MINNEAPOLIS CLEAN ENERGY PARTNERSHIP

2023 Annual Report

September 2024

Contents

Metrics Scorecard

Greenhouse Gas Emissions (Community-wide)

Net-Zero Emissions by 2050:

34% reduction since 2006; not on track for 2050 goals

Metric 1

Score: RED

Greenhouse Gas Emissions (Municipal Operations)

Net-Zero Emissions by 2040:

64% reduction since 2008 and on track

Metric 2

Score: GREEN

Greenhouse Gas Emissions (Residential)

Net-Zero Emissions by 2050:

32% reduction since 2006; not on track for 2050 goals

Metric 3

Score: RED

Greenhouse Gas Emissions (Commercial and Industrial)

Net-Zero Emissions by 2050:

42% reduction since 2006; not on track for 2050 goals

Metric 4

Score: RED

Renewable Electricity (Community-wide)

100% of renewable electricity use by 2030:

40% in 2023 and not on track

Metric 5

Score: RED

Renewable Electricity (Municipal Operations)

100% of renewable electricity use by 2023:

97% in 2023 and goal has been met

Metric 6

Score: GREEN

Renewable Electricity (Local and Subscriptions)

40% of renewable electricity use by 2024:

8.1% in 2023 and not on track

Metric 7

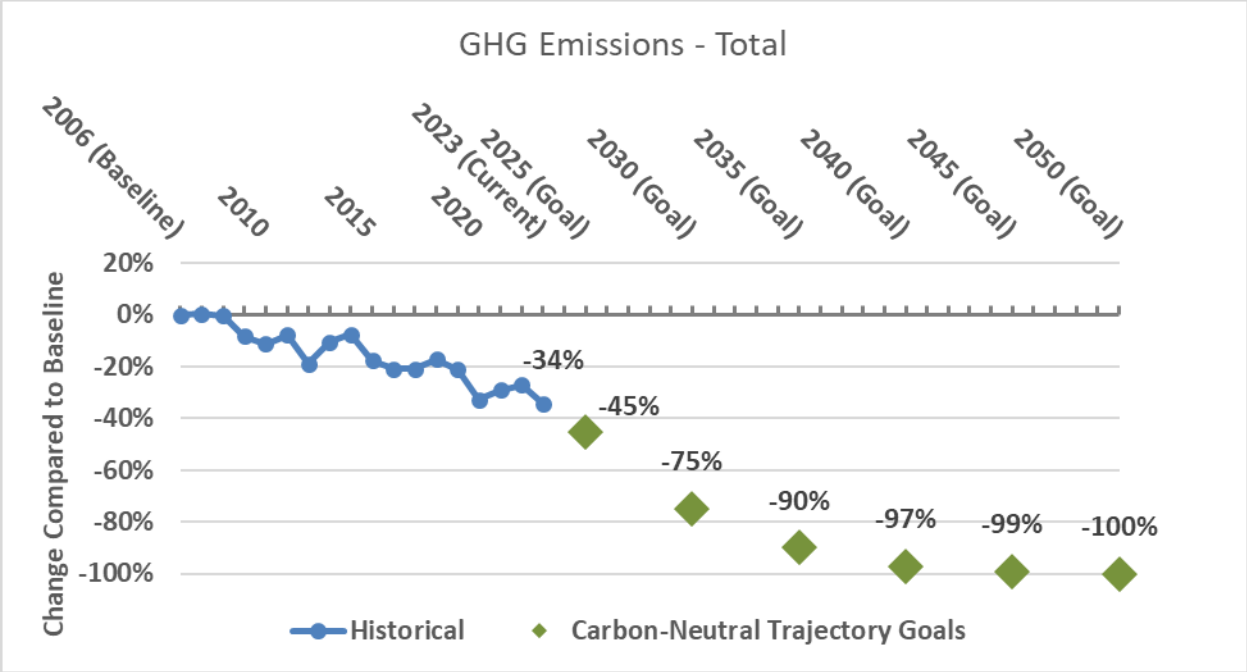
Score: RED

Metric 1: Greenhouse Gas Emissions (Community-wide)

This metric measures progress toward the Minneapolis *Climate Equity Plan's* community-wide greenhouse gas (GHG) reduction commitment:

> *Achieve net zero carbon emissions by 2050 and decarbonize within a carbon budget defined by a science-based, fair share pathway.*

The following data show a 34% decrease in 2023 emissions compared to 2006. While 2023 emissions are within the bounds of the City's carbon-neutral by 2050 pathway, emissions have remained relatively level in recent years and forecasts (see appendix) indicate the City's carbon budget will be exhausted well before 2050 at the recent rate of decarbonization. Therefore, this metric is not on track to meet the 2050 goal.



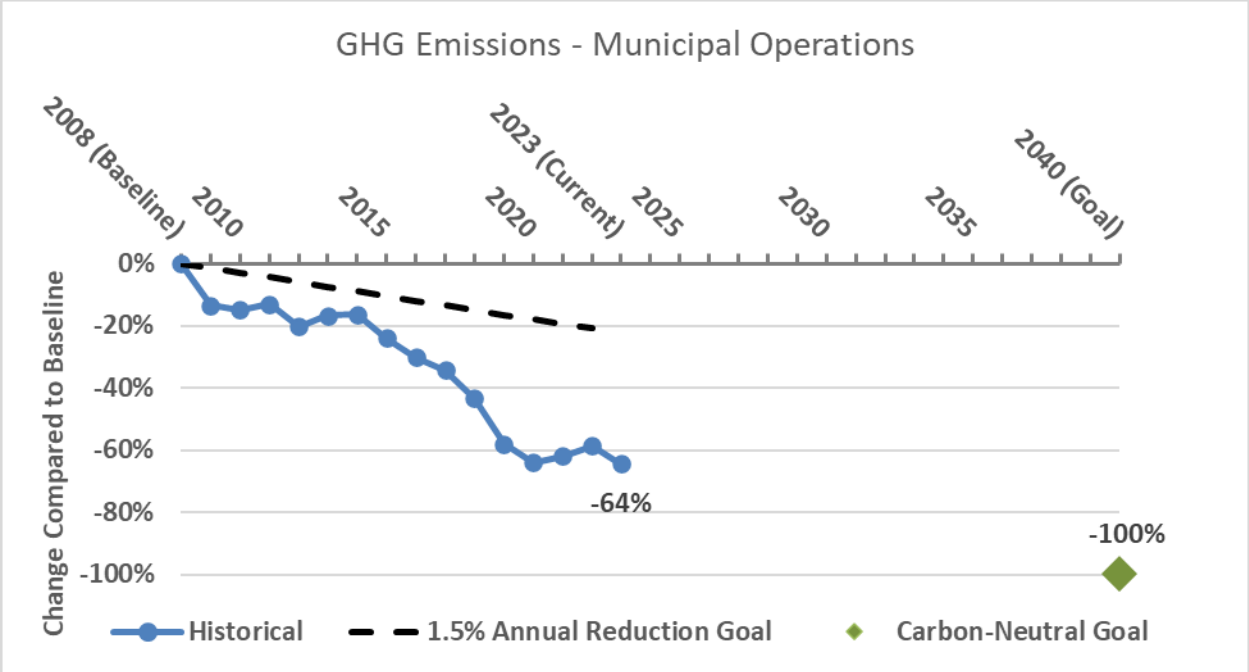
GHG emissions reductions to date are in large part attributed to progress on electricity decarbonization, moving away from coal to natural gas, wind, and solar power to produce electricity. In 2023, natural gas was the largest emissions source at 43% of overall GHG emissions, followed by electricity (26%) and on-road transportation (26%).

Metric 2: Greenhouse Gas Emissions (Municipal Operations)

This metric measures progress toward the Minneapolis *Climate Equity Plan's* municipal operations greenhouse gas reduction goal:

> *Achieve net zero carbon emissions by 2040 for municipal operations.*

The following data show a 64% decrease in emissions in 2023 compared to 2008. The data indicates this metric met the City's previous goal (effective through 2022 data) of a 1.5% annual reduction in GHG emissions. City staff are developing a carbon-neutral goal trajectory to 2040 to gauge future progress.



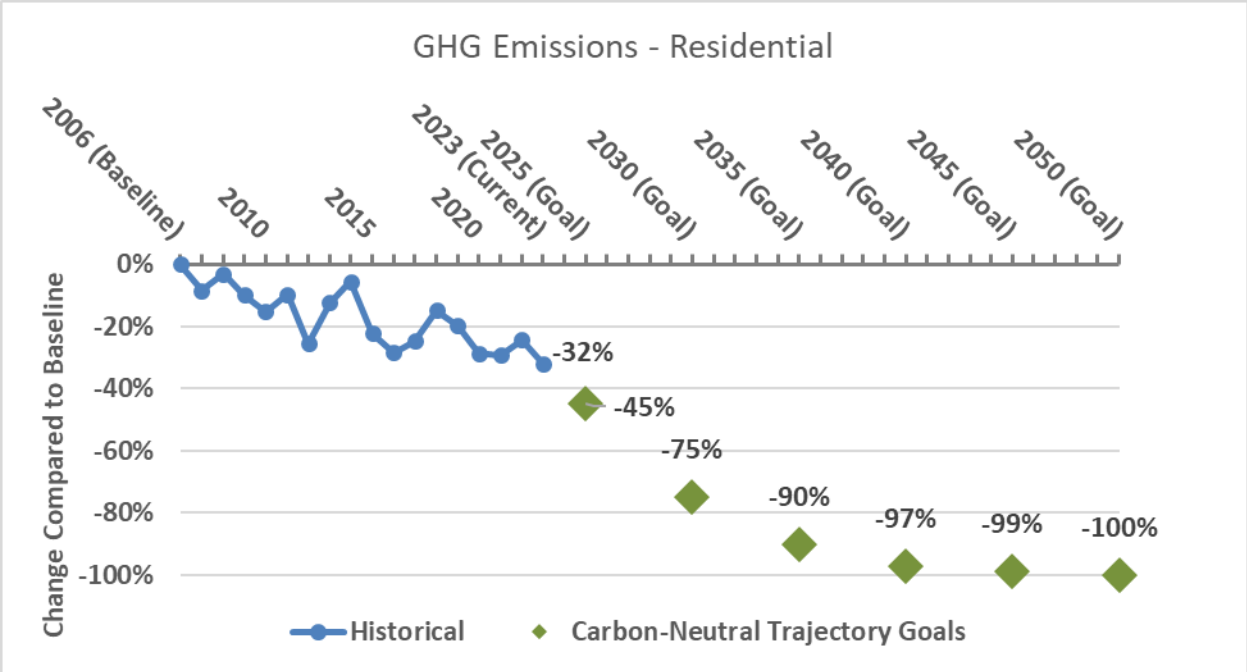
Greenhouse gas emissions from City facilities and operations once again shifted into a downward direction for the 2023 calendar year. The City will subscribe all eligible, remaining electric accounts into Renewable*Connect in 2024, thereby resulting in no substantial emissions from electricity. Therefore, continued progress on emissions reductions will require an increased focus on natural gas and steam saving projects.

Metric 3: Greenhouse Gas Emissions (Residential)

This metric measures progress toward the Minneapolis *Climate Equity Plan*'s residential GHG emissions reduction goals:

> *Achieve net zero carbon emissions in the residential sector by 2050 and decarbonize within a carbon budget defined by a science-based, fair share pathway.*

The following data show a 32% decrease in 2023 emissions compared to 2006. While 2023 emissions are within the bounds of the City's net zero by 2050 pathway, emissions have remained relatively level in recent years and the sector's carbon budget will be exhausted well before 2050 at the recent rate of decarbonization. Therefore, this metric is not on track to meet the 2050 goal.



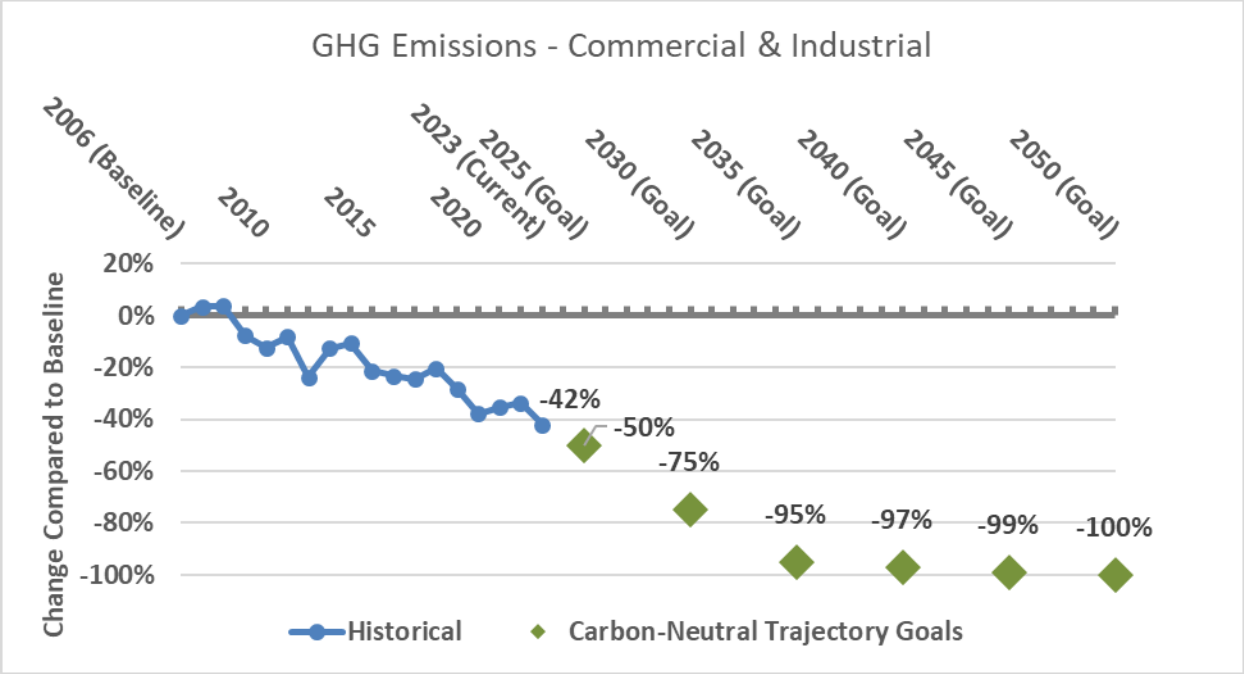
The residential energy sector consists of approximately 191,000 electric and 127,000 gas customers in Minneapolis. The number of electric and natural gas customers has increased since the baseline year, but data suggest that households in Minneapolis are using energy more efficiently. However, the reliance on natural gas for space heating in cold weather continues to contribute to significant peaks of energy use in cold weather years (see graph years 2014, 2018, and 2019).

Metric 4: Greenhouse Gas Emissions (Commercial and Industrial)

This metric measures progress toward the Minneapolis *Climate Equity Plan*'s commercial and industrial GHG emissions reduction goals:

> *Achieve net zero carbon emissions in the commercial and industrial sectors by 2050 and decarbonize within a carbon budget defined by a science-based, fair share pathway.*

The following data show a 42% decrease in 2023 emissions compared to 2006. While 2023 emissions are within the bounds of the City's net zero by 2050 pathway, the sector's carbon budget will be exhausted well before 2050 at the recent rate of decarbonization. Therefore, this metric is not on track to meet the 2050 goal.



The commercial and industrial energy sector consists of approximately 19,000 electric and 11,000 gas customers in Minneapolis.

