

Ridgedale Mall Solar Installation, Minnetonka, MN © 2020 Strata Solar Durham, NC.



# City of Minnetonka, Minnesota **ENERGY ACTION PLAN** June 2020



 **Xcel Energy**<sup>®</sup>  
**PARTNERS IN ENERGY**  
An Xcel Energy Community Collaboration



## Acknowledgements

Thank you to the following individuals who contributed many hours of service to developing this Energy Action Plan.

The content of this plan is derived from a series of planning workshops hosted by Xcel Energy's Partners in Energy. Xcel Energy is the main electric utility serving Minnetonka. Partners in Energy is a two-year collaboration to develop and implement a community's energy goals. For more information about the planning workshops, see Appendix 3.

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## Introduction

Minnetonka is a beautiful community set among lakes, streams, wetlands and known for its stunning natural areas. The City of Minnetonka believes that all community members, residents and businesses alike, can engage in opportunities to increase energy efficiency, save money, and stay comfortable.

This will help our community to sustain its sought-after resources and be resilient as the community grows and changes. We hope that through this plan we can provide structure to our community’s long- and short-term energy initiatives in an achievable way and that the City lead by example.



*Photo by Jeff Larson  
2019 Minnetonka Photo Contest Winning Entry*

## Why an Energy Action Plan?

Minnetonka has made great progress toward integrating energy efficiency practices into day-to-day operations and prioritizing energy efficiency opportunities. The City identified energy action planning as a way to create a shared energy vision, identify focus areas, and develop actionable strategies to engage our community in energy-saving initiatives.

Created by the Minnetonka community, this Energy Action Plan creates intention, addresses problems, and leverages our values. It also serves as an important “next step” in the City of Minnetonka’s journey toward sustainability — offering the opportunity to learn best practices that can be employed in future initiatives.

Our efforts will be initiated over an 18-month period, aligning with Phase 2 of

our Partners in Energy experience. Xcel Energy’s Partners in Energy will provide marketing and communications support, data tracking and measurement, program expertise, and project management. Partners in Energy will also provide Minnetonka’s Energy Action Team access to webinars, best practices from other community energy action plans, and other resources to support our implementation. See Appendix 3 for more information about Partners in Energy.

It’s important to understand that this Energy Action Plan is a living document. Goals and strategies will be assessed and refined as needed based on data, technology advances that may change priorities, other initiatives being undertaken, and Minnetonka Energy Action Team capacity. We anticipate review of plan priorities every 2–3 years, beginning with a reassessment at the end of the 18-month implementation period.

**Table 1: Energy Action Team responses to "Why an Energy Action Plan?"**

Problems	Opportunities
<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Greenhouse gas emissions</li> <li>• Energy and infrastructure costs</li> </ul>	<ul style="list-style-type: none"> <li>• Renewable energy</li> <li>• Low carbon footprint</li> <li>• Energy efficiency</li> <li>• Attract new families/businesses</li> </ul>
Values	Responsibility to Act
<ul style="list-style-type: none"> <li>• Environmental stewardship</li> <li>• Informed public</li> <li>• Conserve resources</li> </ul>	<ul style="list-style-type: none"> <li>• Be prepared for the future</li> <li>• Government’s role</li> <li>• Community-wide approach</li> <li>• Influence others</li> </ul>

## Where Are We Now?

### **Minnetonka Sustainability Initiatives**

Minnetonka enjoys a long history of commitment to sustainability and values its environment as a distinguishing advantage for its residents and businesses. Evidence of the city's commitment to sustainability is found in its participation and leadership in the initiatives below. See Table 2 below for a complete recap of Minnetonka's sustainability initiatives.

#### ***GreenStep Cities***

Since December of 2013, Minnetonka has participated in [GreenStep Cities](#). This voluntary challenge, assistance, and recognition program helps Minnesota cities achieve their sustainability and quality-of-life goals.

There are five steps in the GreenStep Cities program. In 2020, the City of Minnetonka became a Step 5 member of the program. In 2019, only 21 of the 140 participating cities had achieved Step 4 or 5.

#### ***Regional Indicators Initiative***

Minnetonka is also one of 23 Minnesota cities participating in the [Regional Indicators Initiative](#).

The initiative collects data about energy, water, travel, and waste, and calculates greenhouse gas emissions and costs associated with each indicator.

#### ***B3 Benchmarking***

Funded by the Minnesota Departments of Commerce and Administration, B3 Benchmarking puts the power of public building energy data in the hands of Minnesota public building owners to manage and reduce energy costs.

The City of Minnetonka provides [public building energy consumption data](#) to the B3 Benchmarking program. Providing this data helps the City monitor and improve energy consumption at our facilities.

#### ***Home Energy Squad® Visit Buy-down***

Home Energy Squad is a home energy audit program for Xcel Energy and CenterPoint Energy customers to help residents learn more about their home's energy use and identify opportunities to save. In 2019, the City of Minnetonka paid for half the cost of a Home Energy Squad Enhanced visit for the first 140 households to sign up. With a visit, residents receive a report on their home's energy use, plus energy-saving measures installed on the spot, including LED bulbs, a programmable thermostat, door and attic hatch weather-stripping, and high-efficiency showerheads. This program was so successful, the City doubled the buy-down program in 2020 to cover 280 households.

#### ***Community Solar Gardens***

The City participates in Xcel Energy's Solar\*Rewards Community program. All City buildings, streetlights, and water systems are fully subscribed to receive solar energy from community solar gardens, which supports renewable energy development and has significant cost savings. Minnetonka is one of a few cities in the state — and the entire country — fully subscribed to solar gardens.<sup>1</sup>

<sup>1</sup> "Solar Energy," City of Minnetonka. <https://www.minnetonkamn.gov/our-city/sustainable-minnetonka/solar-energy>

### **Educational Events**

The City of Minnetonka regularly hosts educational events for community members to learn how to be more sustainable. In 2018 and 2019, the city hosted Midwest Renewable Energy Association (MREA) to present and discuss on-site solar opportunities with community members. In 2019, the City also hosted Citizen Utility Board of Minnesota (CUB Minnesota) to review utility bills with Minnetonka residents.

**Table 2: Minnetonka Sustainability Initiatives**

<b>Recognition Programs</b>	<ul style="list-style-type: none"><li>• GreenStep Cities</li><li>• Tree City USA</li><li>• Mayor’s Monarch Pledge</li></ul>
<b>Policies &amp; Plans</b>	<ul style="list-style-type: none"><li>• Regional Indicators Initiative</li><li>• Organics recycling and free drop-off center</li></ul>
<b>Community Initiatives</b>	<ul style="list-style-type: none"><li>• Home Energy Squad buy-down</li><li>• MREA and CUB Minnesota Events</li></ul>
<b>City-owned Buildings</b>	<ul style="list-style-type: none"><li>• B3 Benchmarking</li><li>• Fully subscribed to community solar gardens</li><li>• Upgraded to LED fixtures in City-owned buildings, parking lots, and streetlights</li><li>• Replacing old equipment with energy efficient models</li><li>• Updating building operations to include energy efficiency practices</li></ul>

### **Baseline Energy Analysis**

An integral part of the Partners in Energy planning process is reviewing historic energy data for Minnetonka to inform our goals and strategies. This includes data on energy use and participation in utility energy conservation programs, as well as savings associated with participation in those programs. Data was provided by both Xcel Energy and CenterPoint Energy for all Minnetonka premises for 2016–2018. The data helped the Energy Action Team decide where to focus efforts and allowed the group to forecast the impact of Minnetonka’s energy goals.

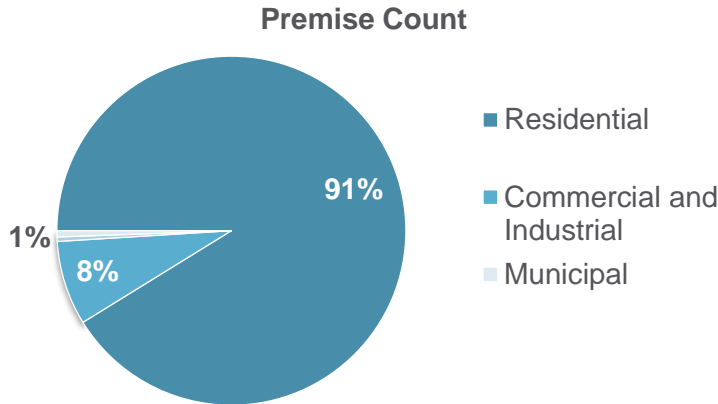
Data included in this section establish a baseline against which progress toward goals will be compared to in the future. The electricity and natural gas data in this plan comply with Xcel Energy’s 15 x15 privacy rules.

#### **Premises**

In Minnetonka, there are 26,423 electricity premises served by Xcel Energy and 20,185 natural gas premises served by CenterPoint Energy. The distribution of electric premises among residential, commercial and industrial, and City of Minnetonka (“municipal”) premises is shown below in Chart 1.

Most Minnetonka electric premises are residential. Only about 8% of premises are categorized as commercial and industrial — and about 1% are municipal premises.

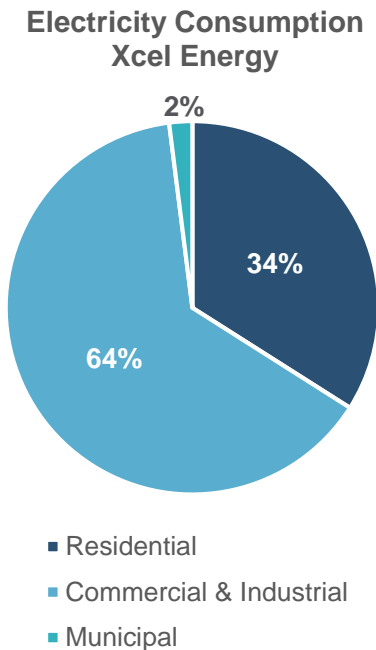
Commercial and industrial includes everything that is not residential. This can be everything from a corner coffee shop to a place of worship or large manufacturing and office buildings.



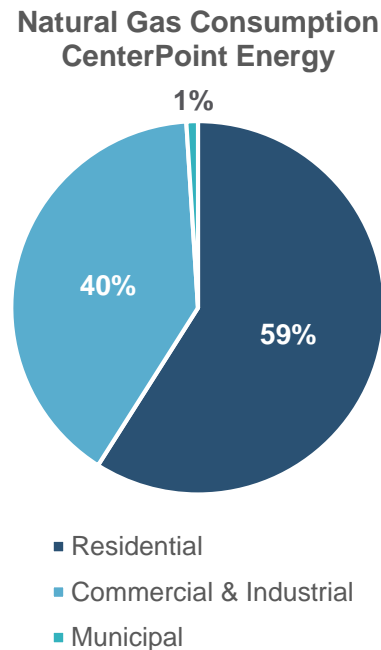
**Chart 1: 2018 Electric Premises in Minnetonka by Sector**

### *Energy Consumption*

While commercial and industrial premises make up less than 10% of premises throughout Minnetonka, these premises use about half of the energy in Minnetonka — 64% of electricity and 40% of natural gas.



