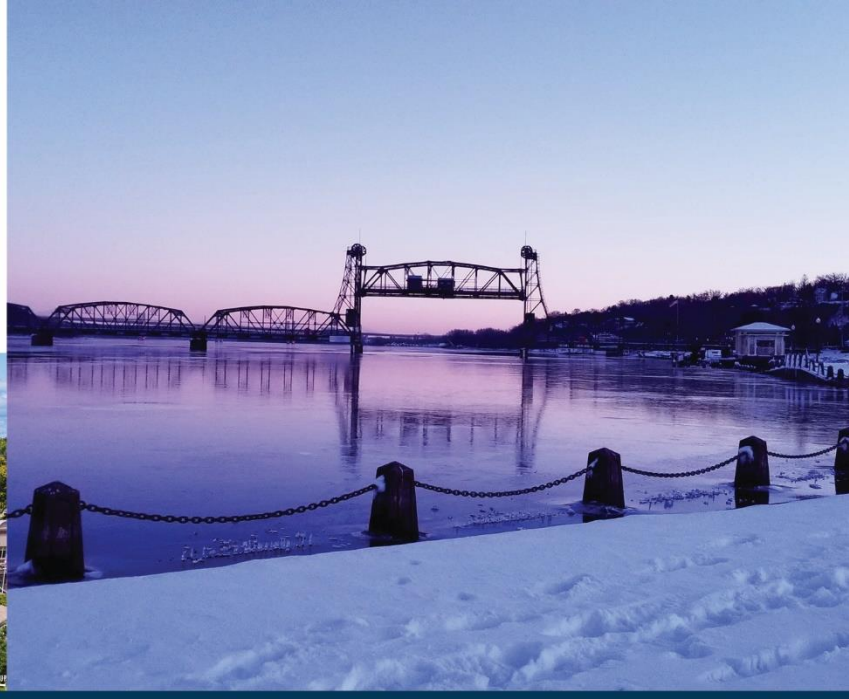
Stillwater

THE BIRTHPLACE OF MINNESOTA



An Energy Action Plan for Stillwater

April 2024

Xcel Energy®

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 and gas utility serving Stillwater. 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 4: Xcel Energy's Partners in Energy Planning Process.

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Cover Photos: Kelsey Depew, Greg Shulz, Jerry Weise

This Energy Action Plan was funded by and developed in collaboration with Xcel Energy's Partners in Energy. Partners in Energy shall not be responsible for any content, analysis, or results if Stillwater has made modifications to the plan.

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Photo: Greg Shulz

STILLWATER ENERGY ACTION PLAN

Stillwater community members collaborated with Xcel Energy's Partners in Energy program to create this Energy Action Plan at no cost to the City of Stillwater. The plan offers Stillwater residents, businesses, and the City a path forward to save energy and manage costs while avoiding carbon emissions.

Our Energy Vision

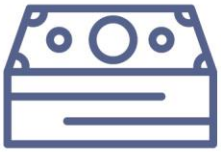
Stillwater's Energy Action Plan educates and inspires residents and businesses to engage in energy action. With a focus on saving energy, the plan aims to save the community money, reduce emissions, and increase energy resiliency while embracing Stillwater's historic character and preserving it for future generations.

Our Goals

By implementing this plan, Stillwater will save **3.8 million** kWh of electricity and **198,000 therms** of natural gas by the end of 2025.

This will avoid an additional **58%** of energy-related greenhouse gas emissions and save the community **$450,000**.

Energy Action Plan Impacts



Estimated savings of **$450,000** community-wide by the end of 2025.

Avoid an additional **58%** of energy-related greenhouse gas emissions relative to the baseline emissions levels by 2025 (that's like removing **205 gas-powered cars** from the road for one year).

Making Stillwater more energy resilient while embracing its historic character.

Stillwater
THE BIRTHPLACE OF MINNESOTA

The content of this plan is derived from a series of planning workshops hosted by Xcel Energy's Partners in Energy. Thank you to the Stillwater Energy Action Team who contributed many hours of service to creating our vision, goals, and strategies for this plan.

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Photo: Greg Shulz

How We Are Going to Get There

The City of Stillwater and its partners, community members, and volunteers will take actions identified in this plan to help us achieve our goal. We developed actionable strategies to reach all residents and businesses within four focus areas.

- **Residential Energy Efficiency**
- **Business Energy Efficiency**
- **Reducing Energy Burden**
- **Renewable Energy**


Photo: Jerry Wiese

Actions

1. Continuously design and implement communication and outreach campaigns based on energy goals, including increasing renewable energy, sharing income-qualified assistance, and supporting business energy efficiency.
2. Create a volunteer group of energy ambassadors to support the distribution of energy opportunities to residents.
3. Explore the feasibility of on-site solar for Stillwater municipal infrastructure.
4. Provide resources and education to support residents who want to install solar on their properties.
5. Share funding opportunities to defray energy costs for residents.
6. Collaborate with organizations to incorporate energy efficiency into business programs.
7. Increase energy efficiency in Stillwater municipal buildings and community institutions.


