



Minneapolis Clean Energy Partnership

Annual Report 2015

June 2016



Acknowledgements

Collecting the data for this report relied on the time and expertise of staff from the City of Minneapolis, Xcel Energy, CenterPoint Energy, the Center for Energy and Environment, and the Sustainable Resources Center. Here we acknowledge those who provided assistance and expertise in gathering, completing, and assessing the accuracy of energy, building, and demographic data for the Clean Energy Partnership metrics.

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In remembrance of Kirk Washington Jr, an Energy Vision Advisory Committee member and artist who was passionate about improving the lives of Minneapolis residents

*More information on the Clean Energy Partnership is available at:
www.mpls-cleanenergypartnership.org*

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Acronyms

ACEEE—American Council for an Energy-Efficient Economy

ACS—American Community Survey

CEE—Center for Energy and Environment

CIP—Conservation Improvement Program

CNP—CenterPoint Energy

CO₂e—carbon dioxide equivalent for measuring global warming potential

DOE—United States Department of Energy

EE—energy efficiency

EVAC—Energy Vision Advisory Committee

HES—Home Energy Squad

kBtu—one thousand British thermal units

kWh—kilowatt hour

LIHEAP— Low Income Home Energy Assistance Program

MWh—megawatt hour

PACE—Property Assessed Clean Energy

MPCA—Minnesota Pollution Control Agency

WAP—Weatherization Assistance Program

XE—Xcel Energy

Executive Summary

In January 2015, the City of Minneapolis, Xcel Energy and CenterPoint Energy launched the Minneapolis Clean Energy Partnership (“Partnership”). This first-in-the-nation approach partners the City of Minneapolis (City) in a unique way with Xcel Energy and CenterPoint Energy as the electric and gas utility providers to help the City reach its energy efficiency and renewable energy goals, with the ultimate target of 80% greenhouse gas emission reductions by 2050.

This inaugural annual report captures the 2015 efforts in developing the Partnership’s structure, relaying its activities, establishing the first two-year work plan, and adopting baseline metrics for measuring progress. This report creates a more complete picture of the City’s greenhouse gas profile related to buildings and energy production, consumption, and savings opportunities.

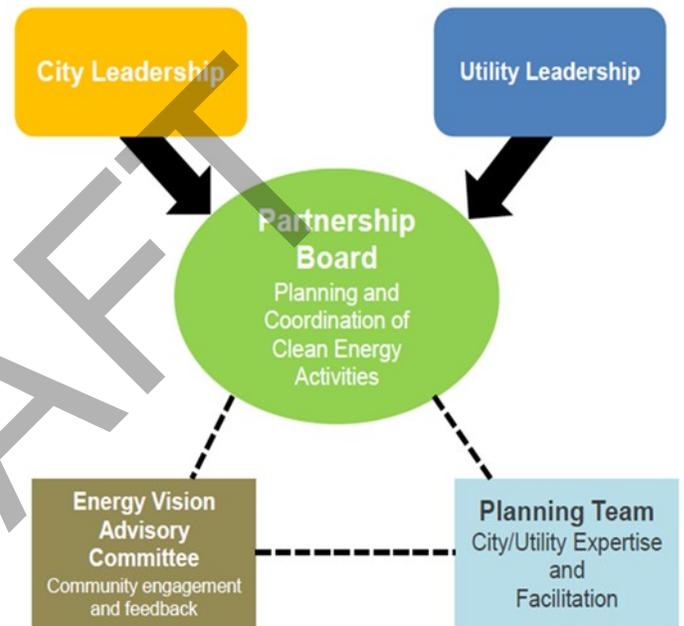
BACKGROUND AND STRUCTURE

The Partnership arose following discussions about the renewal of the City’s utility franchise agreements, which were set to expire in December 2014, and how those renewals could leverage utility resources to better advance the City’s goals outlined in its Climate Action Plan and Energy Vision for 2040 report. While all three parties have longstanding commitments to the environment and impressive track records, there was a realization that by combining resources and working together in a more formal arrangement, important strides could be made.

In October 2014, after consideration of other options, including municipalization, the City signed separate franchise agreements with both utilities. The franchise agreements changed from twenty year terms, under the previous arrangement, to five-to-ten year terms, and were contingent upon establishment of and progress on the Clean Energy Partnership.

The Partnership functions through its Clean Energy Partnership Board (Board), Energy Vision Advisory Committee (EVAC), and Planning Team. This multi-directional relationship connecting the community, city and utility staff, high level policymakers, and business executives is integral to the success of the partnership.

Clean Energy Partnership Structure



The Board is comprised of two city council members, the Mayor, city coordinator, and two high-level representatives from each utility. The Board meets quarterly and duties include review and approval of any efforts undertaken by the Partnership such as its two-year work plans focused on helping the City achieve its energy goals, appointment of EVAC members, and approval of an annual report.

The EVAC is a community clean energy stakeholder group representing the diversity that is Minneapolis. Members come from all sectors of the city including environmental justice, academia, business, energy efficiency, and renewable energy. This 13-member Board-appointed committee serves two-year terms.

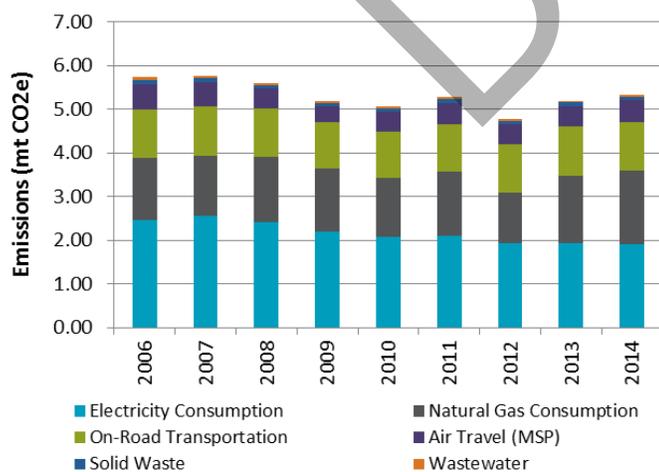
It meets quarterly and provides community feedback to aid in the Board’s decision-making. Its primary charge is to review and provide feedback and recommendations on the two-year work plan as well as on performance reports and metrics.

