MINNEAPOLIS CLEAN ENERGY PARTNERSHIP

2022 Annual Report

September 2023

Contents

Metrics Scorecard

Greenhouse Gas Emissions (Community-wide)

Net-Zero Emissions by 2050:

28% reduction since 2006; not on track for 2050 goals

Metric 1

Score: RED

Greenhouse Gas Emissions (Municipal Operations)

Net-Zero Emissions by 2040:

58% reduction since 2008 and on track

Metric 2

Score: GREEN

Greenhouse Gas Emissions (Residential)

Net-Zero Emissions by 2050:

24% reduction since 2006; not on track for 2050 goals

Metric 3

Score: RED

Greenhouse Gas Emissions (Commercial and Industrial)

Net-Zero Emissions by 2050:

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

Metric 4

Score: RED

Renewable Electricity (Community-wide)

100% of renewable electricity use by 2030:

41% in 2022 and not on track

Metric 5

Score: RED

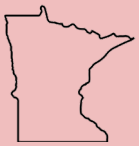
Renewable Electricity (Municipal Operations)

100% of renewable electricity use by 2023:

92% in 2022 and on track

Metric 6

Score: GREEN



Renewable Electricity (Local and Subscriptions)

40% of renewable electricity use by 2024:

7.4% in 2022 and not on track

Metric 7

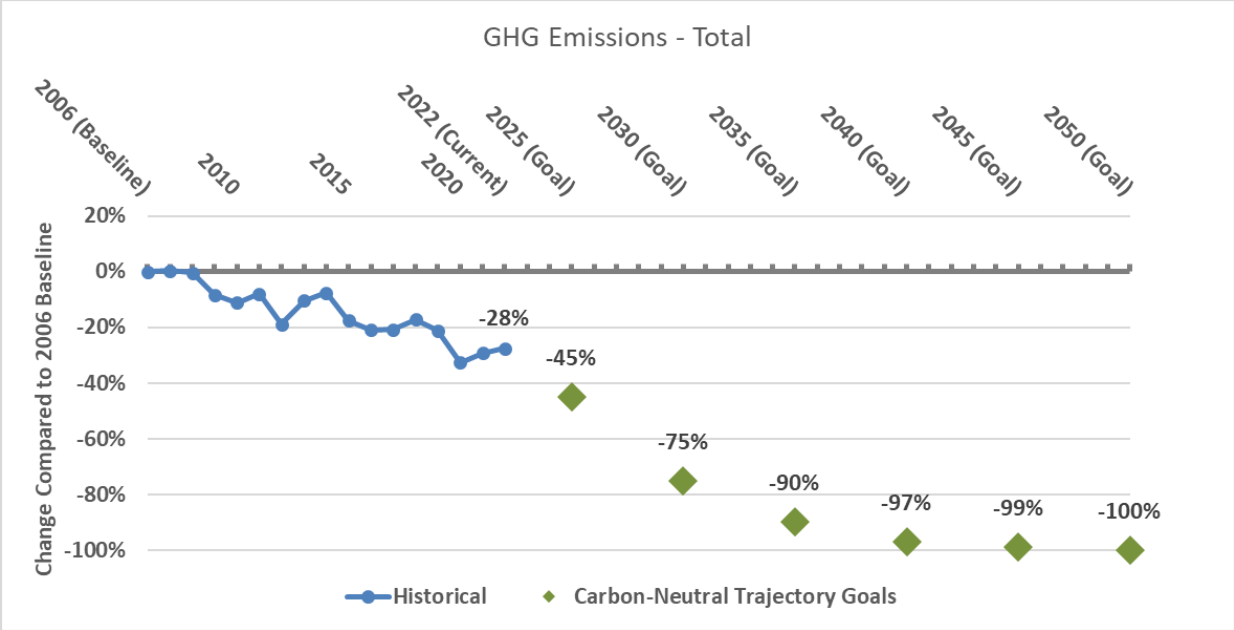
Score: RED

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 28% decrease in 2022 emissions compared to 2006. While 2022 emissions are within the bounds of the City's carbon-neutral by 2050 pathway, emissions have risen 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.



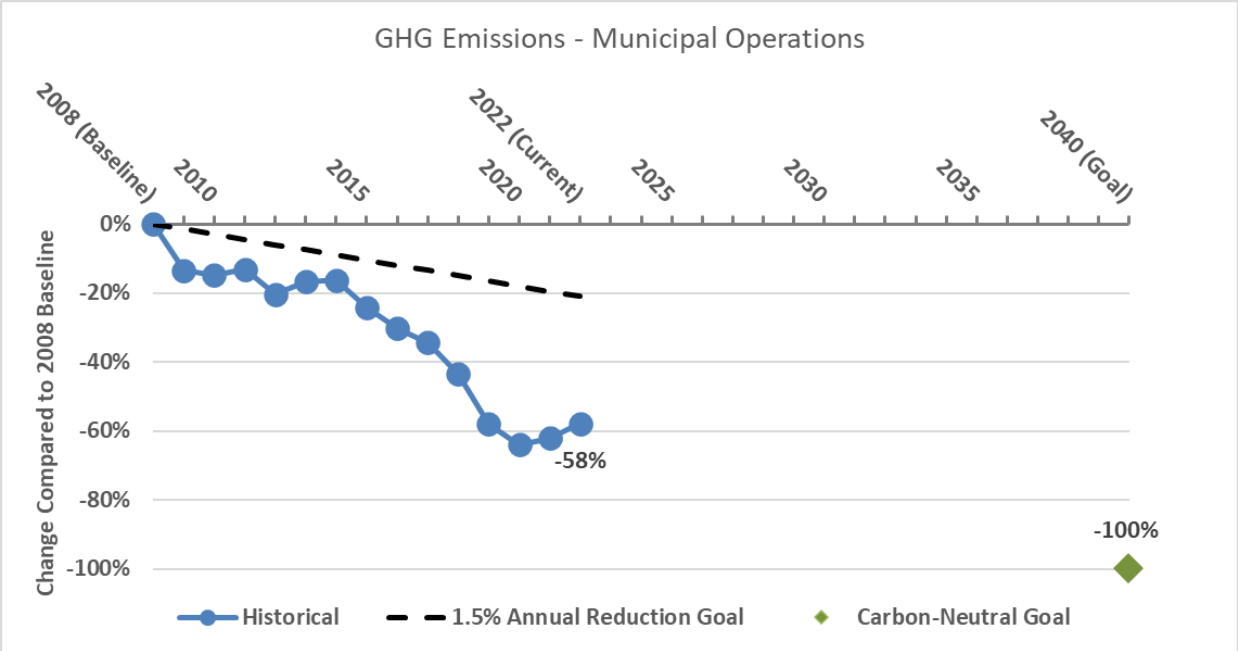
GHG emissions reductions to date are in large part attributed to progress on electricity decarbonization, moving away from coal to natural gas, wind, and solar power to produce electricity. In 2022, natural gas was the largest emissions source at 45% of overall GHG emissions, followed by electricity (26%) and on-road transportation (24%).

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 58% decrease in emissions in 2022 compared to 2008. The data trend indicates this metric is on track to meet the City's previous goal (effective through 2022 data) of a 1.5% annual reduction in GHG emissions. City staff over the next year will develop a carbon-neutral goal trajectory to 2040 to gauge future progress.



Greenhouse gas emissions from City facilities and operations have risen slightly since a pandemic low in 2020. Since 2020, the City has added two new, large facilities (and their associated energy use) to their building portfolio: East Side Storage and Maintenance and the Public Service Building. Also, 2022 was the first full calendar year since the City has returned to pre-pandemic facility occupancy.

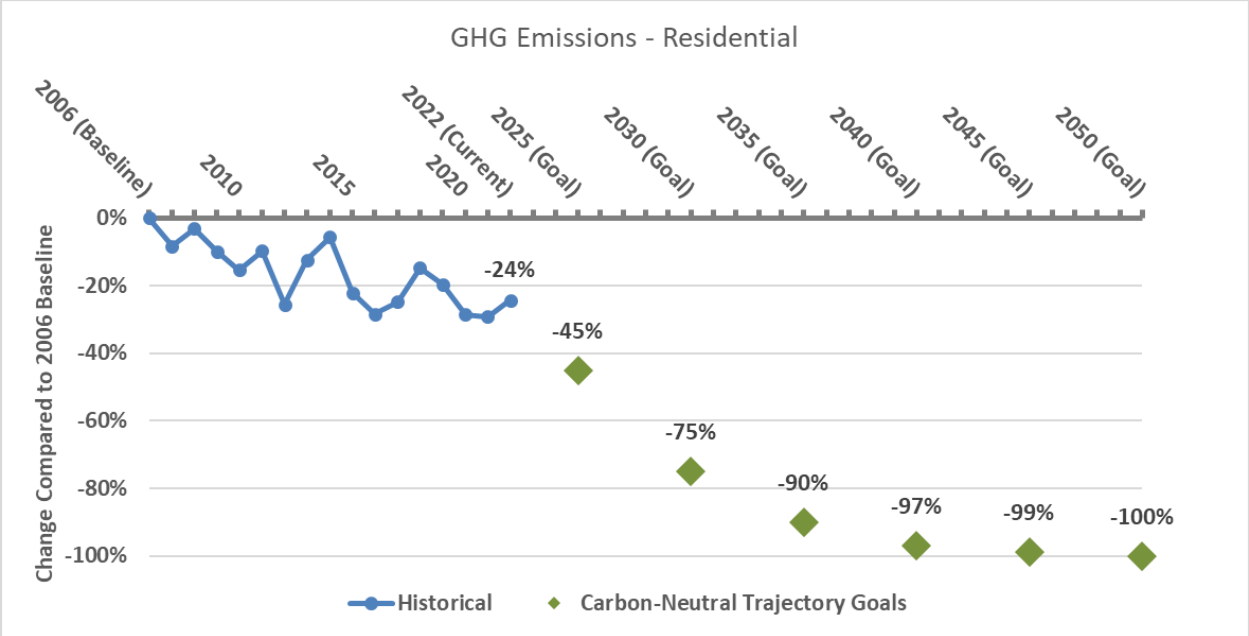
Natural gas consumption and emissions increased 22% in 2022 compared to 2021, largely due colder heating months. Weather-adjusted emissions from natural gas consumption have remained relatively constant since 2008 and gas reductions will be the next area of focus for the City Enterprise.

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 24% decrease in 2022 emissions compared to 2006. While 2022 emissions are within the bounds of the City's net zero by 2050 pathway, emissions have risen 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.



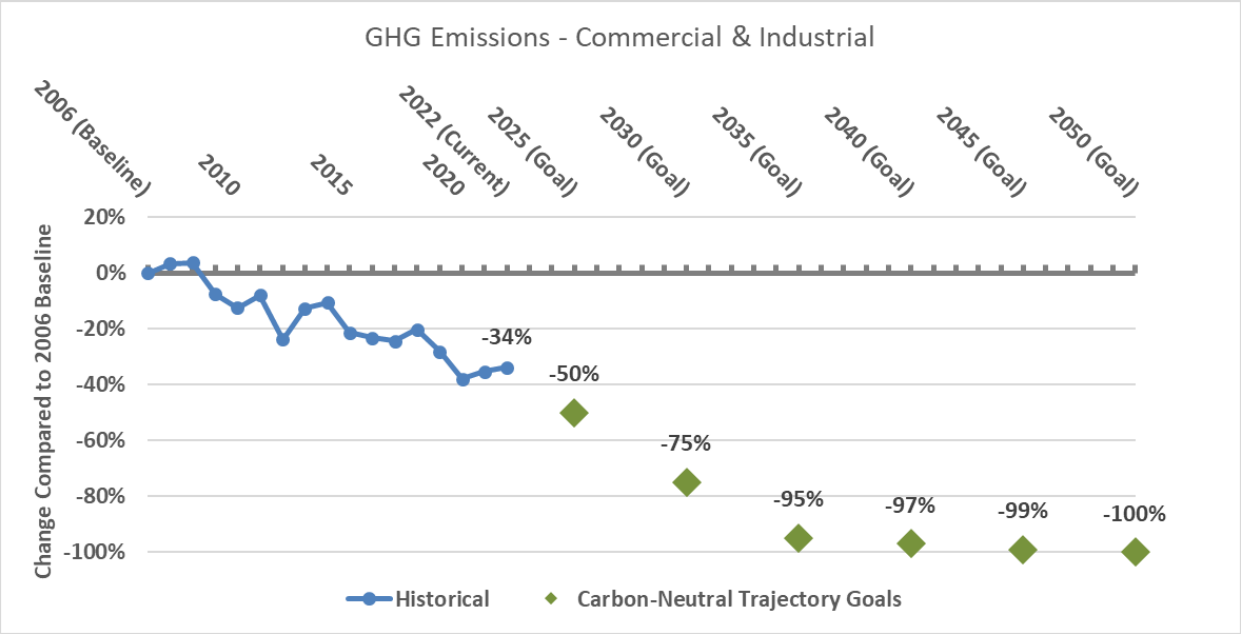
The residential energy sector consists of approximately 188,000 electric and 126,000 gas customers in Minneapolis. The number of electric and natural gas customers has increased in the last decade, but data suggest that households in Minneapolis are using energy more efficiently. However, the reliance 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 34% decrease in 2022 emissions compared to 2006. While 2022 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. Since 2012, the number of electric and natural gas customers has increased (20% and 4% respectively) while electricity use declined 20% and gas use increased 21%.

