MINNEAPOLIS CLEAN ENERGY PARTNERSHIP

2018 Annual Report

September 16, 2019

Contents

Introduction

The Minneapolis Clean Energy Partnership (or Partnership) is a partnership between the City of Minneapolis (City) and its electric and natural gas utilities, Xcel Energy and CenterPoint Energy (the Partners), established to help the City reach its Minneapolis Climate Action Plan goals and the 2040 energy goals outlined in the City of Minneapolis Energy Vision 2014.

In January 2017, the Partnership Board approved the 2017-2018 Partnership Work Plan, outlining activities and deliverables to be undertaken by the Partners during the two-year time frame. This Annual Report provides an overview of the work performed and results achieved in 2018.

The Partnership adopted metrics for reporting in 2015, a first step in tracking Partnership progress via annual reports. In subsequent years it became apparent that while providing valuable programmatic details and trends related to Utility Conservation Improvement Programs (CIP), many of the adopted metrics did not adequately portray impact of the Partnership overall or the cumulative contributions of the individual Partners.

To better articulate progress toward the City's climate and energy goals, and to identify underlying trends, the Planning Team (comprised of staff from each organization) began a series of conversations with the Board in early 2018 about modifications to the Partnership's metrics and reporting. This annual report is the culmination of those conversations, wherein seven keys metrics are identified and elevated above others based upon their direct relevance to the City's established Climate Action Plan and 100% Renewable Electricity goals.

The original metrics have been retained as supporting data for the new, key metrics and are reported now in the appendix. This supporting data helps illuminate the "why" for trends seen in the key metrics. Additionally, this supporting data can help monitor progress and granular impacts of individual partnership activities.

Also retained from earlier reports are census tract maps which show spatial distribution of programs and participation across the City. These maps are especially important as the City and the Partnership continue to prioritize attention and results in the Northside and Southside Green Zones.

A final addition to the annual report is a quick-glance metrics scorecard which provides decision-makers and interested parties an indication of overall progress toward City goals and areas that may require additional Partnership resources and attention. The status of the key metrics uses the following status rubric:

Note: metrics categorized as "yellow" lack sufficient data to determine change over time

At the fourth quarter Board meeting of 2018, the Clean Energy Partnership Board adopted the 2019-2021 Partnership Work Plan and directed the Planning Team to develop a comprehensive inventory of all emission-reduction strategies, plans and programs that contribute to the City's emission-reduction goals. In 2019, the Partners began refining Partnership metrics and improving methodology to demonstrate and project progress towards the City's climate and energy goals. As such, the Partners have committed to working together on a weather-normalization methodology as a tool to help identify underlying trends due to non-weather factors to be included in future annual reports.

Metrics Scorecard

Greenhouse Gas Emissions (Community-wide)

GHG reduction goal of 30% by 2025 and 80% by 2050:
17% reduction since 2006; not on track for 2025 and 2050 goals, but achieved 2015 goal

Metric 1
Score: RED

Greenhouse Gas Emissions (Municipal Operations)

GHG reduction goal of 1.5% annually:

44% reduction since 2008 and on track

Metric 2
Score: GREEN

Energy Use (Residential)

15% energy consumption reduction by 2025:
6% increase compared to growth baseline; unknown if on track due to annual variations

Metric 3
Score: YELLOW

Energy Use (Commercial and Industrial)

20% energy consumption reduction by 2025:

6% increase compared to growth baseline; not on track

Metric 4
Score: RED

Renewable Electricity (Community-wide)

100% of renewable electricity use by 2030:

26% in 2018 and unknown if on track without more years of data

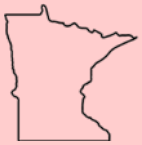
Metric 5
Score: YELLOW

Renewable Electricity (Municipal Operations)

100% of renewable electricity use by 2022:

45% in 2018 and on track

Metric 6
Score: GREEN



Renewable Electricity (Local and Directly Purchased)

10% of renewable electricity use by 2025:

3.9% in 2018 and not on track

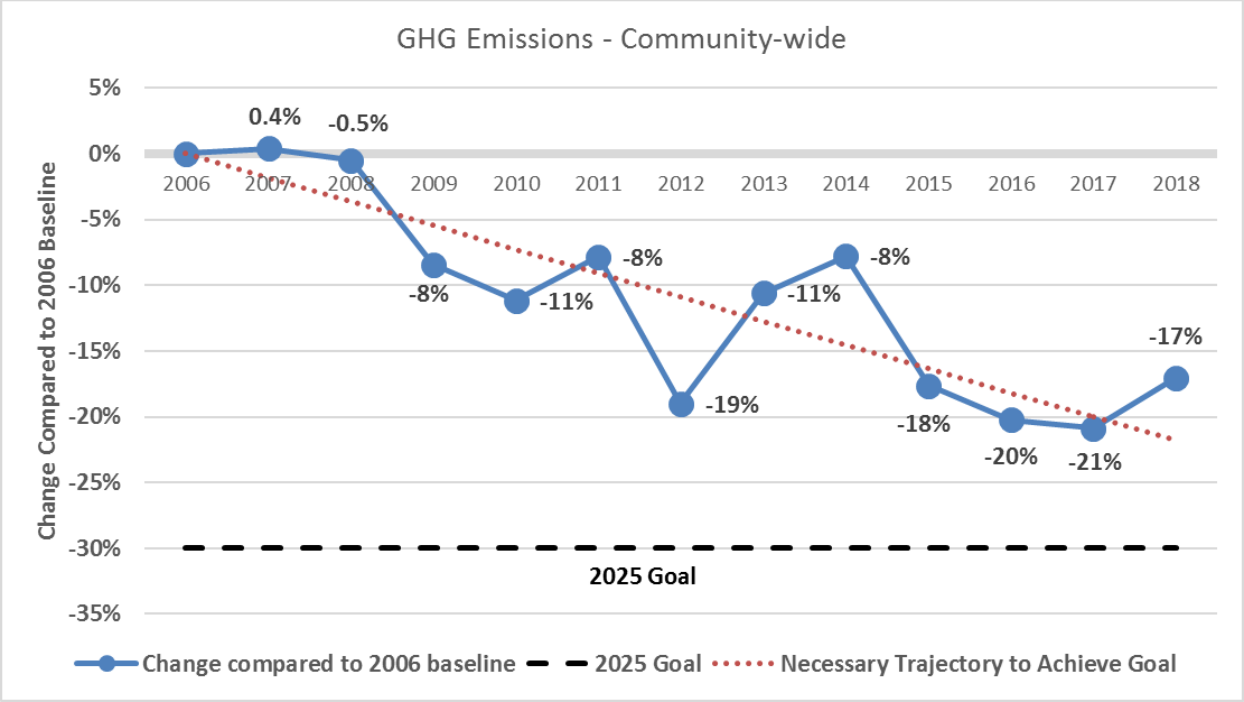
Metric 7
Score: RED

Metric 1: Greenhouse Gas Emissions (Community-wide)

This metric measures progress toward the Minneapolis Climate Action Plan's (CAP) overarching community-wide greenhouse gas (GHG) reduction goals:

> *Reduce community-wide greenhouse gas emissions 15% by 2015, 30% by 2025, and 80% by 2050, using 2006 as a baseline.*

The following data show a 17% decrease in 2018 emissions compared to 2006. While the City's 2015 goal of a 15% GHG emission reduction was met, the current data trend and forecast (see appendix) indicate this metric is not on track to meet the 2025 and 2050 goals.



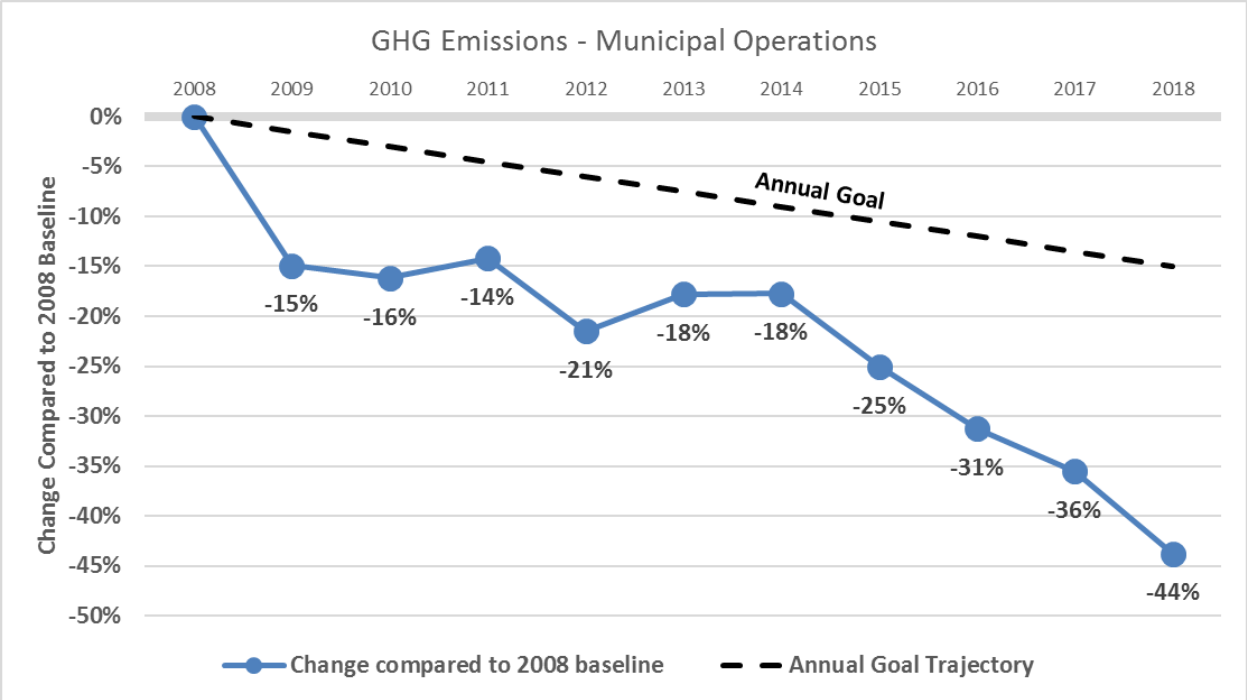
Since 2006, GHG emissions have dropped overall due in large part to Xcel Energy converting many coal-burning power plants to natural gas and advancing wind and solar to generate electricity. An uptick in GHG emissions in 2018 was due in part to increased natural gas use in the commercial/industrial sector as well as for heating in colder-than-baseline winter months. Most notably, natural gas use in the commercial/industrial sector increased 26% since 2009 (a year with comparable winter temperatures to 2018) and now represents 62% of the natural gas consumed in Minneapolis, showing the critical importance of reductions in this sector to the City's goal. In 2018, natural gas was the largest emissions source at 40% of overall GHG emissions, followed by electricity (33%) and on-road transportation (24%).

Metric 2: Greenhouse Gas Emissions (Municipal Operations)

This metric measures progress toward the Minneapolis Climate Action Plan's municipal operations greenhouse gas reduction goal (CAP Buildings & Energy Goal #4):

> *Achieve a 1.5 percent annual reduction in greenhouse gas emissions from City facilities.*

The following data show a 44% decrease in emissions in 2018 compared to 2008. The data trend indicates this metric is on track to meet the City's adopted goal.



Greenhouse gas emissions from City facilities and operations continue to dramatically decrease, primarily the result of drastic reductions in emissions from electricity. The reductions in electricity emissions are primarily the result of the reduced carbon intensity of the electric grid paired with City subscriptions in community solar gardens and Xcel Energy's *Renewable*Connect* green tariff program.

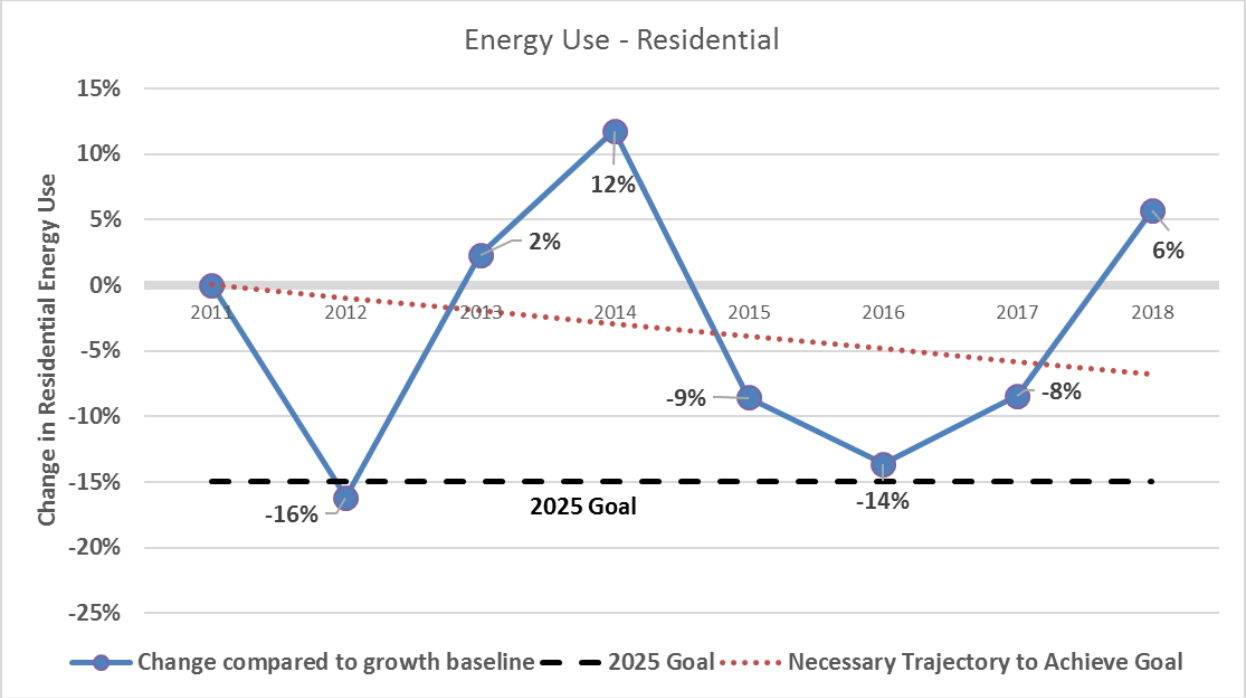
City municipal operations have also seen a 10% overall decrease in energy consumption since the 2008 baseline year, driven by City initiatives to reduce electricity and vehicle fuel consumption.