The Planning Team consists of the City’s Sustainability Office staff, representatives of Minneapolis City Council offices that have members on the Board, staff from the Mayor’s office, and staff from Xcel Energy and CenterPoint Energy. The Planning Team is responsible for implementing the work of the Partnership.

FIRST YEAR HIGHLIGHTS

Much of the first year focused on establishing the Partnership structure, including Board procedures, EVAC appointments and procedures, developing the first two-year work plan, establishing eight metrics (which form the basis of the Annual Report), coordinating communications, and learning to leverage the resources available at each partner organization to further initiatives.

Minneapolis greenhouse gas emissions from citywide activities



Greenhouse Gas Emissions Overall, 2014 city wide greenhouse gas emissions are down 7.5% from 2006 levels (2015 is not yet available). Colder than average weather drove an increase in natural gas consumption

in 2014, though weather-normalized use per residential customer has been largely flat since 2007 . Overall emissions from electricity were 22.5% lower than in 2006. In late 2015, Xcel Energy announced a bold proposal to the Minnesota Public Utilities Commission, an accelerated transition from coal energy to renewable energy which would reduce electricity-related carbon emissions 63% by 2030.

Commercial Buildings In 2015, all private commercial buildings over 50,000 square feet and public buildings over 25,000 square feet reported their natural gas, electricity and water usage as part of the City’s Energy Benchmarking Disclosure Ordinance. In 2015, Xcel Energy developed an online tool to automatically upload usage information into the ENERGY STAR benchmarking platform to make it easier to comply. In October, 2015 the City launched the Minneapolis Building Energy Challenge for benchmarking buildings to reduce greenhouse gas emissions from commercial building energy use 15% by 2020. In 2015, utility and City staff collaborated through customer outreach and focused energy forums to make business customers aware of both the utility offerings and the savings opportunities in their buildings, leveraging the Benchmarking Report for outreach.

Residential Buildings Residential natural gas customers use about 950 therms per year, on average, resulting in emissions of about 5 metric tons of CO₂e. Residential (1-4 units) electric customers in Minneapolis use about 5.6 MWh per year, on average, resulting in emissions of about 2.8 tons of CO₂e. Both utilities offer comprehensive energy efficiency programming to help customers save energy and money and reduce their carbon footprint . In 2015 Xcel Energy offered bonus rebates to its residential customers such as point of sale lighting rebates, refrigerator recycling and Home Energy Squad co-pay discounts.

Home Energy Squad (HES) Delivered by the Center for Energy and Environment on behalf of the two

utilities, the Home Energy Squad (HES) provides residential customers with direct installations of energy saving devices such as LED lighting weatherstripping, and programmable thermostats along with an energy audit of the home. In 2015 there were 1,198 HES visits (renter and owner occupied) compared to 731 in 2014. The City offered 0% financing for major residential energy efficiency loans.

Low Income Programs Both Xcel Energy and CenterPoint Energy offer a number of programs to help low income customers improve the energy efficiency of their homes. In 2015 the two utilities spent a combined total of over a million dollars on these programs to benefit Minneapolis customers, and leveraged nearly an additional million dollars in federal support for residential weatherization programs. In addition, the City of Minneapolis provided funds to support free Home Energy Squad visits for income-qualified customers.

Air Sealing and Insulation Given Minneapolis's older housing stock, ensuring that homes are properly air sealed and insulated is an important aspect of reducing greenhouse gas emissions, in addition to the benefits for resident health and comfort. CenterPoint Energy offers rebates to customers completing air sealing and insulation work; in 2015 about 335 Minneapolis customers completed home upgrades and received rebates through the program. CenterPoint Energy is continuing to work with the Center for Energy and Environment on a pilot (launched in early 2015) aimed at increasing the number of HES participants who pursue air sealing and insulation opportunities.

Multi Family The multi-family segment is particularly important to the City as 51% of its residents are renters. Both utilities have historically and currently offer CIP programs to help the multi-family segment. However, in October 2015, CenterPoint Energy and Xcel Energy jointly launched the Multi-Family

Building Efficiency program. This unique program targets landlords by offering tiered incentives ranging from 15-25% of upgrade costs for efficiency improvements in market rate buildings. Low income buildings are eligible for up to 80% rebates for improvements. This program provides a free energy assessment, free direct installation of energy efficient lighting and other energy-saving measures in common areas and units, an energy usage report with potential energy savings opportunities, implementation support, and education materials for residents and staff.

Solar and Wind Production Xcel Energy currently offers three renewable energy options in Minneapolis: Windsource, Solar*Gardens Community and Solar*Rewards (rooftop). With the establishment of the Community Solar Garden (CSG) program in 2015, no CSG's were built, operational or available to Minneapolis residential or business customers before year end. However, Xcel Energy expects over 250 MW of CSG's online by the end of 2016. New solar interconnections within the city increased approximately 40% from 2014 to 2015.

RECOGNITION

The Partnership has given numerous presentations around the country and also received ample media coverage since its formation. In addition:

At the invitation of the Pope, Mayor Hodges visited the Vatican to discuss the relationship between climate change and human trafficking. Mayors from 65 cities around the world attended and people were very interested in the work being done by the Partnership.

The American Council for an Energy-Efficient Economy ranked Minneapolis number seven on a list of the fifty-one most energy-efficient cities and was one of the most-improved. This recognition is due in part to the Partnership.

In late 2014, Minneapolis was recognized by the White House as one of sixteen Climate Action Champion communities because of the City's leadership in reducing carbon pollution and attempting to structure a new relationship with utilities.

MOVING FORWARD

In 2016, the Partnership will be taking the learnings and relationships from this first year to further advance our clean energy goals. This is expected to include:

- Dive deeper into this first annual report using census tract-level demographic, socioeconomic, energy usage and utility program participation data to identify characteristics and geographies of residential populations in Minneapolis that are currently underserved by utility energy efficiency programs. The Partnership will continue to improve on the quality of the data.
- Develop policy and programmatic solutions to increase overall participation. The Board has agreed to fund one to three pilot projects to identify and overcome barriers to participation by contracting with local community-based organizations to engage one or more of the identified underserved communities. The primary goals of the pilot are to increase participation in utility Conservation Improvement Programs as well as test engagement and outreach

approaches that are scalable and replicable.