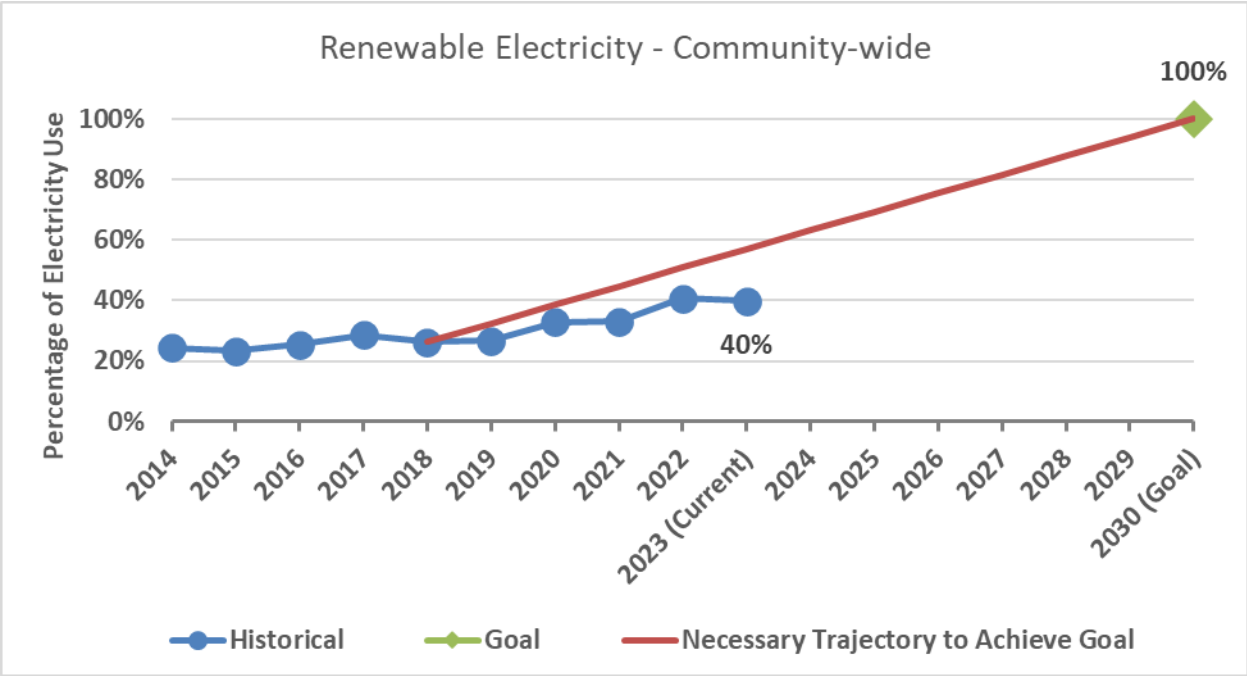
Emissions from natural gas represent 59% of the emissions in this sector. As with the residential sector, the commercial and industrial sector is affected by weather, and 2023 had 9% more heating degree days than the 2006 baseline year.

Metric 5: Renewable Electricity (Community-wide)

This metric measures progress toward the Minneapolis community-wide renewable electricity goal:

> *Receive 100% of community-wide electricity use from renewable sources by 2030.*

The following data show that 40% of electricity consumption came from renewable sources in 2023. The data show that this metric is not at the pace required to meet the goal, which was first established in 2018. This metric is determined to not be on track.



The Xcel Energy renewable share of electric generation decreased from 41% to 40% since 2022. Xcel Energy also provides another metric, Certified Renewable Percentage, which was 41.9% for 2023, down from 42.6% in 2022. Certified Renewable Percentage reflects the portion of electricity delivered for which Renewable Energy Certificates (RECs) have been retired on behalf of all customers. Xcel's Energy's latest, proposed 2024-2040 IRP includes a portfolio of energy resources so that, by 2030, the projected energy mix will include 44% wind energy, 9% solar, 24% nuclear, 9% energy efficiency and demand response programs, 10% natural gas and about 4% hydro, battery storage and biomass.

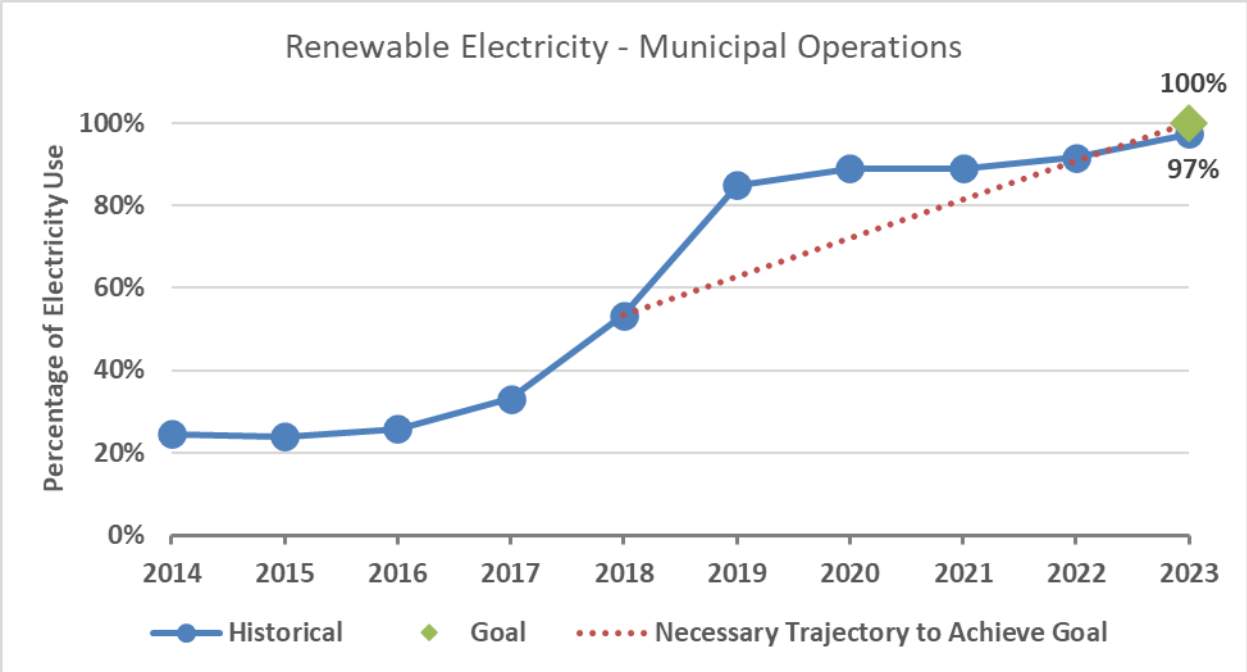
The carbon-free share of electric generation - the metric that most directly impacts GHG emissions - is 64% in 2023 after factoring in nuclear generation of 24%.

Metric 6: Renewable Electricity (Municipal Operations)

This metric measures progress toward the Minneapolis municipal operations renewable electricity goal:

> *Reach 100% renewable electricity for municipal facilities and operations by 2023*

The following data show that 97% of electricity consumption came from renewable sources in 2023. The data indicates this metric has substantially achieved the City's adopted goal.



The share of renewable electricity consumed by the City's municipal operations began to increase starting in 2017. Dramatic increases since 2017 are primarily due to the City's increased participation in Xcel Energy's community solar garden (24 million kWh in 2023) and *Renewable*Connect* (55 million kWh in 2023) programs.

Electricity consumption slightly decreased in 2023, in part due to a decreased amount of electricity used for traffic lights and streetlights with the adoption of LED technology.

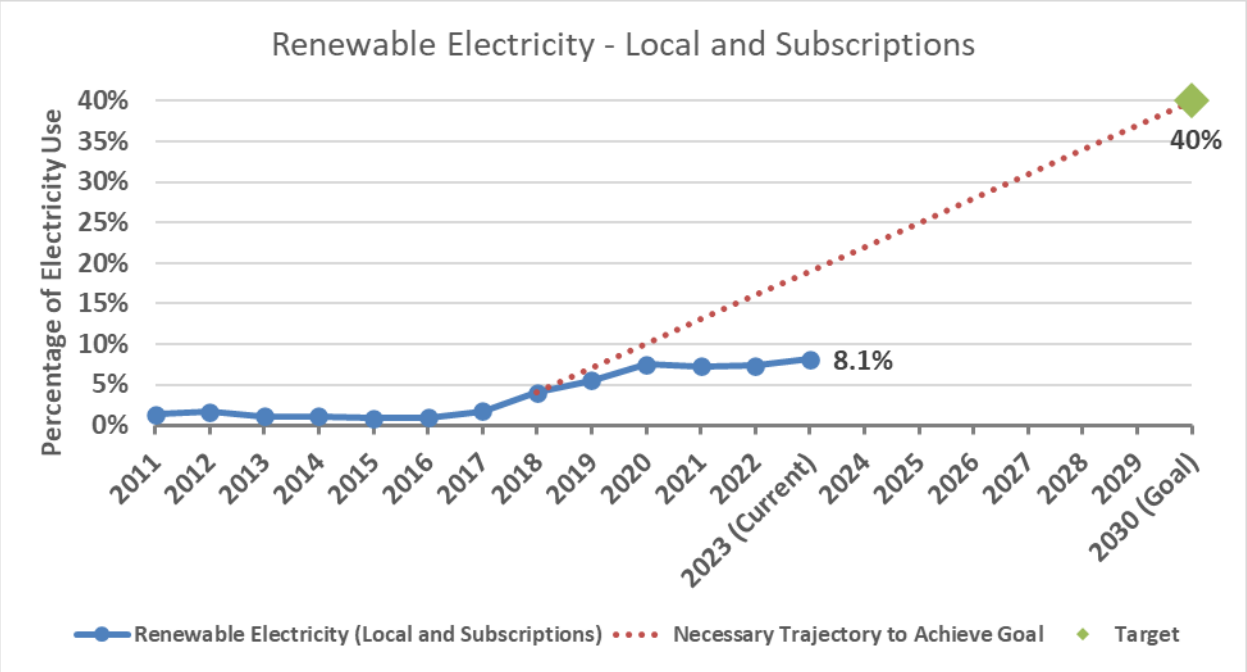
The City sees the spirit of this goal as being fulfilled. The City currently plans to enroll all eligible electrical premises in Xcel Energy's Renewable*Connect program as a means to make good on this goal. As any new electrical services are brought online, staff will enroll them in available renewable energy subscription programs that are paired with REC-ownership.

Metric 7: Renewable Electricity (Local and Subscriptions)

This metric measures progress toward the Minneapolis *Climate Equity Plan*'s renewable electricity target:

> *Increase renewable electricity from distributed local solar to 30% and utility-scale subscriptions to 10%, for an overall target of 40% of total electricity consumed by 2030.*

The following data show that 8.1% of electricity consumption came from local and subscription renewable sources in 2023. This metric is not on track to meet the City's target.



2017-2020 showed dramatic upticks in local and subscribed renewable electricity. Increases were due to large direct-purchase subscriptions in Xcel Energy's *Renewable*Connect* program, and a surge in local renewables through both Xcel Energy's community solar garden program and new Minneapolis-sited arrays supported by the City's Green Cost Share program.

From 2020 to 2023 participation in Renewable*Connect decreased and participation in Windsource increased (resulting in slightly increased participation in green tariff subscription programs). Participation in Solar*Rewards Community (community solar) remained relatively constant, while installed capacity of solar in the City through Solar*Rewards and net-metered solar increased slightly, also resulting in a slight increase in local solar in 2023.

2022-2024 Work Plan Progress

NOTE: The 2022-2023 Work Plan was modified to include the year 2024 during the Q4 2023 meeting of the Clean Energy Partnership Board. This was in recognition of multiple new Board members joining the Board in 2024 and in recognition that additional new effort will arise from the utilities assisting the City in its implementation of some aspects of the Climate Legacy Initiative.

Progress to Date (September 2024)
Theme 1: DECARBONIZE HOMES VIA ELECTRIFICATION AND ENERGY EFFICIENCY RETROFITS City staff and their contractor, CEE, engaged a City staff group and a community stakeholder group to develop a residential electrification and weatherization feasibility pathway. The City staff group comprised members whose work involves energy, sustainability, city planning, or residential buildings. The community stakeholder group consisted of members who could represent a diversity of concerns, perspectives, geographic areas, and lived experiences that would be relevant for any future electrification plan. These members included utility representatives, members of relevant City committees, energy experts, and community advocates. The City and CEE convened three two-hour workshops with each respective group for a total of six workshops during Q4 of 2022. During each workshop, CEE presented modeling work and facilitated discussion. CEE refined and expanded their modeling and pathway design for each successive workshop based on the group's questions and interests. The final report (MINNEAPOLIS 1–4 UNIT RESIDENTIAL WEATHERIZATION AND ELECTRIFICATION ROADMAP) was released on Feb 17. A webinar on the topic was publicly held on Mar 7. An Electrify Everything MN website was also launched in February 2023. Electrify Everything MN is a collaboration between CEE and the Cities of Minneapolis, Edina, St. Louis Park, and Eden Prairie. Electrify Everything answers the question "Why electrify?" and provides practical guidance on the cost of electrification equipment, finding experienced contractors, and obtaining financial resources from local to national. Electrify Everything MN supports residents with installing insulation and air sealing, air source heat pumps, heat pump water heaters, induction stoves, and electric dryers to improve health, comfort, and the climate. Through education and connections to practical resources, Electrify Everything MN aims to simplify the process of electrifying a home, one step at a time. From the start of the program in January of 2023 through the end of June 2024, Electrify Everything MN has achieved the following in Minneapolis: • Launched and expanded the Electrify Everything MN website, which had 8,300 site visits. The website provides an overview of key electrification technologies and outlines all incentives available to Minneapolis residents from federal, state, utility, and City government sources.

Progress to Date (September 2024)
• Conversations about home electrification with over 190 residents at 7 public events. • Electrify Everything Advisors provided one-on-one support to 17 residents to help them complete an electrification project by connecting them with contractors, helping them obtain incentives, or providing project advice. • Delivered 6 quarterly e-newsletters reaching 684 recipients with information on new rebate programs, local electrification case studies, and other resources. Based upon a key finding of the Roadmap report – that weatherization was a necessary and critical pathway toward energy cost savings and decarbonization of homes – numerous City activities in 2023 have prominently proposed weatherization action. In July 2023, on the eve of adoption of the new *Minneapolis Climate Equity Plan*, Mayor Frey announced the launch of the *Climate Legacy Initiative* (CLI), a plan to fund the City of Minneapolis' aggressive climate goals over the next 10 years. Mayor Frey was joined at the launch by Council Member Goodman and Council Member Chughtai who would author the funding mechanism to support the CLI work. The next day, the Council formally adopted the *Minneapolis Climate Equity Plan* – the culmination of over a year of planning and engagement with vital contributions from many community members. At the same Council meeting, Council Member Goodman and Council Member Chughtai formally began the legislative process to fund the CLI by proposing increases to both electric and gas franchise fee rates. On October 19, 2023 the City Council adopted the franchise fee increases, which result in an additional approximately $10 million in revenue beginning in 2024. In August 2023, Mayor Frey formally delivered his 2024 Budget Address and corresponding 2024 budget recommendations. Mayor Frey's recommended 2024 budget proposes to invest $10 million annually into the CLI to support the City's climate goals over the next decade, tripling previous climate work investments. Highlights of this investment include: $4.7 million toward weatherizing all homes in Minneapolis, $1.4 million in workforce training, $850,000 in the City's tree canopy program, and many other climate programs and support. $10 million is equivalent to the estimated additional annual revenue from the adopted electric and gas franchise fee rate increases. On December 5, 2023 the City Council adopted the 2024 Budget which included this new and accelerated climate programming. Work in 2024 to date has focused roll-out of a large amount of new and expanded work, led by the Health Department but in partnership with all City departments. Update presentations were given to the Climate and Infrastructure Committee in March 2024, with more progress updates expected this year and 2024 full-year results presented in early 2025.