**Chart 2: 2018 Electricity Consumption in Minnetonka by Sector**



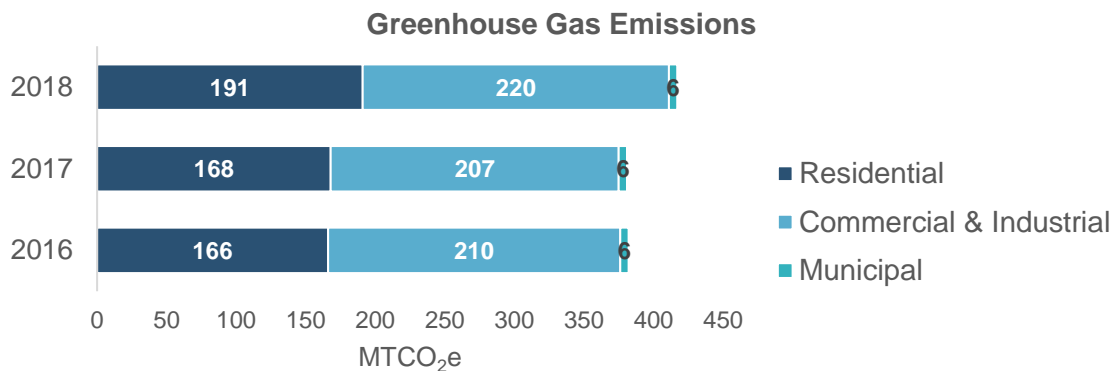
**Chart 3: 2018 Natural Gas Consumption in Minnetonka by Sector**

### *Greenhouse Gas Emissions*

Greenhouse gas emissions decreased slightly in 2017 but rose in 2018. The electricity grid has been decarbonizing overall (i.e., getting greener), but 2018 was a year that was much colder than recent years. Heating degree and cooling degree days are a common measurement of



weather’s impact on heating and cooling needs. Between 2016 and 2018, heating degree days increased 25%, and cooling degree days increased 11%.<sup>2</sup>



**Chart 4: 2016–2018 Minnetonka Greenhouse Gas Emissions from Natural Gas and Electricity Consumption by Sector**

### Energy Savings

Minnetonka residents and businesses have actively participated in energy conservation programs.<sup>3</sup> In 2018, Minnetonka residents and businesses participated in these programs over 3,800 times, saving nearly 58,000 MMBTU (1% of community energy use), or about \$1.2 million from reduced energy use. The most popular energy-saving programs for residents include home energy audits and efficiency rebates for heating and cooling equipment. For commercial and industrial premises, lighting efficiency programs and space- and water-heating rebates have the highest participation rates.

**Table 3: 2018 Minnetonka Participants and Savings in Utility Conservation Programs by Utility**

	Residential	Business	Total
<b>Xcel Energy</b>			
Participation Count	1,610	280	1,890
Savings (kWh)	905,628	8,328,161	9,233,789
<b>CenterPoint Energy</b>			
Participation Count	1,810	44	1,954
Savings (therms)	130,063	230,597	360,660

### Renewable Energy Support

Renewable energy opportunities exist in two forms: subscription programs and on-site installations. In 2018, 1,322 total Minnetonka residential and business premises subscribed to support renewable energy through Xcel Energy’s Windsource® and Renewable\*Connect programs, along with community solar gardens. On-site installations were less popular, with 58 residential premises participating in Xcel Energy’s Solar\*Rewards program.

<sup>2</sup> NOAA: National Centers for Environmental Information. Heating Degree and Cooling Degree data, Minneapolis Saint Paul (MSP) Airport. <https://www.ncdc.noaa.gov/cdo-web/datatools/lcd>

<sup>3</sup> Utilities offer a portfolio of state-approved energy efficiency and demand management programs through the Minnesota’s Conservation Improvement Program.

Table 4: 2018 Renewable Energy Support Summary by Sector by Program

	Residential*	Business**	Total
<b>Windsorce</b>			
Subscribers	1,095	5	1,100
Subscription Amount (kWh)	3,349,441	345,740	3,720,619
<b>Renewable*Connect</b>			
Subscribers	70	7	77
Subscription Amount (kWh)	581,543	3,570,798	4,152,341
<b>Solar*Rewards</b>			
Subscribers	58	15	73
Energy Produced (kWh)	197,899	250,683	448,582
<b>Solar*Rewards Community</b>			
Subscribers	186	113	299
Energy Produced (kWh)	1,349,451	5,571,544	6,920,995

\*24,135 estimated households in Minnetonka<sup>4</sup>

\*\* 2,400 estimated businesses in Minnetonka<sup>5</sup>

## Where Do We Go from Here?

### Our Vision

During the first workshop, the Energy Action Team provided feedback on a vision statement for this Energy Action Plan.

This statement guided the planning process and reflects the intention of the team to create an energy action plan.

### Minnetonka's Energy Vision

Minnetonka will be the community of choice for people who care about responsible energy stewardship. We will lead the metro in efficient energy management.

- Our buildings (both public and private) will be examples of the best approaches to using energy wisely.
- The Minnetonka community will show that responsible resource management is a high priority here. We will support and celebrate community practices that ...
  - Improve our understanding of resource management.
  - Reduce the impact that we have on our changing climate and limited resources.
  - Let us enjoy the financial and health benefits of these activities.
  - Sustain our vibrant, attractive community for generations to come.

<sup>4</sup> <https://www.minnetonkamn.gov/home/showdocument?id=1309>

<sup>5</sup> Ibid.

## Our Goal

Reduce energy-related greenhouse gas emissions in Minnetonka by 160,000 metric tons of CO<sub>2</sub> equivalent before the end of 2030.

Accomplishing our vision will require discipline and focus. We've set a goal that will allow us to measure tangible progress as we work toward accomplishing our vision. By focusing the community's efforts on achieving this very real, measurable goal, we ensure that all of our initiatives contribute to accomplishing our energy vision.

Between initiation of this plan and the end of 2030, the cumulative impact of achieving our goal will result in a 41% reduction in greenhouse gas emissions compared to the three-year baseline.

## How Are We Going to Get There?

### Short-Term Focus Areas

Three key areas were chosen by the team that will help us hit the ground running to achieve our goal:

#### A. *Multi-Family Buildings*

We will target the multi-family properties in Minnetonka that have more than five units, accounting for nearly 7,300 residences who will benefit from energy-efficiency upgrades and renewable energy support.<sup>6</sup>

#### B. *Residential Energy Efficiency*

Single-family homes make up 66% of Minnetonka's housing stock. These homes will benefit from energy-efficiency improvements, particularly our many older homes, most 30+ years old.<sup>7</sup>

#### C. *Renewable Energy*

Only 5% of electric premises support renewable energy, leaving a lot of opportunity to increase use of renewable energy and reduce greenhouse gas emissions.

### Medium- and Long-Term Focus Areas

Two longer-term focus areas were identified as important to achieving Minnetonka's energy vision but were determined to be best suited for implementation later. With the advantage of our learnings over the next three years, these initiatives will be even more helpful to the Minnetonka community when they are deployed.

#### *Business Outreach*

As we move toward 2030, the plan will add outreach to the business community in Minnetonka. The city enjoys a diverse array of business types, ranging from small retailers to large office complexes, all with their own unique energy needs. Commercial and industrial premises represent only 8% of premises but in 2018, consumed almost 50% of all energy used in Minnetonka. Businesses saved over 8.3 million kWh of electricity and 106,200 therms, however,

<sup>6</sup> 2018: ACS 5-Year Estimates Data Profiles, Housing Units by Type

<sup>7</sup> Ibid.

data shows that the largest commercial and industrial electricity users have accounted for most of the electricity savings during the baseline period in Minnetonka. This is likely due larger accounts having a dedicated utility account manager to support program participation. Our opportunity to engage businesses will be targeted to small and medium-sized businesses who do not have account managers and have historically not participated in energy-saving programs.

### ***Facilitate Electric Vehicle Adoption***

The second focus area scheduled for medium- and long-term activation is support for electric vehicle adoption.

According to industry journal, *Automotive News*, electric vehicle sales are expected to overtake internal combustion vehicle sales by 2030.<sup>8</sup> The same article also notes that auto manufacturers have more than 100 new electric vehicle models in their pipeline for introduction over the next three years.

This rapid transportation evolution carries significant implications and opportunities for cities like Minnetonka with a strong commitment to greenhouse gas reduction. These opportunities extend to fleet electrification of municipal vehicles as well as the those associated with increasing adoption of electric vehicles in the private sector. Opportunities include an electric vehicle readiness policy on new construction projects, that includes adding charging stations to public buildings, and sharing information about special rates for charging electric vehicles. Our short-term focus areas include some strategies for electric vehicle education, but do not go as in-depth as this long-term focus area hopes to accomplish.

## **Focus Area: Multi-Family Buildings**

### ***Why is this sector a priority?***

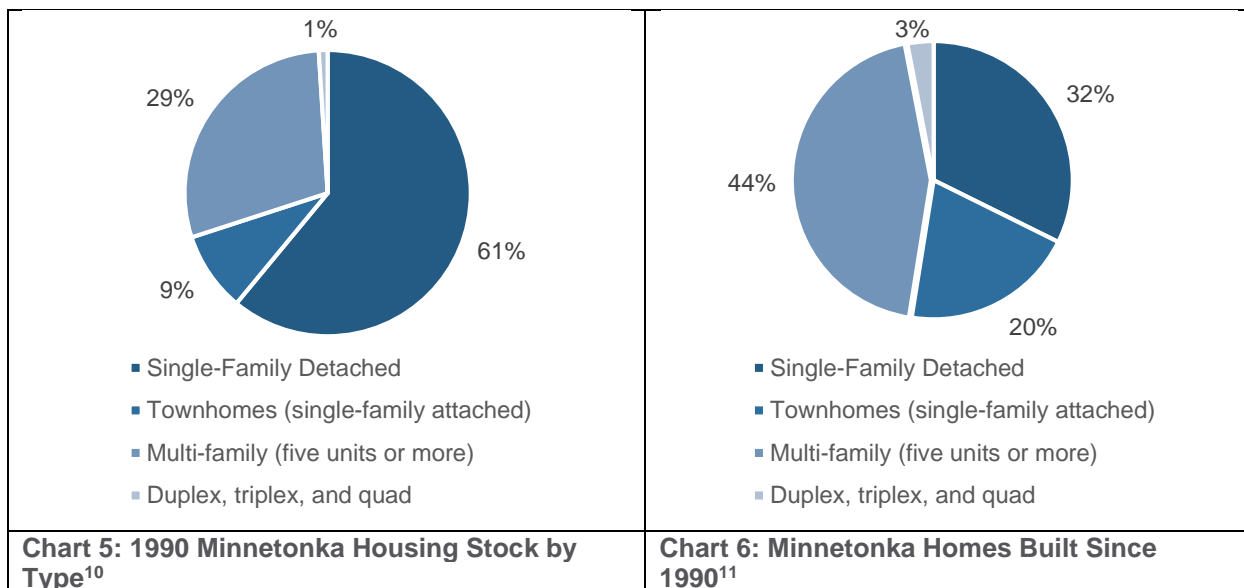
Multi-family buildings offer a tremendous opportunity for energy efficiency in Minnetonka. Residents living in multi-family buildings with more than five units make up 30% of all Minnetonka households.<sup>9</sup>

Multi-family units are also the most common housing type being developed in Minnetonka. In 1990, multi-family housing accounted for 29% of Minnetonka housing. Over the past 30 years, the housing mix has changed dramatically with 44% of homes built since 1990 being multi-family.