- Seek applications from the public to serve a two-year term on the Energy Vision Advisory Committee for 2017-2018 (existing EVAC members may reapply).
- Begin drafting 2017-2018 Work Plan using the findings in this annual report to make better informed decisions.
- Seek additional resources and strengthen relationships with other interested parties.

The first year of the Partnership was challenging as we strove to form relationships, develop operational procedures, and effectively bring about synergies and focus. The Board's support and engagement has been critical in advancing this work. EVAC has been a pivotal partner in making recommendations on metrics, work plan and community engagement. The Planning Team is committed to meaningful future joint efforts.

The Clean Energy Partnership continues to have the potential to provide a groundbreaking model for cities and utilities to work together to advance both greenhouse gas reduction and equity goals. This is the first time that investor-owned utilities have formally partnered with a municipality in this way to achieve a city's energy efficiency and renewable energy goals through collaborative program and policy development. Additionally, this is the first time these utilities have analyzed program participation data at this geographic scale (census tract level).



Introduction

The City of Minneapolis, Xcel Energy and CenterPoint Energy launched the Minneapolis Clean Energy Partnership (Partnership”) in January of 2015. This first-in-the-nation approach partners the City of Minneapolis (City) in a unique way with Xcel Energy and CenterPoint Energy as the electric and gas utility providers to help the City reach its Climate Action Plan and Energy Vision for 2040 goals. The Partnership is a collaborative leadership framework through which the City and utilities study, prioritize, plan, coordinate, implement, market, track, and report progress on clean energy activities within the city. This inaugural annual report captures the 2015 efforts in developing the partnership’s structure, relaying its activities, and establishing work plan and baseline metrics for measuring progress.

BACKGROUND

Minneapolis has a long history of climate action, dating back to the 1993 Minneapolis-St. Paul CO₂ Reduction Project, which established the City’s first emissions reduction goals and identified strategies to meet those goals. In 2013, the City adopted the Minneapolis Climate Action Plan, which identifies a roadmap for the city to meet its current greenhouse gas emissions (GHG) reduction goals of 15 percent by 2015, 30 percent by 2025. In early 2015, the City revised its goal to include a GHG reduction goal of 80 percent by 2050.

CenterPoint Energy and Xcel Energy also have longstanding commitments to the environment and impressive track records. Xcel Energy is the number one wind energy provider in the U.S. for the twelfth year in a row and among the top ten U.S. utilities for the amount of solar power in its portfolio. Both Xcel Energy and CenterPoint Energy are recognized as national leaders in energy efficiency programs. In particular, CenterPoint Energy has seen more than a

90% increase in energy savings* in Minnesota from 2007 to 2013. Both are seeking ways to improve these programs, especially in underserved communities, and achieve additional cost-effective energy savings.

The Partnership arose following discussions about the renewal of the City’s utility franchise agreements, which were set to expire in December 2014, and how those renewals could leverage utility resources to better advance the City’s goals. Under Minnesota state law, many communities negotiate franchise agreements with utility companies to identify the conditions under which the companies are allowed to use public streets and right of way to provide service to local residents and businesses.

To review available options ranging from traditional franchise renewal to full municipalization of the electric and natural gas utilities, the City commissioned a study by the Center for Energy and Environment call the Energy Pathways Study. The results of the “Key Recommendations” of the study were presented to City Council in February 2014. Those recommendations included; renewal of the current energy franchise agreements while simultaneously negotiating Clean Energy Partnership agreements – a strategy for finding ways to work collaboratively to achieve the City’s climate action and energy vision goals.

Following this model, in October of 2014, the City signed separate franchise agreements with both utilities. The franchise agreements changed from twenty year terms, under the previous arrangement, to five-to-ten year terms, and were contingent upon progress on and establishment of the Clean Energy Partnership.

*Energy savings in this report includes only the first year of savings from implemented measures.

PARTNERSHIP STRUCTURE AND DUTIES

The Partnership functions through its Clean Energy Partnership Board (Board), Energy Vision Advisory Committee (EVAC), and Planning Team. This multi-directional relationship connecting the community, city and utility staff, high level policymakers, and business executives is integral to the success of the partnership. See Appendix A for a listing of 2015 Board, EVAC, and Planning Team members.

The Partnership Board comprises two city council members, the mayor, city coordinator, and two high-level representatives from each utility. The Board meets quarterly and duties include review and approval of any efforts undertaken by the Partnership such as its two-year work plans focused on helping the City achieve its energy goals, appointment of EVAC members, and approval of an annual report.

The EVAC is a community clean energy stakeholder group representing the diversity that is Minneapolis. Members come from all sectors of the city including environmental justice, academia, business, energy efficiency and renewable energy. This 13-member Board-appointed committee serves two-year terms. It meets quarterly and provides community feedback to aid in the Board's decision-making. Its primary charge is to review and provide feedback and recommendations on the two-year work plan as well as on performance reports and metrics. In addition, EVAC has formed subcommittees that have met frequently to complete significant work on recommendations regarding metrics and a community engagement process for future work.

The Planning Team consists of the City's Sustainability Office staff, representatives of Minneapolis City Council offices that have members on the Board, staff from the Mayor's office, and staff from Xcel Energy and CenterPoint Energy. The Planning Team is responsible for implementing the

work of the Partnership.

By combining the resources of the Partnership, the group is producing, for the first time, an annual report with formerly siloed information from all three partners to create a complete picture of the City's greenhouse gas profile related to buildings and energy production, consumption, and savings opportunities. To this end, the utilities gathered data for customer program participation and energy usage data for the City of Minneapolis. Additionally, the utilities are working on new geographically-focused data production methods for the development of baseline metrics and targeted outreach plans. Ultimately, these data will allow the partners to craft goals and milestones in a responsible, data-driven way.

Similarly, the Partnership creates opportunities to collaborate on some of the most stubborn gaps, such as the way that the City and utilities interact with underserved populations. Information sharing about utility program participation, translation and interpretation services, outreach and engagement models, and a host of other topics are a standard part of weekly Planning Team meetings. In addition to geographically-focused outreach, the partners are looking at customer usage, participation, and outreach through an equity lens to understand who the utilities' programs have and have not reached.

FIRST YEAR (2015) PARTNERSHIP WORK

Much of the first year focused on establishing the Partnership structure, including Board procedures, EVAC appointments and procedures, developing the first two-year work plan, establishing metrics, coordinating communications, and learning to leverage the resources available at each partner organization to further initiatives.