Progress to Date (September 2024)
Theme 2: EQUITABLY ACCELERATE IN-BOUNDARY SOLAR IN SUPPORT OF THE CITY'S 2030 GOAL OF 30% DISTRIBUTED SOLAR An In-Boundary Solar Task Force made up of representatives from the City, Xcel Energy, and EVAC met in September 2022 and June 2023 to explore opportunities to equitably expand access to and accelerate adoption of in-boundary solar, and renewable electricity more broadly. Between these meetings task force members were involved in many working groups related to the creation of the City's Climate Equity Plan and provided their input on renewable energy considerations. The first meeting included significant discussion of interconnection timelines and presentation of data from Xcel on the different interconnection pathways and various factors that impact the timelines. The second meeting had additional discussion of interconnection along with discussion of the significant changes related to distributed solar that passed in the 2023 Minnesota legislative session. Many of these changes are aligned with policy changes the City has been seeking, including significant changes to community solar. Beginning in 2024, community solar gardens must have at least 30% of capacity subscribed by low-income customers and at least 55% of capacity subscribed by low-income customers, public interest subscribers, and affordable housing providers along with many other provisions for bill credits, subscriber protections, and prevailing wages. The City and Xcel Energy met directly several times in 2022 and 2023 to explore novel options for how municipal operations can be served by, or receive the attributes of, new renewable electricity generation. Options for on-site solar at the City's water treatment plants was a significant topic of conversation. Policies around meter aggregation at adjacent premises was discussed, along with the possibility of a PPA for non-net metered solar. Xcel Energy also gathered feedback from the City to help inform the development of possible new programs for customer-sited solar. In 2023 in an EVAC Meeting Xcel Energy shared information regarding Xcel Energy renewable program updates and obtained feedback regarding ways to promote these programs, barriers to participation and suggestions. Xcel Energy offered to create cobranded materials for the city to disseminate regarding renewable programs available to residents. The *Revised Resilient Minneapolis Project Proposal*, filed jointly in March 2024 by Xcel Energy, the City of Minneapolis, Sabathani Community Center, Minneapolis American Indian Center (MAIC), and Renewable Energy Partners (REP), was approved by the Public Utilities Commission in its August 8, 2024 hearing. The *Revised RMP* has the same overall resilience objectives, technologies, and host sites as the original RMP approved in 2022, but with several notable improvements. First, Xcel Energy used the $9 million originally approved by the Commission to secure a matching $9 million in federal funds under the U.S. Department of Energy's Grid Resilience & Innovation Partnerships (GRIP) program. This will enable Xcel Energy and partners to continue the project at all three sites despite significant cost increases. Second, Renewable Energy Partners will build, own and operate the North Minneapolis microgrid in collaboration with the Minneapolis Public Schools District, while Xcel Energy will continue to be the lead implementer for Sabathani and MAIC. Xcel Energy will make an approximately $5 million sub-award to REP from its GRIP award, matched by private and

Progress to Date (September 2024)
state funds secured by REP, allowing this project to move forward without any costs borne by Xcel Energy's customers. Third, the GRIP funding also enables Xcel Energy and its partners to include in the *Revised RMP* several activities not included in the original RMP budget: community benefit MOUs with Sabathani and MAIC, clean energy careers training, and a technical assistance and training contract with the University of St. Thomas - Center for Microgrid Research. The City will use other grant funds to support community engagement around microgrids and resilience hubs. Commission approval for the revised approach has been secured, and we are anticipating a signed agreement with the Department of Energy by the end of September 2024. We recently learned that Hennepin County has secured a $2.5 million Communities Sparking Investment in Transformative Energy (C-SITE) award from the Department of Energy, which includes partial funding for the RMP solar arrays at Sabathani and MAIC.
Theme 3: IMPACTFUL REDUCTION IN COMMERCIAL & INDUSTRIAL NATURAL GAS USE This Theme is focused on reducing commercial and industrial natural gas use with the majority of the usage reduction through the New Normal Campaign. **A. LEVERAGE EXISTING PARTNERSHIP RESOURCES TO INCREASE GAS CONSERVATION** **a. The New Normal Campaign:** The "new normal" use of commercial buildings since the COVID-19 pandemic led CenterPoint Energy and the City of Minneapolis to develop the New Normal Campaign. This Campaign was designed to address issues facing properties, such as how building occupancy and operations have changed since the pandemic. During the pandemic, many buildings' focus was on mitigating health risks, often at the expense of energy efficient operations. CenterPoint Energy and the City of Minneapolis developed the new normal campaign to ensure buildings operate as efficiently as possible under their post pandemic conditions. The Campaign's energy savings pathway involves three steps: an energy analysis, offset by the City as budget allows; a controls tune-up for those properties that have a building automation system (BAS); and bonus triple rebates for prescriptive measures. CenterPoint Energy is paying for the building controls tune-up and triple rebates. The Campaign is primarily aimed at commercial buildings in Minneapolis required to benchmark, prioritizing those in the lowest quartile. On a case-by-case basis, the City is able to cover copays for properties above that threshold. In addition, properties can participate by paying their own copay, allowing the Campaign to serve more customers. Since the Work Plan was extended through 2024, customers have until December 31 to complete their energy analysis to participate in the campaign. One exception is Minneapolis Public Schools (MPS). This customer's large quantity of buildings led to a three-year phased participation schedule. By the end, all 64 of their recommended buildings will have benefited from the energy pathway with 43 participating by end of 2024.

Progress to Date (September 2024)
A New Normal working group of City and CenterPoint staff meets regularly to refine campaign outreach, discuss learnings, and streamline the process. Customer feedback is incorporated into this process. As part of the Campaign refinement, we're testing a streamlined process where the tune-up vendor completes the energy analysis and tune-up at same time. This comprehensive approach is being undertaken with MPS and other select customers. Another learning is the energy pathway's broader than expected appeal. Participating properties go beyond the expected office sector and include education, hospitality, religious organizations, museums, and more. As of Q3 2024, Campaign savings were 94,843 Dekatherms (Dths), 110% of the 85,000 Dth goal. Excluding MPS properties, energy analyses have been completed on 108 buildings (63% lowest quartile) with building automation systems present in 30 (also 63% lowest quartile). Including MPS, those numbers are: 151 building analyses and 73 with BAS present. Nine properties have completed or are going through the building controls tune-up step (77% in lowest quartile), 35 when including MPS buildings. Two customers have seen savings of 3,370 Dths from the building controls tune up and approximately 674,626 kWh electric savings have been implemented. Triple rebates valued at $303,710 with 89,613 Dth savings have been paid to 6 customers (66% in lowest quartile) for completed work in 49 buildings. Additionally, the Campaign has brought in 1,860 Dths for 21 customers from free installations, such as showerheads, during analyses. **b. HOLISTIC APPROACH WITH LARGE COMMERCIAL AND INDUSTRIAL CUSTOMER** CenterPoint Energy is working with Abbott Northwestern Hospital on an intensive, multi-year effort. This holistic approach to energy management and partnering will help identify opportunities for improving the customer's business practices associated with their corporate Environmental, Social, and Governance (ESGs) goals. When this Theme 3 component was devised, the original savings goal was an estimated 15,000 Dth through phased projects. Abbott is undergoing a campus revitalization project. In summer 2024, a new onsite Central Utility Plant (CUP) started functioning, providing heating, cooling, power and water for the entire Abbott campus, replacing 1950's-era energy and steam-producing equipment. Powered by natural gas, the CUP generates electricity, using some of the waste heat to offset heating load, and customers like Abbott consider this cogeneration an efficient and reliable component of their diverse, resilient energy portfolios. The steam created by the CUP will not only heat buildings for Abbott but also for Children's Minnesota-Minneapolis campus and other neighbors, creating a local energy-distribution district. When the CUP is fully operational, it's estimated it will save 130,000 Dths annually. CenterPoint is working with Abbott on other components in the revitalization, a 10-story surgical and critical care pavilion that will be Allina's first LEED-certified building and a transportation hub accommodating multiple modes of transportation. This project is ongoing.

Progress to Date (September 2024)
c. IMPLEMENT NEW ELECTRIFICATION AND DECARBONIZATION OPPORTUNITIES The final project in this theme focuses on district energy in the City of Minneapolis. CenterPoint is collaborating with Hennepin County and the City to develop, evaluate, and consider opportunities to decarbonize Hennepin County's downtown district energy center (adjacent to US Bank Stadium). Hennepin County has stressed the importance of redundancy to protect the Trauma 1 hospital served by this district system and that reliability is a primary concern. CenterPoint provided funding support to a Hennepin County-led study to identify and consider decarbonization strategies, and the final report was delivered in late 2023. In the Innovation Plan that was approved by the Minnesota Public Utilities Commission in July 2024, CenterPoint included an Existing District Energy pilot to help current natural gas customers with existing district energy systems, such as Hennepin County, reduce greenhouse gas emissions associated with their systems. The study mentioned above identified several projects that would likely be eligible for incentives under this pilot if Hennepin County moves forward with the implementation of these GHG reduction strategies. Additionally, Hennepin County Energy Center could be eligible for other Pilots in CenterPoint's approved NGIA Innovation Plan. These potential projects will continue to be explored by CenterPoint, the City of Minneapolis, and Hennepin County.

2019-2021 Work Plan Progress

NOTE: Some activities from the previous work plan continue to be actively pursued. This section provides progress updates for only those activities that continued to be active in 2023.

Progress to Date for Activities Still Active (September 2024)
EE.4 FIELD TEST ENERGY EFFICIENCY AND CARBON CAPTURE TECHNOLOGY EE.4 aims to pilot energy efficiency and carbon capture technology, called CarbinX™ at commercial facilities in Minneapolis and surrounding suburbs. In April 2022, the Minnesota Department of Labor and Industry approved the plumbing permitting and inspected the installation of the first CarbinX unit in Minnesota. To date, five CarbinX units have been installed and are operating in commercial buildings in Minneapolis, Elk River, Bloomington, Prior Lake, and Chaska with opportunities for up to five future installations funded by CenterPoint Energy. Of the potential future installations, three were proposed to be installed in Minneapolis, including in a City of Minneapolis facility. Minneapolis code officials expressed concern with approving the plumbing permit specific to the second installation within the city. From late 2023 through the first half of 2024, CenterPoint, CarbinX, the carbon capture contractor, and local code officials communicated and met to find a path toward overcoming this barrier. Ultimately, Minneapolis code officials requested to review the background details in the laboratory testing report from when the technology was originally UL certified.[1] Neither CenterPoint nor CarbinX Technology were able to obtain the detailed testing data from Intertek. In June 2024, CenterPoint withdrew the CarbinX plumbing permit application after communication with the city code official indicated the permit would not be approved. CenterPoint understands the innovative nature of the carbon capture technology currently falls outside the permitting criteria Minneapolis uses. CenterPoint appreciates City staff reviewing and considering the permit application and looks forward to working with the City on future innovative decarbonizing technologies. CenterPoint and the City continue to be in conversation on the first Minneapolis carbon capture installation, which had previously received a plumbing permit. Two carbon capture pilots are included in CenterPoint's NGIA Innovation Plan, one for commercial buildings and one for industrial or large commercial customers.

[1] https://ramuk.intertekconnect.com/webclients/its/dlp/products.nsf/vwSearch?SearchView&Query=FIELD%20ListHead%20Contains%20Carbinx%20or%20FIELD%20CatCode%20Contains%20Carbinx%20or%20FIELD%20Title%20Contains%20Carbinx%20or%20FIELD%20ProductInformation%20Contains%20Carbinx%20or%20FIELD%20ProductInfo%20Contains%20Carbinx&SearchOrder=1&SearchMax=1000&SearchWV=FALSE&SearchThesaurus=FALSE&SearchFuzzy=FALSE

Progress to Date for Activities Still Active (September 2024)
This activity has been closed out.

RE.1 INSTALL ELECTRIC VEHICLE INFRASTRUCTURE FOR CITY FLEET

RE.1 spurs the transition to an electric vehicle fleet for the City of Minneapolis.

Charging installations are mostly complete at the City's Aldrich facility and Currie Maintenance facility. Currie: 4 Level 2 chargers and 1 Level 3 (DC fast) charger have been installed for the city's fleet electric vehicle charging, with an additional 4 Level 2 chargers still to be installed. Aldrich: 9 Level 2 chargers have been installed for the city's fleet electric vehicle charging, with an additional 4 Level 2 chargers still to be installed.

The Royalston facility completed their Electric Vehicle Supply Infrastructure project in February of 2024 which included 20 Level 2 chargers, and 1 Level 3 charger were installed via the program.

This project continues to be pursued and explored by Xcel Energy and the City of Minneapolis.

RE.2 ACHIEVE 100% RENEWABLE ELECTRICITY FOR CITY ENTERPRISE AND COMMUNITY PATHWAY

In 2018, the City of Minneapolis enacted a resolution that established a 100% renewable electricity goal for Minneapolis. The City enterprise enrolled eligible accounts in Xcel's Renewable*Connect program on five- and ten-year contracts between 2017 and 2018 that brought the City to roughly 60% of this target. To achieve the remaining 40% and with an expectation that some Renewable*Connect contracts would end in 2022 and 2023, the City issued two RFP's:

1. An RFP requesting 90% of the City's municipal operations needs to be met by a large generation source located outside the City limits.
2. An RFP requesting 10% of the City's municipal operations needs to be met by one or more generation sources located within City limits.

US Solar was selected as the highest-scoring proposal for the RFP involving generation outside the city limits. US Solar's proposal was to build large scale (5-10 MW) solar arrays and sell the generated electricity directly to Xcel Energy or another power off-taker, while selling the REC's these arrays produce to the City of Minneapolis. Over sixteen months, the City and US Solar worked through a waterfall strategy of approaches of bringing this project to fruition. At the end of 2022, both parties had exhausted their available options as there was no tariff nor legislation that required utilities to support this effort. The City and US Solar have mutually decided to discontinue their efforts on this approach and are no longer considering this as a feasible means to achieving this goal.

Progress to Date for Activities Still Active (September 2024)
Sundial Solar was selected as the highest-scoring proposal for the RFP involving on-site generation within the city limits. Over the course of eighteen months, the City Enterprise worked with Sundial to develop solar PV arrays at five municipal building sites. During the engineering phase of the project, the City identified that the proposed racking design was not compatible with, and would in fact harm, our existing roofs. The City required that material alterations to the racking design would be necessary to proceed. These design changes ultimately could not be accommodated within the pricing and contract structure of the PPA which led to the portfolio of projects being terminated. The City Enterprise remains committed to achieving this 100% renewable electricity goal and is taking the following actions: 1. City Council has approved extending Renewable*Connect contracts that were set to expire in 2023 through the remainder of the Renewable*Connect program. These contracts have been renewed through December 31st, 2026, when the first iteration of the program sunsets. 2. The City is working closely with Xcel Energy to enroll all eligible premises into Renewable*Connect. Contract terms have been negotiated throughout Q1-Q3 of 2024 with contract implementation expected in late September 2024. 3. City Staff are closely following the roll-out of the Inflation Reduction Act (IRA) and the financial implications towards renewable development projects. The new ability for the City to receive a cash payment in the amount of the available tax credit offers new opportunities for how projects may be developed and financed. The City has utilized tax advisors to review our direct pay eligibility in regard to a ~800 kW solar array at the Columbia Heights water campus. The City is hoping to issue and RFP/bid in late 2024. This activity has been closed out.
RE.3 PROVIDE SOLAR GARDEN AND ENERGY EFFICIENCY OPPORTUNITIES FOR LOW-INCOME COMMUNITIES RE.3 aims to establish a low-income community solar garden. In July of 2024, Xcel Energy requested approval of a grant contract extension from MN Public Utilities Commission (PUC) for the Renewable Development Fund (RDF) grant supporting installation of a solar garden on property owned by the City of Minneapolis. Additional time was required to complete several steps including an extra engineering review for the City-owned property. The solar garden has been accepted into the new Low and Moderate Income (LMI) community solar garden administered by the MN Department of Commerce. MN PUC approval of the grant contract extension is pending. This project continues to be pursued and explored by Xcel Energy and the City of Minneapolis.

Appendix: Supporting Data

The Partnership originally established metrics based on recommendations of EVAC and the Planning Team in 2015 and first reported on them in the 2015 Annual Report (published in 2016). The intent of this first generation of metrics was to inform the Board of progress in the Partnership, helping the partners understand what activities are happening in the community and determining the level of success. Compiling metrics included significant data collection from all three partners to determine which areas of the community are currently being well-served, less served, or under-served.

