

# Changes to Xcel Energy's Community Solar Garden Program: 2023-2024

December 2024

## Overview

More than half of Minnesota's installed solar energy capacity consists of projects that are part of Xcel Energy's community solar garden program, which allows customers to reserve a portion of the solar energy produced by a solar energy system owned and operated by a third party. The Minnesota Legislature mandated the program in 2013. In recent years, the legislature and the Minnesota Public Utilities Commission made changes to the program that were designed to reduce program costs and to increase participation by low- and moderate-income residential customers. This publication provides some background on the program and describes the recent changes.

## Introduction

Xcel's community solar garden (CSG) program mandated by the Minnesota Legislature in 2013 is a popular one, accounting for more than half the state's solar energy capacity ten years later.<sup>1</sup> More than 30,000 residential customers and 3,700 businesses participate in the program.<sup>2</sup> These customers avoid the significant capital costs required to construct a solar energy system by reserving a fixed monthly share of the electricity generated by a neighborhood-scale solar project owned and operated by a third party. Under the program, Xcel Energy is required to purchase all the electricity generated by a CSG at a rate established by the Minnesota Public Utilities Commission and must issue bill credits to garden subscribers based on the size of their subscription.

A series of commission orders issued between 2014 and 2016 fleshed out the details of program operations.<sup>3</sup> In 2023 and 2024, the legislature and the commission amended the program, as described in this publication.

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<sup>1</sup> Xcel's CSG program capacity exceeded 900 megawatts (MW/alternating current) in 2023; the state's total solar capacity was 1,692 MW. Minnesota Department of Commerce, *Energy Policy and Conservation Quadrennial Report, 2024*, July 1, 2024, p. 52, and Figure 5-X, p. 116, <https://mn.gov/commerce-stat/energy/EnergyPolicyandConservationQuadrennialReport2024.pdf>.

<sup>2</sup> Xcel Energy, *2023 Annual Report: Legacy Community Solar Gardens Program*, April 1, 2024, MPUC Docket No. E002/M-13-867, Table 7, p. 20.

<sup>3</sup> For a description of the program and an analysis of the commission's orders, see Bob Eleff, *Xcel Energy's Community Solar Garden Program*, House Research Department Information Brief, October 2017, <https://www.house.mn.gov/hrd/pubs/solargarden.pdf>.

## Issues Addressed

The 2023-2024 program revisions are designed to: (1) reduce the costs of the program paid by Xcel customers who do not subscribe to CSGs by lowering the price Xcel pays for CSG-generated electricity and by limiting the growth of statewide CSG capacity; and (2) encourage greater participation by low- and moderate-income residential subscribers.

Three early commission decisions regarding CSG program operations influenced the nature of proposed projects in ways that contributed to higher costs for Xcel customers who do not subscribe to CSGs.

## Co-location

The commission allowed CSGs to co-locate at a single interconnection point, reasoning that this strategy would allow CSG owners to take advantage of economies of scale with respect to interconnection costs. As a result, early applications were dominated by projects that exceeded the program's one MW capacity limit. During the program's first month of operation, Xcel received applications for 75 projects totaling 431 MW. Only 4 percent of that capacity was accounted for by projects of one MW or less. In June 2015, by which time the aggregated capacity of applications filed had grown to 912 MW, the commission approved an agreement reached by Xcel with several stakeholders to limit capacity of all applications received before September 25, 2015, to a maximum of five MW.<sup>4</sup> That still allowed larger nonresidential customers to dominate the program, and they have continued to do so. Although commercial and industrial customers represented just 10 percent of unique CSG subscribers as of 2023, they accounted for 84 percent of CSG capacity and received 82 percent of all CSG bill credits.<sup>5</sup>

## Compensation Rate

The statute requires that the rate paid by Xcel for CSG-generated electricity must "reasonably allow for the creation, financing, and accessibility of community solar gardens" while remaining "consistent with the public interest."<sup>6</sup> As the commission later described this charge, "Enabling the development of CSGs that sell above-market-priced energy to Xcel while limiting the ratepayer impact . . . creates tension that requires the Commission to strike an appropriate balance between these two, often-competing factors so that both are satisfied."<sup>7</sup>

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<sup>4</sup> Eleff, pp. 5-7.

<sup>5</sup> Xcel Energy, *2023 Annual Report: Legacy Community Solar Gardens Program*, April 1, 2024, MPUC Docket No. E002/M-13-867, Figure 2, p. 22.

<sup>6</sup> [Minn. Stat. § 216B.1641](#), para. (e), cls. (1) and (4).

<sup>7</sup> Minnesota Public Utilities Commission, In the Matter of the Petition of Northern States Power Company, d/b/a Xcel Energy, for Approval of Its Proposed Community Garden Solar Program, Docket No. E-002/M-13-867, *Order Approving Community Solar Garden Program Rate-Transition Proposal With Modifications*, May 30, 2024, p. 29. Hereafter referred to as 2024 Order.