Photo: Kelsey Depew

Get Involved

Visit **stillwatermn.gov** to read more about the Energy Action Plan and find ways you can be part of it.

To learn how to help Stillwater achieve our energy goals, please contact Council Member Larry Odebrecht at **lodebrecht@stillwatermn.gov**.

Photo: Greg Shulz

INTRODUCTION

Situated on the banks of the historic St Croix River, the city of Stillwater, Minnesota, shares a profound and symbiotic relationship with the Saint Croix National Scenic Riverway. This riverway, renowned for its breathtaking scenery and diverse recreational opportunities, forms a natural boundary and a scenic backdrop for Stillwater. From the early days of Joseph R. Brown's warehouse, which marked the beginning of Stillwater's journey as a county seat, to its transformation into a bustling lumber town, Stillwater has consistently adapted to changing times and needs. The spirit of innovation and adaptability that drove Stillwater's growth in the lumber era, particularly during the golden age marked by technological advancements such as gas lights, telephone service, and electric lights, is the same spirit fueling our Energy Action Plan.

The development of this Energy Action Plan is a story of collaboration, diversity, and shared commitment. A dedicated group of citizens from all corners of our community came together to shape this vital initiative. Young advocates passionate about efficient resource use sat alongside seasoned professionals with years of practical experience. Business owners, residents, and representatives from various community sectors formed a “purple team,” representing a wide range of political perspectives from the right and the left. This group contributed their insights, ensuring that every angle was considered. We sought practical, actionable solutions that would benefit our city as a whole. It was a process that highlighted the power of unity and the importance of incorporating a diverse array of ideas and viewpoints.

This extensive collaboration results in an Energy Action Plan that demonstrates what we can achieve when we work together, regardless of political affiliation or personal beliefs. It’s a plan born from a shared love for our city and a common desire to make Stillwater a better place for all. This plan is not just a document; it’s a blueprint for action, reflecting our community's collective will and wisdom.

Why We Want an Energy Action Plan

In the spirit of Stillwater's innovative history, our approach to this Energy Action Plan is straightforward, action-oriented, and offers practical solutions. This plan is about managing

energy, and it's also about being wise with our resources for the betterment of everyone in Stillwater.

Here are some highlights of our journey so far, reflecting our city's approach to finding practical solutions:

- The installation of LED streetlights in 2016 was both an upgrade and a significant step toward more efficient energy use.
- The restoration of Lily Lake (once a main destination in the city) is a success story marked by decades of community effort, collaboration with government bodies, and innovative environmental solutions.

Our involvement in initiatives like the Minnesota GreenStep Cities program from the League of Minnesota Cities reflects our commitment to exploring practical and effective energy solutions. The Energy Action Plan builds on these efforts, focusing on strategies that are economically sensible and beneficial for our city.

We aim to enhance energy use to reduce costs and improve our city's operations and residents' lives. The plan strongly emphasizes pragmatic measures that can be quickly adopted and have a tangible impact.

In crafting this plan, we focused on our diverse community's collective wisdom and input. Historically, our city has been a hub of diverse industries, from lumber and shingles to farm machinery and steam engines, demonstrating our ability to harness varied resources and opportunities. This collaboration has yielded innovative and grounded strategies that apply to the real world. We are looking at immediate solutions and laying the groundwork for long-term, sustainable energy improvements.

By implementing these strategies, we aim to reduce the financial burden on our residents and businesses, making Stillwater an even more attractive place to live, work, and visit. It's about creating a balance where both our current needs and future aspirations are met through thoughtful and practical energy use. This plan is a collaborative achievement, reflecting the best of our community's spirit and a shared commitment to a thriving, efficient Stillwater.

Our Engagement & Outreach Process

The creation of this Energy Action Plan was an eight-month process to help support our community in characterizing its energy use, identifying our energy-related goals, and developing engaging strategies to guide change toward our energy future. Starting in July 2023, the Energy Action Plan was driven by a series of planning workshops held in the community with a planning team committed to representing local energy priorities in collaboration with the City of Stillwater and Xcel Energy Partners in Energy. By the numbers, we held 3 surveys, 5 workshops, and engaged 20 participants who represented residents, businesses, the City of Stillwater, Washington County, and all sides of the political spectrum. See *Appendix 4: Xcel Energy's Partners in Energy Process* for more information about the planning process and Xcel Energy Partners in Energy.