The data collected in the first generation of metrics remains very valuable to the Partnership and other stakeholders, and thus is retained and reorganized under the new seven key metrics. This section contains this data for posterity and to help illuminate the reasons for trends and yearly variation seen in the key metrics in this report.

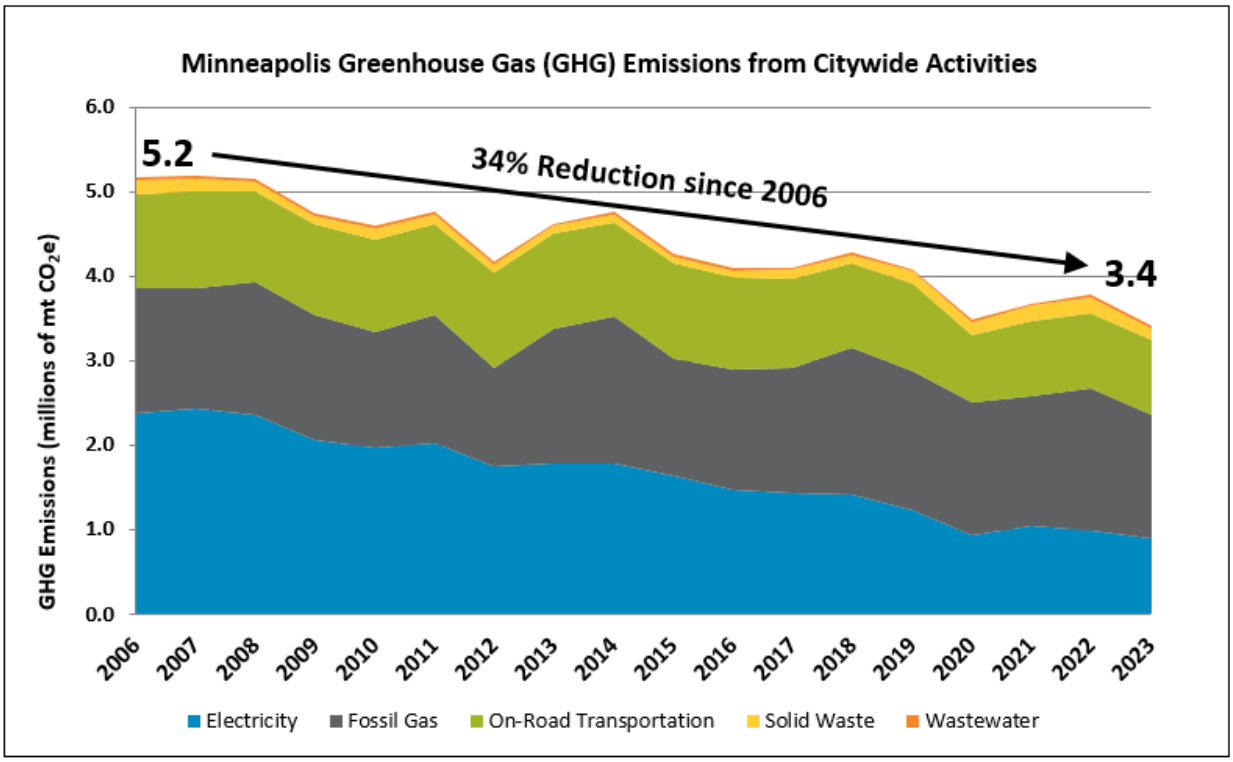
This section also provides trend forecasting (when data is available), which is an area of continued effort by the Partnership.

Metric 1 Supporting Data: Greenhouse Gas Emissions (Community-wide)

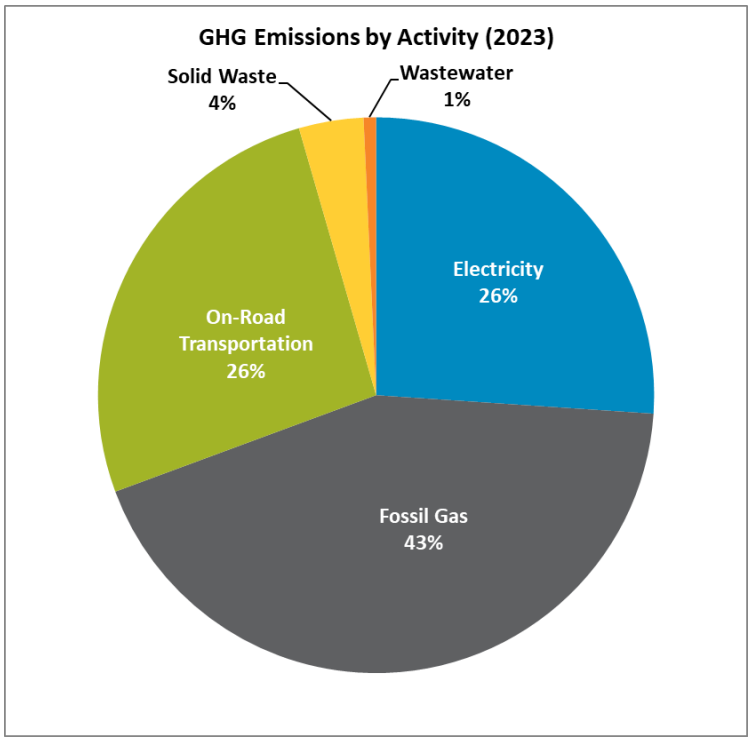
Metric		2019	2020	2021	2022	2023
1	GHG emissions - Community-wide (mt CO_2e)	4,082,324	3,481,006	3,672,710	3,773,603	3,405,218
	Compared to 2006 baseline	-21%	-33%	-29%	-27%	-34%

Supporting Data		2019	2020	2021	2022	2023
1a	Electricity GHG emissions (mt CO_2e)	1,233,805	939,886	1,046,099	987,981	887,421
1b	Electricity GHG emissions (Compared to 2006)	-48%	-60%	-56%	-58%	-63%
1c	Electricity emissions factor (mt CO_2e/MWh)	0.338	0.274	0.286	0.277	0.251
1d	Gas GHG Emissions (mt CO_2e)	1,645,787	1,569,921	1,525,648	1,684,877	1,474,392
1e	Gas GHG Emissions (Compared to 2006)	11%	6%	3%	13%	-1%

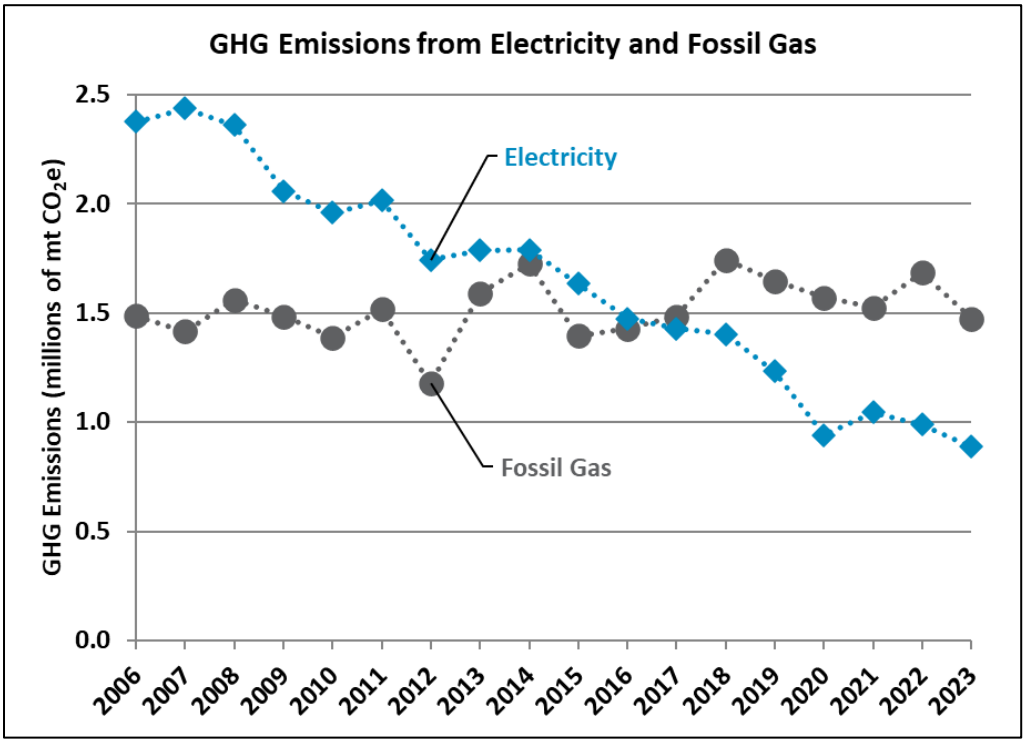
The figure below represents the citywide greenhouse gas (GHG) emissions inventory, an accounting of Minneapolis emissions from buildings, transportation, wastewater, and solid waste.



Emissions from the two fuels that are the focus of the Clean Energy Partnership – electricity and natural gas – account for 69% of the City's overall greenhouse gas emissions.



Starting in 2017, the largest source of emissions became the combustion of natural gas. Since then emissions from natural gas and electricity have further diverged.



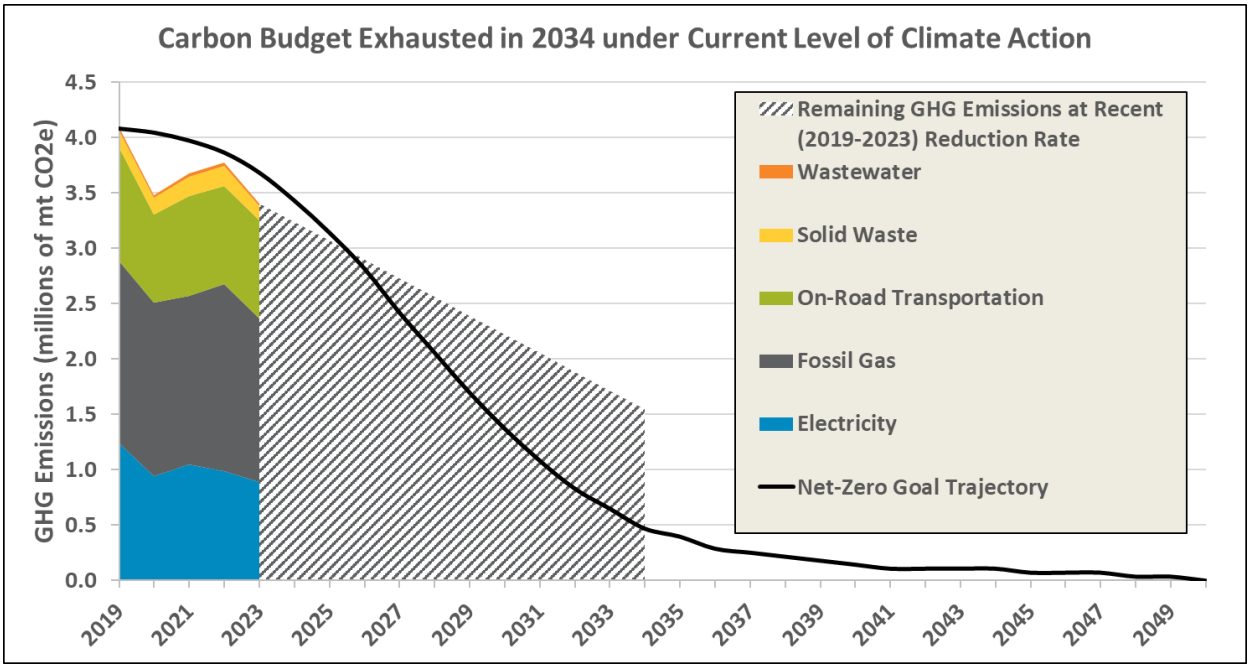
Net Zero by 2050 Goal

On October 8, 2021, Mayor Frey pledged commitment to the *Race to Zero* campaign for the City of Minneapolis to proceed immediately in taking all necessary steps in line with global efforts toward limiting warming to 1.5^0C, including a pledge to reach net-zero GHG emissions by 2050 at the latest. This commitment is the cornerstone of the recent *Minneapolis Climate Equity Plan* which was adopted by the City earlier this summer.

Minneapolis has adopted a "Steep Decline" trajectory to secure our community's contribution to limiting global temperature rises to 1.5^0C. This is consistent with C40's *Deadline 2020* methodology which guides cities in defining their specific science-based, fair share GHG emission reduction trajectory. According to *Deadline 2020*, this means that for Minneapolis "emissions need to be immediately and rapidly reduced and the city is sufficiently developed to do so." As seen below, five sectors of GHG emissions are each responsible for reductions in order to cumulatively meet the City's targets.

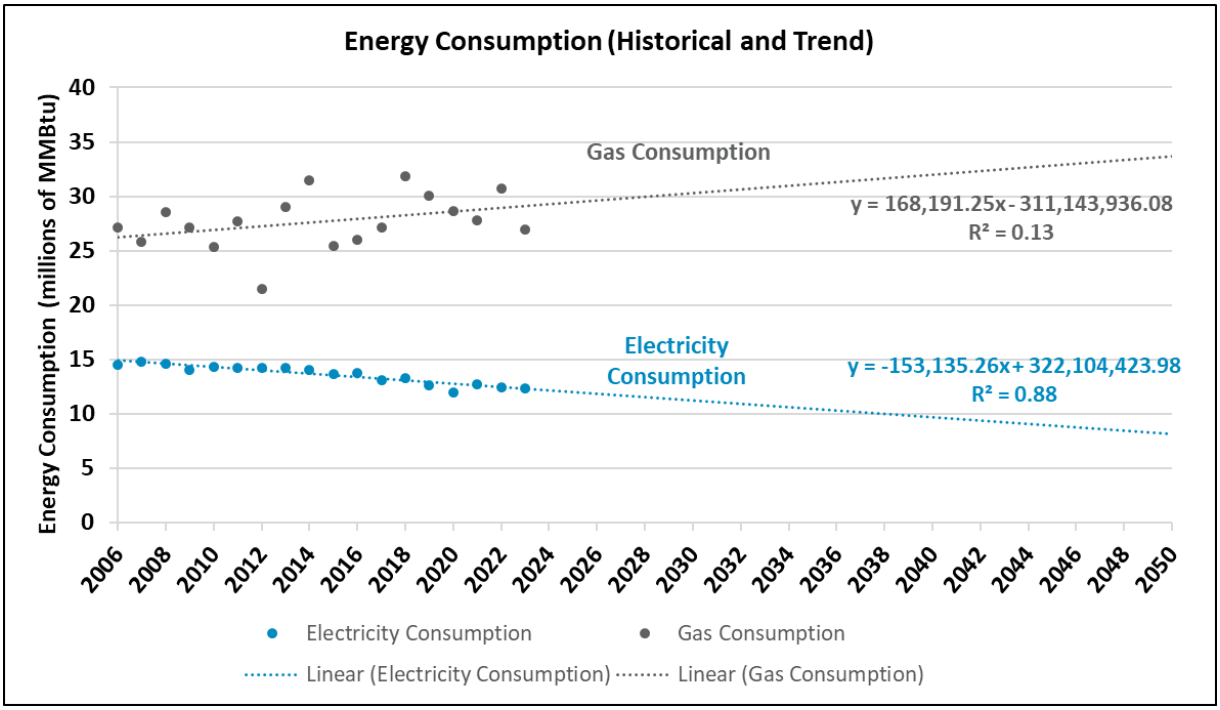
		GHG Emissions Change (Compared to 2006 Baseline Year)					
	Year	Electricity	Fossil Gas	On-Road Transportation	Solid Waste	Wastewater	OVERALL
Current Yr	2023	-63%	-1%	-20%	-18%	-38%	-34%
Goal Yr	2025	-75%	-10%	-30%	-25%	-45%	-45%
	2030	Carbon-Neutral	-35%	-70%	-70%	-75%	-75%
	2035	Carbon-Neutral	-80%	-91%	-91%	-93%	-92%
	2040	Carbon-Neutral	-93%	-97%	-97%	-97%	-97%
	2045	Carbon-Neutral	-97%	-98%	-98%	-99%	-99%
	2050	Carbon-Neutral	Carbon-Neutral	Carbon-Neutral	Carbon-Neutral	Carbon-Neutral	Carbon-Neutral

The new science-based target illustrates that the next decade is critical toward the city accomplishing this new climate goal, requiring us to greatly accelerate our pace of decarbonization to the point that 2030 emissions are only about 1/3 of 2020 emissions. The science-based target also represents the total GHG emissions that can be emitted by Minneapolis over the next three decades while meeting our City's local obligation to keep global warming to 1.5^0C. This "carbon budget" is a simplified measurement of the additional, cumulative emissions that a city can still emit prior to 2050.