The statute requires Xcel to compensate CSG subscribers at the utility's average retail rate (ARR) for that class of customer, to be replaced by Xcel's value of solar rate<sup>8</sup> when approved by the commission.<sup>9</sup> Solar developers testified that in order to successfully finance CSGs, the utility compensation rate should be about \$0.15 per kWh. The initial ARR was set at \$0.12 per kWh. In addition, CSG owners were authorized to sell Renewable Energy Certificates to Xcel at \$0.02 per kWh for projects above 250 kW capacity, and \$0.03 per kWh for smaller projects,<sup>10</sup> making Xcel's total payments for CSG electricity \$0.14 to \$0.15 per kWh.

In 2016, the commission approved Xcel's value of solar rate at \$0.103 per kWh and applied it to all post-2016 CSGs, while allowing existing CSGs to continue to receive the higher ARR.<sup>11</sup> By 2024, the ARR for residential customers, including Renewable Energy Certificate payments, was more than \$0.05 per kWh higher than both the value of solar rate and Xcel's standard residential rate.<sup>12</sup> As of January 2024, 69 percent of CSG capacity was subscribed by customers receiving the higher ARR rate.<sup>13</sup>

## Aggregate Capacity Limit

In 2014, the commission declined to limit the statewide aggregate capacity of CSGs.<sup>14</sup> As a result, between 2017 and 2020, CSG capacity grew by more than 800 MW.<sup>15</sup>

## Cost Burden

The combination of higher-than-market prices and significant growth in CSG capacity elevated the cost burden on nonparticipating Minnesota Xcel electric customers, who are allocated all of the portion of subscriber bill credits that represents above-market prices for CSG-generated electricity as well as Minnesota's appropriate share of the portion of the bill credits that

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<sup>8</sup> A utility's value of solar rate reflects cost savings realized by using solar electricity generated near the customer rather than transporting electricity generated by fossil fuels from a central location, including costs of fuel, pollution control equipment, and transmission.

<sup>9</sup> [Minn. Stat., § 121A.15](#), para. (d).

<sup>10</sup> Eleff, p. 4. Renewable Energy Certificates, issued for each kilowatt-hour of electricity generated from renewable energy sources, are a way to document and track ownership of renewable energy generation and use. Xcel can use them to comply with Minnesota's renewable and carbon-free energy standards (see [Minnesota Statutes, section 216B.1691](#), subdivision 4), and they can be bought and sold like any financial instrument.

<sup>11</sup> *Ibid.* One reason the ARR exceeded the value of solar is that the former increased each time the company raised its electricity rates.

<sup>12</sup> Xcel Energy, *Minnesota Electric Rate Book - MPUC No. 2*, Section 9, 10th Revised Sheet No. 64.1, and Section 5, 33rd Revised Sheet No. 1; *2024 Order*, Figure 2, p. 10.

<sup>13</sup> Xcel Energy, *2023 Annual Report: Legacy Community Solar Gardens Program*, Table 5, p. 17.

<sup>14</sup> This decision allowed developers to take advantage of a 30 percent federal tax credit for solar systems that was scheduled to be reduced to ten percent beginning in 2017. Eleff, p. 3.

<sup>15</sup> Minnesota Department of Commerce, *Energy Policy and Conservation Quadrennial Report, 2024*, Figure 5-W, p. 115.

represents market prices.<sup>16</sup> In 2023, Xcel estimated that while solar energy from CSGs accounted for just 3.8 percent of the electricity the utility provided to serve all its Minnesota customers, it represented 20.5 percent of Xcel's total electric fuel costs, and increased the average residential electric bill by approximately \$54 a year.<sup>17</sup> In 2022, Xcel issued \$184 million in bill credits to CSG subscribers, an amount the utility projected would increase by 70 percent in 2024.<sup>18</sup>

## 2023 Legislation

The legislation enacted in 2023<sup>19</sup> made no changes to existing CSG operations, but established new rules for CSGs approved beginning in 2024:

- The Minnesota Department of Commerce, not Xcel, administers the program.
- The maximum allowable capacity of CSGs increases from one to five MW.
- A CSG must contain at least 25 subscribers per MW of capacity, and no single subscriber may reserve more than 40 percent of a CSG's capacity.
- Caps on the maximum statewide capacity of all CSGs approved in a single program year are set as follows: for 2024 through 2026, 100 MW; for 2027 through 2030, 80 MW; and for 2031 and beyond, 60 MW.<sup>20</sup>
- The department may approve a CSG only if:
  - at least 30 percent of its capacity is subscribed by low- and middle-income subscribers,<sup>21</sup> defined in the statute as households with incomes at or below 60 percent of the state median income or 150 percent of the applicable area median income;<sup>22</sup> and

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<sup>16</sup> The portion of CSG bill credits that represent market prices—what Xcel would have paid to purchase electricity on the market to meet the demand of CSG customers had it not been generated by a CSG—is allocated to all Xcel electric customers in the company's Midwest service area, including those in Minnesota.

<sup>17</sup> Xcel Energy, *2023 Annual Report: Legacy Community Solar Gardens Program*, p. 17.

