot main installation cost (CEO IR 4)																										
5	2022-2024 average incremental per-foot service installation cost (CEO IR 3) (per Xcel fixed/incremental cost methodology)																										
6	(Line 2 x line 4) + (line 3 x line 5)																										
7	2022-2024 average fixed service line cost (per Xcel fixed/incremental cost methodology)																										
8	2022-2024 average installed cost (CEO IR 3)																										
9	Sum: lines 6-8																										
10	Prior year ending balance for net plant. $0 for the year extension made																										
11	Average depreciation rate for distribution plant applied to investment for extension																										
12	Line 10 - line 11																										
13	Average, lines 10 and 12																										
14	annual tax depreciation rate																										
15	Line 14 applied to investment for extension																										
16	Line 11 - line 15																										
17	cumulative amount of line 16																										
18	Line 17 times tax rate of 28.74%																										
19	average amount of line 18																										
20	Line 13 plus line 19																										
21	line 20 times pre-tax cost of capital																										
22	Xcel distribution O&M costs (1.8% of total plant) + Xcel customer accounts and information expenses (CEO IR 6)																										
23	Line 11																										
24	Property tax rate (3.75%) times average net plant																										
25	Sum: lines 21-24																										
26	Xcel 2024 test year sales forecast, modified to reflect lower average new home usage (Xcel's 2020 Residential Home Use Study)																										
27	Household gas usage reduction by 2050 (zero in this case)																										
28	Average Distribution Charge																										
29	Annual Customer Charge																										
30	(Line 26 x line 28) + (line 29 x 12)																										
31	Line 21 minus line 20																										
32	Net present value of line 31 (discount rate = weighted cost of capital)																										

Cost of capital

https://www.edockets.state.mn.us/documents/%7B80B3C995-0000-C83D-9C8C-0369AD433613%7D/download?contentSequence=0&rowIndex=5

Type	Structure	Cost	Weighted cost	Pre-Tax
Long Term Debt	46.87%	4.46%	2.09%	2.09%
Short Term Debt	0.63%	5.01%	0.03%	0.03%
Common Stock Equity	52.50%	9.60%	5.04%	7.07%
Total	100.00%		7.16%	9.19%
Income tax rate	28.74%			
Tax allowance rate	40.34%			