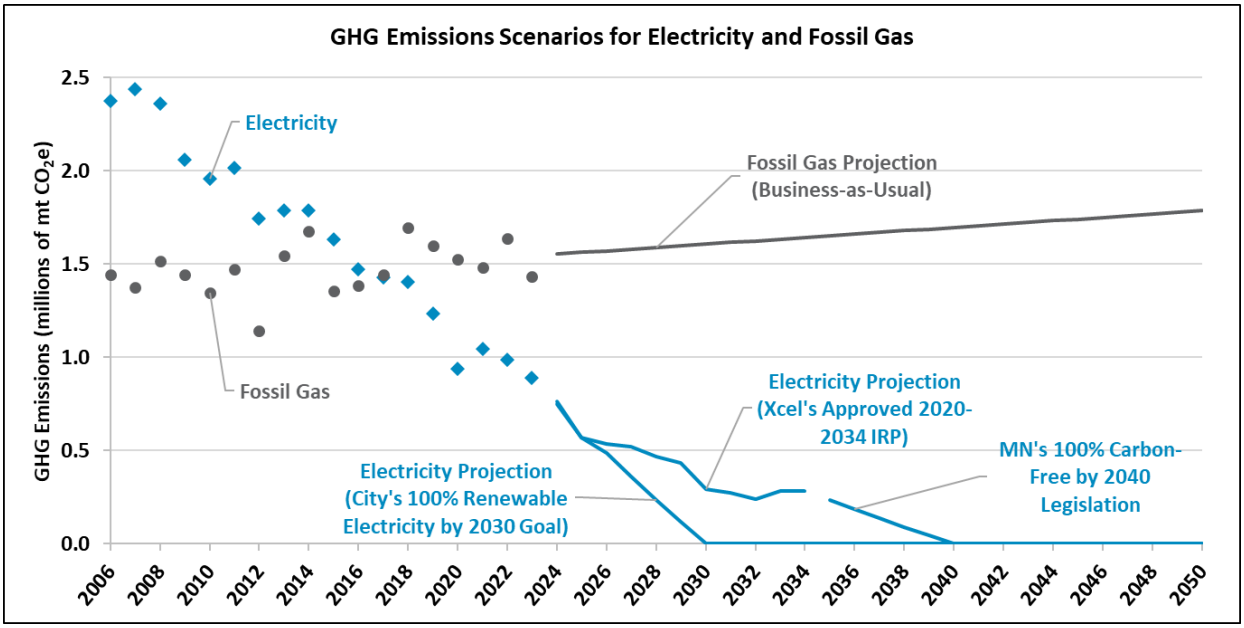


Seen above, projecting the previous five-year rate of decarbonization into the future gives an indication of when (2034) the City's carbon budget may be exhausted. In other words, the cumulative emissions from 2019-2023 plus the likely 2024-2034 emissions under a business-as-usual decarbonization scenario will equal and then exceed all emissions allowed under the net-zero pathway through 2050.

To gauge the impact of the future emissions covered by the Clean Energy Partnership, a trend line can be created by looking at the underlying historical energy consumption data and applying a linear regression. The resulting trend prediction is shown in the following graph.



To predict future emissions, the consumption forecasts above are coupled with emission factors for fuels, while keeping everything else constant. The emission factor for natural gas is assumed to remain constant. CenterPoint Energy filed an Innovation Plan through the Natural Gas Innovation Act that includes natural gas decarbonization strategies that would modestly decrease the gas emissions factor in the short term, with the potential for more significant reductions in the future if solutions are scaled up in the coming years. The emission factor for electricity falls over time in three scenarios: 1) Xcel Energy's current, approved 2020-2034 Integrated Resource Plan (IRP), 2) recent state legislation requiring carbon-free electricity by 2040, and 3) The City of Minneapolis' 100% renewable electricity by 2030 goal. The results show the emissions trajectory for each fuel.



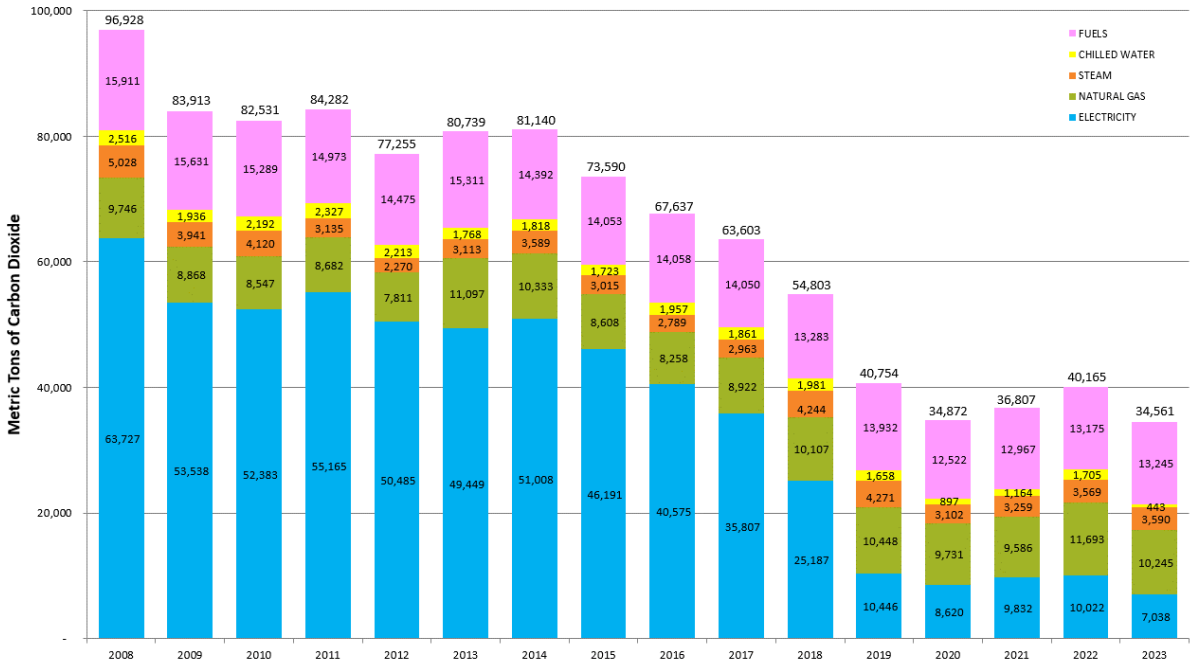
Metric 2 Supporting Data: Greenhouse Gas Emissions (Municipal Operations)

Metric		2019	2020	2021	2022	2023
2	GHG emissions - Municipal operations (mt CO_2)	40,754	34,872	36,807	40,165	34,561
	Change compared to 2008 baseline	-58%	-64%	-62%	-59%	-64%

Supporting Data		2019	2020	2021	2022	2023
2a	Emissions from electricity use (mt CO_2)	10,446	8,620	9,832	10,022	7,038
2b	Emissions from natural gas use (mt CO_2)	10,448	9,731	9,586	11,693	10,245

Greenhouse gas emissions from City facilities and operations have decreased dramatically (64%) since the 2008 baseline. This drop has been largely due to substantial decreases in electricity emissions, due to reductions in Xcel Energy's grid mix emissions and City renewable energy projects and subscriptions. Starting in 2019, electricity was no longer the largest single source of emissions in the inventory, in 2023 representing 20% compared to 38% for vehicle fuels and 30% for natural gas. Electricity has accounted for 58 percentage points of the 64% decrease seen below.

Figure 8: City's Carbon Emissions
64% Drop 2008 - 2023



Emissions from natural gas have remained relatively constant and are the second largest source of emissions after vehicle fuels. New solutions, including energy efficiency and beneficial electrification, will be needed to reduce reliance on fossil fuels for heating in the future. Additional options city staff are evaluating include carbon capture technology and renewable natural gas.

After two years of increased GHG emissions as the City recovered from the COVID-19 pandemic and conditioned an increased City building footprint, the City decreased emissions in 2023 to its lowest level to date.

These decreases in emissions can primary be attributed to the following:

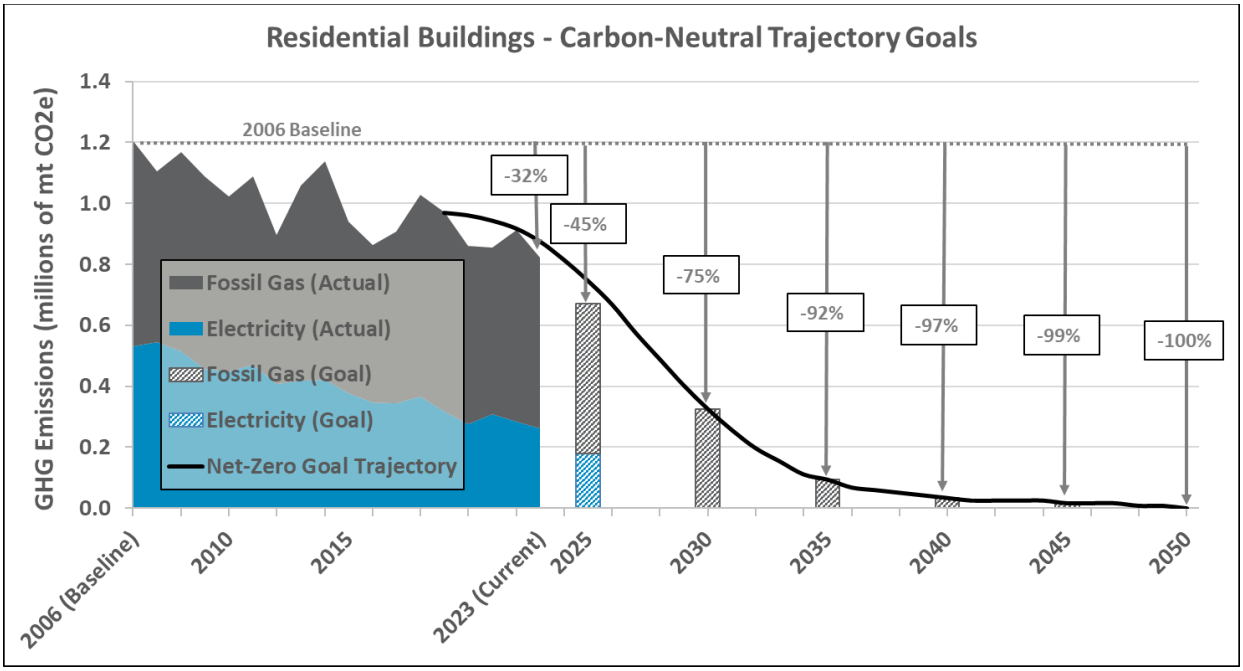
1. The amount of electricity used for traffic lights and streetlights has decreased with the adoption of LED technology.
2. The electricity grid emissions factor went down from 2022 to 2023, from 0.277 MT CO_2/MWh to 0.251 MT CO_2/MWh.
3. Chilled water consumed at the Minneapolis Convention Center, supplied by Cordia's downtown district energy system, became produced from 100% GHG emissions-free electricity for all of 2023 and will be going forward.
4. There was a 16% reduction in heating degree days between 2022 and 2023, reducing the City's use of natural gas for space heating.

Metric 3 Supporting Data: Greenhouse Gas Emissions (Residential)

Metric		2019	2020	2021	2022	2023
3	GHG Emissions (mt CO2e)	969,247	861,692	854,163	913,364	822,125
	Change compared to 2006 baseline	-20%	-29%	-29%	-24%	-32%

Residential Energy Use		2019	2020	2021	2022	2023
3a	Electricity use (MWh)	970,477	1,044,234	1,128,700	1,066,874	1,084,565
3b	Electricity GHG emissions (mt CO2e)	316,622	275,394	309,183	282,674	261,525
3c	Electricity GHG emissions (change compared to 2006)	-41%	-48%	-42%	-47%	-51%
3d	Gas use (therms)	119,102,768	106,998,274	99,457,659	115,099,750	102,308,273
3e	Gas GHG emmisions (mt CO2e)	652,625	586,298	544,979	630,690	560,599
3f	Gas GHG Emissions (change compared to 2006)	-3%	-13%	-19%	-7%	-17%
3g	Energy - Total (MMBtu)	15,229,655	14,270,066	13,803,710	15,158,007	13,938,366
3h	Energy - Total (change compared to 2006)	-3%	-9%	-12%	-3%	-11%

Residential GHG Emissions



	Residential Buildings		
	GHG Emissions Change (Compared to 2006 Baseline Year)		
Year	Electricity	Fossil Gas	Total
2023 (Actual)	-51%	-17%	-32%
2025 (Goal)	-65%	-25%	-45%
2030 (Goal)	Carbon-Neutral	-50%	-75%
2035 (Goal)	Carbon-Neutral	-85%	-92%
2040 (Goal)	Carbon-Neutral	-95%	-97%
2045 (Goal)	Carbon-Neutral	-97%	-99%
2050 (Goal)	Carbon-Neutral	Carbon-Neutral	Carbon-Neutral

Utility Residential Conservation Improvement Programs

CenterPoint Energy and Xcel Energy's portfolio of Conservation Improvement Programs continued to help Minneapolis residents conserve energy, save on utility bills, and improve the comfort and safety of their homes. On the gas side, CenterPoint Energy's Efficiency Programs & Rebates spending amounted to $6.6 million, including $1.2 million in customer rebates, to assist more than 109,000 Minneapolis residents save over 1.3 million therms of natural gas and $1,230,000 on their annual gas utility bills in 2023 (calculation does not include income-qualifying or multi-family program participants).