<sup>8</sup> <https://www.autonews.com/mobility-report/ev-sales-growing-faster-expected>

<sup>9</sup> 2018: ACS 5-Year Estimates Data Profiles, Housing Units by Type





Additionally, this focus area can facilitate numerous families' individual energy consumption through behavior change education and in-unit efficiency upgrades through a single-point of contact.

**Who is the target audience?**

Census data projects that the number of multi-family buildings with five or more units in Minnetonka is between 172 and 408<sup>12</sup>. Although we are targeting all of these buildings, we will prioritize outreach to the largest among them.

**Goals**

Our goals for multi-family buildings are to:

- Engage multi-family building owners to participate in existing efficiency programs.
- Encourage the use of renewable energy on properties.
- Look for opportunity for owners to install electric vehicle charging stations on-site.

**Multi-Family Building Strategies**

<b>Strategy 1: Increase multi-family building participation in renewable energy programs.</b>	
Tactic 1A	Tactic 1B
Publicize availability of renewable energy programs to residents of multi-family buildings.	Publicize subscription-based renewable energy programs to building managers, focusing on its appeal as a differentiator for prospective tenants.

<b>Strategy 2: Advocate for enhancements that make electric vehicle ownership easy in multi-family buildings.</b>	
Tactic 2A	Tactic 2B

<sup>10</sup> American Community Survey, 2017.

<sup>11</sup> Ibid.

<sup>12</sup> 2018: ACS 5-Year Estimates Data Profiles, Housing Units by Type

Promote access to programs designed for multi-family buildings.	Design and promote a communications tool that helps building managers predict demand for EV charging.
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<b>Strategy 3: Recognize building managers for energy efficiency successes, renewable usage, and EV investment.</b>		
Tactic 3A	Tactic 3B	Tactic 3C
Research and consider a benchmarking program for multi-family buildings that recognizes buildings that pursue energy-efficiency upgrades.	Develop promotional materials that building managers can display on premise and in advertising to communicate a commitment to energy efficiency with the understanding that tenants prefer efficient buildings.	Use periodic updates to building managers participating in existing energy-efficiency programs to promote additional relevant programs and create a sense of momentum / competitive pressure among peer properties.

<b>Strategy 4: Promote access to no-cost energy audits for multi-family buildings.</b>
Tactic 4A
Use best practices developed in other Partners in Energy communities to promote the Multi-family Building Efficiency Program as an easy, no-cost way for building managers to learn about their buildings' energy use and their opportunities for smart, cost-efficient improvements.

### **Greenhouse Gas Impact**

The impact of these strategies will result in 243 metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>) being avoided. This equates to the removal of 52.3 passenger vehicles for one year, or 27,231 gallons of gasoline saved. Renewable Energy Savings for multi-family buildings are included in Table 8 in the Renewable Energy focus area.

**Table 5: Multi-Family Building Focus Area Greenhouse Gas Impact**

Program	Baseline		2021 Goal		2030 Goal	
	Average Participants per year	MTCO <sub>2e</sub> Avoided	Participants	MTCO <sub>2e</sub> Avoided (2020–21)	Participants	MTCO <sub>2e</sub> Avoided
Multi-Family Building Efficiency	2	2	3	2	22	9
Multi-Family Energy Savings Program	99	19	225	42	1,279	234
<b>Total</b>	<b>101</b>	<b>20</b>	<b>228</b>	<b>44</b>	<b>1,301</b>	<b>243</b>

## Focus Area: Residential Energy Efficiency

### Why is this sector a priority?

As shown in Table 6 below, 79% of Minnetonka’s housing stock is more than 30 years old. Most of these homes were built before building code upgrades mandated improved insulation and air sealing. Considering that many are also likely to have aging mechanical equipment (e.g., furnaces, boilers, air conditioning equipment), residential energy efficiency is an outstanding opportunity to reduce greenhouse gas emissions and save residents money.

Table 6: Minnetonka Housing Stock by Age<sup>13</sup>

Year Built	Housing Units	Percentage
2014 or later	238	1%
2010–2013	297	1%
2000–2009	1,287	5%
1990–1999	3,148	13%
1980–1989	6,722	28%
1970–1979	4,292	18%
1960–1969	2,943	12%
1959 or earlier	5,208	22%

### Who is the target audience?

Owners of single-family homes in Minnetonka, with a special emphasis on homeowners of houses built before 1990.

### Goals

Our goal is to offer Minnetonka homeowners:

1. Easy access to opportunities that will make their homes more energy efficient.
2. Motivation to take advantage of those opportunities.

### Residential Energy Efficiency Strategies

<b>Strategy 5: Educate Minnetonka homeowners about the tools and advantages of energy efficient homes.</b>	
Tactic 5A	Tactic 5B
Promote existing energy efficiency rebate programs (for heating, cooling, insulation, water heaters, etc.) and continue publicity for loan programs that offer special rates for energy efficiency improvements.	Promote Home Energy Squad visits, prioritized for pre-1990 homes — either with additional incentives or by focused marketing, relying on the educational aspect of each visit to identify opportunities in a low-pressure setting.
<b>Strategy 6: Drive agreement that adoption of energy efficient behaviors is desirable, popular, and growing.</b>	
Tactic 6A	Tactic 6B

<sup>13</sup> 2018: American Community Survey, 5-Year Estimates Data Profiles

Deliver information in a context that conveys broad acceptance of the ideas and communicates that this is a growing trend.	Deliver each contact with a “call to action” offering a way to respond by taking a next step toward energy efficiency.
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<b>Strategy 7: Recognize participants performing upgrades to their homes</b>	
Tactic 7A	Tactic 7B
In addition to regular publicity about the number of people starting energy efficiency projects, celebrate newsworthy projects (e.g., oldest home to replace a furnace).	Conduct an annual event or coordinate with an existing event that celebrates all of the improvements Minnetonka residents have made — and the greenhouse gasses they’ve avoided.

### **Greenhouse Gas Impact**

Successful implementation of these strategies will result in almost 4,000 metric tons of CO<sub>2</sub>e being avoided. This is the equivalent of removing 864 passenger vehicles for one year or 450,096 gallons of gas consumed.<sup>14</sup>

**Table 7: Residential Energy Efficiency Focus Area Greenhouse Gas Impact**

Program	Baseline		2021 Estimates		2030 Estimates	
	Participants	MTCO <sub>2</sub> e Avoided	Participants (2020–21)	MTCO <sub>2</sub> e Avoided (2020–21)	Participants	MTCO <sub>2</sub> e Avoided
Home Energy Squad	80	57	300	213	1,705	1,200
Residential Heating Rebates	388	94	699	169	3,973	940
Residential Cooling Rebates	468	39	561	69	4,783	383
Refrigerator Recycling	133	48	240	86	1,364	479
CenterPoint Insulation Rebates	94	83	191	42	1,088	930
<b>Total</b>	<b>1,163</b>	<b>321</b>	<b>1,991</b>	<b>579</b>	<b>12,913</b>	<b>3,932</b>

<sup>14</sup> United States Environmental Protection Agency Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



## Focus Area: Renewable Energy

### *Why is this sector a priority?*

The Energy Action Team has prioritized the objective of reducing Minnetonka's creation of greenhouse gas equivalents from energy consumption. Through this process, the Energy Action Team has learned a great deal about renewable energy, including the complexities of financing and the most effective ways to keep credit for using renewable energy in the community. Since renewable energy sources produce zero greenhouse gas emissions, replacing conventionally generated energy with renewables is a very high priority.

In addition, only 5% of electric premises support renewable energy in some way. This creates a large opportunity for Minnetonka residents and businesses to participate in renewable energy programs.

### *Who is the target audience?*

Residents and business leaders in Minnetonka who can make a decision to use renewable energy.

### *Goals*

Our goals for both residents and businesses are to:

- Equip decision-makers with the knowledge they need to navigate a decision to use renewable energy.
- Motivate decision-makers and their influencers in Minnetonka to use more renewable energy.

### *Renewable Energy Strategies*

<b>Strategy 8: Make renewable energy easy.</b>	
Tactic 8A	
Create and publicize a dedicated resource for Minnetonka residents and businesses (an "energy concierge") to serve as a one-stop resource for advocacy, education, and access to resources and referrals supporting renewable energy options.	

<b>Strategy 9: Make renewable energy familiar.</b>	
Tactic 9A	Tactic 9B
Create a regular series of opportunities for Minnetonka residents and businesses to learn about and act upon renewable energy options. Methods may include a variety of formats based on quantity and complexity of subject matter.	Address tree canopy coverage concerns of homeowners with news that residents can still participate in renewables via solar gardens and Windsorce.

<b>Strategy 10: Make renewable energy affordable.</b>	
Tactic 10A	Tactic 10B
Publicize resources available to help Minnetonka residents calculate total cost of ownership for on-site renewable installations and to understand the details of programs requiring time-based commitments.	Publicize incentives available that reduce the cost of renewable installations.

<b>Strategy 11: Explore opportunities to remove barriers to broader adoption of community solar gardens.</b>
Tactic 11A
Prepare a review of key barriers (e.g., financing issues, including long-term contracts) and the ways that peer communities have developed solutions. Solar garden credit unions will be included among the solutions to be investigated.

<b>Strategy 12: Make renewable energy a source of pride in Minnetonka.</b>
Tactic 12A
Develop a recognition program to celebrate residential and business renewable users.