2015-2016 Work Plan The Work Plan (Appendix B) is designed to leverage statewide policies, city municipal regulatory authority, community

relationships, and utility expertise and programs to increase the penetration rate of energy efficiency and renewable energy as well as raise awareness and equity of energy services in Minneapolis. Specific engagement tools were identified with each target segment: 1-4 Unit Residential, Multi-family, Small Commercial, Large Commercial, and City Enterprise.

Metrics Following development of the Work Plan, the Board approved metrics based on recommendations of EVAC and the Planning Team (Appendix C). These metrics will inform the Board of progress in the Partnership, helping the partners understand what activities are happening in the community and determine the level of success. Metrics also form the basis of each Annual Report. Compiling metrics includes significant data collection from all three partners including program participation data combined with data on building types, income, race, or other demographics (Appendix D) to determine which areas of the community are currently being well-served, less-served or under-served.

Key Partnership-Related Activities The partners were highly active in working toward Work Plan goals in the targeted segments and at the utility level. In addition, they were acknowledged for the innovative Partnership by national and global entities. The following bullets provide a list of the activities undertaken during the first year of the Partnership.

Residential and Multi Family Housing

- The City of Minneapolis bought down the customer co-pay for Home Energy Squad visits to income-qualified Minneapolis households during the fall of 2015. The Home Energy Squad visits bring energy efficiency experts to participants' homes to install energy-saving materials and make recommendations on energy-saving upgrades. For a limited time, the City of

Minneapolis also offered no-interest financing to participants making insulation and air sealing upgrades recommended by the Home Energy Squad.

- CenterPoint Energy and Xcel Energy launched a new joint Multi-Family Building Efficiency program for buildings with five or more units for its combined service territory (including outside of Minneapolis). This whole building gas and electric program is targeted at multi-family building owners, the decision makers. It offers an audit, direct installation of LED's in common areas, CFLs in tenant units, showerheads, faucet aerators and LED's in exit signs and scaled incentives that increase substantially with energy efficiency investment. Building owners receive a report of their energy consumption before the retrofits, consulting support for deeper improvements requiring engineering, retrofitting or equipment. This program is in direct alignment with the 2015-2016 Work Plan. CenterPoint Energy and Xcel Energy noted that they collaborated more deeply on this program than they had in the past, and this has been attributed to the Partnership.
- Working with the Center for Energy and Environment and with the cooperation of Xcel Energy, CenterPoint Energy began a pilot program designed to streamline the process for customers participating in Home Energy Squad to follow through on recommended air sealing and insulation upgrades throughout their combined service territory. The goal of the pilot is to evaluate whether adding additional customer support, engagement and convenience in a "one-stop" design can successfully and cost-effectively increase implementation of recommended improvements. Initial results of the pilot are encouraging, and suggest both that the additional services are successful at encouraging

customers to follow through on recommendations and that they can be delivered cost-effectively as part of the Home Energy Squad visit. The pilot is ongoing in 2016.

- CenterPoint Energy included an insert in the City's August utility bills offering up to three free low-flow showerheads and faucet aerators per household or unit that resulted in 1,299 requests for 2,654 shower heads and 3,164 aerators. Calculated energy savings from those requests are about 10,000 dekatherms of energy which equates to the annual energy use of 111 residential houses in Minneapolis; and a decrease of 500 tons of carbon dioxide annually.
- The City, in conjunction with NRG Energy, Meet Minneapolis, Xcel Energy and CenterPoint Energy held a free energy fair for residents to learn how to make their home more energy efficient, sign up for money-saving energy programs, and learn about options to go solar.
- In April, Mayor Hodges announced during her State of the City address a year-long challenge to the community to join her in becoming a Minneapolis Climate Champion, challenging the community to commit to doing easy, everyday activities that will reduce individual carbon footprints and contribute to our citywide carbon reduction goals. Where possible, those monthly challenges were aligned with utility program promotions to further leverage the efforts.
- In August, a group of EVAC members formed an engagement working group with a goal of creating a tool/template that can be used to flesh out more detailed community engagement plans by segment over the life of the Partnership and bring to the Board in January 2016.

Commercial Buildings

At a fall press event, the city formally challenged large commercial buildings to reduce greenhouse gas

emission 15% from 2014 by the year 2020.

- The City received a small Minnesota Pollution Control Agency grant that covers the majority of the costs when applying for an ENERGY STAR® Certification. The goal is to raise awareness among business owners and tenants on energy efficiency.
- 2015 was the third year of the City's energy benchmarking disclosure ordinance focused on the largest buildings. 429 buildings participated (representing about 50% of City's commercial space) and had an average Energy Star score of 74.
- In late 2015, as part of the federal Department of Energy's Better Buildings Initiative Data Accelerator Project, Xcel Energy launched its Energy Benchmarking Tool. This service provides an automatic feed of buildings' meter readings directly to ENERGY STAR Portfolio Manager and make the information available to groups to use for organization of different initiatives; targeted outreach and marketing.
- The City approved three Property Assessed Clean Energy (PACE) projects in 2015 (four projects in 2014) – this is an innovative way to finance energy efficiency and renewable energy upgrades to commercial buildings.

City Enterprise

- The City began rollout of its LED light conversion on city owned streetlights. Xcel Energy filed to add a LED streetlight tariff with the Public Utilities Commission so it could begin rollout in Minnesota. In the spirit of the Partnership, the City and Xcel Energy met numerous times prior to the filing to discuss the program and rate calculations. The City had remaining questions and continues to participate in the proceedings.
- The City of Minneapolis has signed 23

subscription agreements with four solar garden operators for 7.5 million kilowatt hours of solar energy. This is about seven percent of the City government's annual electricity use. Community solar gardens are centrally located solar electricity systems that provide clean, renewable electricity for their subscribers.

Power Production

- In October, Xcel Energy announced a bold proposal to the Public Utilities Commission, an accelerated transition from coal energy to renewable energy. The Plan calls for a system portfolio that is 63% carbon free by 2030. This is accomplished by ceasing coal-fired generation at the SHERCO coal plant units 2 and 1 in 2023 and 2026, respectively, and moving up in time substantial new renewable generation to 1,200 megawatts by 2020. By 2030, renewables are proposed to be 35% of Xcel Energy's portfolio. The role of Xcel Energy's generation portfolio is important to the City's ability to reach its GHG reduction goals. This is yet another example of where the City and Xcel Energy could work together in Partnership to leverage common goals.