Metric 3: Energy Use (Residential)

This metric measures progress toward the Minneapolis Climate Action Plan's residential energy reduction goal (CAP Buildings & Energy Goal #1):

> *Achieve 15 percent energy efficiency in residential buildings from the growth baseline by 2025.*

The following data show a 6% increase in residential energy use in 2018 compared to the growth baseline; actual use has increased 7% since 2011. The data exhibits significant year-to-year variation; therefore, it is unknown if this metric is on track to meet the City's adopted goal.



Residential building energy use varies greatly from year-to-year due in large part to annual temperature variations and weather conditions. The residential building sector is more affected (less weather-resilient) than other sectors because of the relatively high proportion of residential buildings' energy use for heating and cooling. As illustrated in the graph above, cold weather contributed to peaks in energy use in 2014 and 2018. Due to these factors, it is unclear whether residential energy use is increasing, decreasing, or remaining steady.

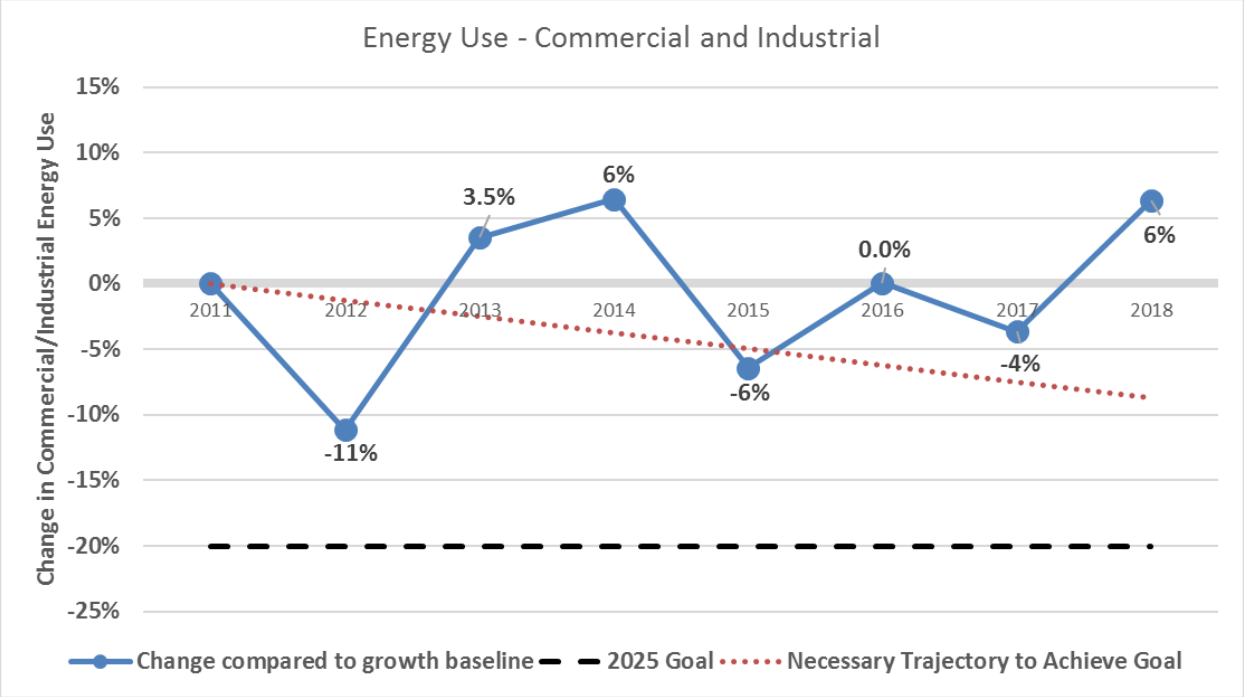
The growing number of gas and electricity customers adds to increased energy use in the residential sector. Utility Conservation Improvement Programs and complementary City programs have helped to achieve greater efficiencies in the residential sector, thereby offsetting some of the growth in customers (See appendix).

Metric 4: Energy Use (Commercial and Industrial)

This metric measures progress toward the Minneapolis Climate Action Plan's commercial and industrial energy reduction goal (CAP Buildings & Energy Goal #2):

> *Achieve 20 percent energy efficiency in commercial/industrial buildings from the growth baseline by 2025.*

The following data show a 6% increase in commercial/industrial energy use in 2018 compared to the growth baseline; actual use has increased 8% since 2011. The data trend indicates this metric is not on track to meet the City's adopted goal.



In 2018, Minneapolis had 3% more commercial/industrial gas customers and used 5% more natural gas than 2014, another cold-weather year. Xcel Energy had 16% more electric commercial/industrial customers and used 4% less electricity than 2014. This reduction in electricity use can be largely attributed to energy conservation programs.

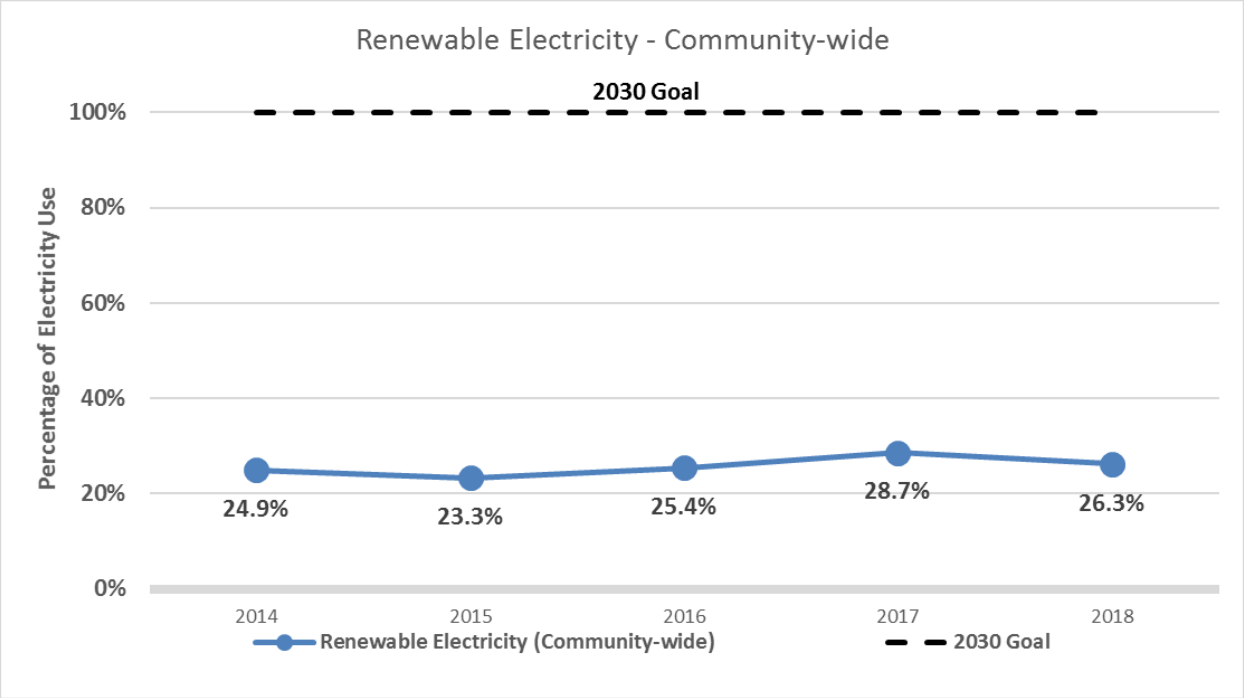
Energy use in the commercial and industrial sectors varies due to annual temperature variations. However, the impact is less pronounced than the residential sector since a smaller proportion of commercial/industrial building energy goes to heating and cooling. Given less dependence on annual temperature trends, and with the data shown above, it very likely that the trend in energy use for the commercial and industrial sector is increasing and diverging from the reduction goal set.

Metric 5: Renewable Electricity (Community-wide)

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

> *Receive one hundred percent (100%) of community-wide electricity use from renewable sources by 2030.*

The following data show that 26% of electricity consumption comes from renewable sources in 2018. This goal was established in 2018, therefore 2019 will provide the first full year of data to help determine if this metric is on track to meet the City's adopted goal.



The data shown above indicates that the community's renewable percentage of electricity is generally increasing over time, thanks to an increasingly renewable standard grid mix provided by Xcel Energy as well as the actions taken by Minneapolis residents, businesses, and institutions, such as participating in green tariff programs, the community solar garden program, and on-site solar programs. Yearly fluctuations in this metric are primarily attributable to subscription consumption amounts in Xcel Energy's green tariffed Windsource program and the portion of Xcel Energy's generation source that is renewable and utilized during the year. (See appendix for more details)

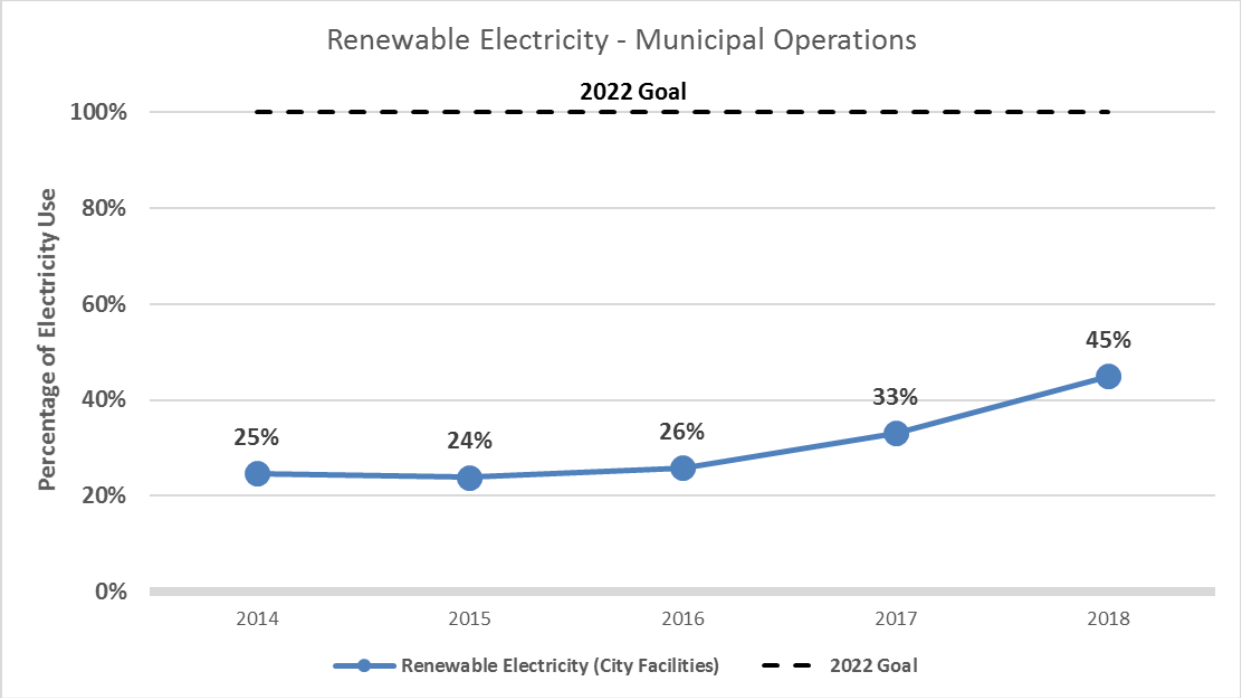
Next year's annual report will contain a full year of data since the City's goal was established in 2018, providing a clearer indication of the trajectory of progress. Additionally, a community-wide blueprint will be completed in 2019 and initiated strategies will follow.

Metric 6: Renewable Electricity (Municipal Operations)

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

> *Reach one hundred percent (100%) renewable electricity for municipal facilities and operations by 2022*

The following data show that 45% of electricity consumption came from renewable sources in 2018. The data trend back to 2014 and pending procurement indicate this metric is on target to meet the City's adopted goal.