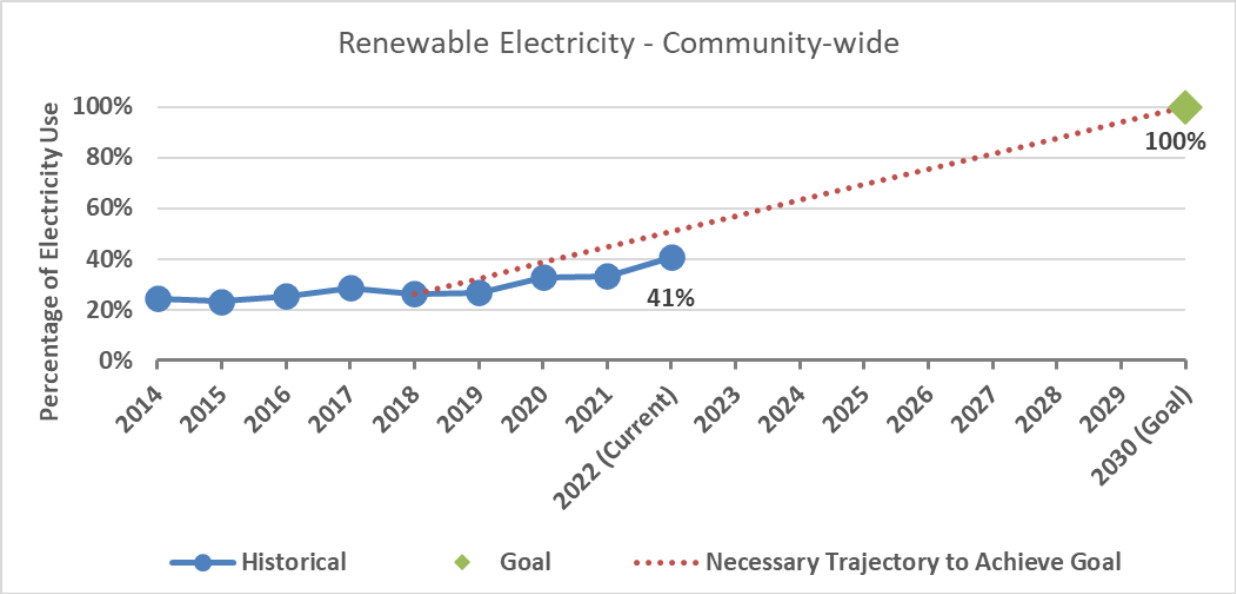
Emissions from natural gas represent 60% of the emissions in this sector. As with the residential sector, the commercial and industrial sector is affected by weather, and 2022 had 21% more heating degree days than ten years prior. Energy savings from Minneapolis commercial and industrial energy efficiency programs contributed 27% to CenterPoint Energy's Minnesota CIP energy savings in 2022.

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 41% of electricity consumption came from renewable sources in 2022. The data show that this metric, while improving, 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 increased from 33% to 41% since 2021. Xcel Energy also provides another metric, Certified Renewable Percentage, which is 42.6% for 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 Energy's approved Integrated Resource Plan projects that by 2030 about 55% of its overall generation mix will come from renewable energy.

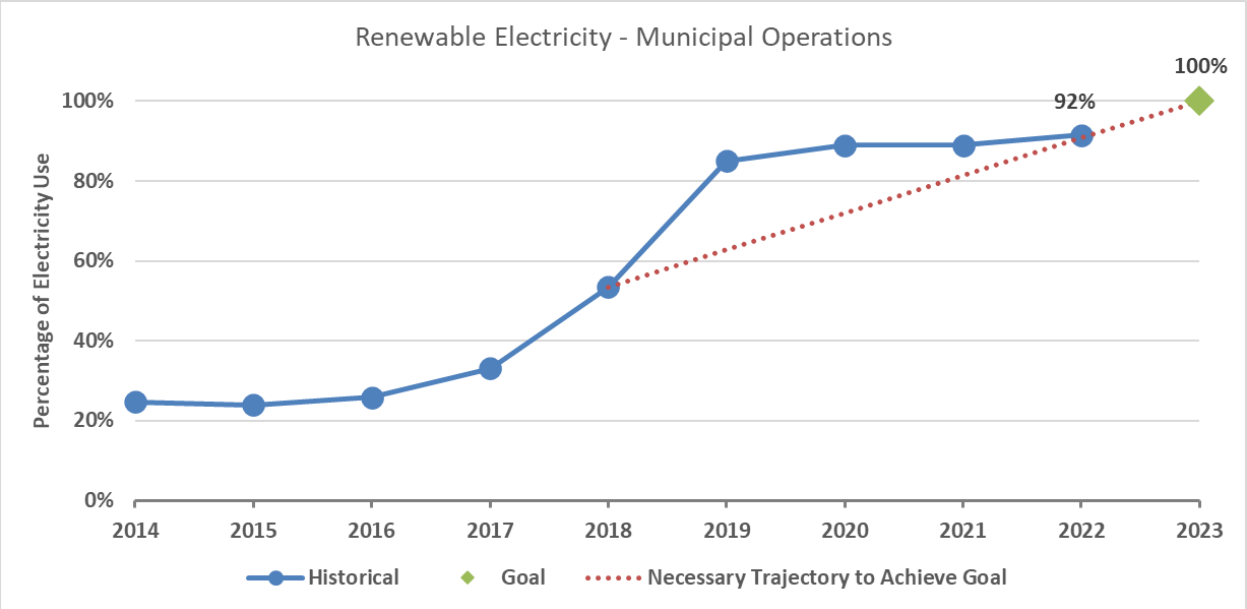
Xcel Energy's green-tariffed subscription consumption amounts in 2022 modestly decreased in Renewable*Connect and increased in Windsource. Those subscription renewable programs are in a phase of transition. The decrease in Renewable*Connect subscriptions was due to the expiration of the initial term of the 5-year subscription option. Many of those customers transitioned to Windsource. In 2023 Windsource will merge with Renewable*Connect, and Xcel Energy will offer 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 2022.

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 92% of electricity consumption came from renewable sources in 2022. The data trend back to 2014 indicates this metric is on track to meet 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 (22 million kWh in 2022) and *Renewable*Connect* (55 million kWh in 2022) programs.

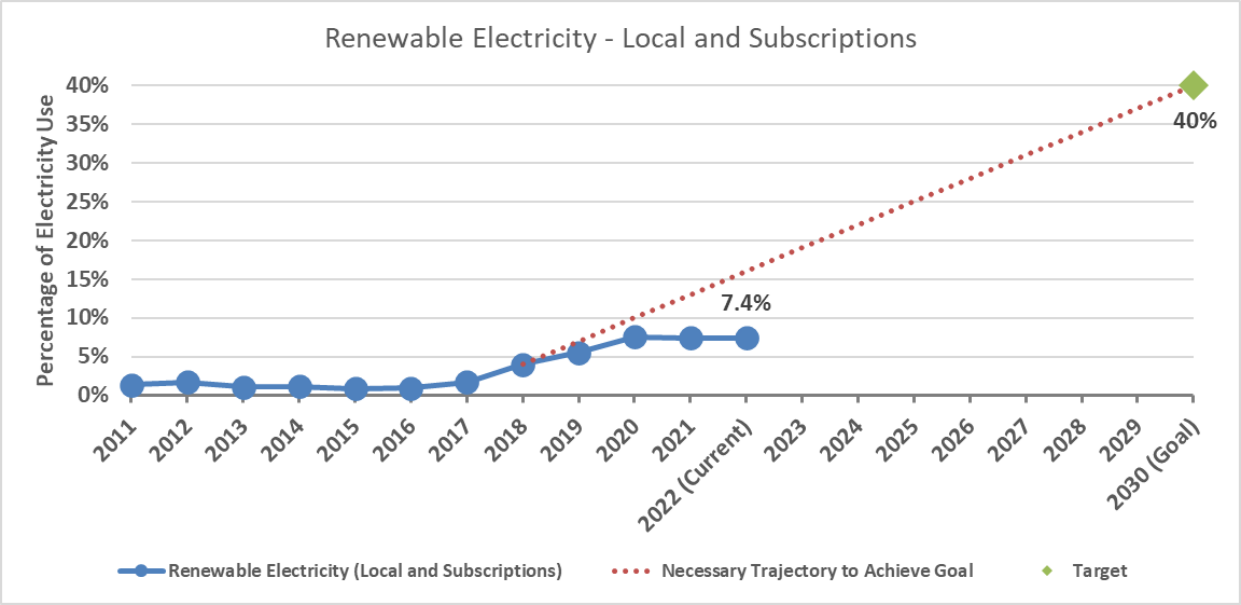
Electricity consumption slightly grew in 2022 as the City returned to post-pandemic operation and added two additional large properties to the portfolio of buildings the City owns.

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 7.4% of electricity consumption came from local and subscription renewable sources in 2022. 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 2021 to 2022 participation in Renewable*Connect decreased and participation in Windsource increased (resulting in approximately flat participation in green tariff subscription programs). Participation in Solar*Rewards Community (community solar) also decreased slightly, while installed capacity of solar in the City through Solar*Rewards and net-metered solar increased slightly, also resulting in no net increase in local solar in 2022.

2022-2023 Work Plan Progress

Progress to Date (September 2023)
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. 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, contractor considerations, and financial resources from local to national for electrification projects. 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. The public hearing for these ordinance amendments is scheduled for the Public Works & Infrastructure (PWI) Committee meeting on October 12.

Progress to Date (September 2023)
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. The recommendation of $10 million is equivalent to the estimated additional annual revenue from the proposed electric and gas franchise fee rate increases.
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. Work on the Resilient Minneapolis Project, with three sites in BIPOC communities, continued in 2022 and 2023 after this project was approved in mid-2022 as part of Xcel Energy's Integrated Distribution Plan. Due to significant cost increases in the project, Xcel Energy filed a request in April 2022 to increase the cost cap from the originally approved $9M. During the comment period for this request significant questions were raised by project partners about the design and funding of the project. Citing project partner concerns, Xcel Energy withdrew the petition requesting a cost increase. In August 2023 the Commission accepted Xcel Energy's request to withdraw their earlier petition to increase costs and ordered the

Progress to Date (September 2023)
company to "file a revised RMP proposal in this docket within 180 days of the Order with the objective of investing in resilience in the host communities identified in the original proposal." Xcel Energy is now working with the project partners and City to determine the scope and approach for this revised RMP proposal.
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:** Building operations have changed since the start of pandemic. These buildings may have received less energy management attention than typical over the last few years. This "new normal" led CenterPoint Energy and the City of Minneapolis to develop the New Normal Campaign. This energy savings pathway involves three steps: an energy analysis, offset by the City as budget allows; a building controls tune-up for those properties that have a building automation system (BAS); and bonus triple rebates for energy saving prescriptive measures. CenterPoint Energy is paying for the building controls tune-up and triple rebates. The Campaign is primarily aimed at, but not limited to, commercial buildings in Minneapolis required to benchmark through the City's Benchmarking program, prioritizing those performing in the lowest quartile. A New Normal Campaign working group of the City of Minneapolis, Xcel Energy, and CenterPoint Energy has met regularly to first develop, refine outreach, and discuss early learnings. EVAC was instrumental in the Campaign's development, both with input delivered during EVAC Q3 2022 meeting, especially the suggestion that this pathway be elevated to a "campaign" instead of an "effort", and in an EVAC working group meeting in Q4 2022. Additionally, the EVAC working group met again in summer 2023, with at least one more 2023 meeting expected in Q4. In addition to private commercial customers, Minneapolis Public Schools (MPS) is participating in the Campaign. Due to the large number of buildings involved with this single customer, the City of Minneapolis approved MPS's inclusion before the school district was able to start the Campaign. MPS will be able to have all 64 of their recommended buildings benefit from the energy pathway, starting with 23 in 2023 and continuing through 2025. The Campaign was originally envisioned with the City covering the copay for all energy analyses, even those above the lowest quartile threshold. By the end of Q2 it became apparent this was a barrier to the Campaign. The City's budget had been set before the inclusion of MPS, and more properties from the previous year's lowest quartile list completed their energy audits in 2023 instead of 2022, leaving the 2023 budget with less available funding. After reserving outreach in the first half of the year to lowest quartile properties, the New Normal working group agreed to allow properties above the lowest quartile to participate by paying

for their own copay or, when appropriate, for CenterPoint Energy to do so (e.g., when a customer has multiple properties on the lowest quartile list with one outside that designation). This adjustment has allowed CenterPoint Energy's Key Accounts Managers to promote the Campaign in the second half of the year to more interested Minneapolis customers.

Other than the exception made for the MPS buildings, to participate in the Campaign Minneapolis commercial customers need to have their energy analysis completed by December 31, 2023. Customers have up to a year from their energy analysis to install their rebatable work, allowing planning to implement recommendations, recognizing potential supply chain disruptions, and giving needed time to apply for extra funding to help with expenses, such as the City's Green Cost Share funds.