**Greenhouse Gas Impact**

The impact of making renewable energy easy, familiar, and affordable will result in an estimated 105,500 metric tons of CO<sub>2</sub>e avoided cumulatively by 2030. This is the equivalent of the greenhouse gas emissions from one year of driving from 22,685 cars or 11,871,273 gallons of gas consumed.<sup>15</sup>

**Table 8: Renewable Energy Focus Area Greenhouse Gas Impact**

Program	Baseline		2021 Estimates		2030 Estimates	
	Participants 2018	MTCO <sub>2</sub> e Avoided	Participants (2020–21)	MTCO <sub>2</sub> e (2020–21) Avoided	Participants	MTCO <sub>2</sub> e Avoided
Renewable Subscriptions: Business	12	2,180	25	5,392	61	69,763
Renewable Subscriptions: Residential	1,015	1,453	2,000	2,836	3,166	35,776
On-Site Solar: Business	15	0	20	0	35	0
On-Site Solar: Residential	58	0	70	0	106	0
Solar Gardens: Business	113	0	150	0	261	0
Solar Gardens: Residential	186	0	250	0	442	0
<b>Total</b>	<b>1,399</b>	<b>3,633</b>	<b>2,515</b>	<b>8,228</b>	<b>4,071</b>	<b>105,539</b>

<sup>15</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

The Energy Action Team is setting a goal to double the number of residential customers participating in a renewable energy subscription program to 2,000 before 2022.

Goals for on-site solar installations are similarly aggressive, although their numbers reflect the substantial investment required to install solar energy on-site. The team wants to increase business installations from 15 to 20 and residential installations from 58 to 70 before 2022. In addition to tracking based on available utility programs, the City will track permits annually.

Solar gardens are another renewable opportunity for which the team has expressed strong and consistent enthusiasm. There are unique barriers to broader support for solar gardens. Among these are the complexities of being able to credit the greenhouse gas avoidance to Minnetonka and the financing arrangements that many solar garden proprietors require.

The team agreed to develop a plan to investigate these obstacles further and develop a plan in 2021 that would address concerns and motivate additional support for solar gardens.

While the City will be tracking on-site solar and solar gardens, it will not be tracking or providing goals for MTCO<sub>2</sub>e avoided. Some of the greenhouse gas emission savings may be withheld or resold outside Minnetonka by the owners of the on-site installations or solar gardens. As such, the City will only track and have goals for the number of participants within these areas.

Goals for 2030 include on-site solar and solar garden participation and are projected by applying annual gains from 2018 to 2021 to the longer timeframe. These are “best guesses” given the rapidly evolving nature of these renewable options. Renewable subscriptions were similarly projected, with added insight from a reasonable assumption that Xcel Energy’s Renewable\*Connect will grow in availability, and popularity, in the coming years.

## Impact of Energy Action Plan

The strategies outlined in this plan will avoid greenhouse gas emissions through increased efficiency, as well as increased community awareness of the benefits of energy efficiency through engagement and outreach. Other ongoing initiatives, including grid decarbonization and an increased awareness of program opportunities, will contribute to Minnetonka’s greenhouse gas reductions.

## Impact of Short-term Focus Areas

The combined impact of all focus areas is shown below. The impact of these strategies is equivalent to removing 23,703 passenger vehicles from the road for a year.<sup>16</sup>

**Table 9: Combined Greenhouse Gas Avoidance from All Focus Areas**

Focus Area	2021	2030
	MTCO <sub>2</sub> e (2020–21) Avoided	MTCO <sub>2</sub> e Avoided
Multi-Family Buildings	44	243
Residential Energy Efficiency	579	3,932

<sup>16</sup> United States Environmental Protection Agency Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Renewable Energy	8,228	105,539
Energy Action Plan Total	8,851	109,714

### Xcel Energy Grid Decarbonization

Xcel Energy has announced a [detailed plan](#) describing their initiative to reduce greenhouse gas emissions between now and 2050. As Xcel Energy progresses toward its 2030 and 2050 goals, the company creates fewer greenhouse gases each year due to changes in the fuel mix used to generate electricity. Minnetonka will benefit from this reduction in greenhouse gasses created by electricity consumption even under business as usual conditions, as shown in Figure 1.

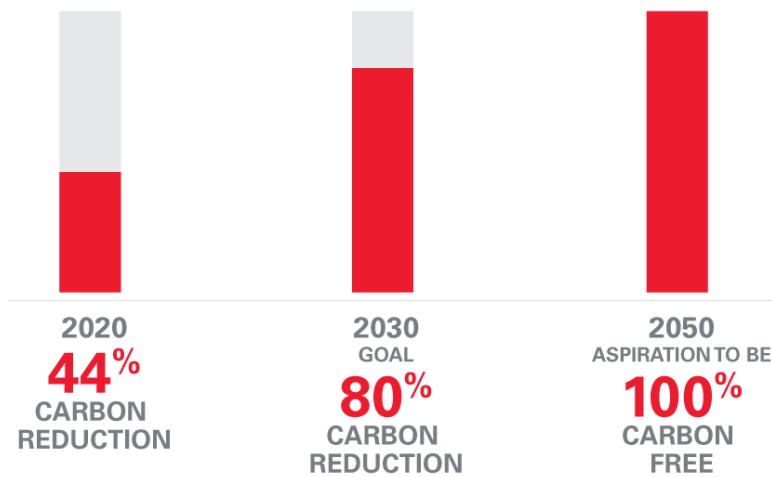


Figure 1: Xcel Energy Upper Midwest Grid Decarbonization Plan

### Other Initiatives

Minnetonka is fortunate to have businesses and residents who regularly engage with a wide range of programs offered by Xcel Energy and CenterPoint Energy that provide efficiency improvements to their homes and businesses. These programs can be expected to continue with Minnetonka, and its greenhouse gas footprint, benefitting along the way.

While use of these programs will vary from year to year, Partners in Energy uses a “business as usual” model to predict results, described in the table below.

Table 10: Minnetonka Residential "Business as Usual" Program Participation and Greenhouse Gas Avoidance Projections

Program	Baseline		2021 Estimates		2030 Estimates	
	Participants	MTCO <sub>2</sub> e Avoided	Participants (2020–21)	MTCO <sub>2</sub> e Avoided (2020–21)	Participants	MTCO <sub>2</sub> e Avoided
Xcel Energy Electric Programs	261	9	522	16	2,871	91
CenterPoint Energy Programs	1,623	598	3,156	1,164	17,481	6,446
<b>Total Residential</b>	<b>1,884</b>	<b>607</b>	<b>3,678</b>	<b>1,180</b>	<b>20,352</b>	<b>6,537</b>



**Table 11: Minnetonka Commercial and Industrial "Business as Usual" Program Participation and Greenhouse Gas Avoidance Projections**

Program	Baseline		2021 Estimates		2030 Estimates	
	Participants	MTCO <sub>2e</sub> Avoided	Participants (2020–21)	MTCO <sub>2e</sub> Avoided (2020–21)	Participants	MTCO <sub>2e</sub> Avoided
Xcel Energy Electric Programs	284	2,913	567	5,784	3,119	31,108
CenterPoint Energy Programs	48	1,459	96	2,917	517	16,044
<b>Total Commercial &amp; Industrial</b>	<b>332</b>	<b>4,372</b>	<b>663</b>	<b>8,701</b>	<b>3,636</b>	<b>47,152</b>

### Combined Impact of All Initiatives

Combining Minnetonka’s Energy Action Plan contributions and ongoing “business as usual” efficiency improvements will result in avoiding 163,403 metric tons of CO<sub>2e</sub> by 2030, which is equivalent to removing over 35,000 passenger vehicles from the road for one year.<sup>17</sup>

**Table 12: Minnetonka Greenhouse Gas Avoidance Opportunity**

Initiative	2021	2030
	MTCO <sub>2e</sub> (2020–21) Avoided	MTCO <sub>2e</sub> Avoided
Energy Action Plan	5,961	109,714
Business as Usual Programs	9,881	53,689
<b>Energy Action Plan Total</b>	<b>15,842</b>	<b>163,403</b>

<sup>17</sup> United States Environmental Protection Agency Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

## How We Stay On Course

This Energy Action Plan is a living document. Goals and strategies will be assessed and refined as needed based on data, technology advances that may change priorities, other initiatives being undertaken and Minnetonka Energy Action Team capacity. We anticipate review of plan priorities every 2–3 years, beginning with a reassessment at the end of the 18-month implementation period.

## Data & Reporting

Partners in Energy will provide biannual progress reports with metrics of success and overall progress toward goals for Xcel Energy rebates and programs. These reports will be available publicly and shared with the Minnetonka Energy Action Team.

If available, ad-hoc participation reports for specific Xcel Energy programs (e.g., Home Energy Squad) will allow us to measure success of campaigns and to determine if we need to change course.

## Project Management & Tracking

Partners in Energy will host biweekly project management check-in calls with City staff to ensure we stay on course to achieve our strategies. At a midpoint of implementation, the Energy Action Team will be invited to reconvene at that time to evaluate the implementation work's progress toward meeting goals and give recommendations on expanded or additional priorities.

## Identifying Medium and Long-Term Strategies

The Minnetonka Energy Action Team identified businesses and electric vehicle adoption as two medium- and long-term focus areas. When the Energy Action Team reconvenes, to evaluate progress, goals, and implementation strategies for these focus areas will be chosen.

## Plan Implementation

The goals and strategies outlined in this plan represent priorities for action over the next year and a half. The plan also lays out a long-term expectation that this plan will create momentum, build relationships, and hone tactics that can be integrated into the city's energy reduction work. A detailed work plan that outlines tasks, roles, and timeline is included in Appendix 2.

The Community Development staff for the City of Minnetonka will serve as project lead on plan implementation with the support of other City staff depending on the project. The Energy Action Team members will be a support structure for executing the City's strategy where the staff need network connections and volunteers. The engagement of additional community volunteers and business representatives will be critical in successfully achieving plan goals and be included in this work where the City staff deems appropriate.

Partners in Energy will provide support in four main areas: project management, technical expertise, data tracking to measure progress toward goals, and marketing and communications.



Figure 2. Actions and Tracking

An implementation Memorandum of Understanding will be signed as a first step, outlining specific actions and energy conservation goals to be achieved during this time period.

### ***Roles and Responsibilities***

Implementing the strategies laid out in this plan will require leadership and collaboration from a team of partners, including City staff, Energy Action Team members, Partners in Energy team, and community members. Roles and responsibilities for the first 18 months of implementation are outlined here as a means of ensuring success.

#### **City of Minnetonka**

- Invest staff resources in supporting plan implementation developing a go-to resource for all energy information.
- Update and add plan related resources to the City website that help residents and businesses access utility programs, rebates, and renewable energy access.
- Leverage existing City events to encourage energy efficiency and renewable energy participation to residents and businesses.
- Develop and integrate a recognition program for renewable energy, energy savings, and energy volunteer champions in the community.
- Use existing city communications to publicize resources and incentives relating to renewable energy strategies or energy savings opportunities.
- Build relationships and partnerships with local service providers, institutions, and other organized groups for promotion and help with implementation of plan strategies.
- Lead by example through investments in energy efficiency and renewable energy in City facilities.
- Benchmark City energy use.
- Engage City staff from all departments in supporting energy conservation and energy efficient operations.
- Identify businesses, neighborhoods, multi-family building owners to form contact lists.