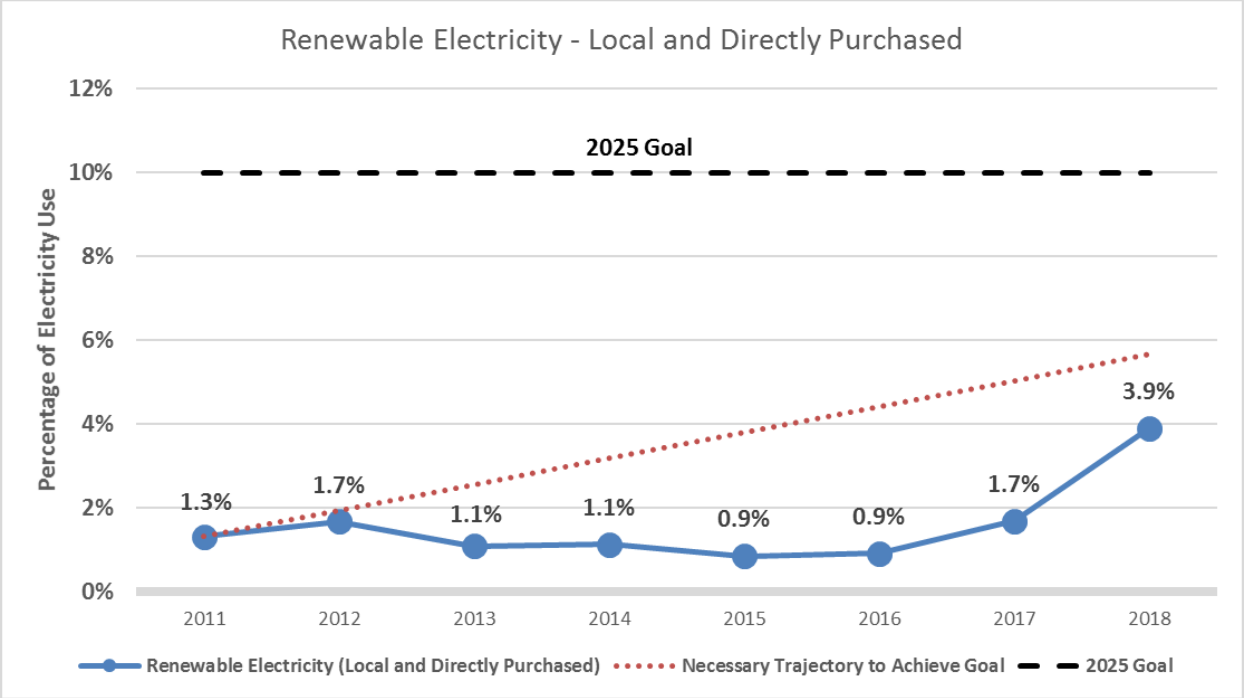
The share of renewable electricity consumed by the City's municipal operations has increased year-over-year, with a dramatic increase in recent years due to the City's increased participation in Xcel Energy's community solar garden and *Renewable*Connect* programs. Notably, not all subscriptions were active for the entire year of 2018, meaning future full-year impacts of current subscriptions will first be made clear in 2019 data.

Metric 7: Renewable Electricity (Local and Directly Purchased)

This metric measures progress toward the Minneapolis Climate Action Plan's renewable electricity goal (CAP Buildings & Energy Goal #3):

> *Increase electricity from local and directly purchased renewables to 10 percent of the total consumed by 2025.*

The following data show that 3.9% of electricity consumption came from local and directly purchased renewable sources in 2018. The data trend back to 2011 indicates this metric is not on track to meet the City's adopted goal.



After several years of low growth or even declining numbers, 2018 showed a dramatic uptick in local and directly purchased renewable electricity. The noticeable increase in 2018 was largely due to new, large subscriptions in direct-purchase programs such as Xcel Energy's *Renewable*Connect* program and a surge in local renewables through the Xcel Energy's community solar garden program.

Despite the recent increase, this progress still falls short of the trajectory needed to achieve the adopted 2025 goal. Another year of data will help illuminate whether the significant increase from 2017 to 2018 is an emerging trend or a single-year anomaly.

2017-2018 Work Plan Progress Report

2017-2018 Work Plan Activities		Progress Description
No.	**Residential, 1-4 Units**	
1	The Partnership will implement the Community Engagement Pilot Project, which is designed to increase participation in utility energy efficiency programs, particularly in neighborhoods with characteristics that have historically been associated with low participation in energy efficiency programs.	***Complete.*** The Partnership undertook two Community Engagement Pilot projects in 2017, one focused on multi-family and one on single family. Both pilot projects included a significant number of renters. The *multi-family project* was implemented by Minneapolis Renters Coalition and the *single family project* was implemented by Neighborhood Hub.
2	CenterPoint Energy will implement the On-Bill Loan Repayment project, which will enable CenterPoint Energy customers to finance energy efficiency improvements through the utility bill.	***In Process.*** In 2018 and 2019, CenterPoint Energy and the project vendor, Center for Energy and Environment, continued to develop the technical system and processes to make On-Bill Loan Repayment available to CenterPoint Energy customers. The project team is finalizing the following technical systems: 1) an online trade ally portal for customer eligibility verification and loan application, 2) the system for information exchange between CenterPoint Energy and the loan vendor regarding loan details, and 3) the transfer system of loan funds collected through customer payments on CenterPoint Energy natural gas bills. The project team is also preparing for program implementation by documenting procedures, developing legal documents, and training staff. The project team expects to make On-Bill Loan Repayment available to CenterPoint Energy customers in early 2020.
3	Xcel Energy will work with CenterPoint Energy beginning six months after CenterPoint Energy has rolled out its on-bill repayment program to assess CenterPoint Energy's experience with the program, in order to determine next steps.	***In Process.*** This activity will begin in middle-to-late 2020 following the release of CenterPoint Energy's On-Bill Loan Repayment Program.

2017-2018 Work Plan Activities		Progress Description
No.	**Residential, 1-4 Units**	
4	The Partnership will continue to identify additional lending sources to finance energy efficiency and renewable energy projects.	***In Process.*** This activity continues in the 2019-2021 Work Plan under *Partnership Activity IF.1: Improve access to energy efficiency by providing inclusive financing*. Additional financing sources have also been identified through PACE and other City financing, St. Paul Port Authority, and the Center for Energy and Environment.
5	The City of Minneapolis will develop a strategy to utilize City regulatory authority to drive energy efficiency and encourage energy usage transparency. Examples may include: mandated disclosure of energy at time-of-sale through the multiple listing service (MLS) listing, disclosure in advertisements for rental properties, or by expanded energy efficiency information in Truth in Sale of Housing (TISH) disclosures.	***Complete*****.** In February 2019 the City adopted two new residential energy disclosure policies. A Time-of-sale energy disclosure policy update will require inclusion of energy efficiency characteristics as part of the already-required Truth in Sale of Housing (TISH) report when selling a home. This covers information on the home's insulation, heating system, and windows. This policy will go into effect in 2020. A Time-of-Rent energy disclosure policy will require residential building owners to disclose average energy cost per square foot. This policy will go into effect in 2021. ***In Process.*** Support for the time-of-rent disclosure continues in the 2019-2021 Work Plan under *Partnership Activity EE.5: Support residential energy disclosure policies through data accessibility and tools*.

2017-2018 Work Plan Activities		Progress Description
#	**Multi-family, 5+ Units**	
6	The Partnership will develop and conduct outreach and engagement strategies to drive greater participation in energy efficiency and renewable energy programs among multifamily buildings. Outreach and engagement efforts should be informed by program utilization maps, data, and the expertise of EVAC and other appropriate stakeholders to target poor performing buildings and buildings in areas of the City with low participation rates.	***Complete.*** In early 2019, the Partners coordinated to deliver benchmarking training services to building operators of multi-family buildings. These trainings incorporated best practices in multi-family energy efficiency and recommended utility resources. The Partners will continue to work together to streamline and leverage resources to improve utilization of energy efficiency and renewable energy in multi-family buildings. Additionally, Xcel Energy and CenterPoint Energy completed a 2018 Program Evaluation of the Multi-Family Building Efficiency program to gain stakeholder and EVAC insight on program strengths and opportunities.
7	The City of Minneapolis will develop a policy to expand the Building Benchmarking and Transparency ordinance to include multi-family residential buildings.	***Complete.*** In February 2019 the City extended the existing commercial benchmarking ordinance to cover residential buildings 50,000 square feet and larger and now requires an energy evaluation of properties with high savings potential. This policy will be phased in based on building size, with the first compliance date being June 1, 2019 for buildings 100,000 square feet and larger.
8	The City of Minneapolis will develop a strategy utilizing City regulatory authority under the tiered rental licensing structure to encourage energy efficiency implementation.	***Discontinued.*** The City elected to adopt rental energy disclosure policies in 2019 that are currently independent of tiers within the rental licensing system. The City and utilities are working together to determine the best way to supply energy usage information to renters. The City may elect in the future to establish a tie between the disclosure policy and tiers.

2017-2018 Work Plan Activities		Progress Description
#	**Multi-family, 5+ Units**	
9	The Partnership will explore and as feasible develop a City program to use the Multi-Family Building Efficiency program and other programs to preserve existing affordable, unsubsidized housing.	***Complete.*** After a successful pilot, the City launched in December 2018 the 4d Affordable Housing Incentive Program which helps property owners obtain property tax reductions in exchange for committing to keep a portion of rental units affordable for 10 years. Participating properties in the program are eligible for: a free or low-cost energy efficiency and healthy homes assessment; Green Housing and healthy homes cost share funding that can cover 90% of qualified upgrades identified in energy or health and safety assessments; and priority for solar project incentives from the City.
10	The City of Minneapolis will develop a Sustainable Building Policy for city-financed new or significantly renovated projects (examples may include TIF, AHTF, Green Homes North, etc.) to require that energy efficiency efforts include the Sustainable Buildings 2030 Energy Standard.	***In Process.*** The City has chosen to dedicate resources to advancing state-level legislation for a stretch energy standard, which would be inclusive of all city-financed projects. Legislation would empower individual cities to adopt a more progressive, pre-determined energy code that goes beyond the baseline state energy code.

	2017-2018 Work Plan Activities	Progress Description
#	**Small Commercial, <50,000 square feet**	
11	The Partnership will continue to monitor the progress of the implementation of small business programs through Xcel Energy's Partners in Energy (PIE) program in the Lake Street corridor. This may include updates to EVAC or the Board on activities or program designs presented by leaders of the program.	***Complete.*** The City launched a pilot Energy Technical Assistance Program (E-TAP) in 2018 that supports the implementation of energy cost-savings practices into everyday operations in small businesses. Through partnering with local non-profits, E-TAP works with business owners to conduct an energy assessment and implement potential energy cost-savings improvements identified in the assessment.
12	Xcel Energy will develop a small business refrigeration program targeted at corner stores, grocery stores, gas stations and liquor stores.	***In Process.*** A statewide program, with a specific targeted focus in Minneapolis, was developed with engagement by the EVAC small business group and City staff. The Small Business Refrigeration Program received regulatory approval and was launched in April of 2018. In its initial half-year run, the program did not meet its electric regulatory goals due to the late program launch. However, more assessments than anticipated were completed in 2018, this is expected to help with customer planning and project implementation in 2019. Xcel Energy and the City leveraged rebate levels (utility energy efficiency and the City's Green Business Cost Share), communications, marketing materials, and financing options to maximize program participation in this hard to reach segment. Center for Energy and Environment (CEE) serves as the joint program implementer for Xcel Energy and the City alike.

2017-2018 Work Plan Activities		Progress Description
#	**Large Commercial, >50,000 square feet**	
13	CenterPoint Energy will develop a natural gas data aggregation policy and data aggregation software tool to allow owners and managers of multi-metered buildings to access whole-building data for the purpose of benchmarking energy consumption. Throughout the development and implementation of the data aggregation policy and tool, CenterPoint Energy will balance access to data with customer data privacy and utility liability concerns.	***Complete.*** In February 2019, CenterPoint Energy launched a new data access and benchmarking tool. The tool helps property owners of multi-unit/tenant rental properties comply with City benchmarking ordinances.
14	The Partnership will continue to develop feedback loops with building owners through the commercial building benchmarking process and leverage benchmarking information to target low-performing buildings.	***In Process.*** This work continues in the 2019-2021 Work Plan under *Partnership Activity EE.2: Reduce energy use for high energy saving potential commercial customers pilot*. The utilities, led by Xcel Energy, will create a focused effort to realize significant energy savings by targeting commercial buildings with the highest energy use intensity and highest energy use. Partners have begun building identification and low-cost or no-cost customer evaluation options through the utility CIP programs and possible City subsidization.
15	The Partnership will continue to develop and launch resource workshops targeted at specific segments of commercial buildings (office, retail/hospitality, health care, non-profit, etc) to connect them with technical assistance, financing, and other resources to drive energy efficiency improvements.	***Complete.*** The Partnership hosted two sector-specific workshops in 2018 – one designed for property management and offices and the other for hotels. Participants learned how to use their benchmarking data, about the City's financial resources, and about the energy efficiency programs provided by both utilities. Leveraging the hotel workshop, the Partners also facilitated one-on-one meetings with interested parties for additional assistance. The Partnership also met one-on-one with Minneapolis Public Schools to discuss energy efficiency opportunities and establish action steps.