	REVENUE REQUIREMENTS ANALYSIS:																									
1	Footage scaler	1.000																								
2	Allowed main footage	80.0																								
3	Allowed service footage	75.0																								
4	Main cost per foot	$97.91																								
5	Incremental service cost	$12.00																								
6	Incremental main and service cost	$8,732																								
7	Fixed service cost	$652																								
8	Meter cost	$747																								
9	Capital cost at allowed footage:	$10,132																								
		Rate	Year Placed in Service	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
10	Beginning Balance		$0	$9,925	$9,511	$9,098	$8,684	$8,271	$7,857	$7,444	$7,030	$6,617	$6,203	$5,789	$5,376	$4,962	$4,549	$4,135	$3,722	$3,308	$2,895	$2,481	$2,068	$1,654	$1,241	$827	$414
11	Depreciation expense (excl. salvage)		$207	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414
12	Ending Balance - Net Plant		$9,925	$9,511	$9,098	$8,684	$8,271	$7,857	$7,444	$7,030	$6,617	$6,203	$5,789	$5,376	$4,962	$4,549	$4,135	$3,722	$3,308	$2,895	$2,481	$2,068	$1,654	$1,241	$827	$414	$0
13	Average Net Plant		$4,962	$9,718	$9,304	$8,891	$8,477	$8,064	$7,650	$7,237	$6,823	$6,410	$5,996	$5,583	$5,169	$4,756	$4,342	$3,929	$3,515	$3,101	$2,688	$2,274	$1,861	$1,447	$1,034	$620	$207
14	Tax Depreciation rate (15 year MACRS)		5.000%	9.500%	8.550%	7.700%	6.930%	6.230%	5.900%	5.900%	5.910%	5.900%	5.910%	5.900%	5.910%	5.900%	5.910%	2.950%									
15	Tax Depreciation amount		$507	$962	$866	$780	$702	$631	$598	$598	$599	$598	$599	$598	$599	$598	$599	$299	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Book - Tax Depr difference		($300)	($549)	($453)	($367)	($289)	($218)	($184)	($184)	($185)	($184)	($185)	($184)	($185)	($184)	($185)	$115	$414	$414	$414	$414	$414	$414	$414	$414	$414
17	Cumulative difference		($300)	($849)	($1,301)	($1,668)	($1,957)	($2,174)	($2,359)	($2,543)	($2,728)	($2,912)	($3,097)	($3,282)	($3,467)	($3,651)	($3,836)	($3,722)	($3,308)	($2,895)	($2,481)	($2,068)	($1,654)	($1,241)	($827)	($414)	$0
18	Accum Def tax	28.74%	($86)	($244)	($374)	($479)	($562)	($625)	($678)	($731)	($784)	($837)	($890)	($943)	($996)	($1,049)	($1,103)	($1,070)	($951)	($832)	($713)	($594)	($475)	($357)	($238)	($119)	$0
19	Average ADIT		($43)	($165)	($309)	($427)	($521)	($594)	($651)	($704)	($757)	($811)	($864)	($917)	($970)	($1,023)	($1,076)	($1,086)	($1,010)	($891)	($773)	($654)	($535)	($416)	($297)	($178)	($59)
20	Rate Base		$4,919	$9,553	$8,995	$8,464	$7,957	$7,470	$6,999	$6,532	$6,066	$5,599	$5,133	$4,666	$4,199	$3,733	$3,266	$2,842	$2,505	$2,210	$1,915	$1,621	$1,326	$1,031	$737	$442	$147
21	Return Requirement @ 9.19% (pre-tax cost of capital)		$452	$878	$827	$778	$731	$687	$643	$601	$558	$515	$472	$429	$386	$343	$300	$261	$230	$203	$176	$149	$122	$95	$68	$41	$14
22	Customer accounts and O&M expenses		$120	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240	$240
23	Depreciation Expense		$207	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414	$414
24	Property Taxes	3.75%	$186	$364	$349	$333	$318	$302	$287	$271	$256	$240	$225	$209	$194	$178	$163	$147	$132	$116	$101	$85	$70	$54	$39	$23	$8
25	Total Revenue Requirement		$965	$1,896	$1,829	$1,765	$1,703	$1,642	$1,584	$1,525	$1,467	$1,408	$1,350	$1,292	$1,233	$1,175	$1,116	$1,062	$1,015	$973	$930	$888	$845	$802	$760	$717	$675
26	Gas usage per customer (therms)	762	381.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00	762.00
27	Annual usage reduction	0.000																									
28	Distribution Charge/Therm	$ 0.38024	$145	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290	$290
29	Customer Charge/year	$108	$54	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108	$108
30	(Non-gas) average annual revenue		$199	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398	$398
31	**Revenue excess (deficiency)**		($766)	($1,498)	($1,431)	($1,367)	($1,305)	($1,245)	($1,186)	($1,127)	($1,069)	($1,011)	($952)	($894)	($835)	($777)	($719)	($664)	($618)	($575)	($532)	($490)	($447)	($405)	($362)	($319)	($277)
32	NPV of revenue excess (deficiency)	($11,367)																									

Notes:

Cost of capital

Type	Structure	Cost	Weighted cost	Pre-Tax
Long Term Debt	46.87%	4.46%	2.09%	2.09%
Short Term Debt	0.63%	5.01%	0.03%	0.03%
Common Stock Equity	52.50%	9.60%	5.04%	7.07%
Total	100.00%		7.16%	9.19%
Income tax rate	28.74%			
Tax allowance rate	40.34%			

https://www.edockets.state.mn.us/documents/%7B80B3C995-0000-C83D-9C8C-0369AD433613%7D/download?contentSequence=0&rowIndex=5