#### **Energy Action Team**

- Become advocates for achieving Energy Action Plan goals.
- Assist where called upon with dissemination of information on programs, incentives, and recognition through existing networks.
- Volunteer in the form of helping to table events, door knocking, phone calls, etc., where the project lead needs assistance.
- Engage with local service providers, property owners, institutions, creation care, or other green teams as requested from City lead.
- Promote engagement of residents in energy action.
- Reconnect with team as the first phase of implementation is ending to discuss ongoing efforts.

#### **Partners in Energy**

- Assist with designing informational materials for residents, businesses, and multi-family buildings.
- Write and publish case studies, newsletter articles, and press releases.
- Identify ways to reduce energy use across sectors using community data.
- Leverage existing relationships to connect the City of Minnetonka with local service providers, businesses, and green teams.

- Support door-knocking, tabling events, and other efforts with marketing materials, talking points, and tabling kits.
- Provide biannual reports for tracking progress toward goals.
- Provide overall project management support and coordination during the first 18 months of plan implementation.
- Connect the City of Minnetonka and Energy Action Team to Xcel Energy programs and resources.

### ***Implementation Launch***

City of Minnetonka staff and City Council will adopt this Energy Action Plan and promote the launch of implementation with a press release, social media coverage, and an announcement to the city leaders of the adoption of the plan. The plan will then live on the City of Minnetonka's website for community members to interact with and see progress updates.

## Appendix 1: Strategy Detail

### Multi-Family Building Strategies

<b>Strategy 1</b>	<b>Increase multi-family building participation in renewable energy programs.</b>
<b>Tactic 1A</b>	Publicize availability of renewable energy programs to residents of multi-family buildings.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>Identify buildings using list from Tactic 1A to identify buildings where residents pay for their own electricity by 12/31/20.</li> <li>Contact building managers and seek permission to publicize renewable programs to residents via flyers, handouts to new renters, on their portals, etc., by 3/31/21.</li> <li>Distribute materials on-site within one month of building manager approval.</li> <li>Publicize availability of programs in releases, newsletters beginning Q3 2021 and continuing through 2021.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>Designated project leader, responsible for contacting building managers.</li> <li>Energy Action Team members will be engaged as needed and available to assist with plan implementation (e.g., distribution of materials to tenants).</li> <li>Partners in Energy will create marketing materials (e.g., flyers, phone scripts) to facilitate implementation.</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>Press release(s).</li> <li>Multi-family merchandising kit materials (e.g. door hangers, lobby posters).</li> </ul>
<b>Tactic 1B</b>	Publicize Windsource for Business to Building Managers, focusing on its appeal as a differentiator for prospective tenants.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>Include Windsource for Business in materials created for Tactic 1A.</li> <li>Timing to match criteria for Tactic 1A.</li> </ul>
<b>People</b>	Partners in Energy will create Windsource materials (e.g., flyers, email copy) to facilitate implementation.
<b>Materials</b>	Same as Tactic 1A.

<b>Strategy 2</b>	<b>Advocate for enhancements that make electric vehicle ownership easy in multi-family buildings.</b>
<b>Tactic 2A</b>	Promote access to resources designed for multi-family buildings. (e.g., <a href="https://www.multihousingcharging.com/">https://www.multihousingcharging.com/</a> )
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Leverage Tactics 1A and 1B to reach building managers with EV messaging, using timing for 1A/1B milestones.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will create EV marketing materials as needed to facilitate implementation.</li> </ul>
<b>Materials</b>	No separate materials necessary — can be included as part of Strategy 1.
<b>Tactic 2B</b>	Design and promote a tool that helps building managers predict demand for EV charging.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Develop and publicize information on EV registrations in Minnetonka along with third-party trend data to illustrate growth of EV market before 12/31/20.</li> <li>• Promote EVs in multi-family buildings to building managers with an event at a multi-family building with a charger or publicity about it within six months of installation.</li> <li>• Include a “next steps” opportunity in each communication to facilitate ease of implementation when building managers decide to investigate further.</li> <li>• Develop “how to” support for EV charger installations in new construction early in 2021.</li> <li>• Publicize a building manager who is installing a charger as soon as possible — before 3/31/21.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will assist in research activities to provide indicated data.</li> <li>• Partners in Energy will develop or revise EV materials as needed.</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Collateral pieces, social media posts, minnetonkamn.gov presence, etc., as needed to support initiative minnetonkamn.gov presence.</li> <li>• Press release(s) to publicize activity.</li> <li>• Materials as needed to support building manager EV event.</li> </ul>



<b>Strategy 3</b>		<b>Recognize building managers for energy efficiency actions, renewable usage, and EV investment.</b>
<b>Tactic 3A</b>	Research and consider a benchmarking program for multi-family buildings similar to what has been successful in other cities (e.g., Saint Paul). Benchmarking programs track actions and recognize buildings that most aggressively pursue energy efficiency actions.	
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Research instituting a recognition program, using Saint Paul’s “Race to Reduce” program as a starting point.</li> <li>• Complete program research and develop a recommendation by 12/31/21.</li> </ul>	
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Project team to research, consider, and develop a recommendation if warranted.</li> <li>• Partners in Energy will provide case study materials and access to Saint Paul personnel to provide advice and feedback on their program.</li> </ul>	
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Resources as needed to support research, consideration, and development process.</li> </ul>	
<b>Tactic 3B</b>	Develop promotional materials that building managers can display on premise and in advertising communicating that they are members of this initiative. Seek out research support showing that prospective tenants prefer “green”, energy-efficient buildings.	
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Set goals for program name creation and marketing materials developed by 12/31/2021.</li> <li>• Develop logo and name by 3/31/2021.</li> <li>• Offer logo to participating buildings for their promotional materials during program implementation.</li> <li>• Conduct secondary research to assess whether multi-family building occupants prefer “green” buildings and share with participants as available.</li> </ul>	
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will design collateral (e.g., fact sheet) to support this initiative, design a logo, collaborate on name creation, and design collateral featuring the logo to activate the plan.</li> </ul>	
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Logo for the program.</li> <li>• Design (production?) of any on-site merchandising to use on-site, in rental offices, etc.</li> <li>• Factsheet-style flyer sharing research findings as available.</li> </ul>	
<b>Tactic 3C</b>	Use periodic updates to participants to promote efficiency programs and create a sense of momentum / peer pressure between properties.	
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Design program newsletter to share news, new participant information, testimonials, etc.</li> <li>• Publish periodically (at least quarterly) during 2021.</li> </ul>	
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader</li> <li>• Partners in Energy write periodic updates for a newsletter as needed.</li> </ul>	
<b>Materials</b>	Newsletter electronically, or through Minnetonka Memo, distributed to participants and non-participating multi-family building managers.	

<b>Strategy 4</b>	<b>Promote access to free energy audits for multi-family buildings via the Multi-Family Building Efficiency program.</b>
<b>Tactic 4A</b>	Use best practices developed in other Partners in Energy communities to promote the Multi-Family Building Efficiency program as an easy, free way for building managers to learn about their buildings' energy efficiency and their opportunities for smart, cost-effective improvements.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Use findings from Fridley's successful Partners in Energy Multi-Family Building Efficiency Outreach initiative to design Minnetonka's plan before 12/31/20.</li> <li>• Execute Multi-Family Building Efficiency program outreach in 2021.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will facilitate access to appropriate Fridley energy Action Team members for advice on best practices, and design collateral materials similar to those used in Fridley to activate this initiative.</li> <li>• Minnetonka Energy Action Team members will be engaged as needed and available to assist in implementation.</li> </ul>
<b>Materials</b>	Collateral materials similar to promote free energy audits, using a clear call to action for building owners

## Residential Energy Efficiency Strategies

Strategy 5	Educate Minnetonka homeowners about the tools and advantages of energy efficient homes.
<b>Tactic 5A</b>	<ul style="list-style-type: none"> <li>Promote existing energy efficiency rebate programs (e.g., heating, cooling, insulation, water heaters).</li> <li>Continue publicity for loan programs that offer special rates for energy efficiency improvements.</li> </ul>
<b>Tasks</b>	<ul style="list-style-type: none"> <li>Develop campaign designed to reach homeowners multiple times with messages designed to build awareness of their homes' likely improvement opportunities, addressing obstacles to moving ahead, and offering easy ways to take the first steps to improving their homes' energy efficiency. Plan elements to include a variety of methods to engage Minnetonka homeowners (e.g., social media, tabling at events, releases). Plan complete before 12/31/20.</li> <li>Confirm and include relevant programs, rebates and financing that can make upgrades easier (e.g., Low-Income Home Energy Squad, state and federal financing programs).</li> <li>Include publicity tactics.               <ul style="list-style-type: none"> <li>For example, cooling efficiency rebate applicants (and others) entered in drawing for trees to plant on the west side of their homes.</li> </ul> </li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>Designated project leader.</li> <li>Bandwidth to research and confirm content.</li> <li>Partners in Energy will create a multi-touchpoint campaign targeting homeowners to activate this tactic.</li> </ul>
<b>Materials</b>	Collateral pieces, social media posts, minnetonkamn.gov presence, etc., as needed to support initiative.
<b>Tactic 5B</b>	Promote Home Energy Squad visits, prioritized for pre-1990 homes — either with additional incentives or by focused marketing, relying on the educational aspect of each visit to identify opportunities in a low-pressure setting.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>Coordinate with Home Energy Squad to take advantage of any promotional campaign opportunities they may be planning.</li> <li>Continue to publicize Minnetonka's program underwriting half the cost of enhanced audits.</li> <li>Provide educational material (video?) to clearly communicate what a Home Energy Squad visit is like.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>Designated project leader.</li> <li>Partners in Energy will design promotional materials as needed and facilitate production of a video designed to familiarize residents with Home Energy Squad.</li> </ul>
<b>Materials</b>	Collateral pieces, social media posts, minnetonkamn.gov presence, etc., as needed to support initiative.