To date energy audits have been completed on 72 buildings (60% of which are in the lowest quartile), with building automation systems present in 49 buildings (49% lowest quartile). These buildings range from a variety of commercial use, including education, hospitality, office space, and more. Seven of these buildings have completed the building controls tune-up step (2 in lowest quartile), with three more being worked on. Thus far, 6 triple rebates valued at $36,722 with 25,613 Dekatherm (Dth) savings have been paid for completed work in three buildings (none in lowest quartile). This savings represents 30% of the 85,000 Dth goal for the New Normal Campaign.

b. HOLISTIC APPROACH WITH LARGE COMMERCIAL AND INDUSTRIAL CUSTOMER

Another project in Theme 3 is CenterPoint Energy's work with a large Minneapolis commercial and industrial customer (natural gas usage of more than 150,000 Dth annually) 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 with a goal of saving an estimated 15,000 Dth through phased projects.

CenterPoint Energy will use information gained in conjunction with other available data regarding the customer, the market, and any additional environmental concerns to develop a 1- to 3-year proposal to assist and support the customer's energy management plan. CenterPoint Energy aims to incorporate learnings from this project as it scales up future business partnerships around achieving shared sustainability goals.

The customer CenterPoint Energy originally selected for this project will be proceeding with the bulk of the work at buildings that fall outside of Minneapolis. As such, the energy savings and GHG emissions reductions will not be eligible for consideration in the Minneapolis annual totals. CenterPoint Energy is in the process of gathering information on another large customer the Company is working with to highlight in a future update.

B. IMPLEMENT NEW ELECTRIFICATION AND DECARBONIZATION OPPORTUNITIES

The final project in this theme focuses on district energy in the City of Minneapolis. CenterPoint is partnering with Hennepin County and the City of Minneapolis to develop,

Progress to Date (September 2023)
evaluate, and consider opportunities to decarbonize Hennepin County's downtown district energy center (adjacent to US Bank Stadium). As a first step, CenterPoint Energy has committed funding support to a Hennepin County-led study to identify and consider decarbonization strategies. Hennepin County has shared with CenterPoint Energy and the City of Minneapolis the importance of redundancy to protect the Trauma 1 hospital served by this district system and that reliability is a primary concern. Hennepin County is currently working with their consultant on the study, and CenterPoint Energy will pay its portion of the study's funding upon the completion of the final report. Hennepin County, the City of Minneapolis, and CenterPoint Energy met monthly through mid-2023 and will meet quarterly moving forward. In its first NGIA Innovation Plan filed in June 2023, CenterPoint Energy proposed 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 district energy systems. If Hennepin County comes up with an eligible project, this pilot could provide incentives to help support the implementation of GHG reduction strategies. Additionally, in the NGIA Innovation Plan, CenterPoint Energy proposed a New District Energy System pilot to help current natural gas customers considering developing a district energy system within CenterPoint Energy's territory. As defined in NGIA, this new district energy would be "a heating or cooling system that is solar thermal powered or that uses the constant temperature of the earth or underground aquifers as a thermal exchange medium to heat or cool multiple buildings connected through a piping network." The project continues to be pursued and explored by CenterPoint Energy, the City of Minneapolis, and Hennepin County.

2019-2021 Work Plan Progress

Progress to Date for Activities Still Active (September 2023)
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 permitting to install the first CarbinX unit in Minnesota. To date, four CarbinX units have been installed and are operating in commercial buildings in Elk River, Bloomington, Prior Lake, and Minneapolis with opportunities for up to six future installations funded by CenterPoint Energy. Of the potential future installations, potentially three are in Minneapolis, including a City of Minneapolis facility. Time and effort have been needed to educate code officials, even when the technology has been approved at the state level, causing a barrier to the carbon capture pilot project. CenterPoint Energy expects results of measurement and verification to be available in 2024. CenterPoint Energy has included two carbon capture pilots in its first Natural Gas Innovation Act (NGIA) Innovation Plan, Docket No. G-008/M-23-215, one for commercial buildings and one for industrial or large commercial customers. This project continues to be pursued and explored by CenterPoint Energy and the City of Minneapolis.
EE.5 SUPPORT RESIDENTIAL ENERGY DISCLOSURE POLICIES BY MAKING DATA ACCESSIBLE WITH TOOLS EE.5 proposes new and enhanced utility data access tools to support implementation of the City's energy disclosure policies. The Minnesota Public Utilities Commission (PUC) issued an order on Nov 20, 2020 for DOCKET NO. E,G-999/M-19-505, establishing a data aggregation standard, which states that utilities must provide aggregated customer energy use data sets to third parties, such as the City and property owners. These data sets may include data from no fewer than 4 customers and that a single customer's energy use must not constitute more than 50 percent of total energy consumption for the requested data set (the "4/50 rule"). Due to this Commission Order, the Partners have established two parallel paths for roll-out of the Time-of-Rent energy cost disclosure ordinance based on building size (1-4 and 5+ unit properties), with weekly meetings, alternating between the two.

Progress to Date for Activities Still Active (September 2023)
5+ unit Properties CenterPoint Energy and Xcel Energy both contracted with Accelerated Innovation (AI) to create energy report tools for the City's ordinance. CenterPoint Energy and AI modified existing benchmarking tool for Time of Rent compliance. For consistency in the customer experience, Xcel Energy also contracted with AI to develop their tool that allows building owners to comply with the City's Time of Rent ordinance. CenterPoint Energy, Xcel Energy, Minneapolis and AI meet biweekly to align tool pages to allow for a consistent and easier to understand view from a customer perspective. To develop help resources and test the utilities' software tools, the Partners worked with the Minnesota Multi Housing Association (MHA) to gather interested property owners to test the tools and provide feedback directly to the Partners about their experience. The webtools for each utility were completed and functional by September 1, which represented the beginning of City outreach to rental license holders and property owners. To assist in the usage of these tools, "quick start" user guides were developed to assist property owners in using the utilities' data tools specifically for compliance with the City's ordinance. These guides provide the steps property owners will need to follow to create and share with tenants an energy cost report for their building. The Partners also developed other helpful resources for property owners, including FAQs, short videos illustrating the software tool registration steps, the City's 311 call line for helping owners find guidance on the FAQ and common issues, and dedicated utility-specific help email addresses for property owner assistance on technical or account-related issues. Property owners began receiving notifications from the City on the ordinance's effective date of September 1 encouraging them to begin creating energy costs reports and guiding them to the tools and help resources developed by the Partners. Subsequent rounds of notifications had been sent by the City, with attention then turning to the launch of a renter awareness campaign in November 2021. Awareness campaigns and outreach continued into 2022 for both property owners and renters. 1-4 Unit Properties For properties with 4 or fewer units that cannot be adequately aggregated or anonymized, the PUC requires customer consent before releasing whole building energy use data to third parties, such as property owners. As part of the PUC docket previously discussed, on March 1, 2021, Xcel Energy and CenterPoint Energy submitted annual compliance filings, which included a discussion about which, if any, additional use cases the Commission should consider. In its March 1 filing (Docket No. E,G-999/M-19-505), CenterPoint Energy requested that the Commission consider how customer energy use data (CEUD) consent requirements should apply when landlords of 1-4 unit properties in the City of Minneapolis request tenant CEUD in compliance with the City's ordinance. In Xcel Energy's March 1 filing (Docket No. E,G 999/M-19-505), Xcel Energy stated: "We are aware that a number of communities are implementing benchmarking ordinances that in some cases apply to all sizes of rental properties including single-tenant buildings. The Commission may want to specifically

Progress to Date for Activities Still Active (September 2023)
examine the 4/50 aggregation standard for the building benchmarking Use Case in light of emerging benchmarking ordinances." On October 29th, the Utilities filed a Petition with the PUC for approval of a process to release whole building data to facilitate local residential rental ordinance compliance, Docket Number G008/M-21-761. The petition also included a letter of support from the City. The PUC met on March 10 and heard testimony by the Utilities and the City in support of the confidence interval data methodology that they proposed. The PUC issued its Order April 13 approving the petition with the addition of modifications supported by the Utilities and the City. The Utilities and the City convened regular implementation meetings starting in May 2021 with the intent of launching 1-4 unit property data access. On July 8, 2022, the City compiled a 2021 rental license address list and sent it to utilities for matching with their meter data. By August 26, 2022, the City had received back the rental license address list with each utility's confidence interval data included when matching was possible (approximately 90% successful match rate). In July 2023 the City launched a public facing dashboard that presents confidence interval (CI) energy data for rental properties in Minneapolis. In August 2023, CenterPoint Energy and Xcel Energy jointly filed a compliance filing with the Commission reflecting stakeholder engagement meetings held with the Department of Commerce and the Office of the Attorney General. The filing reflects agreement among the parties that the CI methodology provides a reasonable balance between providing useful data and protecting customer privacy. 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 is in the process of becoming the 3rd City of Minneapolis facility to participate in the Xcel program. 20 Level 2 chargers and 1 Level 3 charger will be installed via the program.

Progress to Date for Activities Still Active (September 2023)
Originally a site for this pilot program, the energy infrastructure at the Federal Courthouse Ramp was deemed not feasible due to the exorbitant cost of tying into the underground electrical network. Additional EV Charging Stations are still being considered by the City outside of the pilot program and would be tied to the existing electric service. 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. 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

Progress to Date for Activities Still Active (September 2023)
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 as they roll out the second iteration of Renewable*Connect to determine available capacity and the best contract terms as the City is planning to enroll remaining premises in this program to achieve the 100% goal. 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 will continue to explore installing solar arrays on City-owned buildings and grounds that are well suited for solar installations. This project continues to be pursued and explored by the City of Minneapolis and Xcel Energy.
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 2021, Xcel Energy received approval from the Commission for the adjusted Renewable Development Fund (RDF) grant contract from the Public Utilities Commission (PUC) that alters the timeline per the request of the grantee and establish the final grant amount. Xcel Energy has submitted the compliance filing with the grantee that provides additional solar garden detail. Subscribers and participants in the energy efficiency roll-out plan may be identified through the City's 4D program. Xcel Energy will work with the City on the income qualified energy efficiency engagement at the appropriate build stage of the community solar garden. The entire solar industry is facing significant supply chain challenges, but Xcel Energy is still working to move this project forward as soon as possible. Due to further delays in the development of the low-income solar garden, Xcel Energy again worked with the grantee to alter the timeline in the contract. The updated contract was submitted to the PUC in early 2023 and received approval by consent in mid-2023. The developer is working to complete the low income solar garden. Further contract modifications are not likely to be possible. This project continues to be pursued and explored by Xcel Energy and the City of Minneapolis.

Progress to Date for Activities Still Active (September 2023)
IF.1 IMPROVE ACCESS TO ENERGY EFFICIENCY BY PROVIDING INCLUSIVE FINANCING IF.1 proposes an Inclusive Financing pilot. On November 30, 2022, the Public Utilities Commission (PUC) denied a petition by CenterPoint Energy and the City of Minneapolis for a Tariffed On-Bill Financing Pilot Program (TOB), Docket No. G-008/M-21-377. The PUC directed CenterPoint Energy to work with interested parties, including the Department of Commerce and the City of Minneapolis, to address the energy conservation needs of low- and moderate-income homeowners and renters, either through the establishment of a new Conservation Improvement Program (CIP) program or through the redesign of existing program(s). CenterPoint Energy convened a series of stakeholder engagement meetings in early 2023 on ways that CenterPoint Energy's CIP programs could better serve these customers. The program changes proposed in the 2024-2026 Triennial Plan are intended to significantly narrow the capital/financing gap. CenterPoint Energy also supported a recent legislative expansion of eligibility for low-income programs and services statewide from 60 percent of state median income to 80 percent of area median income (AMI). Consequently, more customers are potentially eligible for low-income services. For customers less than 80 percent AMI, the Low-Income Weatherization program (LIW) and Weatherization Assistance Program (WAP) remain important programs for full project cost coverage for those who meet eligibility requirements. The main program proposed for this triennial period to address capital/financing is the Homeowners Efficiency Lift Program (HELP) which covers 50 percent of project costs for eligible customers. CenterPoint Energy's intention is for IRA funding or financing (e.g., EZ Pay) to minimize or eliminate out of pocket expenses for HELP participants. For rental properties, gas related energy efficiency projects generally require involvement of the property owner (e.g., envelope weatherization, heating systems, etc). To increase participation of properties most in need, CenterPoint Energy expanded cost coverage of projects to 75 percent of project costs. To help renters save energy who may not be CenterPoint customers, but reside in properties CenterPoint Energy serves, energy efficiency kits will be distributed through partnerships with community and non-profit organizations. Finally, CenterPoint Energy also added the Low-Income Support and Awareness program (LISA) to help customers navigate its low-income programs and find the right fit for their energy efficiency needs and income-level. For customers earning more than 80 percent AMI, CenterPoint Energy has proposed to increase awareness of Home Energy Squad visits and its weatherization advisory services and loans offerings to help finance the completion of weatherization projects. CenterPoint Energy has also increased weatherization rebates and will work with trade allies to expand the availability of instant rebates and the EZ Pay On-Bill Loan program. CenterPoint Energy also

Progress to Date for Activities Still Active (September 2023)
plans to ensure that trade allies and customers are at minimum aware of IRA benefits and where possible help customers access IRA resources. Learning from implementing the new Triennial Plan programs and services will likely provide information to further improve program design and continue to reduce the capital/financing gap. Minneapolis city staff analysis shows that ECO Plan budget and programs filed for the 2024-2026 Triennial provide helpful additional resources but does not to the same extent address the need for the thousands of households that are under-insulated in Minneapolis that would have benefited from inclusive financing. Given both the statutory limitations of ECO plans and what CenterPoint proposes within their triennial ECO Plan, a longer term solution through Minneapolis Clean Energy Partnership Work Plans is still necessary to fill in the gap for all renters, rental property owners, and middle income households. This activity has been closed out.