Recognition

- At the invitation of the Pope, Mayor Hodges visited the Vatican to discuss the relationship between climate change and human trafficking. Mayors from 65 cities around the world attended and people were very interested in the work being done by the Partnership.
- The American Council for an Energy-Efficient Economy (ACEEE) ranked Minneapolis number seven on a list of the fifty-one most energy-efficient cities and was one of the most-improved. This recognition is due in part to the Partnership.
- In late 2014, Minneapolis was recognized by the White House as one of sixteen Climate Action Champion communities. This recognition was due to the City's leadership in reducing carbon pollution and attempting to structure a new relationship with utilities.

Metric 1: Citywide Greenhouse Gas Emissions

	Metric	2014
1.0	Citywide emissions (metric tons CO ₂ e)	5,299,258
1.1	Emissions from electricity use (metric tons CO ₂ e)	1,904,136
1.2	Emissions from natural gas use (metric tons CO ₂ e)	1,691,579

Description: The citywide greenhouse emissions inventory is an accounting of greenhouse gas emissions from Minneapolis, which includes emissions from buildings, transportation (cars, trucks, and airport), and waste.

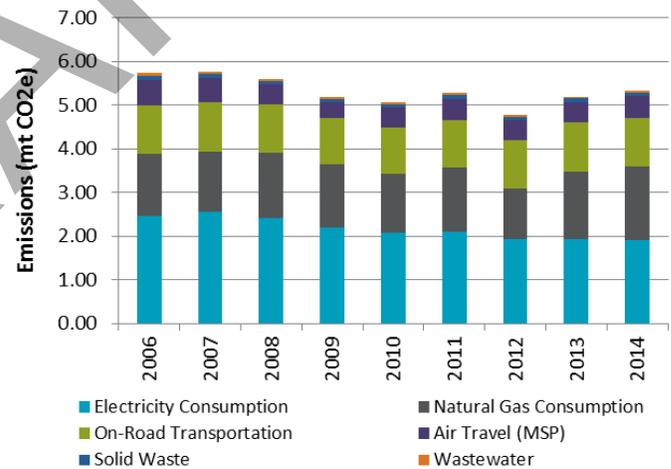
Results: Overall, 2014 citywide greenhouse gas emissions are down 7.5% from 2006 levels.

Colder than average winters are driving an increase in natural gas use. In 2013 and 2014, the Twin Cities experienced 12% and 17.5% more heating degree days than the previous ten year average, respectively. Since 2006, emissions from natural gas consumption in Minneapolis grew 17.5%, representing the largest increase in the emissions inventory. Normalized for weather, natural gas consumption declined 9% per heating degree day over 2006.

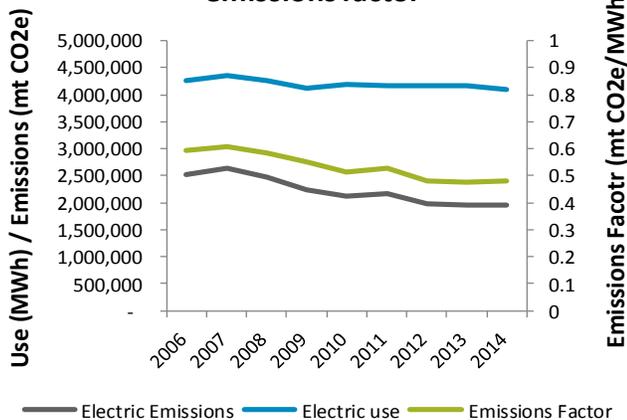
In the last 8 years, Minneapolis building stock grew by 2,953 buildings and 27 million square feet, while electricity consumption declined.

In 2014, emissions from electricity were 22.5% lower than in 2006, representing the largest decline in the emissions inventory. Increases in energy efficiency and reduced carbon intensity led to the change. Carbon intensity has declined 19.1% over the last 10 years due to a cleaner fuel mix. Since 2005, Xcel Energy's Upper Midwest fuel mix replaced coal with 10% more wind and 8% more natural gas.

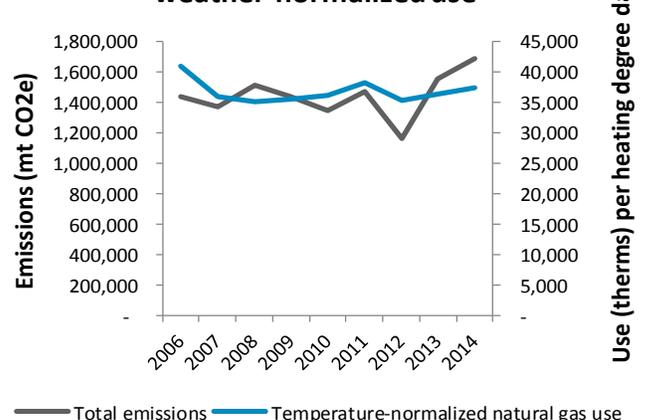
Minneapolis greenhouse gas emissions from citywide activities



Yearly electricity use, emissions, and emissions factor



Yearly natural gas emissions and weather-normalized use



Metric 2.0-2.1: Commercial Building Energy Use

	Metric	2014
2.0	Commercial/Industrial building electricity use (MWh)	3,088,342
	Commercial building natural gas use (therms)	158,655,415
2.1	Average ENERGY STAR score of benchmarked buildings	74
	Average EUI of benchmarked buildings (kBtu/ft ² /yr)	99
	Total site energy use of benchmarked buildings (kBtu)	8,176,575,652

Description: The City of Minneapolis measures energy use from commercial buildings as part of its greenhouse gas emissions inventory. Electricity data is available for combined commercial and industrial sectors, while natural gas data is available specifically for the commercial sector.

Private commercial buildings greater than 50,000 square feet and public buildings greater than 25,000 square feet benchmark as part of the Commercial Building Benchmarking and Transparency ordinance. These buildings report performance to the City by June 1 for the previous calendar year using the ENERGY STAR Portfolio Manager software tool. As the saying goes, ‘you can’t manage what you don’t measure,’ and thus, the purpose of the benchmarking is to spur building owners and managers to measure building efficiency in order to better manage it. The building performance data is also made publicly available with the aim of giving the marketplace building performance information so that the market can drive higher efficiency.