<b>Strategy 6</b>	<b>Drive agreement that adoption of energy-efficient behaviors is desirable, popular, and growing.</b>
<b>Tactic 6A</b>	<ul style="list-style-type: none"> <li>Recognizing that decisions to change behavior or invest in new equipment are made with a combination of rational and emotional motivation. <ul style="list-style-type: none"> <li>Deliver information in a context that conveys broad acceptance of the ideas, and;</li> <li>Communicate that this is a growing trend vs. a fad.</li> </ul> </li> </ul>
<b>Tasks</b>	Support tactic 1A (above) with a separate, ongoing publicity plan to validate the legitimacy / growing acceptance of energy efficiency improvements. Complete plan prior to 12/31/20 and implement throughout 2021.
<b>People</b>	<ul style="list-style-type: none"> <li>Designated project leader</li> <li>Bandwidth to gather testimonials, case studies, etc., from Minnetonka residents who have made energy efficiency improvements to their homes.</li> <li>Partners in Energy will design an ongoing publicity plan and create releases and publicity materials as needed.</li> <li>Energy Action Team members will be engaged as needed and available to assist in implementation.</li> </ul>
<b>Materials</b>	Collateral pieces, social media posts, minnetonkamn.gov presence, etc., as needed to support initiative.
<b>Tactic 6B</b>	Deliver each contact with a “call to action” offering a way to respond by taking a next step toward energy efficiency.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>Include contact information along with an invitation to learn more in every message.</li> </ul>
<b>People</b>	Designated project leader. Partners in Energy will include a clear call to action in all materials.
<b>Materials</b>	No new materials needed.

<b>Strategy 7 Recognize participants performing upgrades to their homes.</b>	
<b>Tactic 7A</b>	In addition to regular publicity about the number of people starting energy efficiency projects, celebrate newsworthy projects (e.g., oldest home to replace a furnace).
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Design a system to capture information. (Likely need to coordinate with Home Energy Squad Energy Advisors). Add information to regular communications as opportunities arise (social media, newsletters, etc.).</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will collaborate with Home Energy Squad to facilitate capture of relevant, newsworthy initiatives and will create appropriate publicity to support dissemination of same.</li> </ul>
<b>Materials</b>	Social media posts, minnetonkamn.gov presence, etc., as needed to support initiative.
<b>Tactic 7B</b>	Conduct an annual event or coordinate with an existing event that celebrates all of the improvements Minnetonka residents have made — and the greenhouse gasses they've avoided.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Develop plan for recognition event. Objective will be to maximize exposure of homeowners making energy efficiency improvements.</li> <li>• Assess existing Minnetonka events for quality of fit and select most appropriate to partner with.</li> </ul>
<b>People</b>	<p>Designated project leader.</p> <p>Partners in Energy will create pre-event publicity plan and any collateral materials (e.g., certificates) needed for the event itself.</p> <p>Energy Action Team members will be engaged as needed and available to assist in implementation.</p>
<b>Materials</b>	Collateral materials, releases, social media, minnetonkamn.gov presence, etc., as needed to support initiative.

## Renewable Energy Strategies

Strategy 8 Make renewable energy easy.	
<b>Tactic 8A</b>	Create and publicize a dedicated resource for Minnetonka residents and businesses (an “energy concierge”) to serve as a one-stop resource for advocacy, education, and access to resources and referrals supporting renewable energy options.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Establish role, exploring options for staffing (volunteers sharing a phone number, part-time employee, full-time employee?).</li> <li>• Decisions before 12/31/20.</li> </ul>
<b>People</b>	Designated project leader, Energy Concierge (or surrogate). Partners in Energy will create a press release introducing the Energy Concierge plan, a publicity plan to establish familiarity with the program and any collateral needed to raise awareness.
<b>Materials</b>	Collateral pieces, social media posts, minnetonkamn.gov presence, etc., as needed to support initiative.



<b>Strategy 9    Make renewable energy familiar.</b>	
<b>Tactic 9A</b>	Create a regular series of opportunities for Minnetonka residents and businesses to learn about and act upon renewable energy options. Methods may include a variety of formats based on quantity and complexity of subject matter.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Design renewable education plan which alternates outreach methods for residents.</li> <li>• Use tabling and small discussion opportunities, city leaders' endorsements, social media, etc., in the plan to reach residents multiple times in multiple ways.</li> <li>• Complete plan by 6/30/2021 and implement during 2021.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Energy Action Team members will be engaged as needed and available to execute events, tabling, etc.</li> <li>• Partners in Energy will support this initiative by designing collateral material, social media, etc. as needed.</li> </ul>
<b>Materials</b>	Social media posts, web copy, collateral for tabling events, press releases as needed.
<b>Tactic 9B</b>	Address tree canopy coverage issues of homeowners with news that residents can still participate in renewables via solar gardens and Windsource.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• As part of Tactic 10A (above) include an initiative to consistently address objections, especially re: tree canopy. <ul style="list-style-type: none"> <li>- Include tree issue in FAQs newsletters, etc.</li> </ul> </li> <li>• Consider publicity event (Arbor Day?, Earth Day?), to emphasize compatibility of off-site renewable options with Minnetonka's tree canopy.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will create collateral materials for Minnetonka to educate residents on the availability of renewable option beyond on-site installations.</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Collateral materials in support of publicity event</li> <li>• Social media posts, minnetonkamn.gov presence, etc., as needed to support initiative.</li> </ul>

<b>Strategy 10    Make renewable energy affordable</b>	
<b>Tactic 10A</b>	Publicize resources available to help Minnetonka residents calculate total cost of ownership for on-site renewable installations and programs requiring time-based commitments.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Research preferred online calculators (e.g., <a href="https://solar.maps.umn.edu/">https://solar.maps.umn.edu/</a>, <a href="https://www.google.com/get/sunroof">https://www.google.com/get/sunroof</a>) and create a list of quality resources before 06/30/21.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Energy Action Team members will be engaged as needed and available to assist in research and prepare resource information.</li> </ul>
<b>Materials</b>	No new material needed. Can be included in tactics 10A & 10B above.
<b>Tactic 10B</b>	Publicize incentives available that reduce the cost of renewable installations.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Research availability of local, state and federal financing and rebate programs.</li> <li>• Provide regular updates (quarterly) via tactics 1A &amp; 2A above.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Energy Action Team members will be engaged as needed and available to assist in research and prepare resource information.</li> </ul>
<b>Materials</b>	No new material needed. Can be included in tactics 10A & 10B above.

<b>Strategy 11    Explore opportunities to remove barriers to broader adoption of community solar gardens</b>	
<b>Tactic 11A</b>	Prepare a review of key barriers (financing issues, including long-term contracts) and the ways that peer communities have developed solutions.
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Work with Xcel Energy to develop a reliable list of providers available to Minnetonka residents, including pricing, contract, and cancellation policies.</li> <li>• Determine peer communities and/or providers with most creative solutions and document best practices.</li> <li>• Share best practices with Minnetonka City Council and/or relevant departments and recommend an appropriate path forward for Minnetonka.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• City staff to work with Xcel Energy to research and prepare resource information and circulate materials in the community at targeted events.</li> </ul>
<b>Materials</b>	Output from research to add to strategies 10A & 10B above. Presentation of recommend solutions for Minnetonka.

<b>Strategy 12    Make renewable energy a source of pride in Minnetonka.</b>	
<b>Tactic 12A</b>	<ul style="list-style-type: none"> <li>• Develop a recognition program to celebrate residential and business renewable users.</li> <li>- Provide renewable energy users with a window cling or other item to identify and express gratitude for their participation.</li> </ul>
<b>Tasks</b>	<ul style="list-style-type: none"> <li>• Design recognition program details, including process for identifying subscribers (i.e., staying within privacy rules) before 12/31/20.</li> <li>• Leverage existing renewable communication efforts to introduce recognition program.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>• Designated project leader.</li> <li>• Partners in Energy will create materials needed for a recognition program after collaboration with the city to establish the parameters of the program.</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Designs for window clings or other item.</li> <li>• Production of materials.</li> <li>• Press releases, social media content, etc., as needed.</li> </ul>

## Appendix 2: Xcel Energy’s Partners in Energy Planning Process

Xcel Energy is the electric utility serving Minnetonka and CenterPoint energy is the natural gas utility serving Minnetonka. In the summer of 2014, Xcel Energy launched Partners in Energy to support communities like Minnetonka to develop and implement energy action plans that supplement existing sustainability plans, strategies, and tools. The content of this plan is derived from a series of planning workshops held in the community with a planning team committed to representing local energy priorities and implementing plan strategies.

Partners in Energy will work with Minnetonka to coordinate support for implementing the plan as detailed in the Memorandum of Understanding (Appendix 1), which outlines specific support Xcel Energy will provide to help the community deploy its strategies and achieve its goals.



Figure 3. Partners in Energy Process for Success



Figure 4. Resources from Xcel Energy for Implementation

### Plan Development Process

City of Minnetonka Community Development staff actively recruited a diverse group of Minnetonka residents and business representatives to create the Minnetonka Energy Action Plan. Please see the Acknowledgements at the beginning of this document for a complete list of participants.

The Energy Action Team met over the course of five planning workshops to review the city’s energy-use data, identify energy priorities, and develop strategies. A summary of the planning process can be found in Table 13 below.

**Table 13: Partners in Energy Planning Process**

<p><b>Pre-Workshop 1 Survey October 2019</b></p>	<ul style="list-style-type: none"> <li>• Gather basic demographics to help understand the priorities of the Minnetonka Energy Action Team.</li> <li>• Assess perceptions of key community influencers who may be important allies during implementation of the plan.</li> <li>• Understand why an energy action plan is important to each team member.</li> </ul>
<p><b>Workshop 1 November 6, 2019</b></p>	<ul style="list-style-type: none"> <li>• Team introductions and Partners in Energy process overview.</li> <li>• Learned about Minnetonka’s energy use and demographics.</li> <li>• Reviewed past and present energy &amp; sustainability initiatives.</li> <li>• Discussed potential focus areas.</li> <li>• Developed a vision statement for the Energy Action Plan.</li> </ul>
<p><b>Pre-Workshop 2 Survey November 2019</b></p>	<ul style="list-style-type: none"> <li>• Review draft vision statement and provide feedback.</li> <li>• Choose preferred metrics for use in measuring progress of the plan against goals.</li> <li>• Review and provide feedback on draft focus areas. Suggest any additional areas for further discussion.</li> </ul>
<p><b>Workshop 2 December 9, 2019</b></p>	<ul style="list-style-type: none"> <li>• Respond to outstanding questions from Workshop 1.</li> <li>• Review Xcel Energy’s carbon-free goals.</li> <li>• Confirm vision statement.</li> <li>• Discuss plan goal and preferred focus areas.</li> </ul>
<p><b>Pre-Workshop 3 Survey December 2019</b></p>	<ul style="list-style-type: none"> <li>• Assess team’s priorities for focus areas.</li> <li>• Provide input on preferred time horizons for accomplishment of tasks associated with each focus area.</li> </ul>
<p><b>Workshop 3 January 15, 2020</b></p>	<ul style="list-style-type: none"> <li>• Review focus areas and identify priorities.</li> <li>• Confirm specific language of the goal for the Energy Action Plan.</li> <li>• Begin creating implementation strategies and tactics.</li> <li>• Review Xcel Energy programs that may be useful in developing strategies.</li> </ul>
<p><b>Pre-Workshop 4 Survey February 2020</b></p>	<ul style="list-style-type: none"> <li>• Feedback and alignment on Focus Areas.</li> <li>• Provide input on different strategies in each Focus Area.</li> </ul>
<p><b>Workshop 4 February 19, 2020</b></p>	<ul style="list-style-type: none"> <li>• Confirm focus area preferences.</li> <li>• Review strategies and prioritize short-term tactics for each focus area.</li> <li>• Identify resources for implementation.</li> </ul>
<p><b>Post-Workshop 4 Survey March 2020</b></p>	<ul style="list-style-type: none"> <li>• Confirm goal metrics and seek feedback and advice from Energy Action Team.</li> </ul>
<p><b>Goal Evaluation Survey April 2020</b></p>	<ul style="list-style-type: none"> <li>• Presented as a pre-recorded video, embedded in a survey tool to allow team members the opportunity to provide feedback.</li> <li>• Greenhouse gas avoidance was discussed in detail, with favorable feedback from participating team members.</li> </ul>