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.

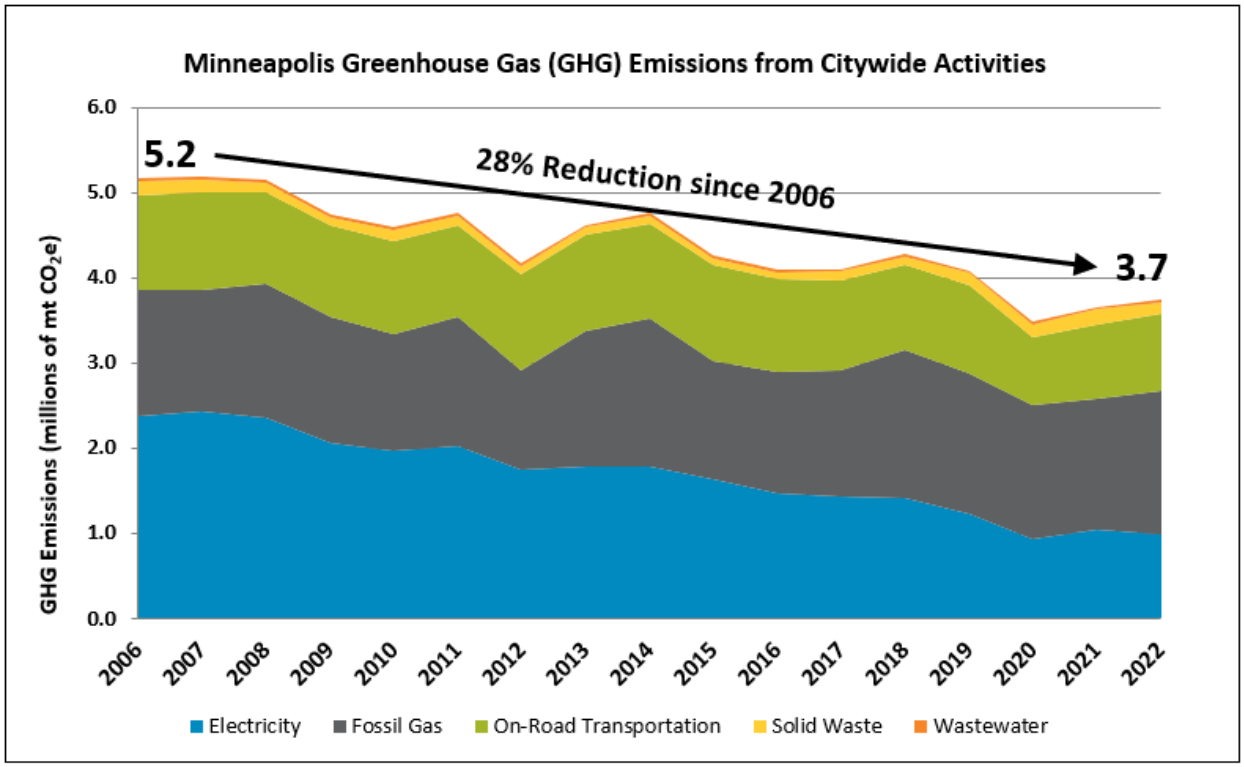
This section also provides trend forecasting (when data is available), which is an area of continued effort by the Partnership.

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

Metric		2018	2019	2020	2021	2022
1	GHG emissions - Community-wide (mt CO_2e)	4,280,605	4,082,324	3,481,006	3,656,239	3,742,732
	Compared to 2006 baseline	-17%	-21%	-33%	-29%	-28%

Supporting Data		2018	2019	2020	2021	2022
1a	Electricity GHG emissions (mt CO_2e)	1,403,714	1,233,805	939,886	1,046,099	988,205
1b	Electricity GHG emissions (Compared to 2006)	-41%	-48%	-60%	-56%	-58%
1c	Electricity emissions factor (mt CO_2e/MWh)	0.365	0.338	0.274	0.286	0.277
1d	Gas GHG Emissions (mt CO_2e)	1,744,181	1,645,787	1,569,921	1,525,648	1,684,877
1e	Gas GHG Emissions (Compared to 2006)	17%	11%	6%	3%	13%

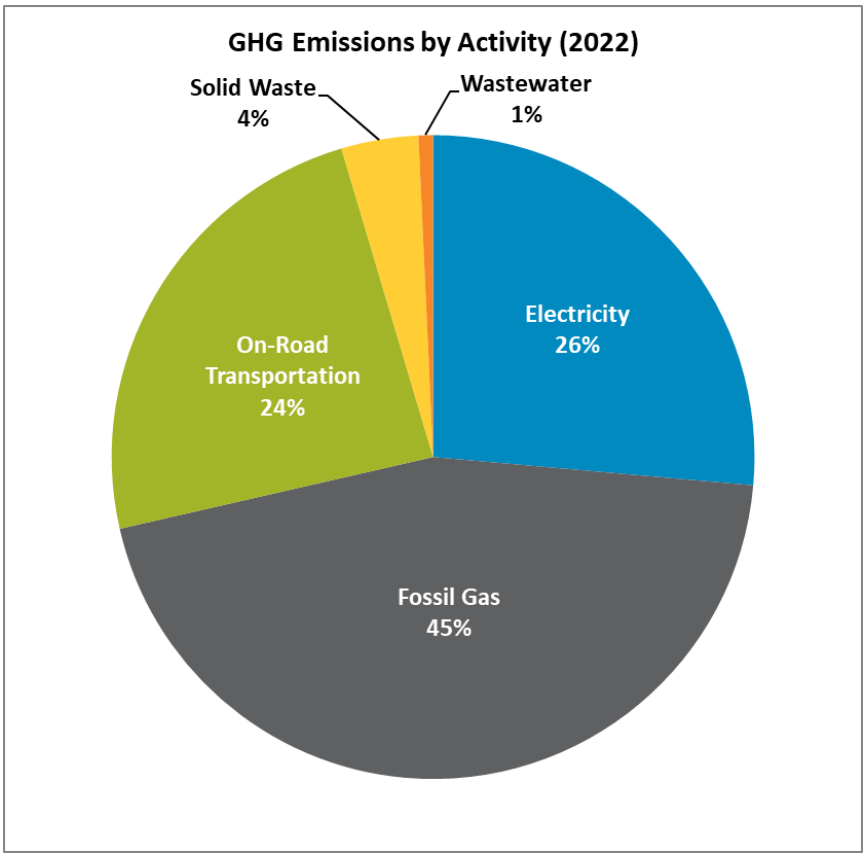
The figure below represents the citywide greenhouse gas (GHG) emissions inventory, an accounting of Minneapolis emissions from buildings, transportation, wastewater, and solid waste.



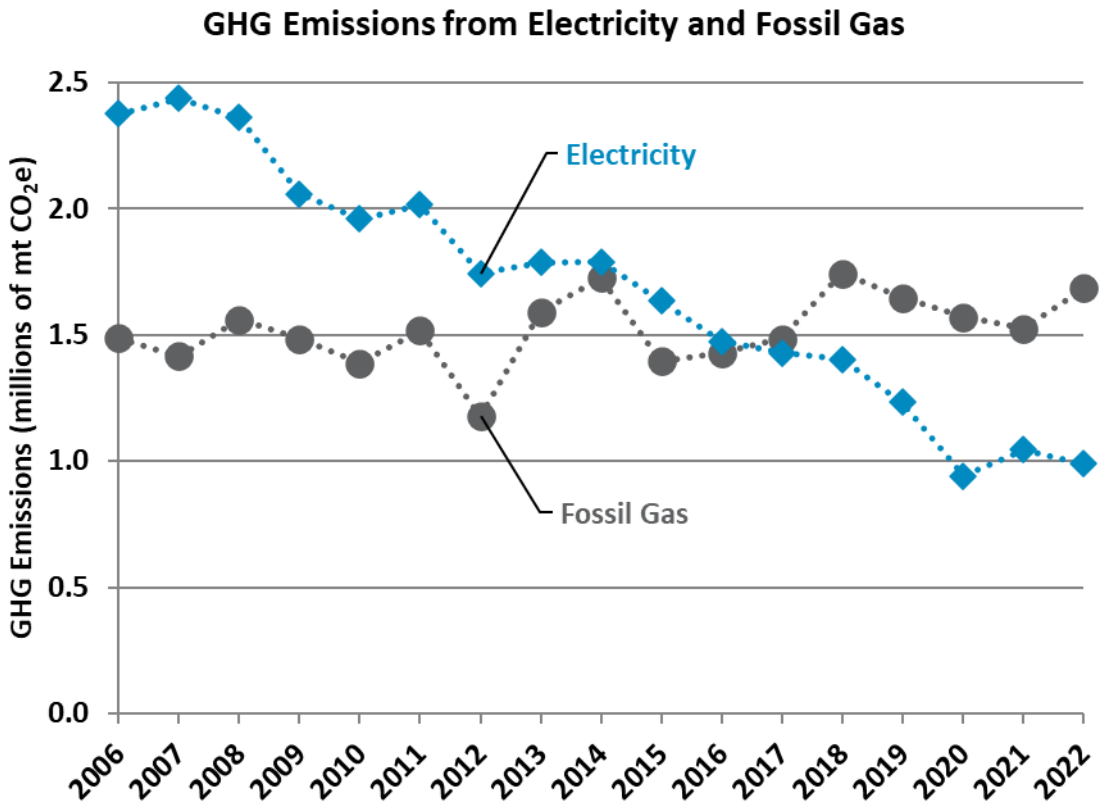
A significant impact on 2020 emissions was the change in behavior due to the pandemic. Compared to 2019, traffic volume (vehicles miles traveled) was down 20%, resulting in a GHG emissions reduction for the transportation sector of 20%. Traffic volume in 2022 rebounded 10% from its pandemic low, increasing transportation emissions slightly compared to 2021 but remaining less than pre-pandemic levels.

Another significant impact on 2020 emissions was a year-over-year reduction in the electricity sector of 23%. Electricity consumption has now mostly rebounded, becoming about equivalent to 2019 pre-pandemic levels. Impacting a decrease in electricity emissions in 2022 was a year-over-year decrease in the grid electricity emissions factor. Greenhouse gas emissions from a kilowatt of electricity decreased 3% from Xcel Energy's system from 2021 to 2022.

Emissions from the two fuels that are the focus of the Clean Energy Partnership – electricity and natural gas – account for 71% 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.



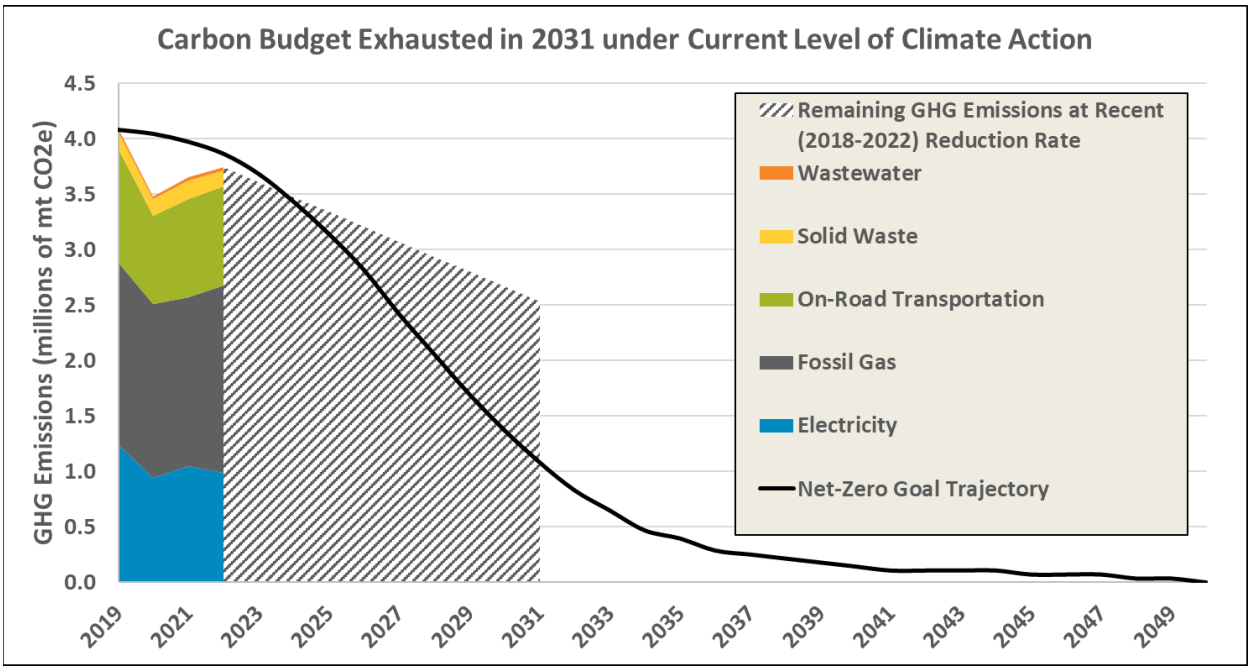
Net Zero by 2050 Goal

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.