<sup>18</sup> *2024 Order*, pp. 29-30. Xcel attributed the large increase in 2023 to three factors: (1) the impact of the \$247 million interim rate increase allowed by the commission in the utility's recent rate case; (2) increased costs of natural gas used to generate electricity, and transmission congestion costs (requiring the purchase of more expensive electricity when lower cost electricity cannot be accessed through the grid); and (3) increases in Xcel's riders, commission-approved charges for specific utility programs. Minnesota Public Utilities Commission, In the Matter of the Petition of Northern States Power Company, d/b/a Xcel Energy, for Approval of Its Proposed Community Garden Solar Program, Docket No. E-002/M-13-867, *Comments of the Office of the Attorney General*, January 8, 2024, p. 9

<sup>19</sup> [Laws 2023, ch. 60](#), art. 12, § 14, subds. 2 to 13.

<sup>20</sup> For comparison purposes, CSGs added about 200 MW of capacity in 2017, 235 MW in 2018, 135 MW in 2019 and 2020, and under 50 MW in 2021 and 2022. Minnesota Department of Commerce, Figure 5-W, p. 115.

<sup>21</sup> Although in 2023 residential subscribers represented 87 percent of all subscribers, they accounted for only 16 percent of total garden capacity. Xcel Energy, *2023 Annual Report: Legacy Community Solar Gardens Program*, pp. 21-22.

<sup>22</sup> In 2024, 60 percent of the state median income was \$75,387 for a family of four. Area median income is a term developed by the federal Department of Housing and Urban Development. In the Twin Cities metropolitan area

- at least 55 percent of its capacity is subscribed by low- and moderate-income households, public interest subscribers,<sup>23</sup> and affordable housing providers.
- In allocating capacity to applicants, the commissioner of commerce must prioritize applications that provide financial benefits to low- and middle-income subscribers, nonparticipating utility customers, affordable housing residents, and public interest subscribers. Priority is also to be given to applicants that provide apprenticeship opportunities for BIPOC workers.
- CSG owners are prohibited from checking an applicant's credit score, charging an exit fee to a residential subscriber, or engaging in misleading or deceptive conduct, and must preserve subscriber privacy.
- The cost of a subscription may not exceed the value of a subscriber's bill credit, and for low- or moderate-income subscribers, may not exceed 90 percent of that amount.
- The 2023 legislation established compensation rates for post-2023 solar gardens at various percentages of the ARR, varying by customer type. Low- or moderate-income subscribers received 100 percent of the ARR; other residential subscribers, 85 percent; affordable housing subscribers, 80 percent; public interest small general commercial customers, 75 percent; and other commercial customers, 70 percent.
- Xcel is prohibited from recovering the net cost of the program, previously allocated to all nonsubscribing customers, from customers who are eligible for or receiving bill payment assistance.
- The requirement that subscribers be located in the same county as the generating facility, or a contiguous county, does not apply to post-2023 CSGs.

## 2024 Commission Order

In June 2023, after Xcel filed its forecast of rising ARR costs with the commission, the utility was ordered to file a proposal to transition pre-2016 CSGs receiving the ARR rate to the lower value of solar rate.<sup>24</sup> The company filed a proposal in September 2023 that was modified in a commission order issued in May 2024 that stated, “[T]he record weighs in favor of transitioning to the VOS [value of solar rate], particularly due to the cost of the ARR-era community solar gardens’ bill credits to nonsubscribing ratepayers. The cost of ARR-era CSG bill credits are [sic] likely to continue to increase and unreasonably exceed the value created from CSG energy generation and the rate necessary for economic success of CSGs.”<sup>25</sup> The commission added that

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where most of Xcel's electric service customers reside, HUD calculates that 150 percent of area median income for a family of four was \$186,300 in 2024. Calculations for other counties are reported at [https://mn.gov/commerce-stat/energy/HUD80and150Percent\\_042624.pdf](https://mn.gov/commerce-stat/energy/HUD80and150Percent_042624.pdf).

<sup>23</sup> The statute defines a public interest subscriber as one that “demonstrates status as a public or Tribal entity, school, nonprofit organization, house of worship, or social service provider.”

<sup>24</sup> Minnesota Public Utilities Commission, In the Matter of Northern States Power Company, dba Xcel Energy, for Approval of Its Proposed Community Solar Garden Program, Docket No. E-002/M-13-867, *Order Adopting 2023 ARR and Requiring Additional Filing*, June 27, 2023, p. 10.

<sup>25</sup> 2024 Order, p. 2.

“the current record demonstrates that CSGs can be reasonably developed and financed at the VOS – 198 CSGs have done so.”<sup>26</sup>

The transition from ARR to value of solar is to occur on April 1, 2025. To cushion the impact of the transition, the commission allowed large general service customers subscribed to a CSG to receive an additional \$0.01 per kWh through the end of 2025. It also approved an additional \$0.03 per kWh to be added permanently to the value of solar rate received by current residential and small general service subscribers transitioning from the ARR, which, in the commission's words, “strikes an appropriate balance between the benefits subscribers may have anticipated and the ultimate rate impacts for nonsubscribers.”<sup>27</sup>



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<sup>26</sup> Ibid., p. 15.

<sup>27</sup> Ibid., p. 33.