1 Scaler used to determine footage allowance = $0 NPV
2 Existing main footage allowance times scaler
3 Existing service footage allowance times scaler
4 2022-2024 average per-foot main installation cost (CEO IR 4)
5 2022-2024 average incremental per-foot service installation cost (CEO IR 3) (per Xcel fixed/incremental cost methodology)
6 (Line 2 x line 4) + (line 3 x line 5)
7 2022-2024 average fixed service line cost (per Xcel fixed/incremental cost methodology)
8 2022-2024 average installed cost (CEO IR 3)
9 Sum: lines 6-8
10 Prior year ending balance for net plant. $0 for the year extension made
11 Average depreciation rate for distribution plant applied to investment for extension
12 Line 10 - line 11
13 Average, lines 10 and 12
14 annual tax depreciation rate
15 Line 14 applied to investment for extension
16 Line 11 - line 15
17 cumulative amount of line 16
18 Line 17 times tax rate of 28.74%
19 average amount of line 18
20 Line 13 plus line 19
21 line 20 times pre-tax cost of capital
22 Xcel distribution O&M costs (1.8% of total plant) + Xcel customer accounts and information expenses (CEO IR 6)
23 Line 11
24 Property tax rate (3.75%) times average net plant
25 Sum: lines 21-24
26 Xcel 2024 test year sales forecast, modified to reflect lower average new home usage (Xcel's 2020 Residential Home Use Study)
27 Household gas usage reduction by 2050 (zero in this case)
28 Average Distribution Charge
29 Annual Customer Charge
30 (Line 26 x line 28) + (line 29 x 12)
31 Line 21 minus line 20
32 Net present value of line 31 (discount rate = weighted cost of capital)

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Date of Request: May 12, 2025

Requested By: Amelia Vohs
Minnesota Center for Environmental Advocacy
1919 University Ave. W, Suite 515
St. Paul, MN 55104
avohs@mncenter.org

Attorney for Clean Energy Organizations

Requested From: Great Plains Natural Gas Co.

Request Due: May 22, 2025

In the Matter of a Commission Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures to Meet State Greenhouse Gas Reduction Goals

PUC Docket No. G9999/CI-21-565

CLEAN ENERGY ORGANIZATIONS INFORMATION REQUEST NOs. 1-2
TO GREAT PLAINS NATURAL GAS CO.

1. Please provide all responses to information requests from other parties in this docket to date and on a continuing basis throughout this proceeding. Include trade secret responses.

2. In a live excel spreadsheet with all formulae and links intact, provide the Company's most recent calculation(s) used to justify its residential free footage allowances. Provide all supporting workpapers underlying the calculation(s).

Responses:

1. To date, Great Plains has not received any information requests in this docket. The Company will comply with the request to include Clean Energy Organization on all responses to future information requests.

2. As provided under the Company's Extension Policy included in the Company's General Terms and Conditions tariff, Great Plains will extend a gas main up to, but not to exceed, 100 feet per home projected to be connected within twelve months from the start of construction where natural gas is the primary fuel used for space heating. For extensions over 100 feet or where natural gas is not the primary fuel used for space heating, the Company may require cost participation if the estimated capital expenditure is not cost justified pursuant to the Maximum Allowable Investment formula defined in the Company's Extension Policy.

Similarly, the Company will extend a service line to serve customers where natural gas is the primary fuel used for space heating without charge up to, but not to exceed 75 feet. For service line extensions beyond 75 feet or where natural gas is not the primary fuel used for space heating, the Company may require cost participation if the estimated capital expenditure is not cost justified pursuant to the Maximum Allowable Investment formula defined in the Company's Extension Policy.

Please see Clean Energy Information Response No. 2 Exhibit 1 for the electronic version of the analysis of a gas extension to a residential customer assuming the average installation cost for a 2-inch pipe, the average annual use for a residential customer at the then current rates.

PUBLIC DOCUMENT
NOT-PUBLIC DATA HAS BEEN EXCISED

☐ **Not-Public Document – Not For Public Disclosure**
☒ **Public Document – Not-Public Data Has Been Excised**
☐ **Public Document**

Xcel Energy		Information Request No.	2
Docket No.:	G999/CI-21-565		
Response To:	Clean Energy Organizations		
Requestor:	Amelia Vohs		
Date Received:	May 12, 2025		

Question:
In a live excel spreadsheet with all formulae and links intact, provide the Company's most recent calculation(s) used to justify its residential free footage allowances. Provide all supporting workpapers underlying the calculation(s).