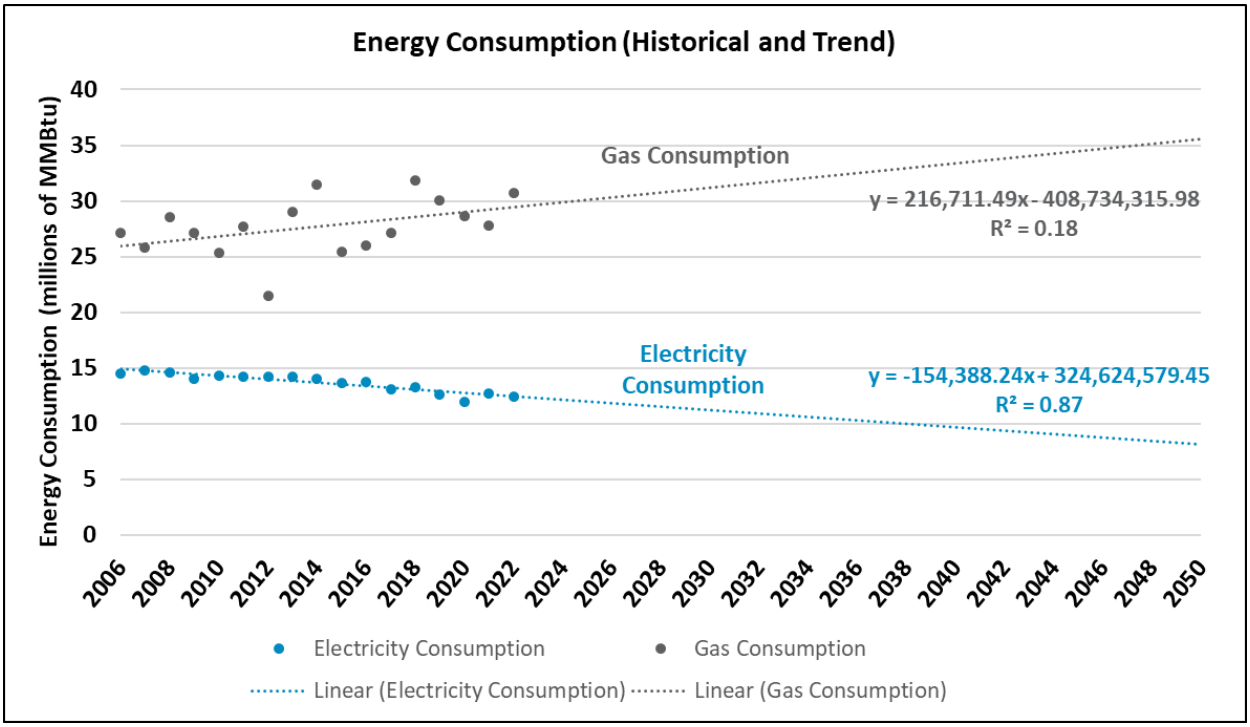
		GHG Emissions Change (Compared to 2006 Baseline Year)					
	Year	Electricity	Fossil Gas	On-Road Transportation	Solid Waste	Wastewater	OVERALL
Current Yr	2022	-58%	13%	-19%	-7%	-31%	-28%
Goal Yr	2025	-75%	-10%	-30%	-25%	-45%	-45%
	2030	Carbon-Neutral	-35%	-70%	-70%	-75%	-75%
	2035	Carbon-Neutral	-80%	-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^{0}C. This "carbon budget" is a simplified measurement of the additional, cumulative emissions that a city can still emit prior to 2050.

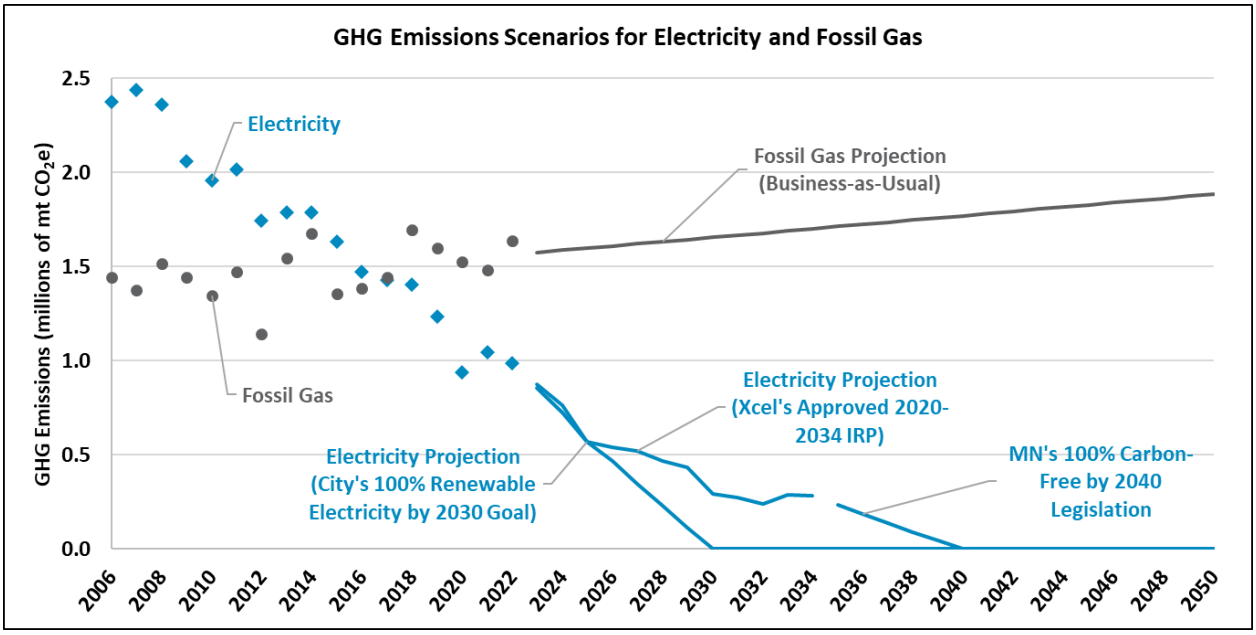


Seen above, projecting the previous five-year rate of decarbonization into the future gives an indication of when (2031) the City's carbon budget may be exhausted. In other words, the cumulative emissions from 2019-2022 plus the likely 2023-2031 emissions under a business-as-usual decarbonization scenario 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.


GHG Emissions Scenarios for Electricity and Fossil Gas
GHG Emissions (millions of mt CO_2e)
2.5
2.0
1.5
1.0
0.5
0.0
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
2032
2034
2036
2038
2040
2042
2044
2046
2048
2050
Electricity
Fossil Gas
Fossil Gas Projection (Business-as-Usual)
Electricity Projection (Xcel's Approved 2020-2034 IRP)
Electricity Projection (City's 100% Renewable Electricity by 2030 Goal)
MN's 100% Carbon-Free by 2040 Legislation

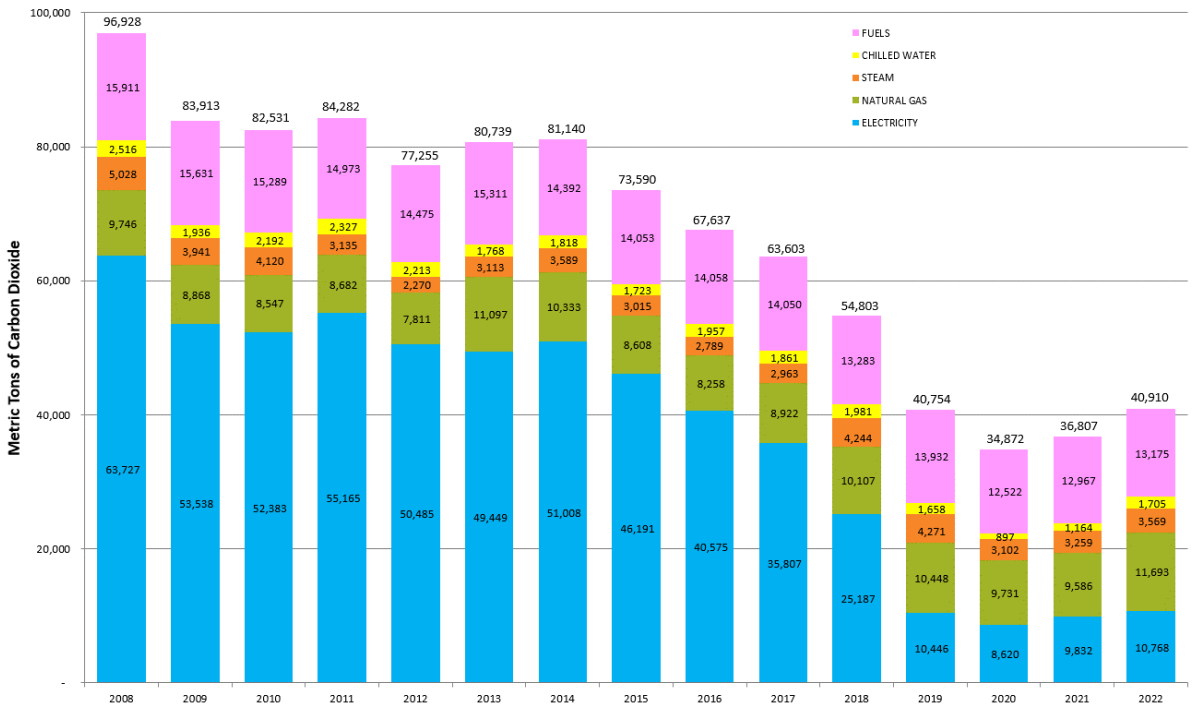
Metric 2 Supporting Data: Greenhouse Gas Emissions (Municipal Operations)

Metric		2018	2019	2020	2021	2022
2	GHG emissions - Municipal operations (mt CO_2)	54,803	40,754	34,872	36,807	40,910
	Change compared to 2008 baseline	-43%	-58%	-64%	-62%	-58%

Supporting Data		2018	2019	2020	2021	2022
2a	Emissions from electricity use (mt CO_2)	25,187	10,446	8,620	9,832	10,768
2b	Emissions from natural gas use (mt CO_2)	10,107	10,448	9,731	9,586	11,693

Greenhouse gas emissions from City facilities and operations have decreased dramatically (58%) 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 2022 representing 26% compared to 32% for vehicle fuels and 29% for natural gas. Electricity has accounted for 55 percentage points of the 58% decrease seen below.

Figure 8: City's Carbon Emissions
58% Drop 2008 - 2022



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.

The net increase in emissions in 2022 compared to 2021 is the result of several factors:

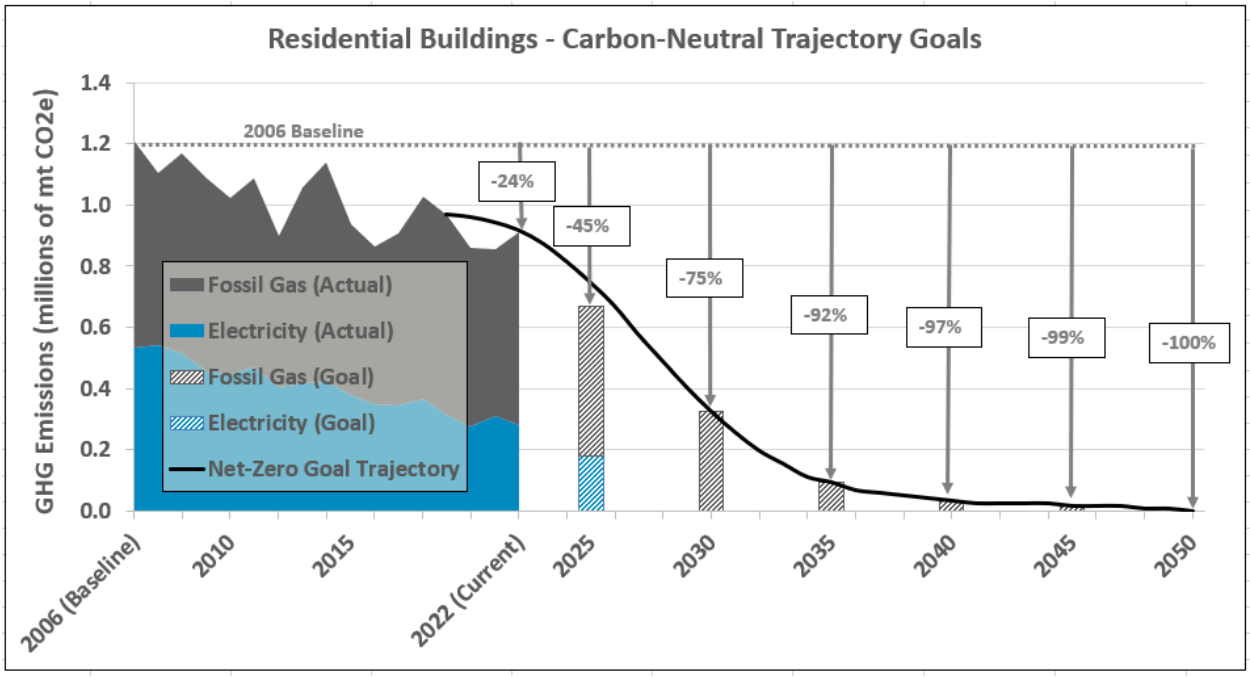
1. The electricity grid emissions factor went down in 2022 as compared to 2021, though still a bit higher than 2020.
2. In 2022, City facilities had even greater occupancy than in 2021 as more workers returned to in-person work.
3. The addition of Public Service Building and East Side Maintenance and Storage has added a noticeable energy load as these are two of the City's largest facilities.
4. Natural gas use is up about 22% versus the previous year, however 2021 had colder winter months that had 16% more heating degree days.