2017-2018 Work Plan Activities		Progress Description
#	**Large Commercial, >50,000 square feet**	
16	The Partnership will collaborate with other interested parties to support and encourage the State of Minnesota to adopt an addendum to the state energy code that allows cities to adopt higher energy efficiency standards without undermining utilities' Conservation Improvement Programs.	***In process.*** The City of Minneapolis led a coalition of cities and other interested parties in advocating for stretch energy code enabling legislation during the 2019 legislative session. While no legislation passed that creates a stretch code or allows cities to adopt building performance ordinances, a dozen cities representing 1.1 million people supported the effort, bipartisan support was secured in House and Senate, and the Minnesota House passed an enabling bill. The City will continue efforts in this area and will seek to further expand the network of supporters.

2017-2018 Work Plan Activities		Progress Description
#	**City Enterprise & Coordination**	
17	The City of Minneapolis will develop a set of strategies for achieving 100 percent renewable electricity for the City enterprise by 2030. Related activities may include: (1) Develop a model for city ownership of off-site (rural) renewable energy to generate city revenue and help achieve the City's renewable energy targets, and (2) Develop and release an RFP for the development of community solar gardens hosted on City property. The expressed purpose is to support access to renewable energy to Low-income groups who may not otherwise be able to access renewable energy programs. Factors considered may include local workforce development, especially for communities of color, the competitiveness of projects that are located within city boundaries, and the support of community-based institutions/organizations through project development.	***Complete.*** The City of Minneapolis adopted goals in April 2018 for Minneapolis to move to 100% renewable electricity: for municipal facilities and operations by 2022 and citywide by 2030. In service to the municipal facilities goal, the City released two reports in 2017: *Moving Towards 100% Renewable Electricity Powering Minneapolis Operations by 2022* in August and *Blueprint for Powering Minneapolis Municipal Operations with 100% Renewable Electricity* in October. Staff will present a blueprint for the citywide goal in the late 2019.
18	The City of Minneapolis continues to implement and will accelerate the city-wide light-emitting diode (LED) conversion of its City-owned streetlights. With the Xcel Energy LED rate case approved in 2016, Xcel Energy and the City will work together in 2017 to determine the plan, details, and timeline to implement LED's on Xcel Energy-owned streetlights located in Minneapolis.	***In Process.*** The City continues to convert its city-owned streetlights to LEDs as budget permits. ***Complete.*** Xcel Energy has completed the LED streetlight conversion plan for Xcel Energy-owned streetlights.

2017-2018 Work Plan Activities		Progress Description
#	**City Enterprise & Coordination**	
19	The City of Minneapolis will expand the City's study of future fleet vehicle fueling options and infrastructure to all city vehicle types. In addition to the recently completed Compressed Natural Gas Feasibility Study, a study will be undertaken on the environmental benefits, feasibility, reasonable exceptions, cost/benefit analysis, timeline, various alternatives, and a recommended approach to eliminating fossil fuel vehicles in the City fleet.	***Complete.*** A *City of Minneapolis Electric Vehicle Study* was completed in October 2017 by the City of Minneapolis Public Works Department and the Fleet Services Division on the anticipated costs and environmental benefits of replacing the City's internal combustion engine (ICE) vehicles with electric vehicles (EV). The City is participating in a pilot program to expand electric vehicle infrastructure with Xcel Energy as part of the 2019-2021 Work Plan under *Partnership Activity RE.1: Install electric vehicle infrastructure for city fleet (pilot)*.
20	The City of Minneapolis and CenterPoint Energy will work together to build upon the findings and recommendations of the Compressed Natural Gas Feasibility Study, which examined compressed natural gas as a fueling option for certain vehicle types within the City fleet.	***Discontinued.*** The City continues to consider compressed natural gas vehicles and equipment when evaluating vehicle replacement in accordance with its Green Fleet Policy (2010). CenterPoint Energy continues to be a resource for the City as it considers compressed natural gas vehicles and equipment.
21	The Partnership will continue conversations on items of interest related to infrastructure, including plans for specific sites, distribution planning, district energy, aligning capital improvement cycles, pilot projects, and long-range carbon reduction planning.	***Discontinued.*** Ongoing communication among partners regarding items of interest continues on a regular basis.

2017-2018 Work Plan Activities		Progress Description
#	**City Enterprise & Coordination**	
22	The City of Minneapolis will develop RFP and procurement processes that reflect its commitment to equity in hiring and contracting in a significant and meaningful manner for energy efficiency and renewable energy projects. RFP project requirements may include the following elements: (1) A clear equity hiring goal for all projects, (2) An approved work plan demonstrating how equity hiring goals will be met, (3) An outline of numbers of jobs and skill level requirements, and (4) An assessment of local community benefits; with an emphasis specifically on minority communities.	***Complete.*** In 2017 the City entered into multiple community solar garden subscriptions which followed the City's minimum Construction Workforce Goals (for all construction and development projects exceeding $100,000). 20% of the total project trade hours are required to be performed by women and 32% by minorities. This policy requires the developers to comply with the City's Small and Underutilized Business Program (SUBP) participation goals for minority- and women-owned business enterprises.
23	The City of Minneapolis will develop a revision to its Leadership in Energy and Environmental Design (LEED) Building Policy to include meeting the Sustainable Buildings 2030 Energy Standard for new City buildings or major renovations.	***In Process.*** The City chose to dedicate resources in 2018 to advancing state-level legislation for a stretch energy standard, which would be inclusive of all City-owned new construction and major renovations.

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 the first attempts by the Partnership in trend forecasting (when data is available). Forecasting will be an area of continued effort by the Partnership and improvements will be made in subsequent reports.

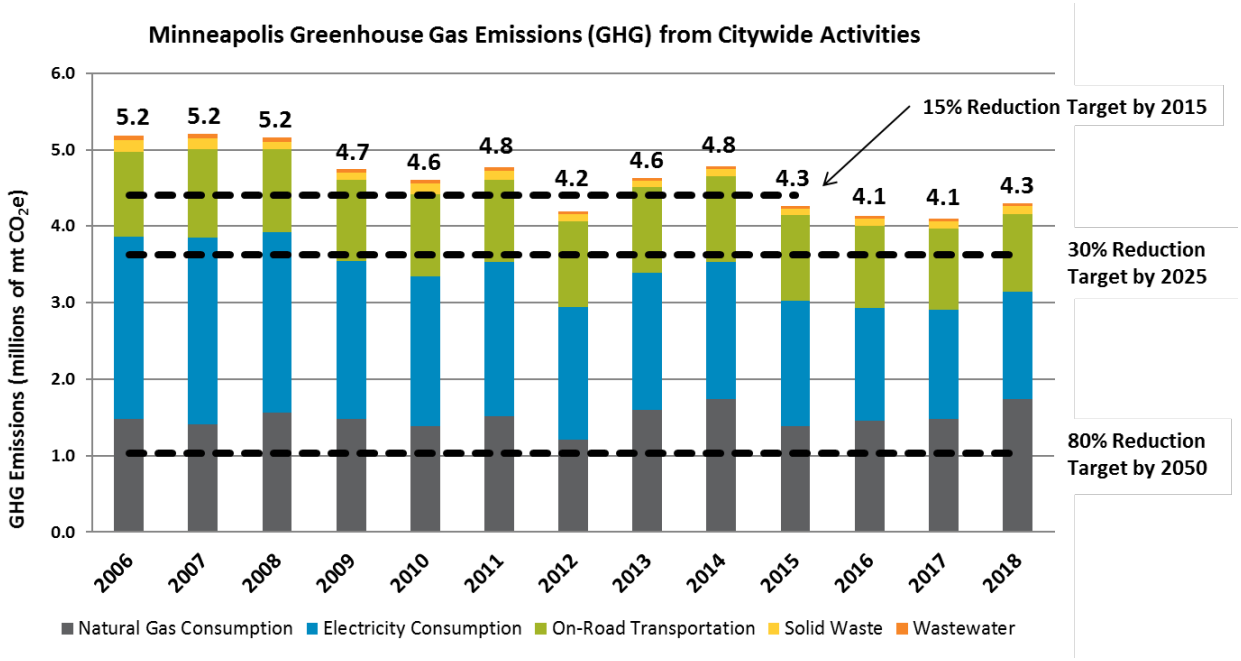
The Partners attempted to weather-normalize energy consumption data underlying the key metrics with a consistent methodology, but monthly interval utility data was ultimately not available. This is especially important for metric trends that see annual variation, particularly metrics built upon consumption data which varies due to annual temperatures. The Partners are committed to continuing work on a weather-normalization methodology in service to improved metric progress forecasting.

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

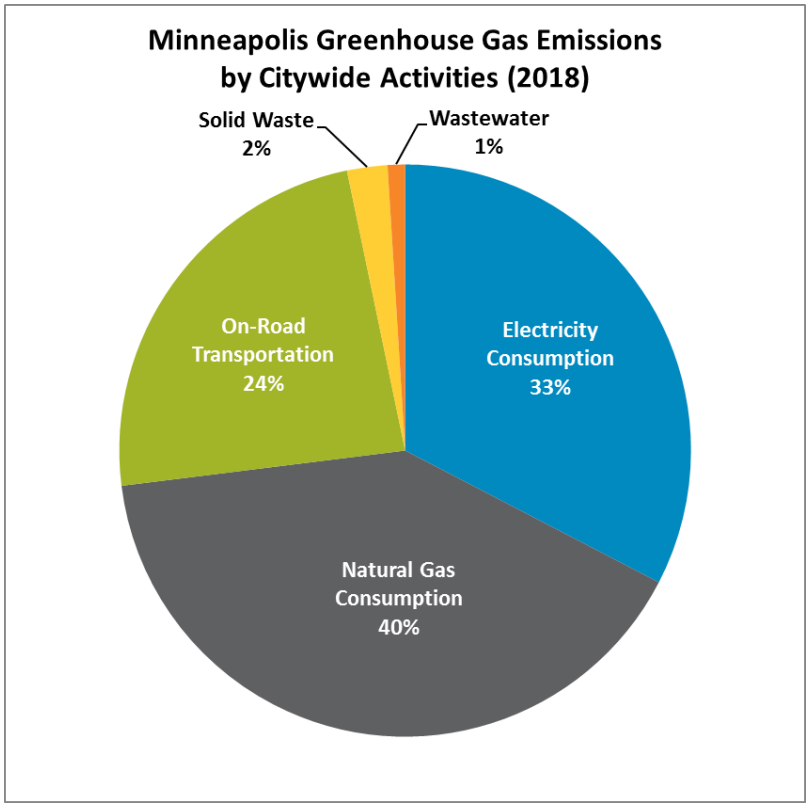
Metric		2014	2015	2016	2017	2018
1	Citywide GHG emissions (metric tons CO_2e)	4,779,193	4,267,799	4,133,264	4,099,770	4,299,864
	Change compared to 2006 baseline	-8%	-18%	-20%	-21%	-17%

Supporting Data		2014	2015	2016	2017	2018
1a	Emissions from electricity use (metric tons CO_2e)	1,788,987	1,633,878	1,473,229	1,429,560	1,402,603
1b	Electricity emissions factor (metric tons CO_2e/MWh)	0.436	0.406	0.365	0.372	0.365
1c	Emissions from natural gas use (metric tons CO_2e)	1,742,327	1,389,968	1,453,394	1,474,980	1,737,656

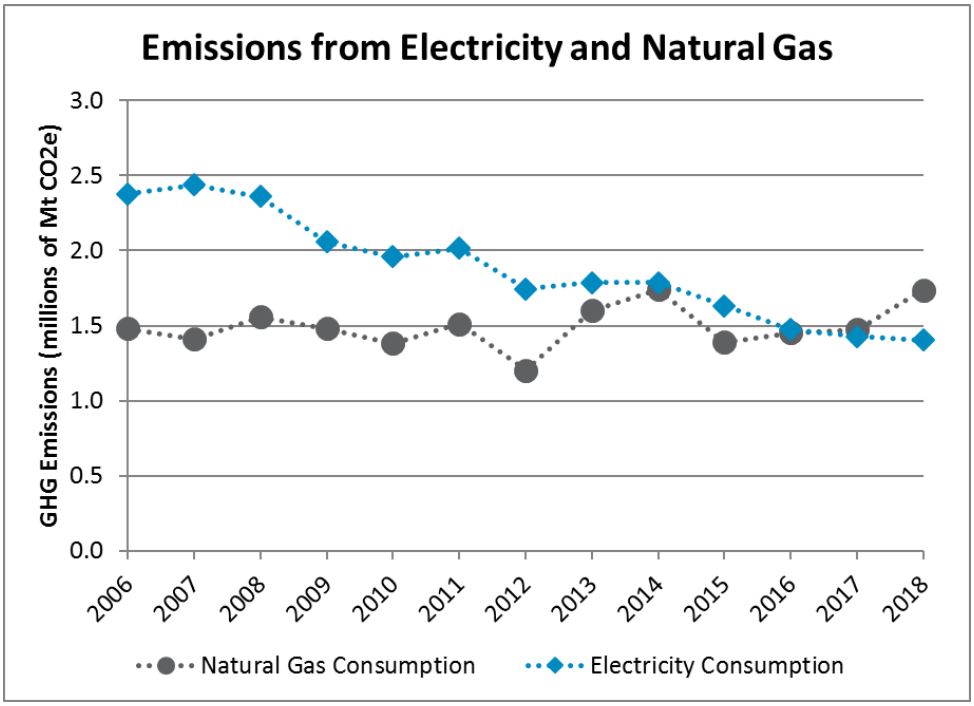
The figure below represents the citywide greenhouse gas (GHG) emissions inventory, an accounting of Minneapolis emissions from buildings, transportation, wastewater, and solid waste. Minneapolis has adopted targets to reduce community-wide emissions 15% by 2015, 30% by 2025, and 80% by 2050 (from the 2006 baseline) through the roadmap set by the *Minneapolis Climate Action Plan*.