Response:
Please see Attachments A and B to this response.

Attachments A and B are marked "Not-Public" in entirety as they contain information the Company considers to be trade secret data as defined by Minn. Stat. § 13.37(1)(b). The information is Trade Secret Information because it derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

Pursuant to Minn. Rule 7829.0500, subp. 3, the Company provides the following description of the excised material:

1. **Nature of the Material:** Residential Free Footage Allotment
2. **Author(s):** Gas Business Development
3. **Importance:** Contains not-public, proprietary information
4. **Date the Information was Prepared:** May 2025

Preparer:	Gerold Traut
Title:	Manager Gas Business Development
Department:	NSPM Gas Business Development
Telephone:	218-825-2305
Date:	May 22, 2025

☐ **Not-Public Document – Not For Public Disclosure**
☐ **Public Document – Not-Public Data Has Been Excised**
☒ **Public Document**

Xcel Energy		Information Request No.	3
Docket No.:	G999/CI-21-565	**REVISED**	
Response To:	Clean Energy Organizations		
Requestor:	Amelia Vohs		
Date Received:	May 27, 2025		

Question:
Complete the following table detailing costs for new Residential customers in the company's Minnesota service area over the last three years. Installation costs should include all associated materials and labor costs.

	2022	2023	2024
Number of meters installed			
Total meter installation costs			
Number of service lines installed			
Feet of service lines installed			
Total service line installation costs			

Response:
Please see table below with requested data. The meter information in the first two lines are for new Residential customers. The service line data for the third, fourth, and fifth lines includes all classes, for both new and replacement service lines.

Lines 2 and 5 below are marked "Not-Public" in as they contain information the Company considers to be trade secret data as defined by Minn. Stat. § 13.37(1)(b). The information is Trade Secret Information because it derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

	2022	2023	2024
Number of meters installed	6,481	4,574	3,574
Total meter installation costs	3,050,088	5,823,684	2,059,338
Number of service lines installed	7,077	6,449	5,661
Feet of service lines installed	569,412.28	538,311.15	450,811.09
Total service line installation costs	10,588,260	9,547,632	9,636,742

REVISED
The Company's original response designated lines 2 and 5 in the table above Not Public information. Lines 2 and 5 are being resubmitted as Public information.

Preparer:	Daniel McNamer	Nate Auer	Gerold Traut
Title:	Mgr.	Mgr. Business Area	Mgr. Gas Bus. Development
Departm	Integrated Gas	Gas Finance	NSPM Gas Bus. Dev
Telephon	651-265-7010	612-330-7761	218-825-2305
Date:	June 6, 2025		REVISED June 27, 2025

State of Minnesota
Clean Energy Organization

Utility Information Request

Docket Number: G-999/CI-21-565 - Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures
Requested From: CENTERPOINT ENERGY MINNESOTA GAS

Date of Request: 5/27/2025

Response Due: 6/6/2025

Analyst Requesting Information: Amelia Vohs

Type of Inquiry: Financial

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

Request No.	
CEO 003	Complete the following table detailing costs for new Residential customers in the company's Minnesota service area over the last three years. Installation costs should include all associated materials and labor costs.

	2022	2023	2024
Number of meters installed			
Total meter installation costs			
Number of service lines installed			
Feet of service lines installed			
Total service line installation costs			

Response:

	2022	2023	2024
Number of meters installed	10,329	10,628	8,147
Total meter installation costs	$3,252,630	$4,173,414	$3,320,114
Number of service lines installed	7,243	5,869	6,264
Feet of service lines installed	690,194	515,886	539,183
Total service line installation costs	$9,691,387	$9,261,412	$9,745,132

Response By: Seth DeMerritt
Title: Manager, Regulatory & Rates
Department: Regulatory Portfolio Management MN
Telephone: 612-321-4423

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Date of Request: May 27, 2025

Requested By: Amelia Vohs
Minnesota Center for Environmental Advocacy
1919 University Ave. W, Suite 515
St. Paul, MN 55104
avohs@mncenter.org