Metric 3 Supporting Data: Greenhouse Gas Emissions (Residential)

Metric		2018	2019	2020	2021	2022
3	GHG Emissions (mt CO2e)	1,028,055	969,247	861,692	854,163	913,364
	Change compared to 2006 baseline	-15%	-20%	-29%	-29%	-24%

Residential Energy Use		2018	2019	2020	2021	2022
3a	Electricity use (MWh)	1,029,006	970,477	1,044,234	1,128,700	1,066,874
3b	Electricity GHG emissions (mt CO2e)	365,121	316,622	275,394	309,183	282,674
3c	Electricity GHG emissions (change compared to 2006)	-31%	-41%	-48%	-42%	-47%
3d	Gas use (therms)	120,984,119	119,102,768	106,998,274	99,457,659	115,099,750
3e	Gas GHG emmisions (mt CO2e)	662,934	652,625	586,298	544,979	630,690
3f	Gas GHG Emissions (change compared to 2006)	-2%	-3%	-13%	-19%	-7%
3g	Energy - Total (MMBtu)	15,617,627	15,229,655	14,270,066	13,803,710	15,158,007
3h	Energy - Total (change compared to 2006)	0%	-3%	-9%	-12%	-3%

Residential GHG Emissions



	Residential Buildings		
	GHG Emissions Change (Compared to 2006 Baseline Year)		
Year	Electricity	Fossil Gas	Total
2022 (Actual)	-47%	-7%	-24%
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

Residential Energy Use

Residential energy use increased in 2022 compared to 2021 and year-to-year energy use continues to fluctuate greatly due to changes in yearly temperatures. The National Oceanic and Atmospheric Administration (NOAA) recorded a 4% increase in heating degree days, a measurement of heating demand, compared to 2021.

In 2022, Minneapolis had approximately 126,400 residential natural gas customers, an increase of 9.5% over ten years. Overall residential natural gas consumption increased 28% over 2021 residential gas consumption, with the weather-normalized gas use per customer increasing by about 9.7%. Minneapolis saw 21% more heating degree days in 2022 than 2012. In 2022, Minneapolis residential gas customers used approximately 910 therms of natural gas or the equivalent of 4.8 metric tons of carbon dioxide equivalent (CO_2e).

Minneapolis customers had an average annual electric consumption of 5,681 kWh in 2022, slightly lower than 2021, equating to approximately 1.57 metric tons of CO_2e per household (after accounting for carbon-free Windsource and Renewable*Connect commitments by Minneapolis residents). This level of household emissions (slightly more than one-third of the annual emissions of a typical gasoline-powered vehicle[1]) is a small decrease from 2021, reflecting the combined effect of slightly lower household electricity consumption and the ongoing decline in CO_2e per kWh on Xcel Energy's Upper Midwest system.

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 their utility bills, and improve the comfort and safety of their homes. On the gas side, CenterPoint Energy's Efficiency Programs & Rebates spending amounted to $5.2 million, including $1.1 million in customer rebates, to assist more than 41,000 Minneapolis residents save over 1 million therms of natural gas and $853,000 on their annual gas utility bills in 2022 (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	2018	2019	2020	2021	2022
3i	*Home Energy Squad* participation	869	1,786	1,068	1,716	1,211
3j	*Home Energy Squad* annual energy savings (kBtu)	5,115,628	10,538,705	4,740,255	9,142,821	9,025,671
3k	*Home Energy Squad* estimated annual cost savings	$ 57,070	$ 112,911	$ 69,544	$ 111,712	$ 208,326
3l	Residences (1-4 unit) annually served by HES	1.0%	2.0%	1.2%	1.9%	1.3%

In 2022, 1,211 HES visits were completed in Minneapolis. Overall visits decreased from 2021 while annual energy savings stayed consistent with the previous year, due to fewer virtual visits. While a Covid-19 outbreak early in the year caused customer reluctance to allow people into their homes, ultimately Home Energy Squad visits consisting of full audits

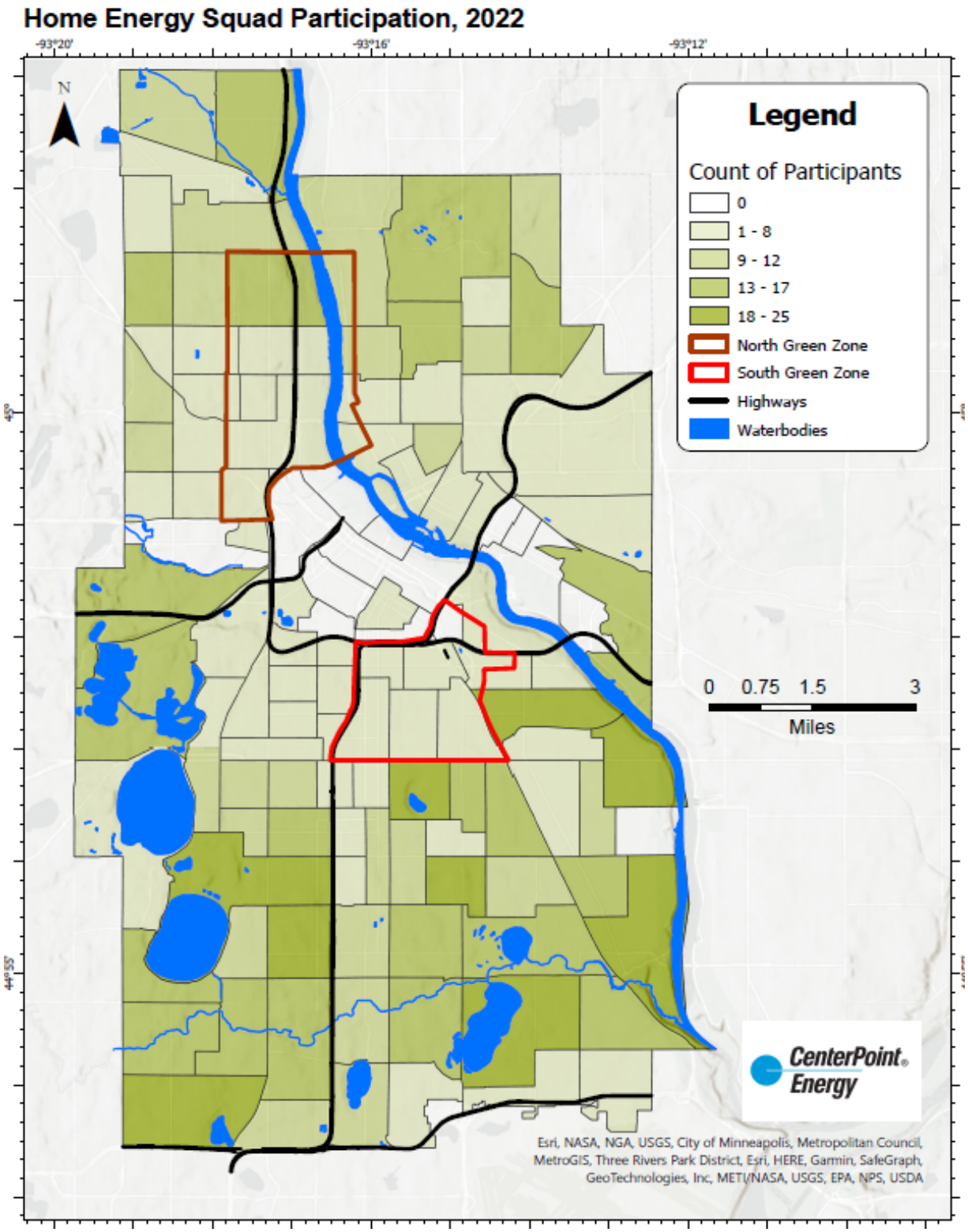
[1] Greenhouse Gas Equivalencies Calculator | US EPA.

plus installations increased 46% year-over-year. Starting this year "estimated annual cost savings" include savings from both electric and gas, not electric only.

The following table describes Home Energy Squad participant characteristics of these visits.

2022 Minneapolis Home Energy Squad Visits	Number	Percent of Total
Total HES Visits	1,211	100%
Visits at owner-occupied homes	1,030	85%
Visits at renter-occupied homes	181	15%
Visits at single family residences	948	78%
No-cost visits for low-income customers	220	18%
Received wall insulation recommendation	455	38%
Received attic insulation recommendation	630	52%
Received air sealing recommendation	507	42%

The following map shows the distribution of Home Energy Squad visits across Minneapolis in 2022.



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 2022, Minneapolis residents financed 16 high-efficiency heating systems, 44 home insulation projects, 27 Solar projects, and 1 high-efficiency water heater. The City of Minneapolis offered 0% interest loans to 62 of the projects. The EZ Pay On-Bill Loan program funded 7 of these projects.

	Energy Efficiency Loans	2018	2019	2020	2021	2022
3m	HES-driven energy efficiency loan count	73	153	103	82	88
3n	HES-driven value of loans	$ 628,422	$ 1,216,944	$ 845,660	$ 807,610	$1,275,747

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 303 therms of estimated annual energy savings per project, or approximately 30% of weather-normalized natural gas use per Minneapolis residential customer.

	Air Sealing & Insulation (ASI) Rebates	2018	2019	2020	2021	2022
3o	ASI participating customers	258	569	470	400	380
3p	ASI estimated annual energy savings (therms)	71,670	136,330	108,900	127,160	115,130
3q	ASI estimated annual cost savings	$ 46,729	95,158	70,785	111,897	128,372
3r	ASI rebate dollars spent	$ 138,469	$ 300,573	$ 253,513	$231,400	$218,800

In 2022, 380 Minneapolis residences received an air sealing and insulation rebate.

	City of Minneapolis 0% Interest Loans for Air Sealing & Insulation (ASI) Rebates	2021	2022
3kk	ASI participating customers	400	380
3ll	0% City Loans for ASI	56	44
3mm	Participating ASI customers who received 0% City Loans	14.0%	12.0%

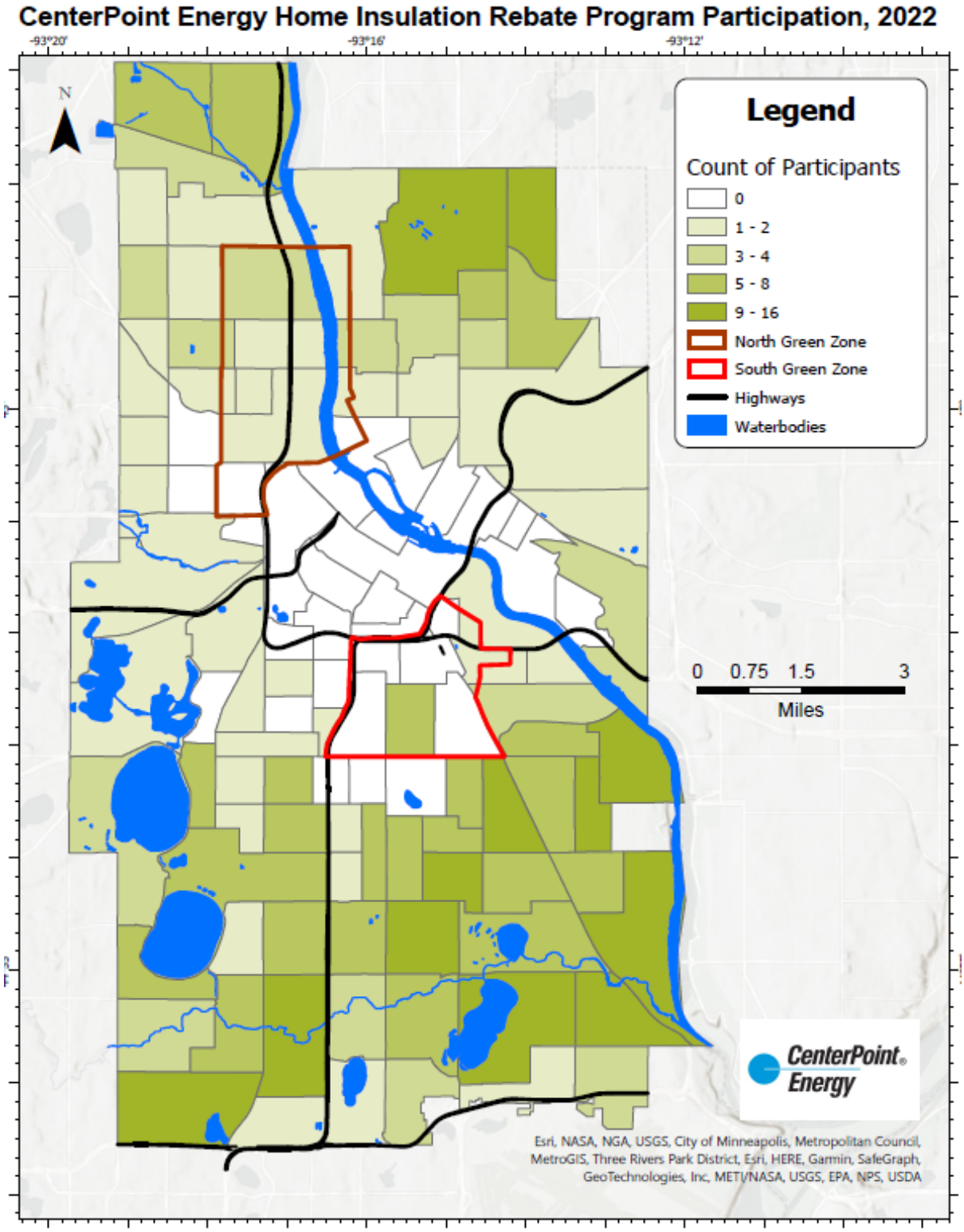
	Instant Rebates for Air Sealing & Insulation (ASI) Rebates	2021	2022
3nn	ASI participating customers	400	380
3oo	ASI Instant Rebates for ASI	10	26
3pp	Participating ASI customers who received Instant Rebates	2.5%	6.8%

Of the 380 rebated insulation projects, 12% (44) received 0% interest loans provided by the City of Minneapolis in collaboration with the Center for Energy and Environment. Nearly 7% (26) received a CenterPoint Energy Instant Rebate (a rebate amount that is deducted directly from the installer invoice).