Emissions from the two fuels that are the focus of the Clean Energy Partnership – electricity and natural gas – account for 73% of the City's overall greenhouse gas emissions.

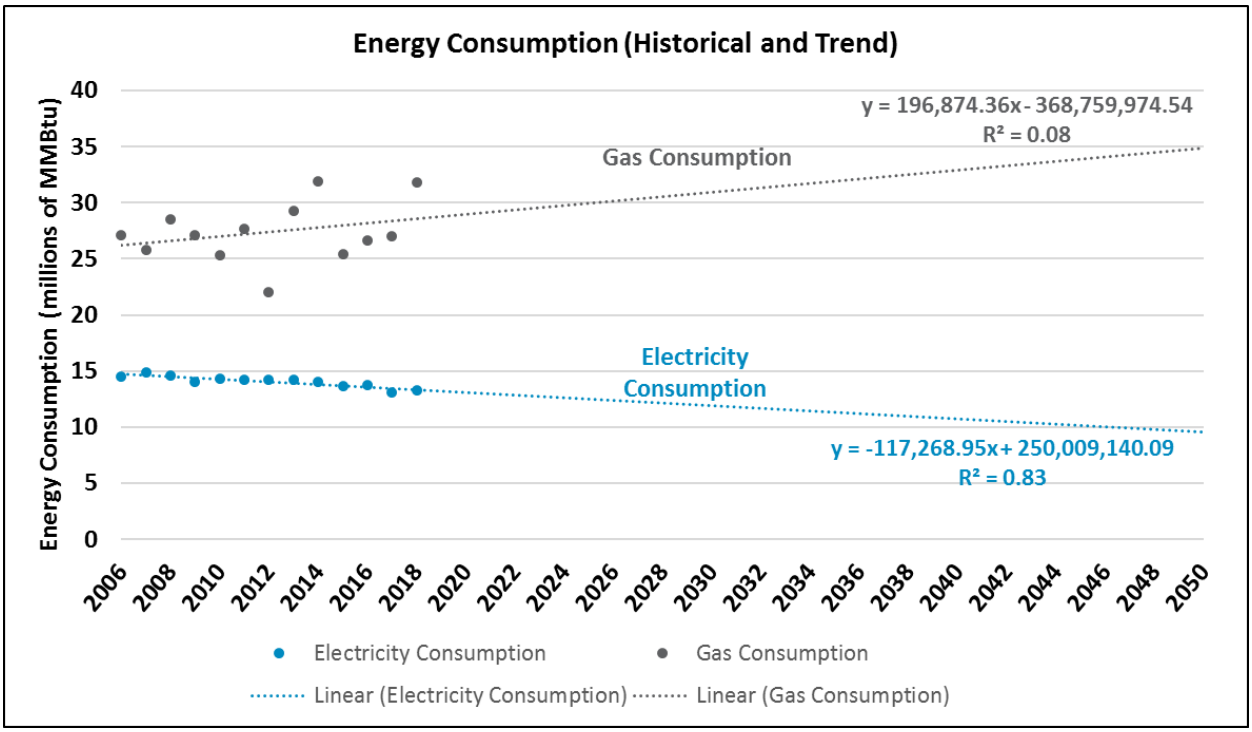


For the first time in 2017, the largest source of emissions came from the combustion of natural gas. This remained true in 2018 as well, with emissions from both fuels further diverging and continuing their respective trends.

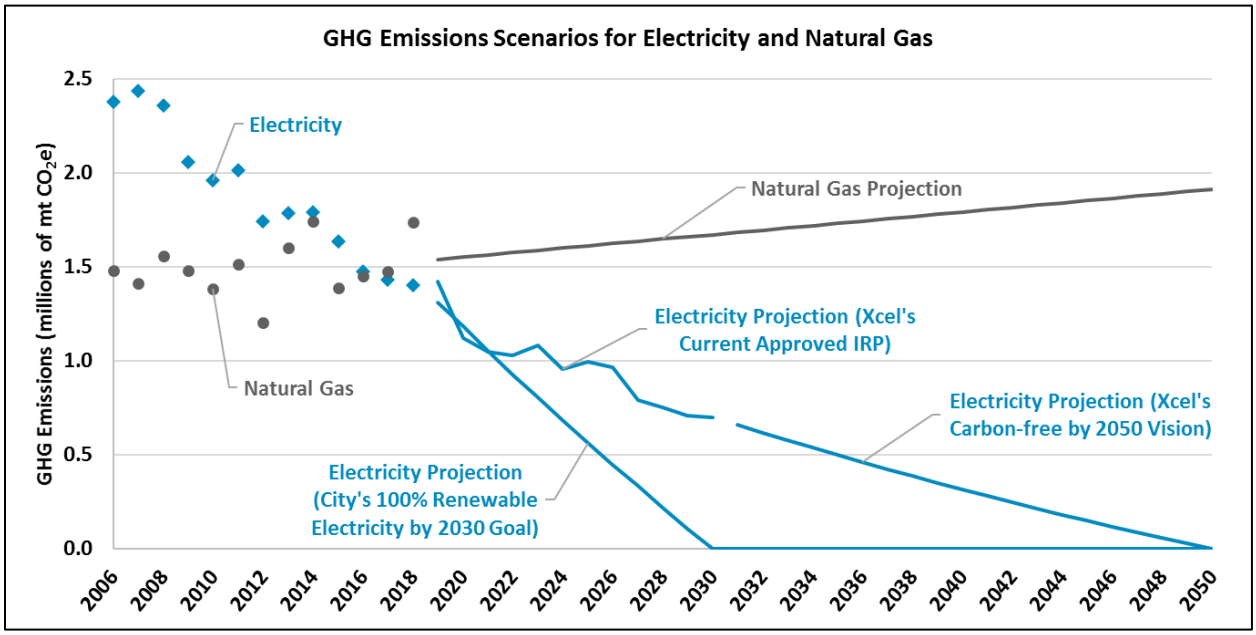


Ideally, to determine trends in emissions from each fuel type over time, a weather-normalization protocol would isolate and remove annual fluctuations in emissions (and underlying energy consumption) due to yearly temperature anomalies. Yearly weather variations have a significant impact on the consumption of natural gas for heating, and a lesser impact on electricity for cooling.

Absent weather-normalized data, 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. In 2018, CenterPoint Energy took action to disrupt natural gas emissions trends by developing programs and proposals to encourage the production and use of renewable sources of gas and carbon capture technologies. The emission factor for electricity falls over time in three scenarios: 1) Xcel Energy's current, approved Integrated Resource Plan (IRP), 2) Xcel Energy's carbon-free by 2050 vision, and 3) The City of Minneapolis' 100% renewable electricity by 2030 goal.



The results show the continuing divergence in emissions from each fuel. Looking toward 2025, if other sectors besides electricity and natural gas are held constant, overall emissions will continue to decrease driven by the decrease in electricity emissions. The City will exceed its 30% overall GHG reduction goal with a 34% overall GHG reduction in the City's 100% renewable electricity projection scenario. However, the City would miss the same goal with the Xcel Energy current approved IRP scenario, making just a 27% overall GHG reduction. Xcel Energy's pending IRP would result in a 29% GHG reduction.

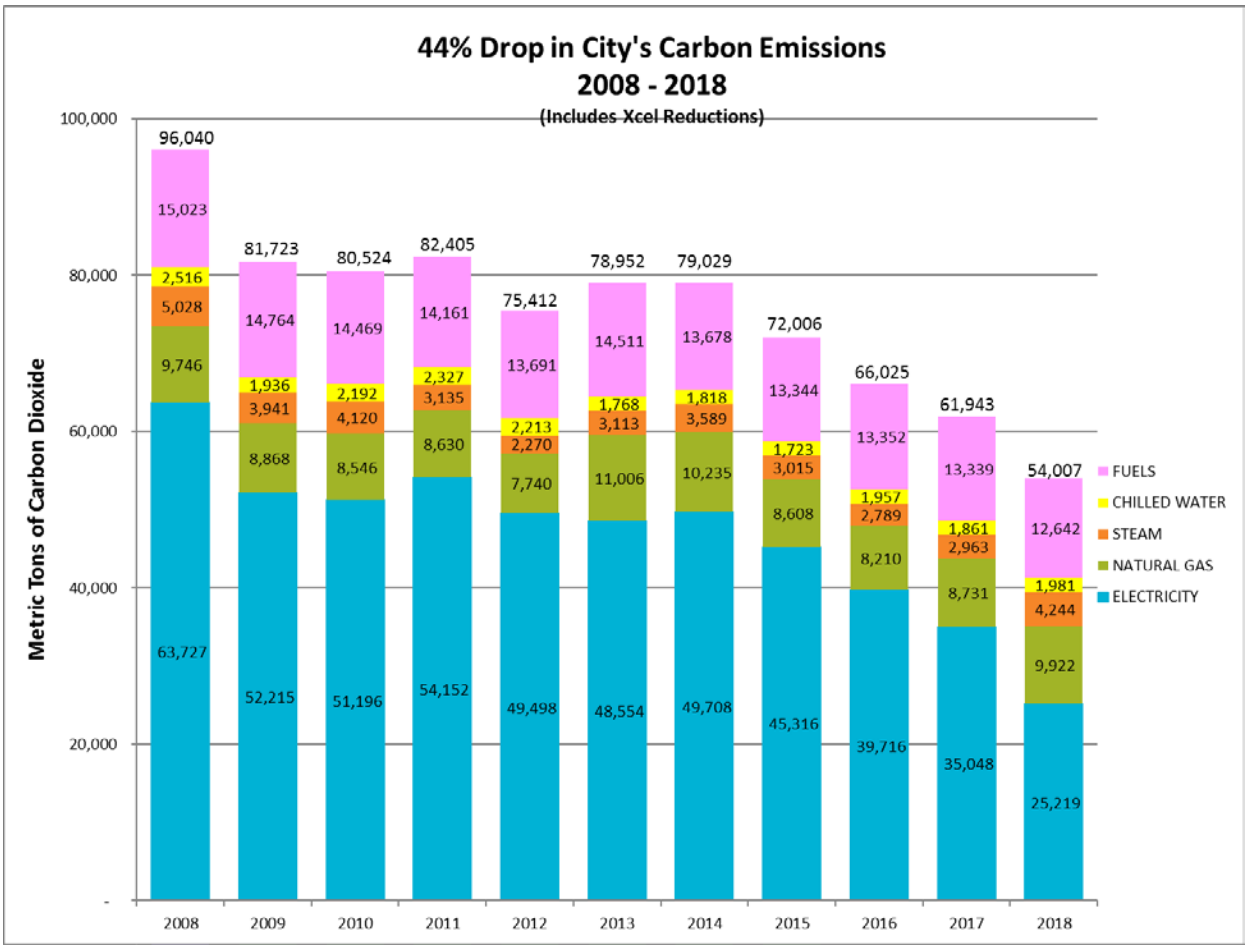
To achieve the City's 80% GHG reduction goal by 2050, emissions from all sectors and fuels must be below approximately 1,000,000 metric tons of carbon dioxide equivalent (mt CO2e). If current trends continue, natural gas will account for nearly twice the GHG emissions as the City's goal for all sectors combined.

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

Metric		2014	2015	2016	2017	2018
2	City facilities emissions (metric tons CO_2)	79,029	72,006	66,025	61,943	54,007
	Change compared to 2008 baseline	-18%	-25%	-31%	-36%	-44%

Supporting Data		2014	2015	2016	2017	2018
2a	Emissions from electricity use (metric tons CO_2)	49,708	45,316	39,716	35,048	25,219
2b	Emissions from natural gas use (metric tons CO_2)	10,235	8,608	8,210	8,731	9,922

Greenhouse gas emissions from City facilities and operations have decreased dramatically (44%) 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. Electricity remains the largest single source of emissions in the inventory but accounted for 40 percentage points of the 44% decrease as seen below.



Emissions from natural gas have remained relatively constant and are the third largest source of emissions after electricity and vehicle fuels. In the near future, emissions from natural gas will eclipse those from electricity as renewable electricity for municipal operations increases due to the City's 100% renewable electricity goal.

Metric 3 Supporting Data: Energy Use (Residential)

Metric		2014	2015	2016	2017	2018
3	Energy use - Residential (MMBtu)	16,444,303	13,465,134	12,737,491	13,520,158	15,617,668
	Growth baseline energy use - Residential (MMBtu)	14,709,532	14,726,352	14,743,172	14,759,991	14,776,811
	Change compared to 2011 baseline	12%	-8%	-13%	-8%	7%
	Change compared to growth baseline	12%	-9%	-14%	-8%	6%

	Residential Energy Use	2014	2015	2016	2017	2018
3a	Residential building electricity use (MWh)	980,965	945,335	970,280	950,159	1,029,018
3b	Residential building gas use (therms)	130,883,472	102,326,656	94,204,489	102,712,038	120,984,119

Residential Energy Use

Residential energy use increased in 2018 compared to 2017 and year-to-year energy use continues to fluctuate greatly due to changes in yearly temperatures. The National Oceanic and Atmospheric Administration (NOAA) recorded heating degree days, a measurement of heating demand, in 2018 as being the third highest in Minneapolis within the last ten years. The large impact of yearly temperatures on energy use in the residential sector illustrates how much work remains to make homes more resilient to weather extremes by retrofitting existing homes to modern air sealing and insulation standards.