Initiatives: Since the benchmarking buildings make up 50% of the commercial space in the City, a key part of addressing commercial energy use is to improve efficiency in the benchmarking buildings. To help buildings comply with the benchmarking ordinance, Xcel Energy and CenterPoint Energy worked to provide necessary account and usage information to building owners and managers. Xcel Energy

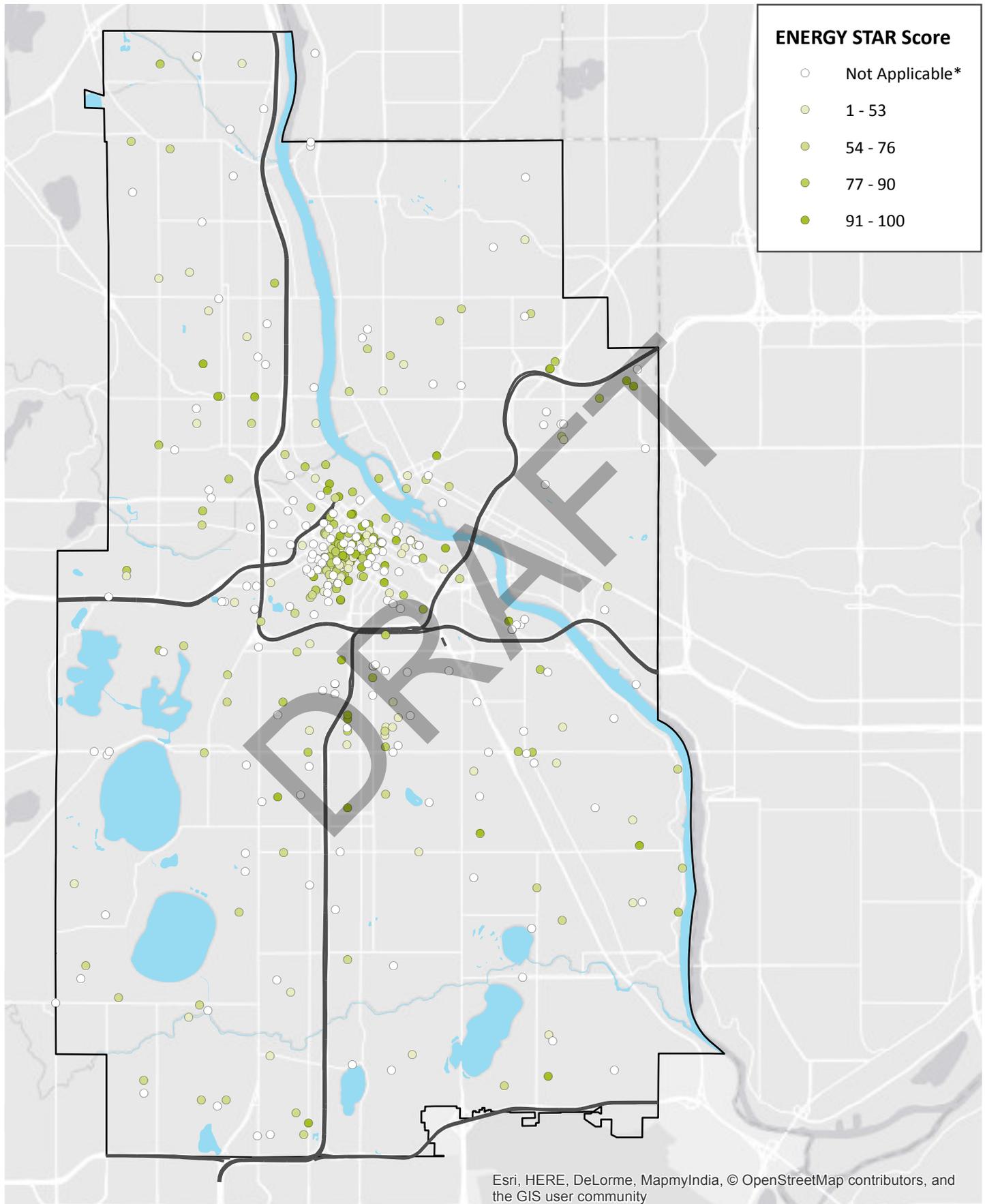
sought to improve customer whole building energy data access by participating the Department of Energy’s Data Accelerator Program. Through that program, they began development an online tool to automatically upload usage information into the ENERGY STAR benchmarking platform.

In October, 2015, the City launched the Minneapolis Building Energy Challenge for benchmarking buildings to reduce greenhouse gas emissions from commercial building energy use 15% by 2015. This goal is in step with the City’s Climate Action Plan goal of 30% greenhouse gas reduction by 2025. Mayor Hodges, Council Member Glidden, and Xcel Energy’s Laura McCarten kicked off the challenge by recognizing six high performing buildings in three categories.

Results: Overall, 429 buildings benchmarked and submitted data to the City. Buildings with property types able to earn scores showed a relatively high average score of 74 (50 is the national median and a score of 75+ qualifies for ENERGY STAR certification). Average and total benchmarked building EUIs of 99 and 38,394 respectively includes all buildings.

Beyond benchmarking, a diverse mix of 15 public and private buildings have committed to the Minneapolis Building Energy Challenge. Progress of participating buildings will be monitored and celebrated as time goes on.

Metric 2.1: Benchmarked Commercial Buildings, 2014



Data source: City of Minneapolis 2014 Energy Benchmarking Report

20 property types (i.e. office, hotel, K-12 school) are eligible for ENERGY STAR scores. All other property types do not receive scores.

Draft 05/20/2016

Metric 2.2: Commercial Utility EE Program Utilization

	Metric	2014	2015
2.2	Commercial utility energy efficiency program participation	CNP: 1,096 rebates; 311 customers XE: 668 rebates; 653 customers	CNP: 1,219 rebates; 473 customers XE: 1,249 rebates; 757 customers
	Incentive dollars	CNP: \$809,865 XE: \$3,134,393	CNP: \$720,490 XE: \$4,235,490
	Estimated energy savings	CNP: 4,343,071 therms XE: 36,160,509 kWh	CNP: 2,668,485 therms XE: 43,204,422 kWh
	Estimated cost savings	CNP: \$2,844,873 XE: \$1,952,667	CNP: \$1,280,162 XE: \$4,622,873

Description: CenterPoint Energy and Xcel Energy offer a variety of EE programs to their commercial and industrial customers in Minneapolis. These include incentives to pursue EE in heating, cooling, lighting, cooking, manufacturing, and other end uses. Additionally, both utilities provide consultation in the design and construction of new commercial buildings to preemptively improve new building EE.