Home Energy Squad

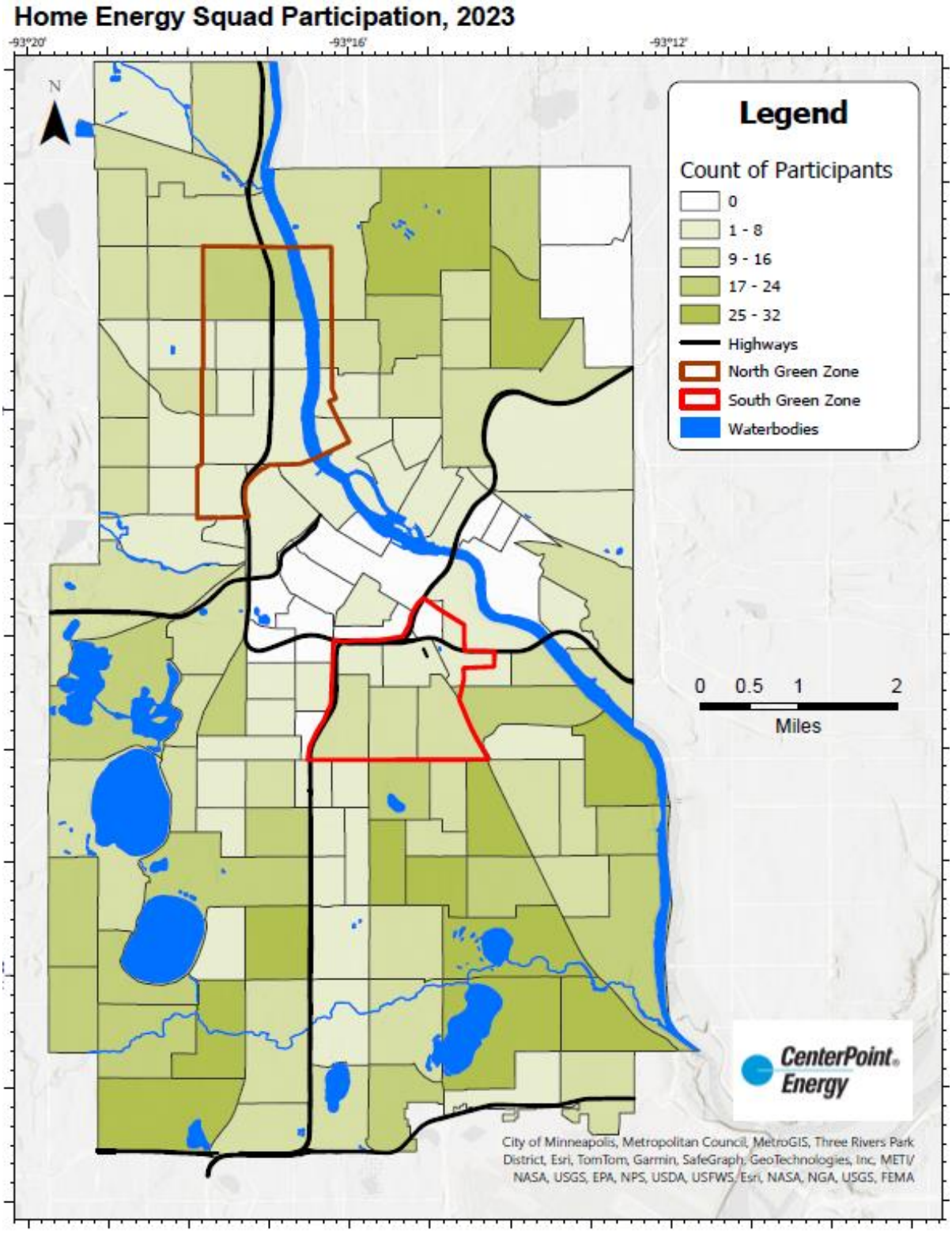
Home Energy Squad (HES) is a joint program offered by Xcel Energy and CenterPoint Energy to help residential customers identify energy efficiency opportunities via a home energy assessment.

	Home Energy Squad Program	2019	2020	2021	2022	2023
3i	*Home Energy Squad* participation	1,786	1,068	1,716	1,211	1,308
3j	*Home Energy Squad* annual energy savings (kBtu)	10,538,705	4,740,255	9,142,821	9,025,671	9,613,495
3k	*Home Energy Squad* estimated annual cost savings	$ 112,911	$ 69,544	$ 111,712	$ 208,326	$ 259,094
3l	Residences (1-4 unit) annually served by HES	2.0%	1.2%	1.9%	1.3%	1.5%

In 2023, 1,308 HES visits were completed in Minneapolis. The following table describes HES participant characteristics of these visits:

2023 Minneapolis Home Energy Squad Visits	Number	Percent of Total
Total HES Visits	1,308	100%
Visits at owner-occupied homes	1,087	83%
Visits at renter-occupied homes	221	17%
Visits at single family residences	1,035	79%
No-cost visits for low-income customers	298	23%
Received wall insulation recommendation	546	42%
Received attic insulation recommendation	803	61%
Received air sealing recommendation	641	49%

The following map shows the distribution of Home Energy Squad visits across Minneapolis in 2023.



Home Energy Squad-driven loans

The Center for Energy and Environment's Home Loans Programs offers low-interest loans for home energy efficiency improvements. In 2023, Minneapolis residents financed 27 high-efficiency heating systems, 29 home insulation projects, 10 solar projects, and 4 high-efficiency air conditioning projects. The City of Minneapolis offered 0% interest loans to 52 of the projects. The EZ Pay On-Bill Loan program funded 18 of these projects.

	Energy Efficiency Loans	2019	2020	2021	2022	2023
3m	HES-driven energy efficiency loan count	153	103	82	88	70
3n	HES-driven value of loans	$ 1,216,944	$ 845,660	$ 807,610	$1,275,747	$985,731

Air Sealing & Insulation Rebates

CenterPoint Energy offers rebates for residential air sealing and insulation upgrades. Insulation and air sealing improvements are among the greatest opportunities for energy savings in homes, with most of the energy savings coming from reduced heating loads in the winter. The energy savings potential is particularly high for older homes that may have little, or even no, insulation in the walls and attic.

Home insulation rebated projects in Minneapolis averaged approximately 334 therms of estimated annual energy savings per project, or approximately 38% of weather-normalized natural gas use per Minneapolis residential customer.

	Air Sealing & Insulation (ASI) Rebates	2019	2020	2021	2022	2023
3o	ASI participating customers	569	470	400	380	414
3p	ASI estimated annual energy savings (therms)	136,330	108,900	127,160	115,130	138,207
3q	ASI estimated annual cost savings	$ 95,158	$ 70,785	$ 111,897	$ 128,372	$ 146,776
3r	ASI rebate dollars spent	$ 300,573	$ 253,513	$231,400	$218,800	$243,700

In 2023, 414 Minneapolis residences received an air sealing and insulation rebate.

	City of Minneapolis 0% Interest Loans for Air Sealing & Insulation (ASI) Rebates	2021	2022	2023
3kk	ASI participating customers	400	380	414
3ll	0% City Loans for ASI	56	44	29
3mm	Participating ASI customers who received 0% City Loans	14.0%	11.6%	7.0%

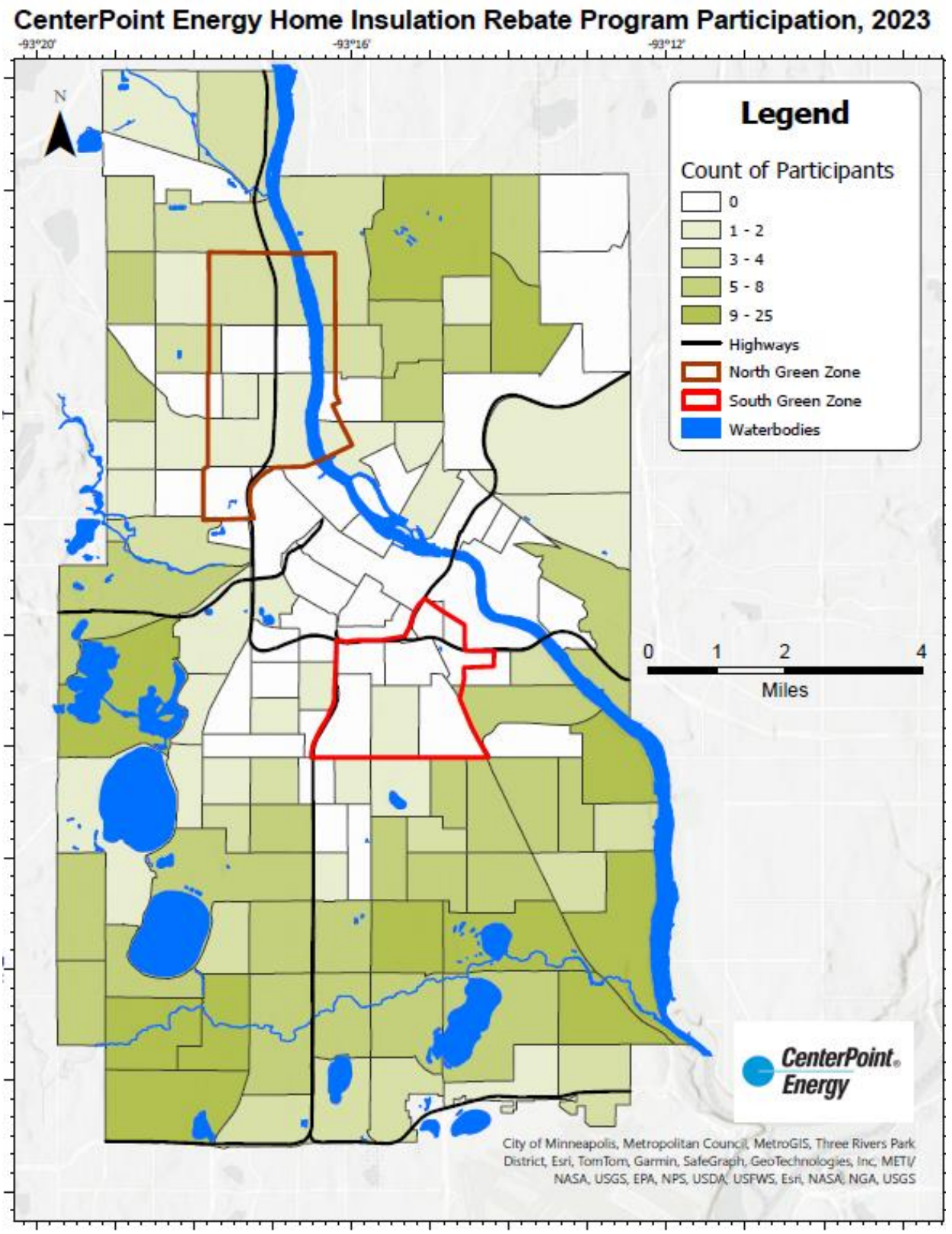
	Instant Rebates for Air Sealing & Insulation (ASI) Rebates	2021	2022	2023
3nn	ASI participating customers	400	380	414
3oo	ASI Instant Rebates for ASI	10	26	65
3pp	Participating ASI customers who received Instant Rebates	2.5%	6.8%	15.7%

Of the 414 rebated insulation projects, 7% (29) received 0% interest loans provided by the City of Minneapolis in collaboration with the Center for Energy and Environment. Nearly 16% (65) received a CenterPoint Energy Instant Rebate (a rebate amount that is deducted directly from the installer invoice) a result, in part, of more installers offering the Instant Rebates to their customers.

	ASI Measures in Minneapolis	2022	2023
3qq	Air Sealing + Attic Insulation	288	344
3rr	Wall Insulation	136	131

And of the 414 rebated insulation projects, 14 received all measures (air sealing and insulation in attic, wall, and rim joist). Three hundred and forty-four attic air sealing and attic insulation rebates were paid, while 131 wall insulation ones were. In many cases these measures were combined with other ASI measures. CenterPoint does not rebate stand-alone attic insulation projects; attic insulation must be combined with air sealing.

The following map shows the distribution of CenterPoint Energy's home insulation rebates across Minneapolis in 2023.



Income-Qualifying Conservation Improvement Programs

CenterPoint Energy and Xcel Energy offer energy conservation services for low-income customers, including specifically designed opportunities for homeowners, renters, multi-family building owners, and affordable housing organizations.

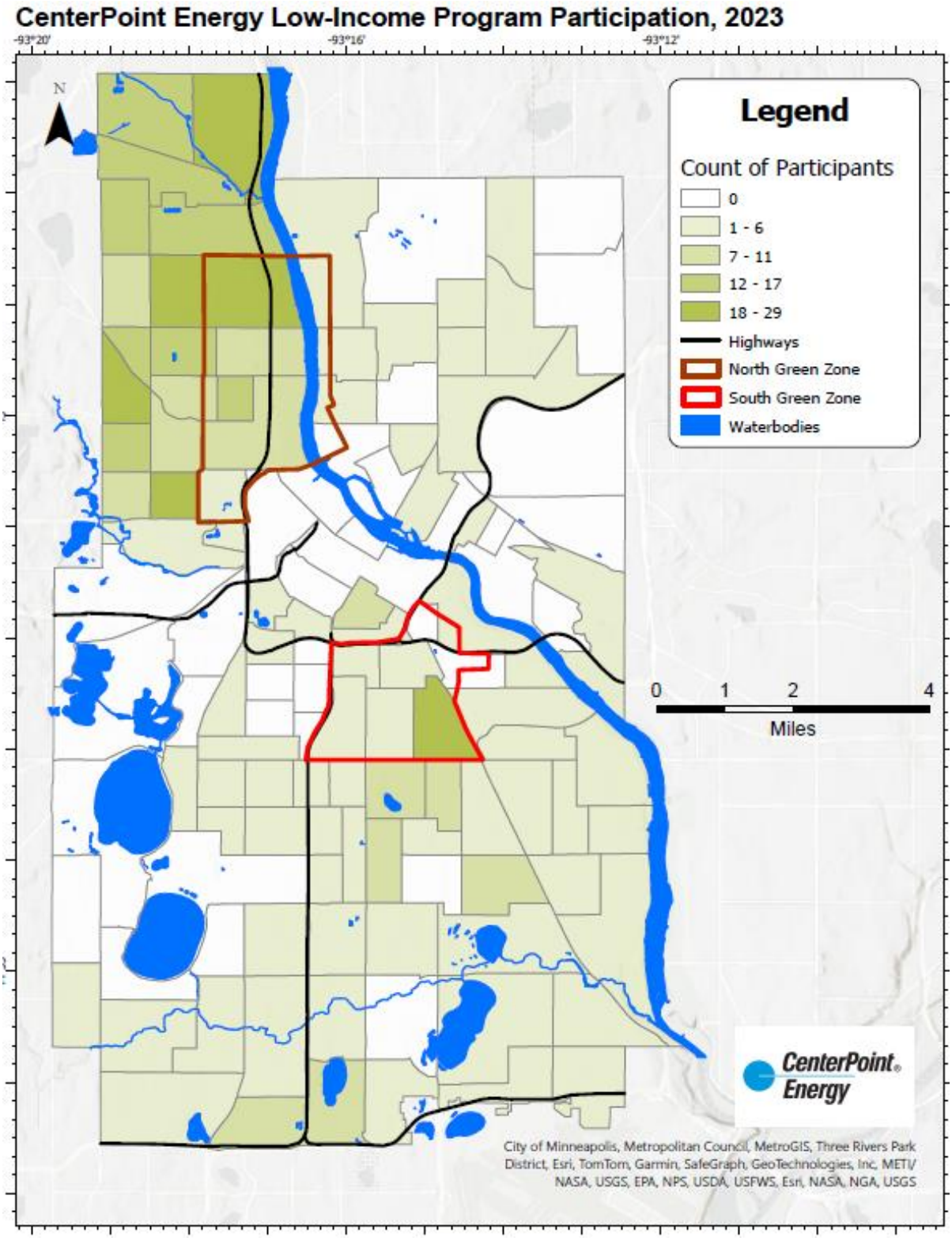
	Income-Qualifying Energy Efficiency Programs	2019	2020	2021	2022	2023
3s	Low-income CIP program participants	556	437	469	733	588
3t	Low-income CIP dollars spent	$ 1,827,837	$ 1,055,068	$ 1,329,301	$1,772,231	$2,474,951
3u	Low-income CIP est. energy savings (therms/yr)	65,590	61,420	130,000	77,237	91,039
3v	Low-income CIP est. annual cost savings	$ 45,782	$ 39,923	$ 98,615	$84,891	$90,876
3w	Low-income CIP program participants	730	496	527	864	724
3x	Low-income CIP dollars spent	$ 638,193	$ 363,833	$ 432,343	$ 929,020	$353,545
3y	Low-income CIP est. energy savings (kWh/yr)	438,243	348,402	363,104	670,458	316,172
3z	Low-income CIP est. annual cost savings	$ 48,478	$ 45,794	$ 53,141	$ 102,037	$ 56,911
3aa	Weatherization Assistance Program (WAP) visits	237	76	219	233	261
3bb	WAP dollars spent	$ 1,091,426	$ 302,702	$ 1,042,324	$ 2,348,062	$ 2,263,617