In 2018, Minneapolis had approximately 122,500 residential natural gas customers, an increase of 6.8% over ten years. In 2018, Minneapolis residential gas customers used an estimated 987 therms of natural gas or the equivalent of 5.2 metric tons of carbon dioxide equivalent (CO_2e). Minneapolis experienced a spike in natural gas use due in large part to cold weather.

Xcel Energy's 178,000 Minneapolis customers used an average annual electric consumption of 5,779 kWh in 2018, equating to approximately 2.2 metric tons of CO_2e per household after accounting for carbon-free Windsource and Renewable*Connect commitments by Minneapolis residents. This is half the emissions of a typical gasoline-powered vehicle at approximately 4.6 metric tons per year.

Progress toward the City's goal is measured against a growth baseline established in the Climate Action Plan. The growth baseline established a post-2011 business-as-usual forecast with a 0.5% annual increase in electricity consumption and no annual increase in natural gas consumption. Residential energy use in 2018 is 6% greater than the growth baseline and actual use is 7% greater than in 2011.

Utility Residential Conservation Improvement Programs

In 2018, 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 assisted over 38,000 Minneapolis residents save over 1 million therms of natural gas and $715,400 on their gas utility bills in 2018 (calculation does not include income-qualifying or multi-family program participants). Xcel Energy's Residential Energy Efficiency Programs & Rebates provided over 6,000 residential customers with over 3 million kWh in energy savings, $296, 000 per year in bill savings over the lifetime of the measure and $1.4 million in rebates.

Home Energy Squad

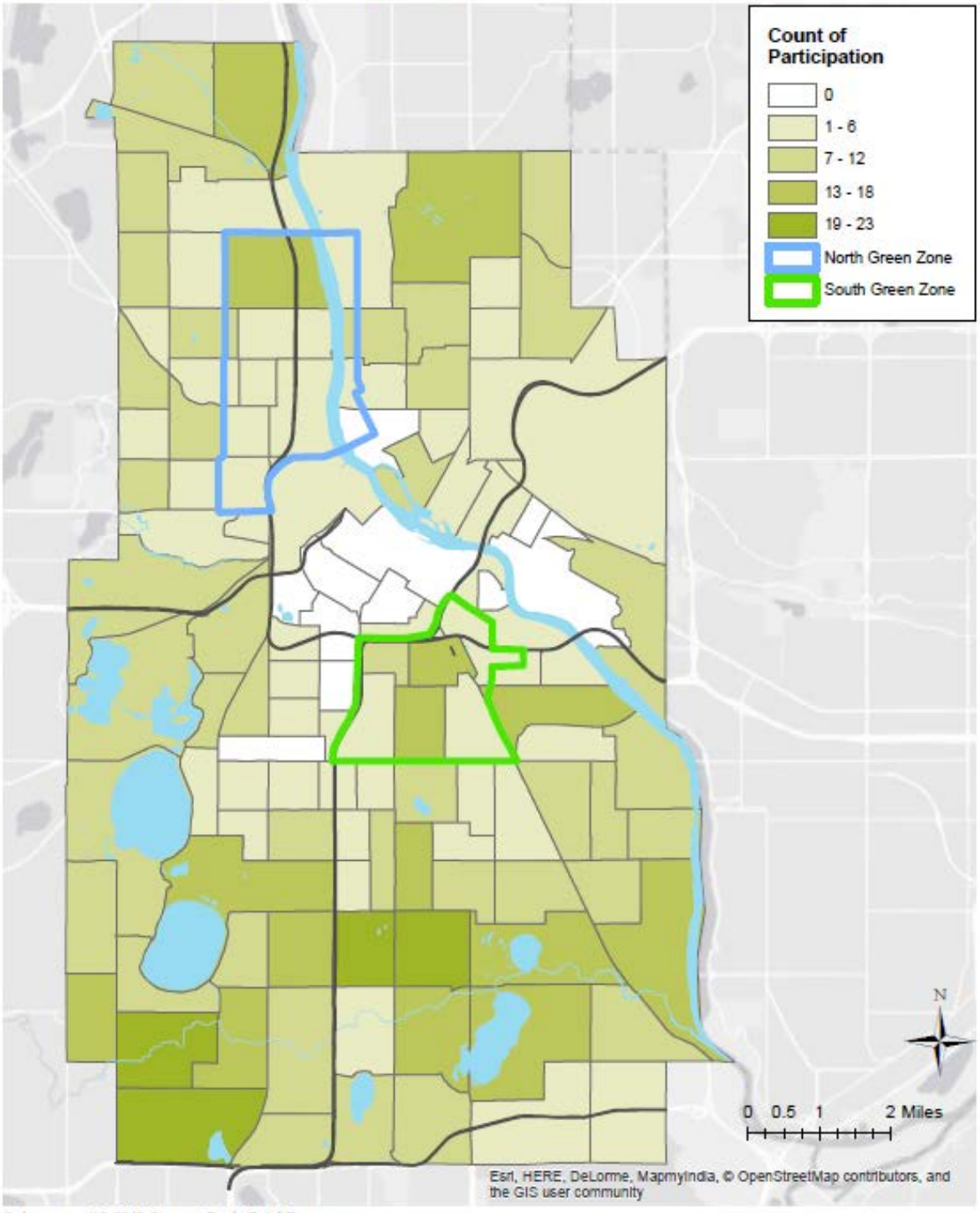
Home Energy Squad (HES) is a joint program offered by Xcel Energy and CenterPoint Energy to help residential customers identify energy efficiency opportunities via a home energy assessment.

	Home Energy Squad Program	Source	2014	2015	2016	2017	2018
3c	*Home Energy Squad* participation	Xcel/CNP	731	1,198	837	620	869
3d	*Home Energy Squad* annual energy savings (kBtu)	Xcel/CNP	6,605,790	10,825,904	7,563,674	6,056,072	7,305,226
3e	*Home Energy Squad* estimated annual cost savings	Xcel/CNP	$ 99,031	$ 136,161	$ 77,354	$ 80,920	$ 112,074
3f	Residences (1-4 unit) annually served by HES	Xcel/CNP	0.8%	1.3%	0.9%	0.7%	1.0%

In 2018, the City of Minneapolis drove a 40% increase in participation from the previous year by covering the customer co-pay for nearly 40% (336) of HES visits in Minneapolis. Of the total visits in 2018, 94% (821) were conducted at owner-occupied residences, 88% (766) were conducted at homes built prior to 1970, 82% (709) were conducted at single-family residences, and 18% (155) were conducted for no-cost at income-qualifying residences.

The following map shows the distribution of Home Energy Squad visits across Minneapolis in 2018. The map shows greater participation in the Green Zones compared to 2017. In 2018, the communities that saw the most visits were: 1) Longfellow, 2) Field/Regina/Northrop, 3) Nokomis East, 4) Standish-Ericsson, and 5) Ventura Village (Southside Green Zone).

Home Energy Squad Participation, 2018



Data source: US 2010 Census, CenterPoint Energy

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 2018, Minneapolis residents financed 5 high efficiency air conditioners, 27 high efficiency heating systems, and 41 home insulation projects. HES-driven loans increased significantly with the help of the City of Minneapolis making 0% interest loans available for 28 of the home insulation projects.

	Energy Efficiency Loans	Source	2014	2015	2016	2017	2018
3g	HES-driven energy efficiency loan count	CEE	9	39	43	37	73
3h	HES-driven value of loans	CEE	$ 66,775	$ 202,079	$ 192,234	$ 346,772	$ 628,422

Air Sealing & Insulation Rebates

CenterPoint Energy offers a rebate 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.

	Air Sealing & Insulation (ASI) Rebates	Source	2015	2016	2017	2018
3i	ASI participating customers	CNP	335	277	242	258
3j	ASI estimated annual energy savings (therms)	CNP	74,741	64,404	67,390	71,670
3k	ASI estimated annual cost savings	CNP	$ 42,069	$ 42,292	$ 43,938	$ 46,729
3l	ASI rebate dollars spent	CNP	n/a	$ 130,000	$ 136,060	$ 138,469

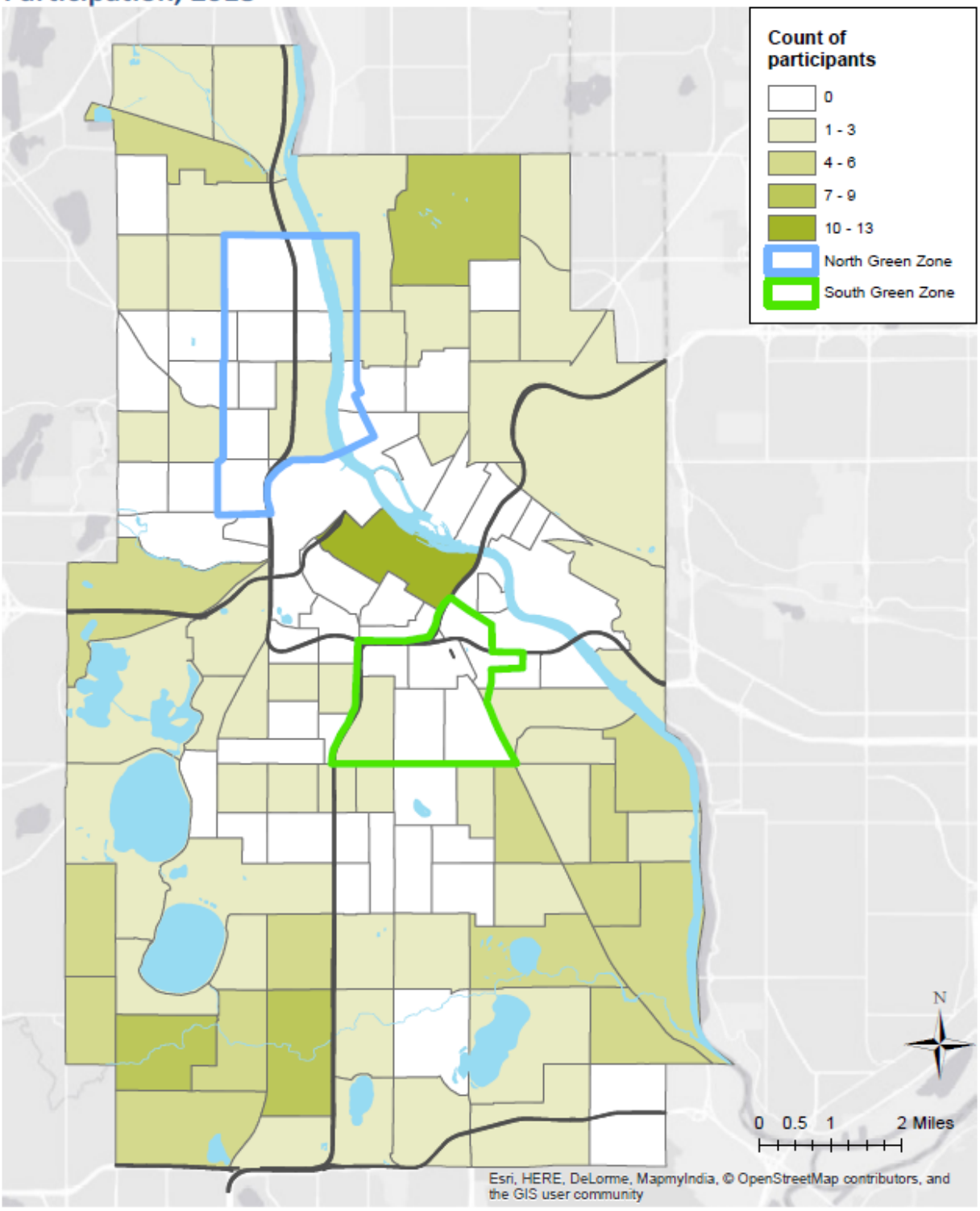
In 2018, the number of Minneapolis residences to receive an air sealing and insulation rebate increased by about 7% (16) compared to last year. Minneapolis's program participation growth is comparatively lower than the rest of CenterPoint Energy's service territory which saw a 50% increase, a bump explained in part by the expansion of CEE's Energy Advisor Services to areas outside the metro area in 2017.

Of the 258 rebated insulation projects, 11% (28) also received 0% interest loans provided by the City of Minneapolis in collaboration with the Center for Energy and Environment.

Like last year, home insulation rebated projects in Minneapolis averaged approximately 278 therms of estimated annual energy savings per project, or approximately 28% of the average natural gas used in a Minneapolis residence in 2018.

The following map shows the distribution of CenterPoint Energy's home insulation rebates across Minneapolis in 2018. Unlike the increase in HES visits in the Green Zones, the following map shows no noticeable increase in home insulation program participation in Minneapolis Green Zones in 2018 when compared to 2017. The Partners anticipate an increase in participation levels in subsequent years due to the significant increase in HES visits that occurred in 2018 (particularly in the Green Zones) due in part to the time lag that often occurs between a HES visit and completion of a major energy efficiency project.