**Energy Action Plan  
Discussion  
June 2020**

- Energy Action Team members, City staff, Xcel Energy and Partners in Energy community leads discussed recommendations for plan revisions via Zoom.
- Energy Action Team members voiced enthusiasm for all three Focus Areas.
- Support for community solar gardens remains a priority among initiatives in the Renewable Energy Focus Area.
- Among suggested revisions was a desire to add clarity / emphasis that this will be a living document, revisited every 2–3 years to reassess priorities and consider its initiatives relative to any others that may be undertaken outside the plan in the interim.
- Some team members provided detailed written feedback and others were more general in their comments. All will be considered and addressed appropriately during editing.
- Minnetonka City Council will review the plan on June 22. Members of the team are invited to attend and voice their support during the public comments period of the meeting.



## Appendix 3: Baseline Energy Analysis

An integral part of the Partners in Energy planning process is reviewing historic energy data for Minnetonka, which includes data on energy use, participation in utility energy conservation programs, and savings associated with participation in those programs. Data was provided by Xcel Energy and CenterPoint Energy for all Minnetonka premises for 2016–2018. The data helped the Energy Action Team understand Minnetonka’s energy use and opportunities for energy conservation and renewable energy. Data included in this section will also establish a baseline against which progress toward goals will be compared to in the future.

### Premises

In 2018, there were over 25,000 electric premises within the city limits. Xcel Energy provides electric service to Minnetonka, and CenterPoint Energy provides natural gas service. A breakdown of the City’s electric premises by sector is shown in Chart 7.

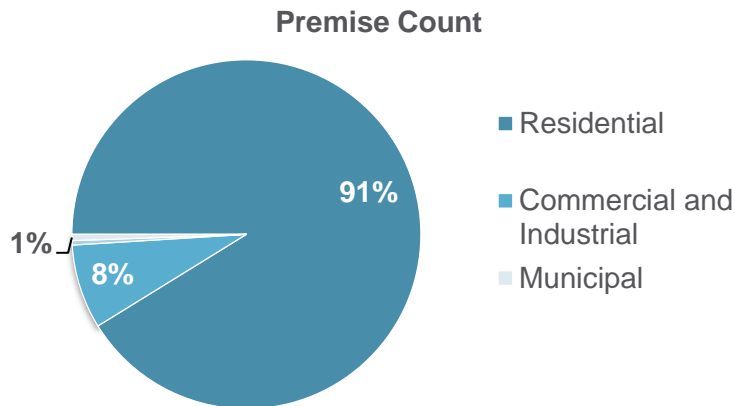


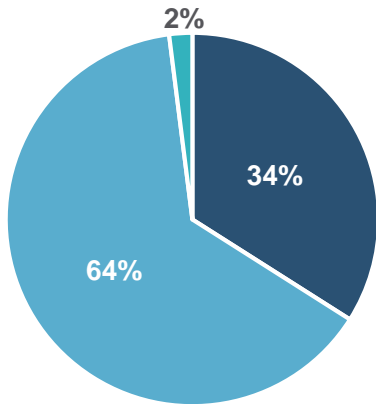
Chart 7: 2018 Electric Premises in Minnetonka by Sector

### Energy Consumption

While they make up fewer than 10% of premises throughout Minnetonka, commercial and industrial buildings use about half of the energy in the city — over 60% for electricity and 40% for natural gas.

Minnetonka consumes far more natural gas than electricity. In 2018, Minnetonka consumed 2,035,812 MMBtu of electricity and 3,679,743 MMBtu of natural gas.

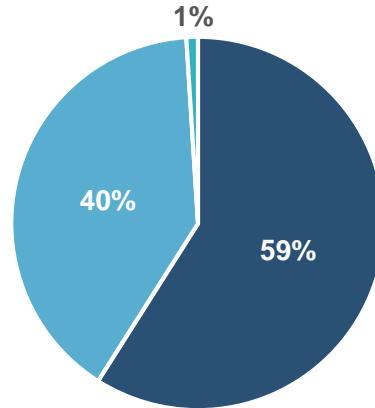
**Electricity Consumption  
Xcel Energy**



- Residential
- Commercial & Industrial
- Municipal

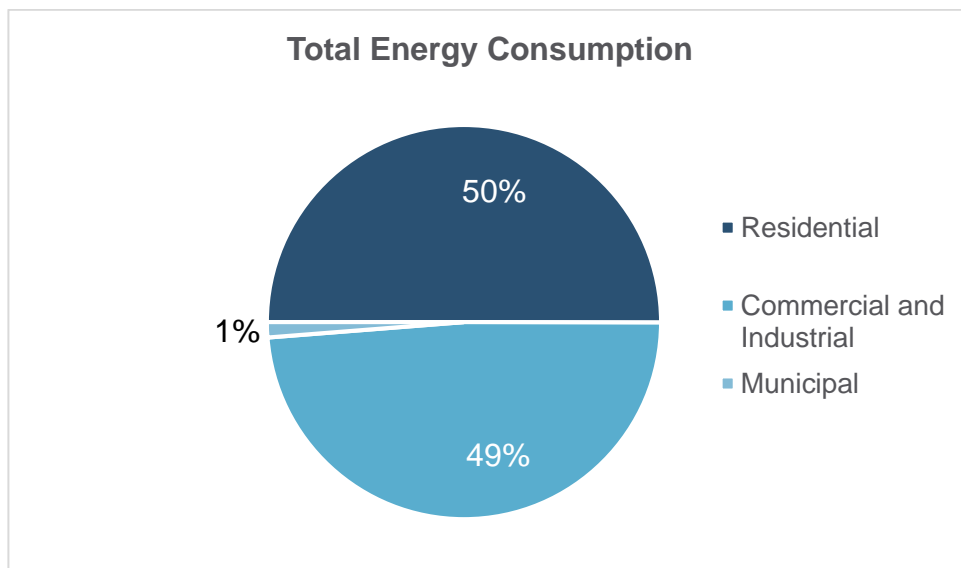
**Chart 8: 2018 Electricity Consumption in Minnetonka by Sector**

**Natural Gas Consumption  
CenterPoint Energy**



- Residential
- Commercial & Industrial
- Municipal

**Chart 9: 2018 Natural Gas Consumption in Minnetonka by Sector**



**Chart 10: 2018 Energy Consumption by Sector**

### Program Participation

Residents and businesses consistently benefit from the energy efficiency programs offered by Xcel Energy and CenterPoint Energy. In addition to energy savings, many of the programs offered allow participants to save on upgrades or replacement of their heating and cooling equipment, or on projects that boost a property's efficiency, like insulation or air sealing.

Table 14: 2018 Minnetonka Participants and Savings in Utility Conservation Programs by Utility

	Residential	Business	Total
<b>Xcel Energy</b>			
Participation Count	1,610	280	1,890
Savings (kWh)	905,628	8,328,161	9,233,789
<b>CenterPoint Energy</b>			
Participation Count	1,810	44	1,954
Savings (therms)	130,063	230,597	360,660

Table 15: Xcel Energy Residential Program Participation and Savings by Year

Residential DSM Program	2018 Participation	2018 kWh Savings	2017 Participation	2017 kWh Savings	2016 Participation	2016 kWh Savings
Efficient New Home Construction	26	58,743	11	7,317	19	10,079
Home Energy Audit	20	0	23	0	14	0
Home Energy Savings Program	18	20,067	4	84	52	9,326
Home Energy Squad	89	155,666	52	64,523	41	37,638
Insulation Rebate	1	8,788	0	0	0	0
Low-Income Home Energy Squad	2	4,514	0	0	0	0
Multi-Family Energy Savings Program	154	49,984	43	15,379	0	0
Residential Cooling	534	180,034	458	190,896	411	267,518
Residential Heating	433	285,837	437	295,683	294	205,921
Refrigerator Recycling	171	139,521	116	104,752	111	109,552
Residential Saver's Switch	84	176	100	206	2,003	16,272
Smart Thermostat	78	2,298	64	70	145	0
<b>Total</b>	<b>1,610</b>	<b>905,628</b>	<b>1,308</b>	<b>678,910</b>	<b>3,090</b>	<b>656,306</b>

Table 16: Xcel Energy Commercial and Industrial Program Participation and Savings by Year

Commercial DSM Program	2018 Participation	2018 kWh Savings	2017 Participation	2017 kWh Savings	2016 Participation	2016 kWh Savings
Computer Efficiency	0	0	0	0	1	958
Cooling	21	88,275	18	107,094	38	343,650
Custom Efficiency	1	174,121	5	410,525	5	744,106
Data Center Efficiency	5	1,257,052	0	0	0	0
Efficiency Controls	0	0	7	1,615,157	6	1,927,313
Electric Rate Savings	1	-248	4	24,815	11	-28,143
Energy Design Assistance	1	218,222	2	499,391	1	454,610
Energy Efficient Buildings	2	46,078	2	269,889	1	488,352
Fluid System Optimization	2	67,029	5	738,304	3	228,575
Heating Efficiency	1	1,687	1	1,687	0	0

<b>Lighting Efficiency</b>	129	3,598,410	159	5,071,730	101	2,742,202
<b>Motor Efficiency</b>	19	992,431	7	630,308	12	968,371
<b>Multi-Family Building Efficiency</b>	4	4,983	0	0	1	4,303
<b>Recommissioning</b>	4	250,416	3	675,363	0	0
<b>Saver's Switch for Business</b>	6	27	22	136	20	333
<b>Small Business Lighting</b>	82	1,629,678	61	1,704,549	51	2,564,372
<b>Turn Key Services</b>	1	0	1	0	5	0
<b>Total</b>	<b>279</b>	<b>8,328,161</b>	<b>297</b>	<b>11,748,948</b>	<b>256</b>	<b>10,439,002</b>

## Renewable Energy Support

Minnnetonka has embraced renewable energy. Both business and residential customers have demonstrated enthusiastic participation in available programs. Xcel Energy supports renewable energy with subscription-based programs like Windsource and Renewable\*Connect as well as Solar\*Rewards, which supports residents and businesses using on-site solar. Solar\*Rewards Community allows customers the opportunity to support solar development via nearby solar gardens, without the hassle of installing panels on their residence or business.