	Energy Cost Assistance Programs	2019	2020	2021	2022	2023
3cc	Gas Affordability bill pay assistance Participants	3,451	2,705	2,811	1,689	1,588
3dd	Gas Affordability bill pay assistance total spent	$1,519,908	$948,156	$711,091	$1,247,432	$855,476
3ee	Power-On participants	2,515	2,683	2,792	2,645	2,776
3ff	Power-On total spent	$ 1,171,688	$ 1,329,997	$ 1,533,997	$ 1,384,421	$1,646,421
3gg	Senior Discount participants	5,864	5,370	5,182	4,820	4,863
3hh	Senior Discount total spent	$ 962,811	$ 973,938	$ 967,321	$ 928,893	$822,834
3ii	Medical Affordability Program participants	397	235	156	150	162
3jj	Medical Affordability Program total spent	$ 312,415	$ 168,903	$ 121,418	$ 119,711	$124,141

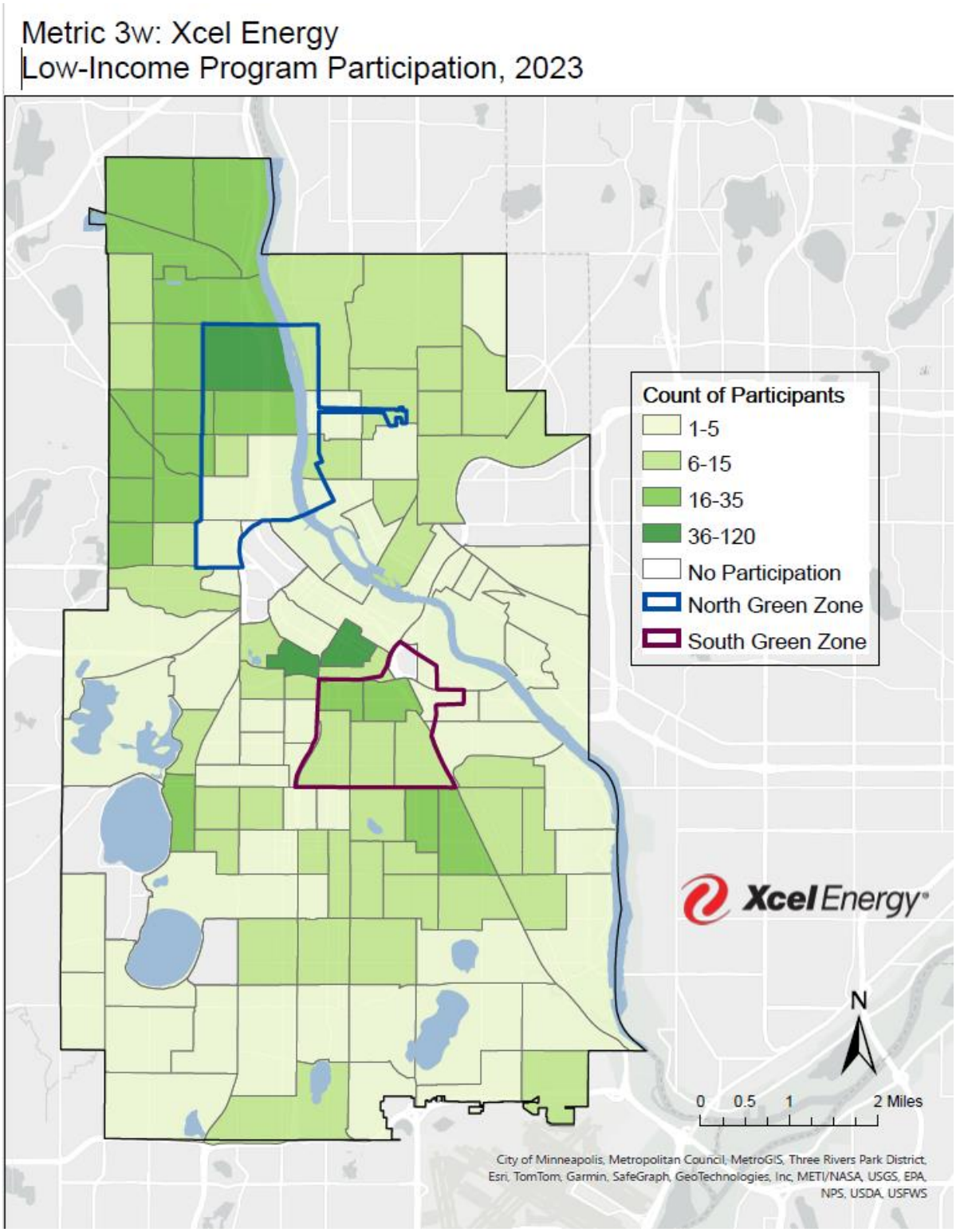
In 2023, CenterPoint Energy's Income-Qualified Programs and Gas Affordability Program directed more than $3.3 million to help qualifying customers in Minneapolis reduce their energy costs and improve the efficiency, comfort and safety of their homes. In 2023 programs seem to be moving out of the shadow of the pandemic with an increase in more projects and more pre-weatherization measures.

Xcel Energy's Energy Assistance Options include access to the Power-On Program, Senior Discount, and Medical Affordability Program as well as Income Qualified Energy Efficiency programs such as Home Energy Savings, Low Income Home Energy Squad, and Multi-Family Energy Services Program. In total, these programs reached over 7,800 Minneapolis customers providing over $2.5 million in assistance and energy efficiency options in 2023.

The following map shows the participation distribution of CenterPoint Energy income-qualified energy efficiency services, including Low Income Weatherization, Low Income Rental Efficiency, Stay Safe Stay Warm, Non-Profit Affordable Housing Rebates, and Low Income Multi Family Building Efficiency received across Minneapolis in 2023.



The following map shows the distribution of Xcel Energy's income-qualified energy efficiency services received across Minneapolis in 2023 including the Home Energy Savings and Low Income Multi-Family programs.

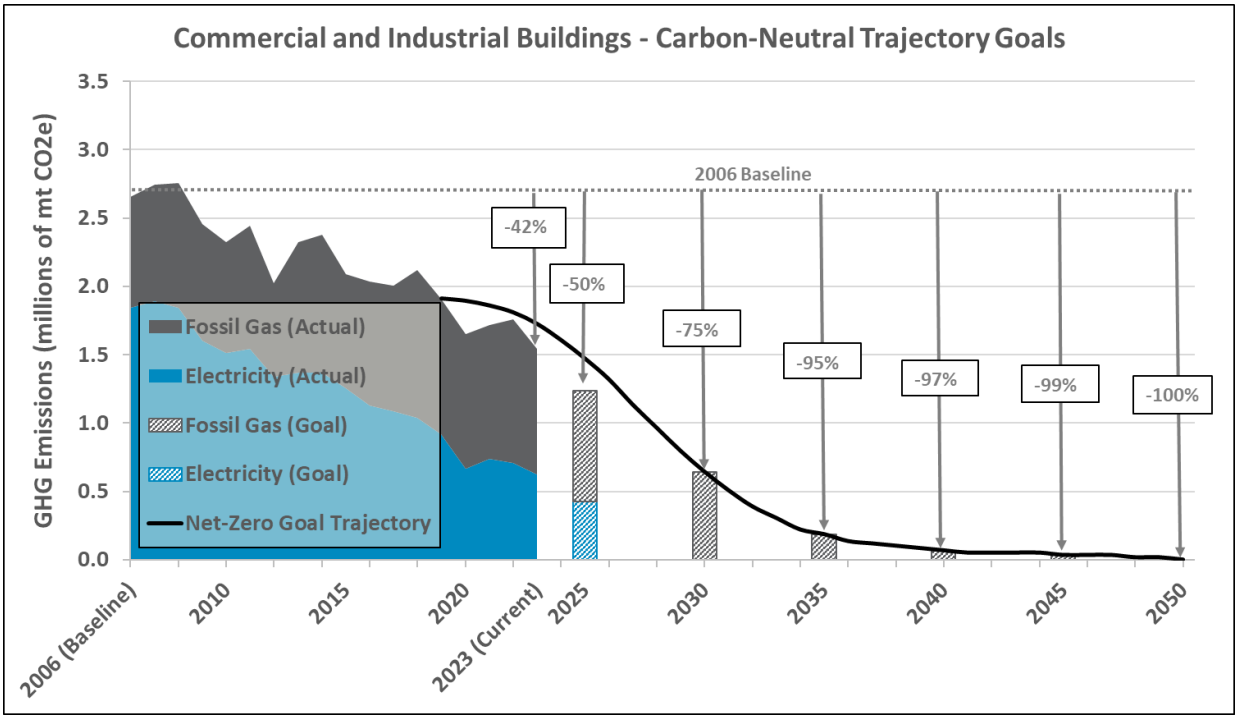


Metric 4 Supporting Data: Greenhouse Gas Emissions (Commercial and Industrial)

Metric		2019	2020	2021	2022	2023
4	GHG Emissions (mt CO2e)	1,910,346	1,648,116	1,717,584	1,759,558	1,539,689
	Change compared to 2006 baseline	-28%	-38%	-35%	-34%	-42%

Commercial/Industrial Energy Use		2019	2020	2021	2022	2023
4a	Electricity use - Commercial (MWh)	2,742,094	2,466,135	2,609,754	2,579,411	2,540,462
4b	Electricity use - Industrial (MWh)					
4c	Electricity GHG emissions (mt CO2e)	917,184	664,493	736,915	705,372	625,896
4d	Electricity GHG emissions (change compared to 2006 baseline)	-50%	-64%	-60%	-62%	-66%
4e	Gas use - Commercial (therms)	160,205,374	147,552,217	142,385,636	161,950,758	151,969,567
4f	Gas use - Industrial (therms)	21,044,749	31,957,081	36,584,522	30,436,225	14,795,886
4g	Gas GHG Emissions (mt CO2e)	993,162	983,623	980,669	1,054,187	913,793
4h	Gas GHG Emissions (change compared to 2006 baseline)	22%	21%	21%	30%	13%
4i	Energy - Total (MMBtu)	30,791,985	29,928,271	30,652,620	31,679,823	29,045,138
4j	Energy - Total (change compared to 2006 baseline)	18%	15%	18%	22%	11%

Commercial and Industrial GHG Emissions



	Commercial and Industrial Buildings		
	GHG Emissions (Change Compared to 2006 Baseline Year)		
Year	Electricity	Fossil Gas	Total
2023 (Actual)	-66%	13%	-42%
2025 (Goal)	-75%	0%	-50%
2030 (Goal)	Carbon-Neutral	-20%	-75%
2035 (Goal)	Carbon-Neutral	-75%	-95%
2040 (Goal)	Carbon-Neutral	-92%	-97%
2045 (Goal)	Carbon-Neutral	-96%	-99%
2050 (Goal)	Carbon-Neutral	Carbon-Neutral	Carbon-Neutral

Utility Commercial/Industrial Conservation Improvement Programs

CenterPoint Energy and Xcel Energy offer a variety of energy efficiency programs to their commercial and industrial customers throughout Minneapolis. These programs offer rebates, consultive services and other funding support to engage customers in energy efficiency opportunities that range from full process and systematic improvements to specific end use measure installations such as heating, cooling, lighting, food service equipment, and motors.

In 2023, CenterPoint Energy's Commercial and Industrial Efficiency Programs & Rebates spending amounted to more than $4 million, including more than $900,000 in rebates, to help 602 business customers reduce natural gas use by approximately 2.5 million therms and save businesses over $1.5 million in annual energy costs. Overall participation and spending stayed stable from last year thanks to increased participation in the Multi-Family Building Efficiency program. Fewer Minneapolis customers participated in C&I Heating and Water Heating Rebate programs, consistent with what CenterPoint saw throughout Minnesota, resulting in an energy savings reduction.

Xcel Energy's Business Programs & Rebates provided over rebates to Minneapolis businesses in 2023 totaling over $6.8 million that reduced energy consumption 64,921 MWh, saving businesses more than $8.4 million in energy costs.

	Commercial/Industrial Conservation Improvement Programs	2019	2020	2021	2022	2023
4k	Energy efficiency program participation (customers)	569	509	559	610	602
4l	Energy efficiency program participation (rebates)	1,405	4,124	5,517	8,132	3,824
4m	Rebate dollars spent	$ 914,578	$ 1,002,066	$ 1,149,521	$ 1,019,212	$ 913,193
4n	Estimated annual energy savings (therms)	3,730,500	4,723,570	3,492,350	5,498,793	$ 2,536,010
4o	Estimated annual cost savings	$ 2,286,713	$ 2,921,399	$ 2,150,642	$ 3,259,912	$ 1,513,817
4p	Energy efficiency program participation (customers)	898	1087	1168	2120	1,881
4q	Energy efficiency program participation (rebates)	1758	1432	1478	2656	1,459
4r	Rebate dollars spent	$ 5,311,750	$ 7,144,317	$ 7,975,714	$ 6,000,285	$ 6,889,101
4s	Estimated annual energy savings (kWh)	55,934,867	63,687,110	74,851,048	58,547,625	64,921,402
4t	Estimated annual cost savings	$ 3,306,631	$ 4,028,305	$ 4,491,063	$ 3,678,635	$ 8,439,782

Multi-Family Building Conservation Improvement Programs

Multi-Family energy efficiency programs are offered by both CenterPoint Energy and Xcel Energy, including the jointly offered Multi-Family Building Efficiency program and Energy Design Assistance program.

	Multi-Family Building Conservation Improvement Programs	2019	2020	2021	2022	2023
4u	Multi-family programs participants	328	264	242	236	316
4v	Multi-family programs estimated annual energy savings (Therms)	887,170	959,170	966,254	599,083	663,340
4w	Multi-family programs estimated annual cost savings	$ 575,311	$ 619,190	$ 622,663	$ 385,607	$ 421,672
4x	Multi-family programs rebate dollars spent	$ 393,171	$ 585,855	$ 461,448	$ 273,389	$ 378,016
4y	Multi-family programs participants	146	165	100	250	326
4z	Multi-family programs estimated annual energy savings (kWh)	2,582,954	2,981,937	2,346,532	6,786,000	2,062,376
4aa	Multi-family programs estimated annual cost savings	$ 152,693	$ 188,612	$ 146,769	$ 1,032,761	$268,109
4bb	Multi-family programs rebate dollars spent	$ 621,583	$ 432,691	$ 385,467	$ 626,534	$333,926

In 2023, multifamily buildings received $378,000 in CenterPoint Energy rebates for natural gas efficiency measures that will save customers over $421,000 in gas costs a year.

In 2023, the multi-family buildings Xcel Energy serves received over $330,000 in rebates for installed electric measures, saving an estimated $268,000 per year.

Energy Design Assistance

The Energy Design Assistance (EDA) program partners Xcel Energy and CenterPoint Energy in offering design consultation, energy modeling services, and financial incentives to building owners, architects, and engineers to incorporate energy-efficient systems and equipment in the design of new construction and/or renovations. In 2023, incentives from this joint utility offering totaled over $1.3 million dollars.

Multi-family continues to be the largest category of EDA program participants, with much of that construction happening in Minneapolis.