Attorney for Clean Energy Organizations

Requested From: Minnesota Energy Resources Corporation

Request Due: June 6, 2025

In the Matter of a Commission Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures to Meet State Greenhouse Gas Reduction Goals

PUC Docket No. G9999/CI-21-565

CLEAN ENERGY ORGANIZATIONS INFORMATION REQUEST NOs. 3-6
TO MINNESOTA ENERGY RESOURCES CORPORATION

3. Complete the following table detailing costs for ***new Residential customers*** in the company's Minnesota service area over the last three years. Installation costs should include all associated materials and labor costs.

	2022	2023	2024
Number of meters installed			
Total meter installation costs			
Number of service lines installed			
Feet of service lines installed			
Total service line installation costs			

MERC Response:

MERC does not maintain records for meters at the detailed level of installations for new customers, nor at the detailed level of customer class. As such that data is not available for production.

Note that the total service line installation costs provided below includes overhead cost adders and includes contributions in aid of construction ("CIAC"), inclusive of excess footage charges, winter construction charges, and abnormal construction charges.

	2022	2023	2024
Number of meters installed			
Total meter installation costs			
Number of service lines installed	2,208	1,926	1,996
Feet of service lines installed	160,272	128,350	119,565
Total service line installation costs	$4,212,702	$3,869,511	$3,663,369

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Date of Request: May 27, 2025

Requested By: Amelia Vohs
Minnesota Center for Environmental Advocacy
1919 University Ave. W, Suite 515
St. Paul, MN 55104
avohs@mncenter.org

Attorney for Clean Energy Organizations

Requested From: Great Plains Natural Gas Co.

Request Due: June 6, 2025

In the Matter of a Commission Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures to Meet State Greenhouse Gas Reduction Goals

PUC Docket No. G9999/CI-21-565

CLEAN ENERGY ORGANIZATIONS INFORMATION REQUEST NOs. 3-6
TO GREAT PLAINS NATURAL GAS CO.

3. Complete the following table detailing costs for new Residential customers in the company's Minnesota service area over the last three years. Installation costs should include all associated materials and labor costs.

	2022	2023	2024
Number of meters installed	161	149	120
Total meter installation costs	$86,457	$80,013	$75,240
Number of service lines installed	161	149	120
Feet of service lines installed			
Total service line installation costs	$247,618	$229,162	$228,960

Response: Please see the populated table above. Information populated is in red font. As the requested information is not readily available by customer class outside of rate case at which time all extensions are reviewed and more granular data available, the Company estimated the (1) number of

residential meters and service lines installed based on total new services for Great Plains and the percentage of residential customers to total customers and (2) total installation costs for meters and services is based on the average installed cost for meters and services for Montana-Dakota Utilities Co.'s Montana and Wyoming gas jurisdictions which would be comparable to that of Great Plains' Minnesota jurisdiction times the number of new meters and services. The service line footage for residential customers could not be estimated.

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Date of Request: May 27, 2025

Requested By: Amelia Vohs
Minnesota Center for Environmental Advocacy
1919 University Ave. W, Suite 515
St. Paul, MN 55104
avohs@mncenter.org

Attorney for Clean Energy Organizations

Requested From: Great Plains Natural Gas Co.

Request Due: June 6, 2025

In the Matter of a Commission Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures to Meet State Greenhouse Gas Reduction Goals

PUC Docket No. G9999/CI-21-565

CLEAN ENERGY ORGANIZATIONS INFORMATION REQUEST NOs. 3-6
TO GREAT PLAINS NATURAL GAS CO.

4. Complete the following table detailing the installation costs for all 2 inch distribution mains installed in the company's Minnesota service area over the last five years. Installation costs should include all associated materials and labor costs.

	2020	2021	2022	2023	2024
Total footage of 2 inch mains installed	43,940	53,127	52,533	37,256	41,794
Total 2 inch main installation costs	$1,169,096	$1,096,719	$1,599,041	$1,380,172	$1,448,739

Response: Please see the populated table above. Information populated is in red font.