CenterPoint Energy Home Insulation Rebate Program Participation, 2018



Data source: US 2010 Census, CenterPoint Energy

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	Source	2015	2016	2017	2018
3m	Low-income CIP program participants	CNP	583	453	712	690
3n	Low-income CIP dollars spent	CNP	$ 921,832	$ 1,618,735	$ 1,841,555	$ 2,036,310
3o	Low-income CIP estimated energy savings (therms/yr)	CNP	231,859	57,547	205,272	151,380
3p	Low-income estimated annual cost savings	CNP	$ 122,208	$ 37,305	$ 133,839	$ 98,711
3q	Low-income CIP program participants	Xcel	661	1,331	596	831
3r	Low-income CIP dollars spent	Xcel	$ 324,360	$ 334,018	$ 629,357	$ 753,378
3s	Low-income CIP estimated energy savings (kWh/yr)	Xcel	359,233	491,532	423,297	451,639
3t	Low-income estimated annual cost savings	Xcel	$ 32,331	$ 49,153	$ 45,018	$ 43,524
3u	Weatherization Assistance Program (WAP) visits	DOE	168	122	253	238
3v	WAP dollars spent	DOE	$ 916,805	$ 448,356	$ 887,202	$ 1,188,524

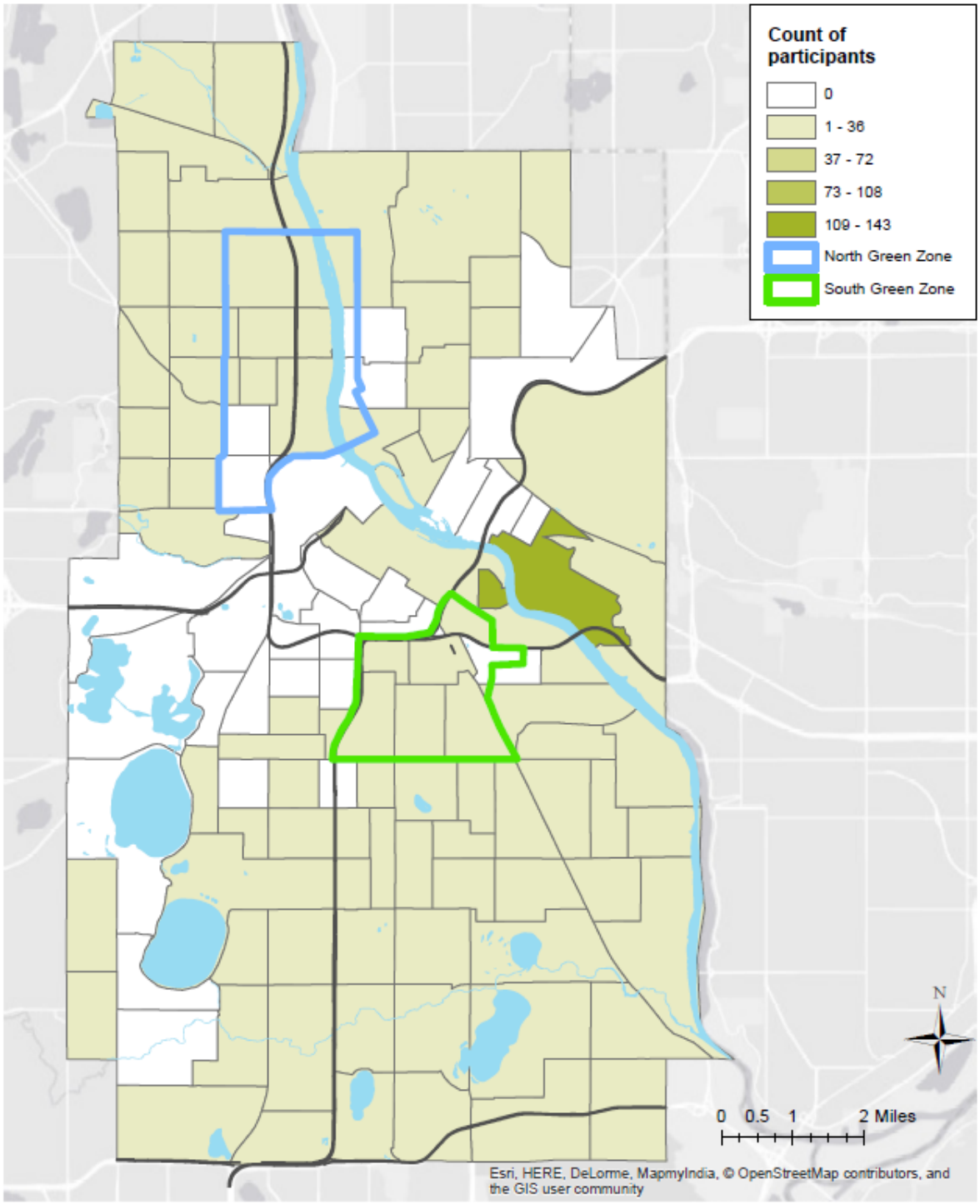
	Energy Cost Assistance Programs	Source	2015	2016	2017	2018
3w	*Gas Affordability* bill pay assistance Participants	CNP	4,000	3,450	3,247	3,228
3x	*Gas Affordability* bill pay assistance total spent	CNP	$ 2,200,000	$ 1,178,370	$ 1,269,960	$ 1,396,992
3y	*Power-On* participants	Xcel	924	2,313	2,321	1,550
3z	*Power-On* total spent	Xcel	$ 598,752	$ 1,887,408	$ 1,090,603	$ 754,558
3aa	*Senior Discount* participants	Xcel	4,790	4,790	5,784	5,817
3bb	*Senior Discount* total spent	Xcel	$ 862,200	$ 1,008,796	$ 941,056	$ 969,362
3cc	*Medical Affordability Program* participants	Xcel				344
3dd	*Medical Affordability Program* total spent	Xcel				$ 268,275

In 2018, CenterPoint Energy's Income-Qualified Programs and Gas Affordability Program allocated over $3.4 million dollars to help qualifying customers in Minneapolis reduce their energy costs and improve the efficiency, comfort and safety of their homes.

In 2018, CenterPoint Energy completed a two-year collaboration with Sustainable Resources Center to weatherize and provide energy efficiency improvements for a 184-unit, income-qualified townhome project in the Prospect Park neighborhood of Minneapolis. Glendale Townhomes is a 28 building, 184-unit project owned and operated by Minneapolis Public Housing Authority (MPHA). The project included weatherization improvements at all 184 units (67 new, high-efficiency furnaces, 14 new, high efficiency water heaters, and 18 mechanical repairs). More than $850,000 of CenterPoint Energy's Conservation Improvement Program (CIP) funding was provided over a two-year period, supplementing U.S. Department of Energy weatherization funding for a total of more than $2.1 million in comprehensive energy efficiency improvements. This unique collaboration was supported by Minneapolis City Council Member Gordon (Ward 2), the State of Minnesota Department of Commerce and others. Resident families greatly appreciated the increased comfort in their homes, while MPHA plans to reinvest the generated energy savings to help sustain affordable housing in the city.

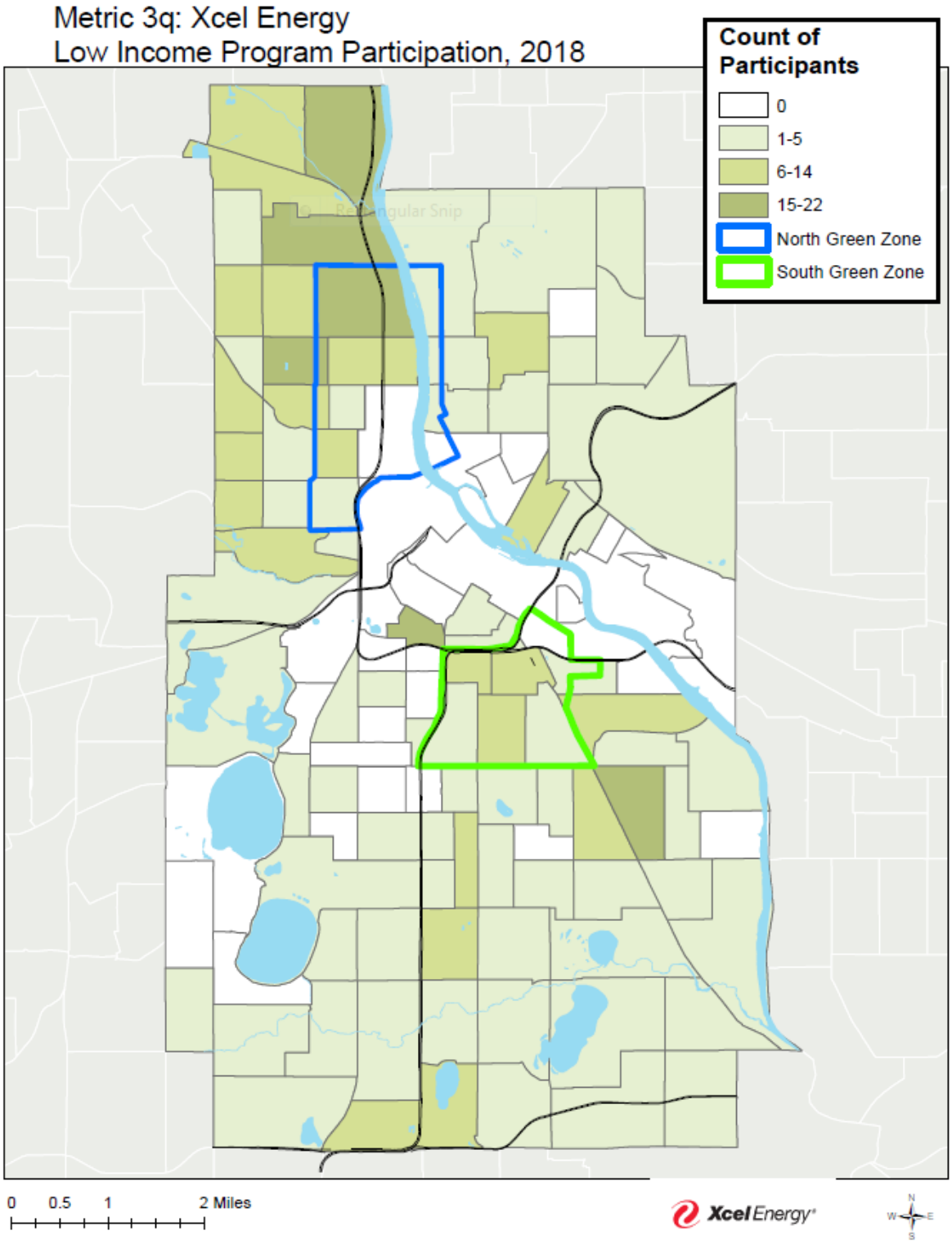
The following map shows the distribution of CenterPoint Energy income-qualified energy efficiency services received across Minneapolis in 2018. The map shows the highest concentration of projects occurred as a result of the Glendale Townhomes project in the Prospect Park neighborhood described above.

CenterPoint Energy Low-Income Program Participation, 2018



Data source: US 2010 Census, CenterPoint Energy

Xcel Energy's map below continues to show higher low-income program participation in the Northside Green Zone and North Minneapolis than in other parts of the City. The participation discrepancy in the legends between 2017 and 2018 is the result of not eliminating duplicate measure installations at the same customer. This has been corrected in 2018.



Xcel Energy's Affordable Energy Programs proved very successful in 2018 with a steady growth in energy efficiency. Participant count increased due to the new multi-family building efficiency calculation methodology of counting units in a building versus the building as a whole. Xcel Energy's overall bill pay assistance programs remained at consistent levels this past year again, totaling over $2 million and helping more than 7,700 Minneapolis customers pay their electric bills through our Power-On; Energy Assistance, Senior Discount, and our new Medical Affordability Program, which began in January 2018.

Metric 4 Supporting Data: Energy Use (Commercial and Industrial)

Metric		2014	2015	2016	2017	2018
4	Energy use - Commercial and Industrial (MMBtu)	32,790,072	28,876,945	30,923,623	29,828,901	32,979,209
	Growth baseline energy use - Commercial and Industrial (MMBtu)	30,800,113	30,854,454	30,908,795	30,963,136	31,017,477
	Change compared to 2011 baseline	7%	-6%	0.9%	-3%	8%
	Change compared to growth baseline	6%	-6%	0.0%	-4%	6%

Commercial/Industrial Energy Use		2014	2015	2016	2017	2018
4a	Commercial building electricity use (MWh)	3,121,619	809,784	3,059,745	2,892,605	2,863,923
4b	Industrial building electricity use (MWh)		2,253,239			
4c	Commercial building gas use (therms)	157,956,998	134,856,641	126,142,037	141,309,553	163,935,711
4d	Industrial building gas use (therms)	29,963,555	17,147,635	45,589,715	25,864,364	33,029,625

Commercial and Industrial Energy Use

Electric consumption decreased 4% from 2017 to 2018 for commercial and industrial customers within the City. Natural gas consumption for commercial customers saw an increase of 16%, due in part to cold weather in 2018.

Progress toward the City's goal is measured against a growth baseline established in the Climate Action Plan. The growth baseline established a post-2011 business-as-usual forecast with a 0.5% annual increase in electricity consumption and no annual increase in natural gas consumption. Commercial and industrial energy use in 2018 is 6% greater than the growth baseline and actual use is 8% greater than in 2011.