	Energy Design Assistance Program	2019	2020	2021	2022	2023
4cc	*Energy Design Assistance* program participation	29	38	34	22	26
4dd	*Energy Design Assistance* estimated annual energy savings (therms)	543,430	844,130	746,110	407,550	409,830
4ee	*Energy Design Assistance* rebate dollars spent	$ 217,639	$ 313,227	$ 411,836	$ 223,101	$ 232,434
4ff	*Energy Design Assistance* program participation (projects)	33	55	78	43	28
4gg	*Energy Design Assistance* estimated annual energy savings (kWh)	5,838,130	17,396,292	22,735,650	15,684,980	8,807,821
4hh	*Energy Design Assistance* rebate dollars spent	$ 1,019,560	$ 2,487,434	$ 3,392,438	$ 2,044,748	$ 1,075,283

Metric 5 Supporting Data: Renewable Electricity (Community-wide)

Metric		2019	2020	2021	2022	2023
5	Renewable Electricity (Community-wide)	26.7%	32.9%	33.1%	40.6%	39.9%

Supporting Data		2019	2020	2021	2022	2023
5a	Grid Mix Renewable Percentage	26.0%	31.8%	33.1%	40.9%	40.6%
5b	Adjusted Grid Mix Renewable Percentage	21.4%	25.3%	25.8%	33.3%	31.8%
5c	Community-wide Electricity Consumption (MWh)	3,712,477	3,510,358	3,738,454	3,646,285	3,625,027
5d	Local Actions (MWh)	198,248	264,516	272,915	267,751	295,301
5e	Grid Mix Carbon-Free Percentage	54.0%	61.6%	60.3%	68.6%	64.2%

The City of Minneapolis adopted its 100% Renewable Electricity Resolution in 2018. The elements of this resolution align with the Sierra Club's Ready for 100 commitment guidelines with strong emphasis on equity and environmental justice as well as its consumption based definition, including:

> *"the City of Minneapolis is committed to meeting its renewable electricity goals with as little reliance on purchasing Renewable Energy Credits (RECs) on the open market as possible, and will give goal preference and credit for resources exhibiting additionality regardless of REC ownership, such as community solar gardens and local solar installations"*
>
> *"Xcel Energy's current and future renewable electricity generation mix will be counted toward municipal and community-wide goals with support from the City in its efforts to transition to renewable energy throughout its service territory"*

Aligned with the Sierra Club guidance and the City's resolution, the calculation methodology adopted by the City is action-based, meaning based on the decisions by parties within the City. These parties include Xcel Energy (acting on behalf of their customers), the City's municipal operations, and the residential, commercial, and industrial electric account holders within the City. As the adopted resolution states, this methodology does not completely align with REC ownership.

Local actions by the City enterprise, residents, and businesses consist of the four programs in Metric 7 (Windsource®, Solar*Rewards (Rooftop) and Solar*Rewards Community® (community solar gardens), and Renewable*Connect) that account for local and directly purchased renewable electricity. The grid mix renewable percentage reported by Xcel Energy in their Community Energy Reports is adjusted to remove the impact of all local actions across their entire Minnesota service territory. The effect of this is that local actions are not double-counted (i.e. actions by a Minneapolis resident are only counted once and the actions of any non-Minneapolis resident in Xcel Energy territory are not counted).

The Xcel Energy renewable electricity grid mix decreased slightly in 2018 and 2019 due fluctuations in the portion of Xcel Energy's renewable generation source that is available during the year, but 2020 and 2022 saw a noticeable increases, as reported both in Xcel Energy's resource mix and Certified Renewable Percentage. Xcel Energy's approved

Integrated Resource Plan projects that by 2030 about 55% of its generated and purchased electricity will come from renewable energy.

Subscription consumption amounts in Xcel Energy's Renewable*Connect, Windsource, and community solar garden programs have as a whole remained constant.

Metric 6 Supporting Data: Renewable Electricity (Municipal Operations)

Metric		2019	2020	2021	2022	2023
6	Renewable Electricity (Municipal Operations)	85%	89%	89%	92%	97%

Supporting Data		2019	2020	2021	2022	2023
6a	Electricity consumption (kWh)	88,812,578	86,229,499	86,780,093	91,257,659	82,721,209
6b	Windsource subscription (kWh)	-	-	-	-	-
6c	Renewable*Connect subscription (kWh)	59,476,369	54,765,280	52,374,250	55,067,935	54,674,206
6d	Community Solar Garden subscriptions (kWh)	11,173,540	17,169,590	19,108,613	22,035,557	23,554,294
6e	On-site solar generation (kWh)	725,237	852,056	952,308	898,309	900,522

The City of Minneapolis currently utilizes the same accounting methodology for municipal operations as for the entire community, as outlined in Metric 5. This includes the actions taken by the City to power municipal operations with renewable electricity, as well as the adjusted grid mix factor accounting for the actions of our partner, Xcel Energy, on behalf of their customers.

The City has continued to make progress on meeting its 100% renewable electricity goal. In 2023, *Renewable*Connect* subscriptions continued to provide approximately 55 million kWh of renewable electricity and Community Solar Garden subscriptions increased slightly to 23.5 million kWh. When combined with the reduction in overall electricity consumption, this increased the City's renewable percentage to 97%. In 2024, the City will be enrolling all eligible electric premises in Xcel Energy's *Renewable*Connect* program for the City to retain renewable energy certificates (RECs), so that starting in 2025 and going forward all usage will be 100% renewable using more stringent REC-ownership methodology.

Metric 7 Supporting Data: Renewable Electricity (Local and Subscriptions)

	Supporting Data	2019	2020	2021	2022	2023
7a	*Windsource* Participants	15,315	16,952	17,551	16,384	15,099
7b	*Windsource* Consumption (MWh)	51,112	57,237	70,575	74,936	91,357
7c	*Renewable*Connect* Participants	835	864	786	793	761
7d	*Renewable*Connect* Consumption (MWh)	48,038	61,540	50,181	44,078	43,481
7e	Solar*Rewards *Community* Subscribers	4,511	4,811	5,527	5,373	5,247
7f	*Solar*Rewards Community* Installed Capacity (MW)	101	106	112	113	114
7g	*Solar*Rewards Community* Installed Capacity (MW) w/in City	0.5	1.5	1.5	1.6	*1.6*
7h	*Solar*Rewards Community* Installed Generation (MWh) w/in City	692	2,072	2,160	2,014	*2,014*
7i	*Solar*Rewards Community* Subscribed (MWh)	93,840	132,493	135,546	127,508	133,734
7j	*Solar*Rewards*[1] Participants	937	1,189	1,525	1,662	1,845
7k	*Solar*Rewards* Installed Capacity (MW)	9.04	10.88	14.50	15.60	17.41
7l	*Solar*Rewards* Generation (MWh)[2]	5,258	5,765	7,170	8,597	10,029
7m	Non-*Solar*Rewards* capacity installed during reporting year (MW)	1.8	0.5	1.6	2.6	3.3
7n	Non-*Solar*Rewards* Installed Capacity (MW)[3]	5.6	6.1	7.7	10.3	13.6
7o	Non-*Solar*Rewards* Generation Estimated (MWh)[4]	6,868	7,481	9,443	12,632	16,700
7p	Renewable Electricity (Distributed Local Solar)	2.9%	4.2%	4.1%	4.1%	4.4%
7q	Renewable Electricity (Utility-Scale Subscriptions)	2.7%	3.4%	3.2%	3.3%	3.7%

[1]Solar Rewards includes both Solar Rewards and Made in Minnesota Participants.

[2]Systems with less than 40kW AC and Non-Incentive installations may not have production meters, leading to underrepresented MWh.

[3]This is installed capacity of solar. Adding hydro would increase installed capacity by approximately 9MW in every reporting year.

[4]Estimated using a capacity factor of 0.14.

5 2023 Solar*Rewards Community installed capacity and generation data for the city of Minneapolis is not currently available and will be added as soon as possible

Xcel Energy offers four renewable energy options to Minneapolis customers: Renewable*Connect Flex, Solar*Rewards (Rooftop), Solar*Rewards Community®, and Renewable*Connect. These four programs cumulatively constitute the percentage of electricity consumed in Minneapolis from local and directly purchased sources.

Renewable*Connect Flex is a voluntary energy program that allows customers to purchase some or all of their energy from wind and solar energy sources. The supports additional local renewable energy. In late 2023, Windsource ceased to exist and all Windsource customers were automatically transferred into Renewable*Connect Flex (unless they opted out of this transfer). This new program operates similarly to how Windsource had, but the underlying resources are a mix of wind and solar energy.

The Renewable*Connect program offers all customers a way to benefit from renewable energy by accessing wind and solar without the need to purchase and install equipment at their property. The Renewable*Connect generation mix is approximately 78% wind and 22% solar energy with 5- and 10-year contracts. The program became available as a pilot in 2017. In late 2023, an expansion of the program was launched and a slight program modification was made. The pilot program initially offered a month-to-month option, but as part of the expansion and modification, those month-to-month customers were moved over to the Renewable*Connect Flex program. The new expansion has been filled. As capacity in the program opens from participants leaving, customers on the waitlist get added.

Through Solar*Rewards, individuals and organizations install solar panels on their roof so they can produce their own energy. If production exceeds use, the extra energy is added to

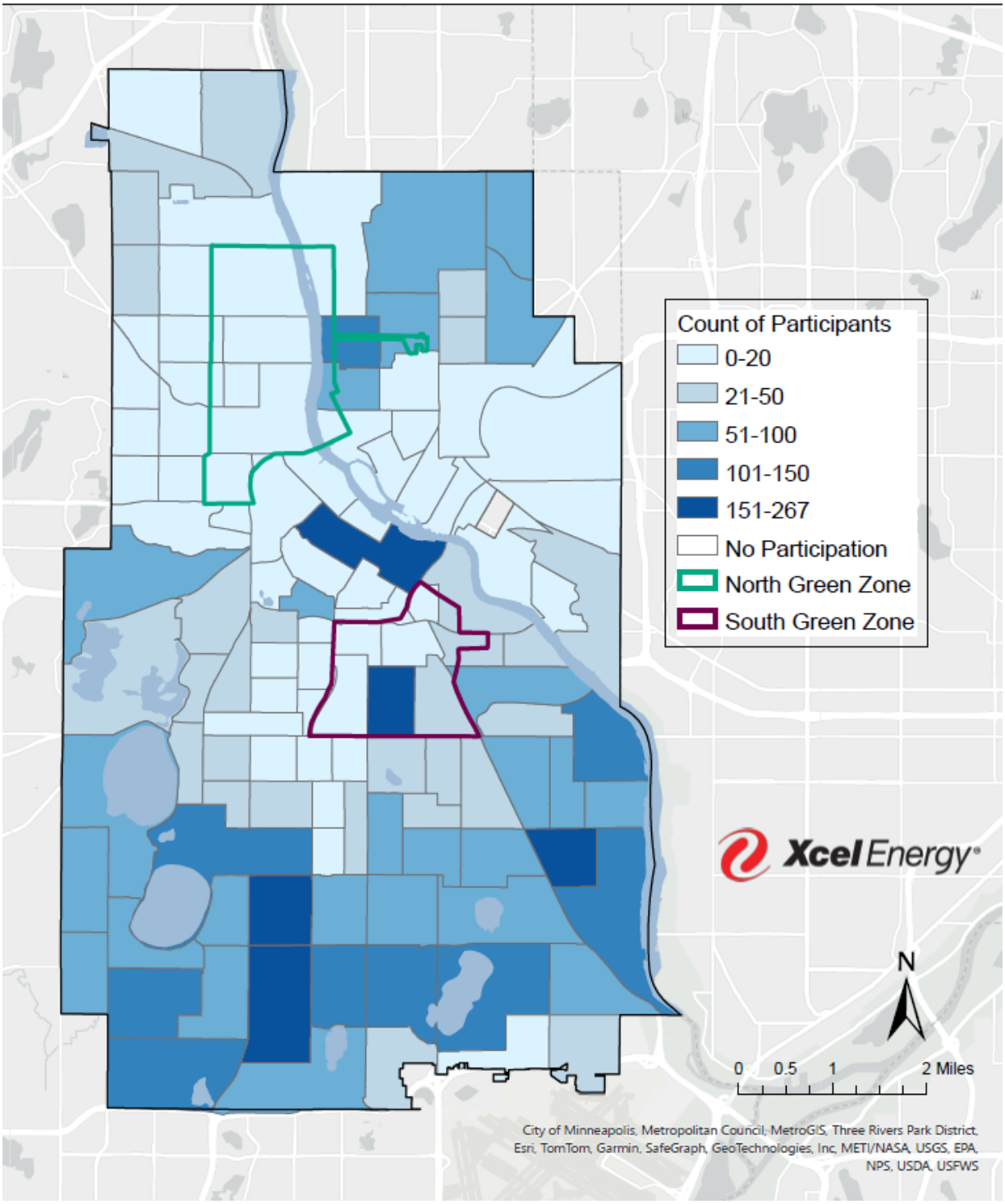
the grid and the customer receives a credit on their bill. Xcel Energy saw a 12% increase in installed capacity and a 17% increase in production between 2022 and 2023.

The Solar*Rewards Community program (commonly known as community solar gardens) provides residential and business customers the opportunity to participate in solar without attaching an array to their home. Subscribers to a solar garden work directly with a solar developer to access solar energy, while Xcel Energy credits the customer bill for the solar energy produced within their subscription. The Solar*Rewards Community program saw slightly decreased participation in Minneapolis between 2022 and 2023. The potential cause(s) for this slight decrease are not known. Neither Xcel Energy or the City have significant visibility into the contractual arrangements between customers and solar developers.

Xcel Energy's green-tariffed subscription consumption amounts in 2023 modestly decreased in Renewable*Connect and Windsource. The decrease in Renewable*Connect subscriptions was due to the expiration of the initial term of the 5-year subscription option. In 2023 Windsource merged with Renewable*Connect and became Renewable*Connect Flex, and Xcel Energy now offers one renewable subscription program that is a mix of wind and solar with month-to-month and longer-term options. Subscriptions in community solar garden programs decreased slightly in 2023.

The following map shows the distribution of Xcel Energy's Solar*Rewards Community program participation across Minneapolis in 2023.

Metric 7e: Xcel Energy
Solar*Rewards Community Participation, 2023



Addendum: Additional Supporting Data

	Supporting Data	2021	2022	2023
A1	Franchise Fees (Electricity)	$22,100,000	$25,500,000	$25,600,000
A2	Franchise Fees (Gas)	$8,500,000	$12,600,000	$11,700,000
A3	Franchise Fees (Total)	$30,600,000	$38,100,000	$37,300,000
A4	Xcel Revenue from Mpls Sales	$413,000,000	$485,000,000	$489,000,000
A5	CenterPoint Revenue from Mpls Sales	$171,000,000	$251,000,000	$248,000,000
A6	Total Revenue from Mpls Sales	$584,000,000	$736,000,000	$737,000,000
A7	Electricity emissions factor (mt CO_2e/MWh)	0.286	0.277	0.251
A8	Gas emissions factor (mt CO_2e/therm)	0.00531	0.00531	0.00531
A9	Mpls ASAI - Average Service Availability Index (% of time)	*Will be provided in 2024 report*		
A10	Mpls SAIDI - System Average Interruption Duration Index (mins)			
A11	Mpls SAIFI - System Average Interruption Frequency Index (# per customer)			
A12	Mpls CEMI - Customers Experiencing Multiple Interruptions (% of customers)			
A13	Mpls CELI - Customers Experiencing Lengthy Interruptions (% of customers)			
A14	Mpls CAIDI - Customer Average Interruption Duration Index (mins)			
A15	MN ASAI - Average Service Availability Index (% of time)		99.983%	99.984%
A16	MN SAIDI - System Average Interruption Duration Index (mins)	88.99	90	86.4
A17	MN SAIFI - System Average Interruption Frequency Index (# per customer)	0.92	0.86	0.85
A18	MN CEMI - Customers Experiencing Multiple Interruptions (% of customers)	0.67%	0.79%	0.76%
A19	MN CELI - Customers Experiencing Lengthy Interruptions (% of customers)	1.16%	4.24%	3.24%
A20	MN CAIDI - Customer Average Interruption Duration Index (mins)	96.26	104.05	101.56
A21	Mpls CIP Electricity Savings	*Will be provided in 2024 report*		
A22	MN CIP Electricity Savings (actual)	2.67%	2.33%	2.48%
A23	MN CIP Electricity Savings (minimum by law)	1.50%	1.50%	1.50%
A24	Mpls CIP Gas Savings	*Will be provided in 2024 report*		
A25	MN CIP Gas Savings (actual)	1.26%	1.35%	1.35%
A26	MN CIP Gas Savings based on gross annual energy sales (plan)**	1.23%	1.26%	1.28%

*Note that planned energy savings decrease in 2024 because of energy savings cuts related to improving codes and standards.

** Please note that a utility's financial incentive starts at 0.7% and minimum goal by law is 1.0%