2022 Minneapolis ASI Measures	Number
Attic Air Sealing & Attic Insulation	288
Wall Insulation	136

And of the 380 rebated insulation projects, 17 received all four measures (attic air sealing, attic insulation, wall insulation, and rim joist insulation). Two hundred and eighty-eight attic air sealing and attic insulation rebates were paid, while 136 wall insulation were paid. In many cases these measures were combined with other ASI measures. CenterPoint Energy does not rebate stand-alone attic insulation projects; attic insulation must be combined with attic air sealing.

The following map shows the distribution of CenterPoint Energy's home insulation rebates across Minneapolis in 2022.



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.

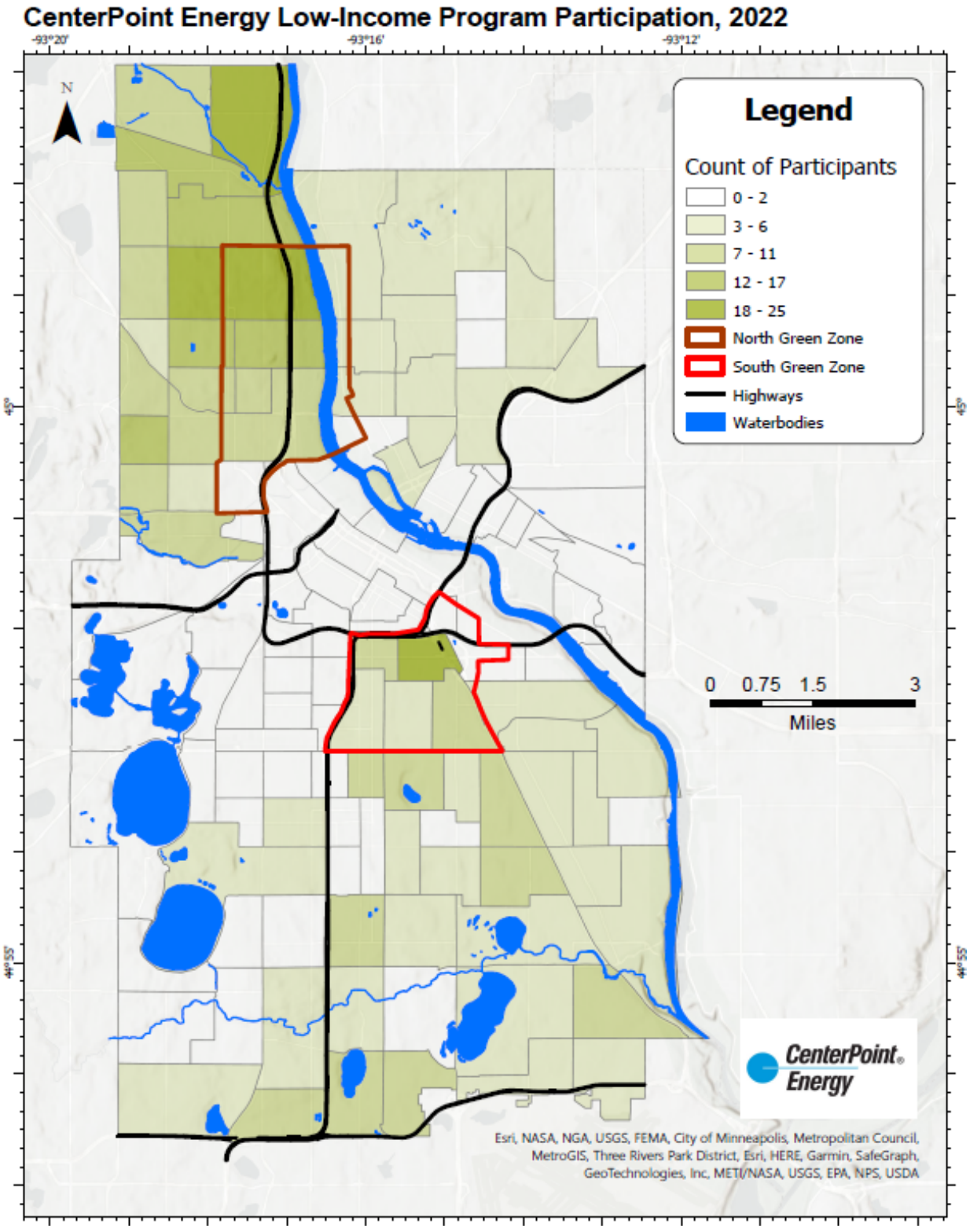
	Income-Qualifying Energy Efficiency Programs	2018	2019	2020	2021	2022
3s	Low-income CIP program participants	690	556	437	469	733
3t	Low-income CIP dollars spent	$ 2,036,310	$ 1,827,837	$ 1,055,068	$ 1,329,301	$1,772,231
3u	Low-income CIP est. energy savings (therms/yr)	151,380	65,590	61,420	130,000	77,237
3v	Low-income CIP est. annual cost savings	$ 98,711	$ 45,782	$ 39,923	$ 98,615	$84,891
3w	Low-income CIP program participants	831	730	496	527	864
3x	Low-income CIP dollars spent	$ 753,378	$ 638,193	$ 363,833	$ 432,343	$ 929,020
3y	Low-income CIP est. energy savings (kWh/yr)	451,639	438,243	348,402	363,104	670,458
3z	Low-income CIP est. annual cost savings	$ 43,524	$ 48,478	$ 45,794	$ 53,141	$ 102,037
3aa	Weatherization Assistance Program (WAP) visits	238	237	76	219	233
3bb	WAP dollars spent	$ 1,188,524	1,091,426	302,702	1,042,324	2,348,062

	Energy Cost Assistance Programs	2018	2019	2020	2021	2022
3cc	Gas Affordability bill pay assistance Participants	3,228	3,451	2,705	2,811	1,689
3dd	Gas Affordability bill pay assistance total spent	$ 1,396,992	$1,519,908	$948,156	$711,091	$1,247,432
3ee	Power-On participants	1,550	2,515	2,683	2,792	2,645
3ff	Power-On total spent	$ 754,558	$ 1,171,688	$ 1,329,997	$ 1,533,997	$ 1,384,421
3gg	Senior Discount participants	5,817	5,864	5,370	5,182	4,820
3hh	Senior Discount total spent	$ 969,362	$ 962,811	$ 973,938	$ 967,321	$ 928,893
3ii	Medical Affordability Program participants	344	397	235	156	150
3jj	Medical Affordability Program total spent	$ 268,275	$ 312,415	$ 168,903	$ 121,418	$ 119,711

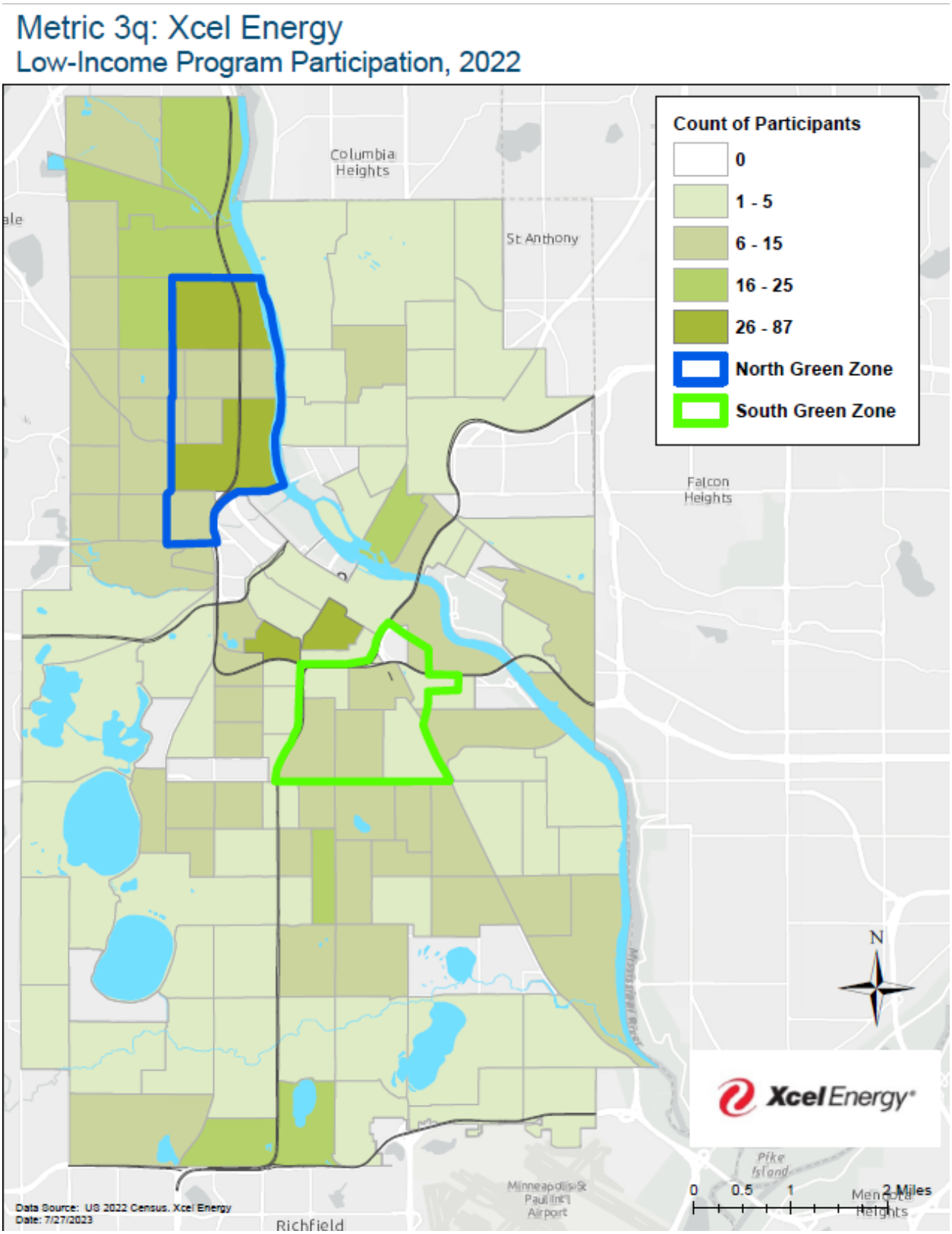
In 2022, CenterPoint Energy's Income-Qualified Programs and Gas Affordability Program directed more than $3 million to help qualifying customers in Minneapolis reduce their energy costs and improve the efficiency, comfort and safety of their homes. While participation increased over the previous year, the programs continued to be impacted by the ongoing pandemic. In 2022, participation in Low Income Weatherization increased, with participation in Low Income Rental Efficiency and Stay Safe Stay Warm increasing significantly over prior year.

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 7,600 Minneapolis customers providing over $2.4 million in assistance and energy efficiency options in 2022.

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 2022.



The following map shows the distribution of Xcel Energy's income-qualified energy efficiency services received across Minneapolis in 2022 including the Home Energy Savings and Low Income Multi-Family programs.