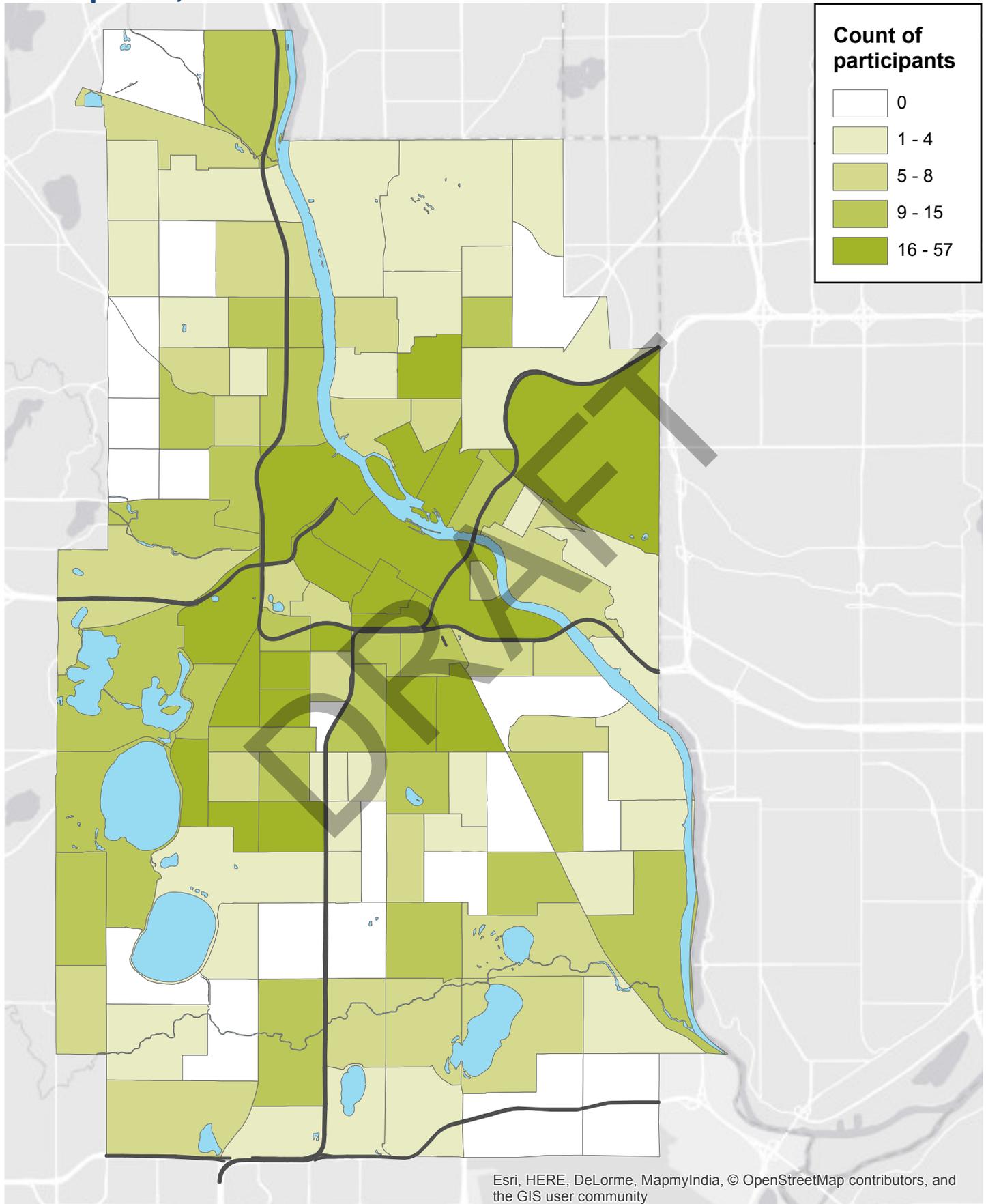
Initiatives: Xcel Energy's Energy Design Assistance (EDA) program offers two approaches for its commercial customers. One is an integrated design approach that utilizes energy modeling to determine whole building energy savings and provides customized rebates. The second is for smaller, less complicated projects. Both approaches seek to meet the needs of our customers. EDA has been marketed primarily through the design community, and having been in existence since the mid 90's, established relationships through trade networks of design teams has made this program very successful. EDA is a joint program offered by both utilities to

their shared customers. In 2015, utility and City staff collaborated through customer outreach and focused energy forums to make business customers aware of both the utility offerings and the savings opportunities in their buildings, leveraging the Energy Benchmarking Report for outreach.

Results: Using 2014 as a baseline for Commercial Programs offered by both utilities, there were slight fluctuations in usage and participation. While there was a steep uptick in participation for both entities, a perfect correlation between participation and energy savings does not exist. Xcel Energy observed a 78% increase in commercial lighting participation from 2014-2015. Participation in CenterPoint Energy's EDA project more than doubled, as did energy savings driven by the program; overall participation increased 52%. Of the 24 total EDA projects in 2015, 11 of those 24 were joint CenterPoint Energy and Xcel energy projects (Appendix E). Note that the data above include some multi-family buildings, also included under Metric 8.