Separate electricity use data for commercial and industrial customers is currently not available for all years except 2015. 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. The party meeting this threshold has recently signed a data release form; however, Xcel Energy has recently discovered that another customer also has reached the 15% threshold in 2018, making that data still unavailable. Xcel Energy is re-running 2016 and 2017 Community Energy reports to determine if those years will comply with their data privacy policy and enable them to provide aggregated data. The City would like the commercial and industrial usage information broken out by sector to establish policy objectives aligned with their climate goals.

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 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 2018, CenterPoint Energy's Efficiency Programs & Rebates helped 480 business customers reduce natural gas use by nearly 5 million therms and save businesses $1,275,500 in energy costs.

Xcel Energy's Business Programs & Rebates provided 2,113 rebates to Minneapolis businesses in 2018 totaling over $7.68 million that reduced energy consumption 84,863,346 kWh.

	Commercial/Industrial Conservation Improvement Programs	Source	2014	2015	2016	2017	2018
4e	Energy efficiency program participation (customers)	CNP	311	473	399	504	480
4f	Energy efficiency program participation (rebates)	CNP	1,096	1,219	1,063	1,269	1,062
4g	Rebate dollars spent	CNP	$ 809,865	$ 720,490	$ 1,135,910	$ 2,891,985	$ 1,275,517
4h	Estimated annual energy savings (therms)	CNP	4,343,071	2,668,485	5,218,578	13,398,873	4,945,230
4i	Estimated annual cost savings	CNP	$ 2,844,873	$ 1,280,162	$ 2,811,119	$ 7,426,544	2,210,343
4j	Energy efficiency program participation (customers)	Xcel	653	757	918	866	1,008
4k	Energy efficiency program participation (rebates)	Xcel	688	1,249	1,758	1,814	2,113
4l	Rebate dollars spent	Xcel	$ 3,134,939	$ 4,235,490	$ 8,862,846	$ 5,864,360	$ 7,686,747
4m	Estimated annual energy savings (kWh)	Xcel	36,160,509	43,204,422	75,369,492	56,415,847	84,863,345
4n	Estimated annual cost savings	Xcel	$ 1,952,667	$ 4,622,873	$ 7,536,949	$ 3,215,703	$ 4,777,461

In 2018, annual natural gas energy savings for CIP commercial/industrial (C/I) programs was significantly less (63%) compared to 2017 and slightly less (5%) compared to 2016. The 2017 peak in annual energy savings is attributed to CenterPoint Energy's largest CIP project to date at the University of Minnesota (see details in 2017 Annual Report). In 2018, using a threshold of 15% of participants in a given program, Minneapolis C/I customers represented a high proportion of participants in programs for Heating/Water Heating and Custom Rebates and a low proportion of participants in programs for Natural Gas Energy Analysis, Industrial Process Efficiency and Recommissioning Study & Rebates. In particular, only fourteen Minneapolis C/I customers received a Natural Gas Energy Analysis in 2017-2018, representing only 6% of program participation.

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	Source	2015	2016	2017	2018
4o	Multi-family programs participants	CNP	136	90	191	133
4p	Multi-family programs estimated annual energy savings (Therms)	CNP	709,335	760,144	552,270	891,040
4q	Multi-family programs estimated annual cost savings	CNP	$ 364,661	$ 452,839	$ 318,251	$ 609,550
4r	Multi-family programs rebate dollars spent	CNP	$ 245,840	$ 302,767	$ 286,612	$ 323,003
4s	Multi-family programs participants	Xcel	623	619	943	1,056
4t	Multi-family programs estimated annual energy savings (kWh)	Xcel	3,282,658	5,422,415	5,674,561	19,446,382
4u	Multi-family programs estimated annual cost savings	Xcel	$ 294,576	$ 542,242	$ 603,490	$ 1,094,752
4v	Multi-family programs rebate dollars spent	Xcel	$ 468,587	$ 1,649,393	$ 828,862	$ 1,719,537

In 2018, CenterPoint Energy saw a 61% increase in annual energy savings achieved at multi-family buildings. CenterPoint Energy delivered over $138,000 in heating and water heating rebates alone for energy efficiency improvements at multi-family buildings, including steam trap enhancements at a 200-unit apartment building and hot water boiler improvements at a 500-unit residential building. These two projects achieved almost 260,000 therms of annual energy savings. Xcel Energy's Energy Design Assistance program completed three large multi-family complexes saving 4.8 million kWh and paying out over $445,000 in customer rebates.

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.

	Energy Design Assitance Program	Source	2015	2016	2017	2018
4w	*Energy Design Assistance* program participation	CNP	11	25	18	35
4x	*Energy Design Assistance* estimated annual energy savings (therms)	CNP	400,317	1,890,915	586,466	1,788,769
4y	*Energy Design Assistance* rebate dollars spent	CNP	$ 140,596	$ 302,767	$ 225,256	664,909
4z	*Energy Design Assistance* program participation (projects)	Xcel	24	31	19	55
4aa	*Energy Design Assistance* estimated annual energy savings (kWh)	Xcel	5,847,225	14,902,577	4,221,483	14,553,981
4bb	*Energy Design Assistance* rebate dollars spent	Xcel	$ 592,603	$ 2,139,146	$ 780,113	$ 1,816,269

One large Xcel Energy customer completed an impressive multi-staged project that saved over 1.5 million kWh and paid out more than $225,000 in customer rebates.

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

Metric		2014	2015	2016	2017	2018
5	Renewable Electricity (Community-wide)	24.9%	23.3%	25.4%	28.7%	26.3%

Supporting Data		2014	2015	2016	2017	2018
5a	Grid Mix Renewable Percentage	23.8%	23.0%	25.0%	28.0%	26.2%
5b	Adjusted Grid Mix Renewable Percentage	23.8%	22.4%	24.5%	27.0%	22.3%
5c	Community-wide Electricity Consumption (MWh)	4,102,584	4,008,358	4,030,026	3,842,763	3,892,929
5d	Local Actions (MWh)	46,464	34,359	37,300	65,303	152,075

The City of Minneapolis adopted its 100% Renewable Electricity Resolution in April 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. Additionally, the resolution aligns with the Sierra Club's consumption-based definition and goes further in defining how the City will account for renewable sources toward its goal, 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"*

In accordance with Sierra Club guidance, the City's resolution, and the spirit of increasing renewable electricity penetration, the calculation methodology adopted by the City will be action-based, meaning based on the decisions and deeds 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®, 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 (via the adjusted grid mix renewable percentage) to remove the impact of all local actions across their entire 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).

Metric 6 Supporting Data: Renewable Electricity (Municipal Operations)

Metric		2014	2015	2016	2017	2018
6	Renewable Electricity (Municipal Operations)	25%	24%	26%	33%	45%

Supporting Data		2014	2015	2016	2017	2018
6a	Electricity consumption (kWh)	103,971,615	101,630,784	99,384,894	100,067,717	101,340,905
6b	Windsource subscription (kWh)	300,000	300,000	300,000	300,000	225,000
6c	Renewable*Connect subscription (kWh)				6,067,895	24,552,684
6d	Community Solar Garden subscriptions (kWh)				23,857	844,831
6e	On-site solar generation (kWh)	900,000	900,000	889,805	910,811	830,434

The City of Minneapolis will utilize 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.

Metric 7 Supporting Data: Renewable Electricity (Local and Directly Purchased)

Metric		2014	2015	2016	2017	2018
7	Renewable Electricity (Local and Directly Purchased)	1.1%	0.9%	0.9%	1.7%	3.9%

Supporting Data		2014	2015	2016	2017	2018
7a	*Windsource* Participants	9,906	11,154	11,926	12,903	13,180
7b	*Windsource* consumption (MWh)	45,534	33,309	36,125	50,277	42,506
7c	*Renewable*Connect* Participants				836	910
7d	*Renewable*Connect* Consumption (MWh)				4,996	47,929
7e	*Solar*Rewards* Community Participants			14	1,797	3,269
7f	*Solar*Rewards* Community Installed Capacity (MW)			3	29	79
7g	*Solar*Rewards* Community Subscribed (MWh)			25	7,787	58,050
7h	*Solar*Rewards*[1] Participants	56	92	95	150	813
7i	*Solar*Rewards* Installed Capacity (MW)	0.75	0.91	1.01	1.88	7.21
7j	*Solar*Rewards* Generation (MWh)	930	1,050	1,150	2,243	3,589

[1]Solar Rewards includes both Solar Rewards and Made in Minnesota Participatants

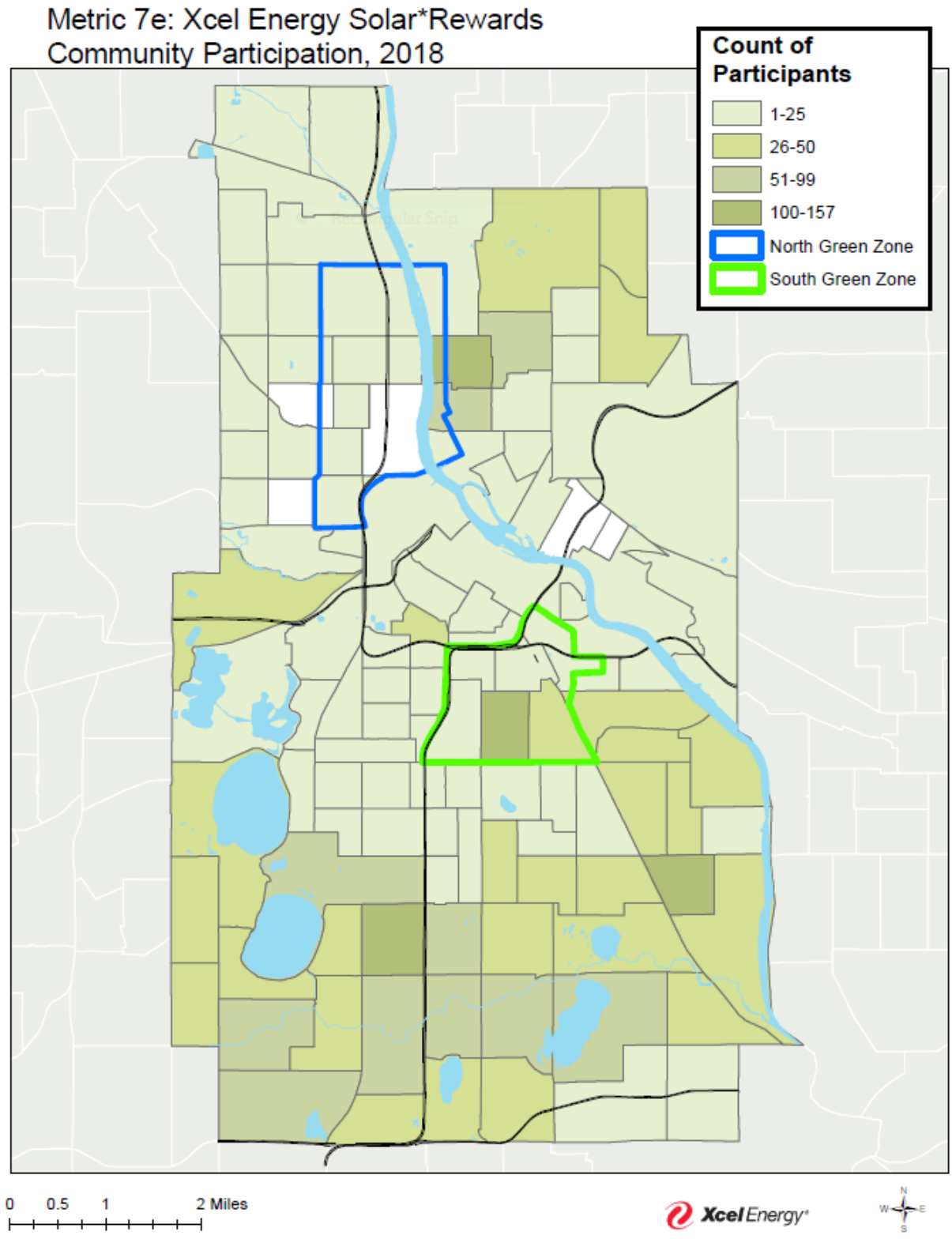
Xcel Energy offers four renewable energy options to Minneapolis customers: Windsource®, Solar*Rewards (Rooftop) and Solar*Rewards Community®, and Renewable*Connect. These four programs cumulatively constitute the percentage of electricity consumed in Minneapolis from local and directly purchased sources.

Windsource is a voluntary energy program that allows customers to purchase some or all their energy from wind energy sources. The program is certified by Green-e® and supports additional local renewable 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 in 2017 and has increased 9% in participants and 859% in subscribed consumption from 2017 to 2018.

Through Solar*Rewards, individuals 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 284% increase in demand and a 60% increase in production between 2017 and 2018.

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 increased participation by 82%, capacity by 172% and subscribed energy by 645% in Minneapolis between 2017 and 2018. The map below shows the strongest Green Zone participation around three on-site gardens, two in the Northern Green Zone and one in the Southern Green Zone. At this time, one additional community solar garden has substantial subscribers signed up in North Minneapolis. This garden is in the design and construction phase.


Metric 7e: Xcel Energy Solar*Rewards Community Participation, 2018
Count of Participants
1-25
26-50
51-99
100-157
North Green Zone
South Green Zone
0 0.5 1 2 Miles
Xcel Energy
N
W
E
S