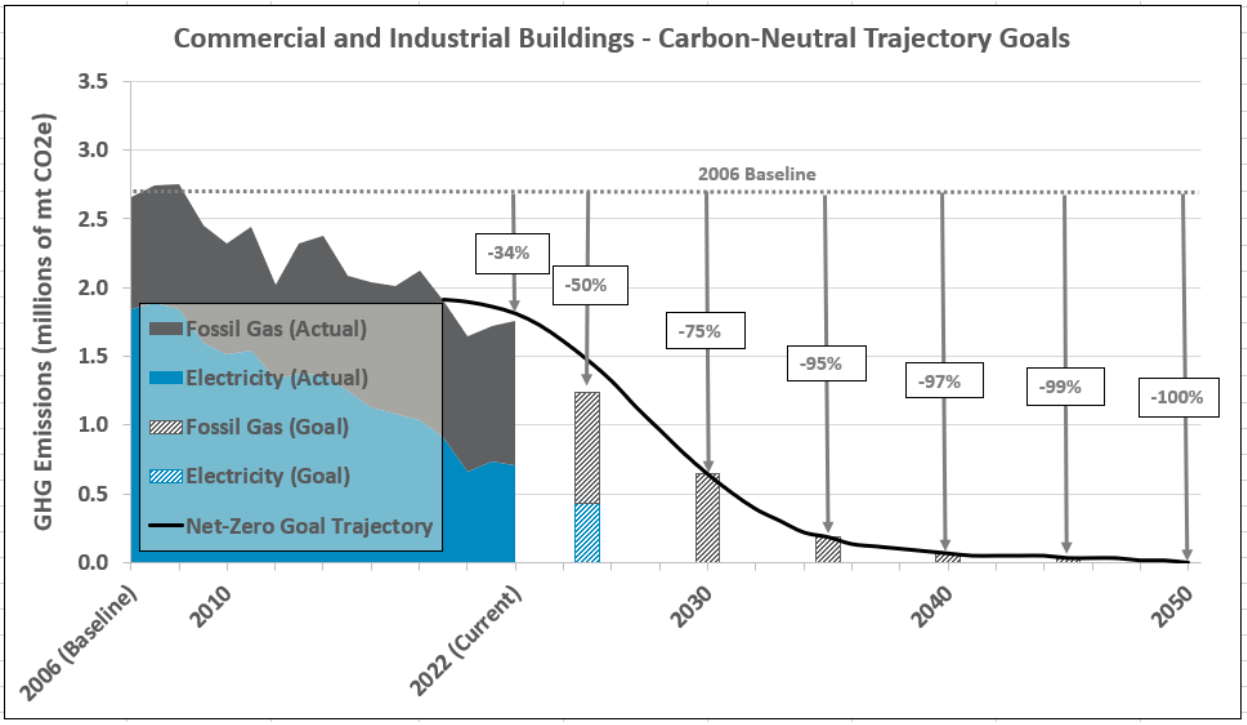


Metric 4 Supporting Data: Greenhouse Gas Emissions (Commercial and Industrial)

Metric		2018	2019	2020	2021	2022
4	GHG Emissions (mt CO2e)	2,119,840	1,910,346	1,648,116	1,717,584	1,759,718
	Change compared to 2006 baseline	-20%	-28%	-38%	-35%	-34%

Commercial/Industrial Energy Use		2018	2019	2020	2021	2022
4a	Electricity use - Commercial (MWh)	2,863,923	2,742,094	2,466,135	2,609,754	2,562,674
4b	Electricity use - Industrial (MWh)					
4c	Electricity GHG emissions (mt CO2e)	1,038,592	917,184	664,493	736,915	705,531
4d	Electricity GHG emissions (change compared to 2006 baseline)	-44%	-50%	-64%	-60%	-62%
4e	Gas use - Commercial (therms)	163,935,711	160,205,374	147,552,217	142,385,636	161,950,758
4f	Gas use - Industrial (therms)	33,389,796	21,044,749	31,957,081	36,584,522	30,436,225
4g	Gas GHG Emissions (mt CO2e)	1,081,247	993,162	983,623	980,669	1,054,187
4h	Gas GHG Emissions (change compared to 2006 baseline)	33%	22%	21%	21%	30%
4i	Energy - Total (MMBtu)	33,015,226	30,791,985	29,928,271	30,652,620	30,652,620
4j	Energy - Total (change compared to 2006 baseline)	27%	18%	15%	18%	18%

Commercial and Industrial GHG Emissions



	Commercial and Industrial Buildings		
	GHG Emissions (Change Compared to 2006 Baseline Year)		
Year	Electricity	Fossil Gas	Total
2022 (Actual)	-62%	30%	-34%
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

Commercial and Industrial Energy Use

Electric consumption decreased 2% from 2021 to 2022 for commercial and industrial customers within the city. Natural gas consumption for commercial and industrial customers increased 11% from 2021 to 2022.

Separate electricity use data for commercial and industrial customers is currently not available for all years. Xcel Energy's data privacy policy allows disclosure of aggregated data of more than 15 customers where no one customer comprises more than 15 percent of the total usage. The industrial sector in Minneapolis does not meet this threshold.

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 2021, CenterPoint Energy's Commercial and Industrial Efficiency Programs & Rebates spending amounted to more than $4 million, including $1 million in rebates, to help 610 business customers reduce natural gas use by approximately 5.5 million therms and save businesses over $3.2 million in annual energy costs.

REBUILD Bonus Rebates

CenterPoint Energy's bonus rebate program for qualifying businesses and property owners affected by the civil unrest in 2020 and 2021, REBUILD, closed July 1, 2022. In total, twenty-eight REBUILD triple rebates valued at $165,565 with 11,252 Dth savings were paid to fourteen customers.

Xcel Energy's Business Programs & Rebates provided over 12,600 rebates to Minneapolis businesses in 2022 totaling over $6.0 million that reduced energy consumption 58,547 MWh, saving businesses nearly $3.7 million in energy costs.

	Commercial/Industrial Conservation Improvement Programs	2018	2019	2020	2021	2022
4k	Energy efficiency program participation (customers)	480	569	509	559	610
4l	Energy efficiency program participation (rebates)	1,062	1,405	4,124	5,517	8,132
4m	Rebate dollars spent	$ 1,275,517	$ 914,578	$ 1,002,066	$ 1,149,521	$ 1,019,212
4n	Estimated annual energy savings (therms)	4,945,230	3,730,500	4,723,570	3,492,350	5,498,793
4o	Estimated annual cost savings	$ 2,210,343	$ 2,286,713	$ 2,921,399	$ 2,150,642	$ 3,259,912
4p	Energy efficiency program participation (customers)	1,008	898	1087	1168	2120
4q	Energy efficiency program participation (rebates)	2,113	1758	1432	1478	2656
4r	Rebate dollars spent	$ 7,686,747	$ 5,311,750	$ 7,144,317	$ 7,975,714	$ 6,000,285
4s	Estimated annual energy savings (kWh)	84,863,345	55,934,867	63,687,110	74,851,048	58,547,625
4t	Estimated annual cost savings	$ 4,777,461	$ 3,306,631	$ 4,028,305	$ 4,491,063	$ 3,678,635

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	2018	2019	2020	2021	2022
4u	Multi-family programs participants	133	328	264	242	236
4v	Multi-family programs estimated annual energy savings (Therms)	891,040	887,170	959,170	966,254	599,083
4w	Multi-family programs estimated annual cost savings	$ 609,550	$ 575,311	$ 619,190	$ 622,663	$ 385,607
4x	Multi-family programs rebate dollars spent	$ 323,003	$ 393,171	$ 585,855	$ 461,448	$ 273,389
4y	Multi-family programs participants	1,056	146	165	100	250
4z	Multi-family programs estimated annual energy savings (kWh)	19,446,382	2,582,954	2,981,937	2,346,532	6,786,000
4aa	Multi-family programs estimated annual cost savings	$ 1,094,752	$ 152,693	$ 188,612	$ 146,769	$ 1,032,761
4bb	Multi-family programs rebate dollars spent	$ 1,719,537	$ 621,583	$ 432,691	$ 385,467	$ 626,534

In 2022, multifamily buildings received $273,000 in CenterPoint Energy rebates for natural gas efficiency measures that will save customers over $385,000 in gas costs a year. The decreased energy savings, rebates paid, and cost savings are due in part to fewer completed Energy Design Assistance (EDA) projects, a delayed response from the impact of Covid-19, and fewer heating and water heating rebates.

In 2022, the multi-family buildings Xcel Energy serves received over $620,000 in rebates for installed electric measures, saving an estimated $1,000,000 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 2022, incentives from this joint utility offering totaled over $2.2 million dollars.

EDA projects within the city in 2022 included new construction buildings, such as multi-family buildings and a hospitality property.

	Energy Design Assistance Program	2018	2019	2020	2021	2022
4cc	*Energy Design Assistance* program participation	35	29	38	34	22
4dd	*Energy Design Assistance* estimated annual energy savings (therms)	1,788,769	543,430	844,130	746,110	407,550
4ee	*Energy Design Assistance* rebate dollars spent	664,909	$ 217,639	$ 313,227	$ 411,836	$ 223,101
4ff	*Energy Design Assistance* program participation (projects)	55	33	55	78	43
4gg	*Energy Design Assistance* estimated annual energy savings (kWh)	14,553,981	5,838,130	17,396,292	22,735,650	15,684,980
4hh	*Energy Design Assistance* rebate dollars spent	$ 1,816,269	$ 1,019,560	$ 2,487,434	$ 3,392,438	$ 2,044,748

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

Metric		2018	2019	2020	2021	2022
5	Renewable Electricity (Community-wide)	26.3%	26.7%	32.9%	33.3%	40.7%

Supporting Data		2018	2019	2020	2021	2022
5a	Grid Mix Renewable Percentage	26.2%	26.0%	31.8%	33.1%	40.9%
5b	Adjusted Grid Mix Renewable Percentage	22.3%	21.4%	25.3%	25.8%	33.3%
5c	Community-wide Electricity Consumption (MWh)	3,892,929	3,712,477	3,510,358	3,738,454	3,646,285
5d	Local Actions (MWh)	152,075	198,248	264,516	276,680	270,437
5e	Grid Mix Carbon-Free Percentage	55.7%	54.0%	61.6%	60.3%	68.6%

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		2018	2019	2020	2021	2022
6	Renewable Electricity (Municipal Operations)	53%	85%	89%	89%	92%

Supporting Data		2018	2019	2020	2021	2022
6a	Electricity consumption (kWh)	101,084,369	88,812,578	86,229,499	86,780,093	91,257,659
6b	Windsource subscription (kWh)	225,000	-	-	-	-
6c	Renewable*Connect subscription (kWh)	35,440,161	59,476,369	54,765,280	52,374,250	55,067,935
6d	Community Solar Garden subscriptions (kWh)	844,831	11,173,540	17,169,590	19,108,613	22,035,557
6e	On-site solar generation (kWh)	806,732	725,237	852,056	952,308	898,309

The City of Minneapolis 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.

Significant progress has been achieved in meeting the City's goal of using 100% renewably generated electricity by 2023. The 55 million kWh of Renewable*Connect and 22 million kWh of Community Solar Garden subscriptions increased the City's renewable electricity percentage to 92% of its total electricity usage.

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

	Metric	2018	2019	2020	2021	2022
7	Renewable Electricity (Local and Subscriptions)	4.0%	5.5%	7.5%	7.4%	7.4%

	Supporting Data	2018	2019	2020	2021	2022
7a	*Windsource* Participants	13,180	15,315	16,952	17,551	16,384
7b	*Windsource* Consumption (MWh)	42,506	51,112	57,237	70,575	74,936
7c	*Renewable*Connect* Participants	910	835	864	786	793
7d	*Renewable*Connect* Consumption (MWh)	47,929	48,038	61,540	50,181	44,078
7e	Solar*Rewards *Community* Subscribers	3,269	4,511	4,811	5,527	5,373
7f	*Solar*Rewards Community* Installed Capacity (MW)	73	101	106	112	113
7g	*Solar*Rewards Community* Installed Capacity (MW) w/in City		0.5	1.5	1.5	1.6
7h	*Solar*Rewards Community* Installed Generation (MWh) w/in City		692	2,072	2,160	2,014
7i	*Solar*Rewards Community* Subscribed (MWh)	58,050	93,840	132,493	135,546	127,508
7j	*Solar*Rewards*[1] Participants	813	937	1,189	1,525	1,662
7k	*Solar*Rewards* Installed Capacity (MW)	7.21	9.04	10.88	14.50	15.60
7l	*Solar*Rewards* Generation (MWh)[2]	3,589	5,258	5,765	10,935	11,651
7m	Non-*Solar*Rewards* capacity installed during reporting year (MW)	2.8	1.8	0.5	1.6	2.6
7n	Non-*Solar*Rewards* Installed Capacity (MW)[3]	3.8	5.6	6.1	7.7	10.0
7o	Non-*Solar*Rewards* Generation Estimated (MWh)[4]	4,660	6,868	7,481	9,443	12,264
7p	Renewable Electricity (Distributed Local Solar)	1.7%	2.9%	4.2%	4.2%	4.2%
7q	Renewable Electricity (Utility-Scale Subscriptions)	2.3%	2.7%	3.4%	3.2%	3.3%

[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.

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

Windsource is a voluntary energy program that allows customers to purchase some or all of their energy from wind energy sources. The supports additional local renewable energy. In late 2023, Windsource will cease to exist and all Windsource customers will be automatically transferred into Renewable*Connect Flex (unless they opt out of this transfer). This new program will operate similarly to how Windsource has, but the underlying resources will be 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 70% wind and 30% solar energy with contracts. The program became available as a pilot in 2017. Customers are beginning to reach the end of 5-year contracts in the program leading to decreased participation. An expansion of Renewable*Connect has been approved and the wind resources have been built, but the launch of the program has been delayed because the company building the solar resource for the program has made two claims of *Force Majeure* and has not been able to complete the project. Xcel Energy has worked through these challenges and the expansion will move forward in 2023, giving customers another

opportunity to enroll in 5 and 10 year Renewable*Connect contracts until that new capacity is fully enrolled.

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 7.5% increase in installed capacity and a 6.5% increase in production between 2021 and 2022.

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 2021 and 2022. 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.

The following map shows the distribution of Xcel Energy's Solar*Rewards Community program participation across Minneapolis in 2022.