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Xcel Energy Information Request No. 4
Docket No.: G999/CI-21-565
Response To: Clean Energy Organizations
Requestor: Amelia Vohs
Date Received: May 27, 2025

Question:
Complete the following table detailing the installation costs for all 2 inch distribution mains installed in the company's Minnesota service area over the last five years. Installation costs should include all associated materials and labor costs.

	2020	2021	2022	2023	2024
Total footage of 2 inch mains installed					
Total 2 inch main installation costs					

Response:
Please see the table below.

	2020	2021	2022	2023	2024
Total footage of 2 inch mains installed	757,158	436,888	214,865	301,438	148,556
Total 2 inch main installation costs	$32,821,216	$20,910,846	$26,505,121	$24,324,242	$14,264,068

Preparer: Christopher Barthol
Title: Rate Consultant
Department: NSPM Regulatory
Telephone: 612-321-3237
Date: June 6, 2025

State of Minnesota
Clean Energy Organization

Utility Information Request

Docket Number: G-999/CI-21-565 - Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures
Requested From: CENTERPOINT ENERGY MINNESOTA GAS

Date of Request: 5/27/2025

Response Due: 6/6/2025

Analyst Requesting Information: Amelia Vohs

Type of Inquiry: Financial

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

Request No.	
CEO 004	Complete the following table detailing the installation costs for all 2 inch distribution mains installed in the company's Minnesota service area over the last five years. Installation costs should include all associated materials and labor costs.

	2020	2021	2022	2023	2024
Total footage of 2 inch mains installed					
Total 2 inch main installation costs					

Response:

	2020	2021	2022	2023	2024
Footage of 2 inch plastic mains installed	808,846	1,268,845	1,293,014	715,455	668,346
Plastic 2 inch main installation costs	$18,970,632	$35,118,044	$37,051,484	$22,764,118	$22,598,297
Footage of 2 inch steel mains installed	6,053	8,057	2,666	6,190	4,615
Steel 2 inch main installation costs	$952,942	$1,357,320	$490,651	$1,160,621	$1,114,383

Response By: Seth DeMerritt
Title: Manager, Regulatory & Rates
Department: Regulatory Portfolio Management MN
Telephone: 612-321-4423

Total footage of 2 inch mains installed	814,899	1,276,902	1,295,680	721,645	672,961
Total 2 inch main installation costs	$19,923,574	$36,475,364	$37,543,135	$23,924,739	$23,712,680

The information in this table is inclusive of both growth and replacement main projects. The decision to use steel or plastic is dependent on the existing or desired system pressure that is needed to serve the distribution system. Plastic mains are generally used in lower pressure systems due to strength limitations of the plastic material. In areas where the system has low pressure and high flow rates, larger diameter steel mains are installed to meet the system demand. Commonly used plastic main sizes range from 2" through 8". Steel mains are prevalent in systems that operate above 55 psig (pounds per square inch gauge) and have the ability to safely transmit flow at significantly higher pressures where needed to serve the distribution system. Steel pipe can be as large as 24" in diameter to transmit large volumes of natural gas to serve large distribution system networks. Steel mains have strength characteristics that allow the pipe to be safely operated above 55 psig.

Response By: Seth DeMerritt
Title: Manager, Regulatory & Rates
Department: Regulatory Portfolio Management MN
Telephone: 612-321-4423

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Date of Request: May 27, 2025

Requested By: Amelia Vohs
Minnesota Center for Environmental Advocacy
1919 University Ave. W, Suite 515
St. Paul, MN 55104
avohs@mncenter.org

Attorney for Clean Energy Organizations

Requested From: Minnesota Energy Resources Corporation

Request Due: June 6, 2025

In the Matter of a Commission Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures to Meet State Greenhouse Gas Reduction Goals

PUC Docket No. G9999/CI-21-565

CLEAN ENERGY ORGANIZATIONS INFORMATION REQUEST NOs. 3-6
TO MINNESOTA ENERGY RESOURCES CORPORATION

4. Complete the following table detailing the installation costs for all 2 inch distribution mains installed in the company's Minnesota service area over the last five years. Installation costs should include all associated materials and labor costs.