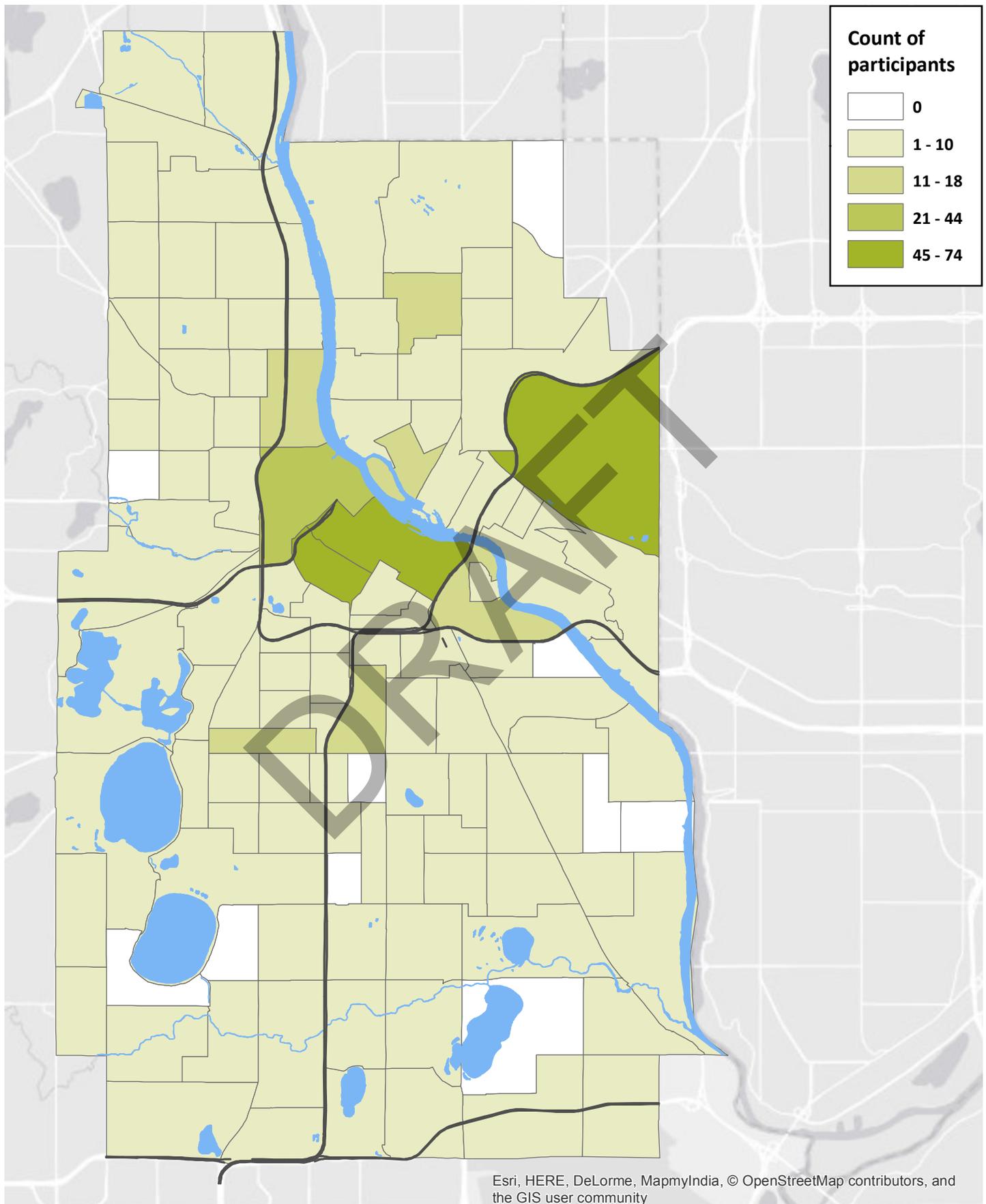
2015 Energy Design Assistance	Participants	Energy Savings	Rebates
Xcel Energy	24	5,847,225 kWh	\$592,603
CenterPoint Energy	11	400,317 therms	\$140,596

Metric 2.2: CenterPoint Energy Commercial EE Program Participation, 2015



Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Metric 2.2: Xcel Energy Commercial Program Participation, 2015



Data source: US 2010 Census, Xcel Energy

Draft 05/20/2016

Metric 3: Residential Building Energy Use

	Metric	2014	2015 ¹
3.0	Total electric use by residential customers (kwh)	980,965,000	Not yet available
	Total natural gas use by residential customers (therms)	130,883,472	Not yet available

Description: Residential energy consumption derives primarily from two sources in Minneapolis natural gas and electricity.

Natural Gas: CenterPoint Energy provides natural gas service to Minneapolis residents. Residential natural gas customers in Minneapolis average about 950 therms of usage per year, resulting in just over 4.5 tons of CO₂ emissions annually per customer. There are about 120,000 residential natural gas customers in Minneapolis.²

For most homes, natural gas is used for space heating and domestic hot water. Space heating is significantly influenced by Minnesota's extreme weather (cold winters) and building stock age. In Minneapolis, over 80% of the homes were built before World War II, before basic energy-efficiency features, such as insulation, were required by state building code.² The Center for Energy and Environment (CEE) estimates that nearly 40% of Minneapolis's homes built before WWII, or one-third of the city's housing stock, have never upgraded their wall insulation, which can increase a home's heating efficiency by as much as 30% to 50%.³

Electricity: In Minneapolis, Xcel Energy provides electricity. There are over 174,000 residential electric customers in Minneapolis. The average annual electric consumption per household is about 5,624 kWh per year. This results in approximately 2.82 tons of CO₂ emissions per customer per year.

Electricity is used for appliances, air conditioning, lighting, and other plug loads. Air conditioners and refrigerators are often the first and second largest users of electricity in the home.⁴ Other major

sources of electricity demand include lighting and personal electronic devices, such as cell phones, computers, tablets, etc. Installing insulation, replacing old appliances with energy efficiency models, installing efficiency light bulbs, such as LEDs, and powering off devices or using energy saving power strips can reduce electricity use.

Initiatives: In 2015 Xcel Energy offered bonus rebates to its residential customers such as point of sale lighting rebates, refrigerator recycling and Home Energy Squad co-pay discounts. Xcel Energy communicated these bonuses through City channels, such as City Council Member newsletters and social media, and promoted its energy efficiency, demand response and renewable energy options by sponsoring and attending 19 community events within the City. In addition to its comprehensive rebate offerings to promote residential natural gas efficiency, CenterPoint Energy partnered with the City to promote its low-flow showerhead and faucet aerator program through the City's utility bills.

Results: Overall residential energy use results are currently unknown.¹ However, Metrics 4 and 5 discuss the results of participation in residential specific renewable electricity programs and the utilities' combined energy savings program Home Energy Squad respectively.

¹ 2015 data will be available mid-late summer.

² Many apartment-dwellers whose buildings are served by a central heating system would not be included in this figure. Minneapolis's residential sector is made up of 51% renters.

³ Source: Center for Energy and Environment, Energy Fit Homes Report

⁴ Source: MN Department of Commerce, Home Energy Guide