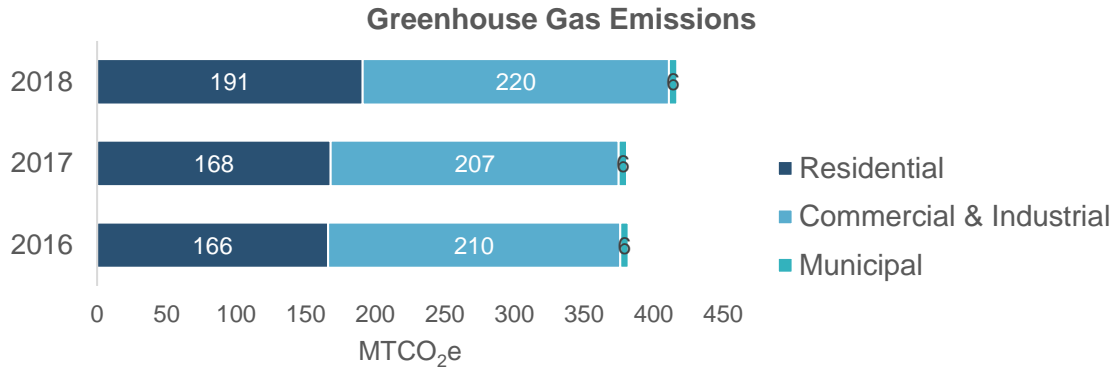
Table 17: 2018 Renewable Energy Support Summary by Sector<sup>18</sup>

	Residential	Business	Total
<b>Windsorce</b>			
Subscribers	1,095	5	1,100
Subscription Amount (kWh)	3,349,441	345,740	3,695,181
<b>Renewable*Connect</b>			
Subscribers	70	7	77
Subscription Amount (kWh)	581,543	3,570,798	4,152,341
<b>Solar*Rewards</b>			
Subscribers	58	15	73
Energy Produced (kWh)	197,899	250,683	448,582
<b>Solar*Rewards Community</b>			
Subscribers	186	113	299
Energy Produced (kWh)	1,349,451	5,571,544	6,920,995

## Greenhouse Gas Emissions

Minnnetonka's greenhouse gas emissions stayed relatively steady during the first two years of the base period and increased sharply in 2018, up 9% from 2016, likely due to the effects of a similar increase in energy consumption at that time.

<sup>18</sup> Xcel Energy Minnetonka Annual Community Energy Report.



**Chart 11: 2016–2018 Minnetonka Greenhouse Gas Emissions from Natural Gas and Electricity Consumption by Sector**

## Appendix 4: Methodology for Measuring Success

As part of implementation support, Partners in Energy will provide biannual progress reports that include metrics of success and overall progress toward goals through participation in Xcel Energy programs. Partners in Energy community facilitators will request CenterPoint Energy data on behalf of the City of Minnetonka annually for the previous year. The following section defines how progress toward goals will be measured. All 2020 goals will be measured through 2021. All 2030 goals will be measured through the end of the year 2030.

For purposes of this plan, the business as usual scenario represents a presumed slight increase in energy demand based on residential and commercial energy demand of about 0.5% per year.

### Community-wide Goal

Minnetonka's goal is to ...

Reduce energy-related greenhouse gas emissions in Minnetonka by 160,000 metric tons of CO<sub>2</sub> equivalent before the end of 2030.

Performance will be measured against the community-wide goal by adding greenhouse gas savings from the programs listed by focus area in this plan to greenhouse gas savings created as a result of Minnetonka resident and business participation in remaining CenterPoint Energy and Xcel Energy programs on a business as usual basis.

Program participation will be tracked in the following programs:

- Multi-Family Building Efficiency Program
- Multi-Family Energy Savings Program
- Home Energy Squad
- Home Energy Audit
- Low-Income Home Energy Squad
- Residential heating
- Residential cooling
- Refrigerator Recycling
- CenterPoint Energy Insulation Rebates
- Windsource
- Renewable\*Connect
- Solar\*Rewards
- Solar\*Rewards Community

It's important to note that measuring long-term goals in terms of CO<sub>2</sub> reductions may be difficult in years to come. Our assumptions are based on Xcel Energy's current fuel mix and annual targets for grid decarbonization. If Xcel Energy exceeds its annual targets, the CO<sub>2</sub> savings from electricity will be less than currently planned. In that case, we will recommend recalculating goals based on number of participants originally assumed necessary to accomplish our goals for each program.

Xcel Energy and CenterPoint Energy may also change program offerings available through the Conservation Improvement Program. In the case that programs change, we will re-evaluate the programs to be tracked.

## Multi-family Buildings Goals

Our goals for multi-family buildings are to:

1. Engage multi-family building owners to participate in existing efficiency programs.
2. Encourage the use of renewable energy on properties.
3. Look for opportunity for owners to install electric vehicle charging stations on-site.

Goals one and two will be measured by tracking participation in the following programs, measured against the baseline years:

- Multi-Family Building Efficiency
- Multi-Family Energy Savings

Table 18: Multi-Family Building Participation Targets

Program	Baseline	2021 Goal	2030 Goal
	Average Participants per Year	Participants	Participants
Multi-Family Building Efficiency	2	3	22
Multi-Family Energy Savings Program	99	225	1,279
<b>Total</b>	<b>101</b>	<b>228</b>	<b>1,301</b>

Goal three will be measured by tracking the number of buildings contacted with information about electric vehicle charging.

## Residential Energy Efficiency Goals

Our residential energy efficiency goals are to create ...

1. Easy access to opportunities that will make their homes more energy efficient.
2. Motivation to take advantage of those opportunities

We will measure our success by tracking increased use of key programs from both Xcel Energy and CenterPoint Energy. These programs include:

- Home Energy Squad
- Home Energy Audit
- Low-Income Home Energy Squad
- Residential Heating
- Residential Cooling
- Refrigerator Recycling
- CenterPoint Energy Insulation Rebates

We will tally participation in these programs at the end of 2021 to measure progress toward achieving our goals.



	Baseline	2021 Goal	2030 Goal
Program	Average Participants per Year	Participants (2020–21)	Participants
Home Energy Squad	80	300	1,705
Residential Heating Rebates	388	699	3,973
Residential Cooling Rebates	468	561	4,783
Refrigerator Recycling	133	240	1,364
CenterPoint Insulation Rebates	94	191	1,088
<b>Total</b>	<b>1,163</b>	<b>1,991</b>	<b>12,913</b>

## Renewable Energy Goals

Our goals for renewable energy are to ...

1. Equip decision-makers with the knowledge they need to navigate a decision to use renewable energy.
2. Motivate decision-makers and their influencers in Minnetonka to use more renewable energy.

We will measure success in this focus area by setting, and achieving, aggressive goals for increases in both business and residential renewable subscriptions, with a particular emphasis on Minnetonka residents. Programs we will track participation in include:

- Windsource
- Renewable\*Connect
- Solar\*Rewards
- Solar\*Rewards Community

Participation numbers in these programs will be tallied at the end of 2021 to measure progress toward achieving these targets.

On-site solar installations will also be tracked using City of Minnetonka permits issued for on-site solar installations to provide an accurate picture of residents and businesses who install photovoltaic systems on their buildings.

	Baseline	2021 Goal	2030 Goal
Program	Participants 2018	Participants (2020–21)	Participants
Renewable Subscriptions: Business	12	25	61
Renewable Subscriptions: Residential	1,015	2,000	3,166
On-Site Solar: Business	15	20	-

<b>On-Site Solar: Residential</b>	58	70	-
<b>Solar Gardens: Business</b>	113	150	-
<b>Solar Gardens: Residential</b>	186	250	-
<b>Total</b>	<b>1,399</b>	<b>2,515</b>	

## Appendix 5: Glossary

**15 x 15:** Xcel Energy's privacy rule, which require all data summary statistics to contain at least 15 premises, with no single premise responsible for more than 15% of the total. Following these rules, if a premise is responsible for more than 15% of the total for that data set, it is removed from the summary.

**Conservation Improvement Programs (CIP):** Portfolio of approved utility energy efficiency and demand management programs. Minnesota electric utilities have a goal of saving 1.5% of their total energy sales each year via customer conservation efforts. Minnesota natural gas utilities have a goal of saving 0.5% of their total energy sales each year via customer conservation efforts.

**Energy Burden:** Percentage of gross household income spent on energy costs.

**Greenhouse Gases (GHG):** Gases in the atmosphere that absorb and emit radiation and significantly contribute to climate change. The primary greenhouse gases in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

**Grid Decarbonization:** The current planned reduction in the carbon intensity of electricity provided by electric utilities through the addition of low- or no-carbon energy sources to the electricity grid.

**Home Energy Squad®:** Joint program offered by Xcel Energy and CenterPoint Energy to help customers reduce energy use through home energy audits.

**Kilowatt-hour (kWh):** A unit of electricity consumption.

**Million British Thermal Units (MMBtu):** A unit of energy consumption that allows both electricity and natural gas consumption to be combined.

**Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2e</sub>):** A unit of measure for greenhouse gas emissions. The unit "CO<sub>2e</sub>" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO<sub>2</sub>), based on the global warming potential (GWP) of the gas.

**Premise:** A unique identifier for the location of electricity or natural gas service. In most cases it is a facility location. There can be multiple premises per building, and multiple premises per individual debtor.

**Renewable\*Connect®:** Program from Xcel Energy that offers an affordable way to benefit from renewable energy, with no equipment necessary and access to a blend of wind and solar.

**Renewable Energy Certificate (REC):** For every megawatt-hour of clean, renewable electricity generation, a renewable energy certificate (REC) is created. A REC embodies all of the environmental attributes of the generation and can be tracked and traded separately from the underlying electricity. Also known as a Renewable Energy Credit.

**Resilience:** The ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents

**Solar\*Rewards:** An incentivized program from Xcel Energy, with monthly payments made to the owner of the solar energy system in exchange for Renewable Energy Credits for the energy produced by the solar energy system.

**Solar\*Rewards Community:** The nation's largest community solar garden program from Xcel Energy. Solar\*Rewards Community allows customers the opportunity to support the development of nearby solar gardens.

**Therm (thm):** A unit of natural gas consumption.

**Trade Partner:** Trade Partners, also known as Trade Allies or Business Trade Partners, are vendors and contractors who work with business and residential customers servicing, installing, and providing consulting services regarding the equipment associated with utility rebate programs. Their support for utility programs can range from providing equipment to assisting with rebate paperwork for equipment sold.

**Windsource®:** A voluntary subscription program that allows Xcel Energy customers to source some or all of their electricity from wind energy.