	2020	2021	2022	2023	2024
Total footage of 2 inch mains installed					
Total 2 inch main installation costs					

MERC Response:
The data below provides information on plastic and steel 2" distribution main installed in each respective year. ** Note that 2024 is only partial data, as the process of unitizing 2024 distribution main data (i.e. detailing total distribution main at the specified level of main size, material type, vintage year, etc.) in the plant accounting software system based upon GIS mapping is not complete.

	2020	2021	2022	2023	2024 **
Total footage of 2 inch mains installed	392,400	375,566	352,165	343,035	163,342
Total 2 inch main installation costs	$7,487,671	$7,788,350	$8,269,186	$8,897,552	$6,084,812

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Xcel Energy		Information Request No.	6
Docket No.:	G999/CI-21-565	Supplement	
Response To:	Clean Energy Organizations		
Requestor:	Amelia Vohs		
Date Received:	May 27, 2025		

Question:
Complete the following table detailing the total customers accounts and information expenses (i.e. FERC accounts 901-910) allocated to Residential customers in the company's Minnesota service area over the last three years.

	2022	2023	2024
Total Residential customers			
Total			

Response:
Please see the table below for the customer account and information expenses allocated to Residential customers in the Company's Minnesota service area over the last three years. To allocate the 2022 and 2023 expenses, we used the allocators from our Class Cost of Service Study (CCOSS) in our 2022 test year gas rate case (Docket No. G002/GR-21-678). To allocate the 2024 expenses, we used the allocators from our CCOSS in our 2024 test year gas rate case (Docket No. G002/23-413).

	2022	2023	2024
Total Residential customers	$26,648,317	$24,908,140	$25,842,743
Total	$41,426,440	$39,503,564	$38,985,243

SUPPLEMENT

Please see the supplemental table below for the residential customer counts for 2022 – 2024.

	2022	2023	2024
Total Residential customers	444,425	449,623	454,012

Preparer:	Christopher Barthol	Joshua Dudley
Title:	Rate Consultant	Mgr Revenue Accounting
Department:	NSPM Regulatory	Retail and Customer Acct.
Telephone:	612-321-3237	303-294-2303
Date:	June 6, 2025	SUPPLEMENTED: July 2, 2025

OAG No. 009

State of Minnesota
Office of the Attorney General
Utility Information Request

In the Matter of a Commission Evaluation of Changes to Natural Gas Utility Regulatory and Policy Structures to Meet State Greenhouse Gas Reduction Goals	**MPUC Docket No.**	**G-999/CI-21-565**

Requested from: Great Plains Natural Gas Co.

Requested by: OAG-RUD	**Date of Request:**	June 20, 2025
	Due Date:	July 2, 2025

Reference: Clean Energy Information Response No. 2 Exhibit 1

Request:

Confirm that Great Plains included the capital cost and installation costs of a meter in its total estimated costs calculation of $1707.55 in the "Service Line" tab.

1. If the answer to part A is a confirmation, provide the capital costs of a meter and service line separately. Provide actual costs if available. If an estimate is necessary, provide the estimate along with any calculations in Excel spreadsheet format.
2. If the answer to part A is not a confirmation, explain why Great Plains does not include the cost of a meter in its estimated cost calculation of $1,707.55.
3. If the answer to part A is not a confirmation, provide the actual capital cost of a new meter. If an estimate is necessary, provide the estimate along with any calculations in Excel spreadsheet format.

Any responsive documents must be provided in their unlocked native format with all formulas and links intact.

Response:

The $1,707.55 included in Clean Energy Response No. 2 does not include the installed cost of a meter.

1. Not applicable.

Response by Travis Jacobson
Title Vice President of Regulatory Affairs
Department Regulatory Affairs
Telephone (701) 222-7855
Email travis. Jacobson@mdu.com

2. Great Plains' firm extension policy, as noted in the Company's General Term and Conditions Sections V.4d and V.4.i(1) and (2) does not include any meter costs in the cost of an extension.

3. Please see Response No. OAG-009 Attachment A.

Response by Travis Jacobson
Title Vice President of Regulatory Affairs
Department Regulatory Affairs
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