Photo: Greg Shulz

WHERE WE ARE NOW

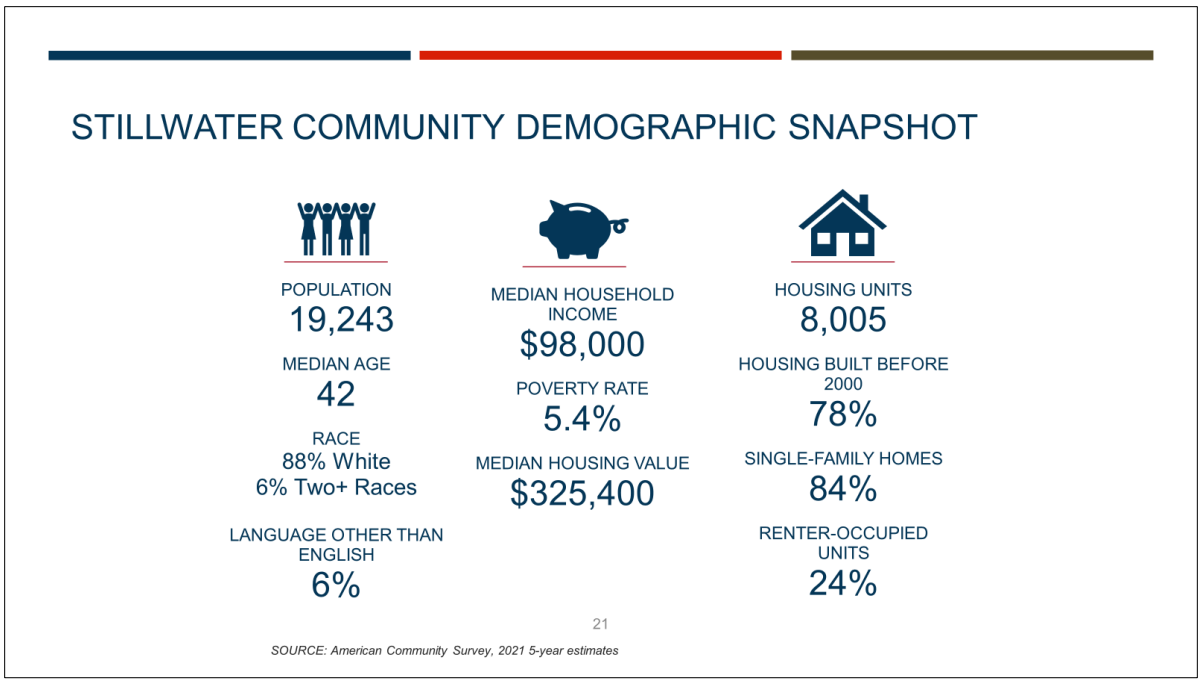
An integral part of the Partners in Energy planning process is reviewing historic energy data that informs our community's energy baseline. Xcel Energy provided data on energy use, energy conservation program participation and savings, and renewable energy participation and generation for Stillwater, as detailed in the following sections. See *Appendix 2: Baseline Energy Analysis* for a comprehensive picture of Stillwater's baseline energy data.

Community Demographics

Population

As of 2021, Stillwater's population of almost 20,000 residents lived in approximately 8,000 housing units. With relatively low diversity, 6% of residents speak a language other than English, and 88% of residents identify as white. A poverty rate of 5.4% and a median household income of $98,000 make them a wealthier community compared to some of their peer cities. With 78% of its housing built before 2000, most Stillwater residents live in housing stock with significant opportunity for energy efficiency improvements because of age. Additionally, 24% of units in Stillwater are renter-occupied, presenting unique opportunities for energy efficiency measures targeted at renter-occupied units. *Figure 1* shares the community demographic profile.

Figure 1. Overview of Stillwater's community demographics[1]



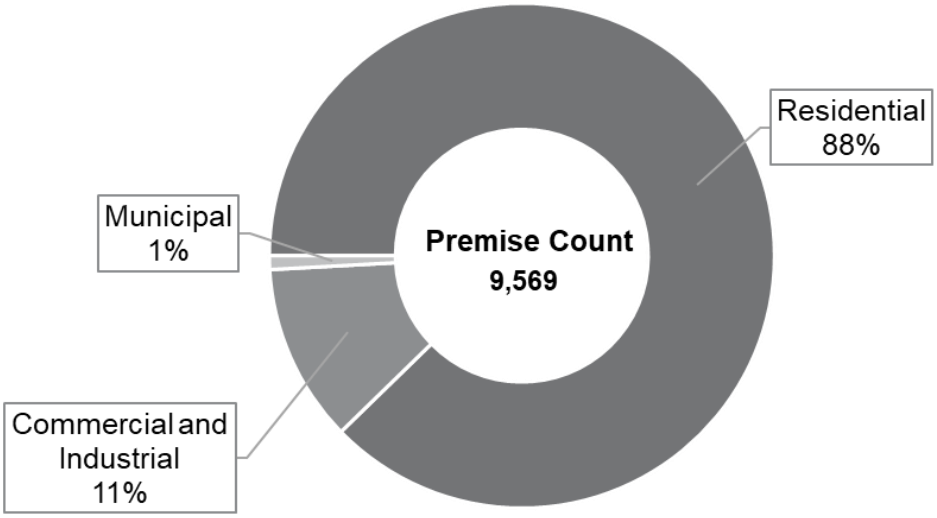
Energy Use and Savings

Premises

Xcel Energy provides electricity and natural gas to Stillwater residents and businesses. In 2022, Stillwater consisted of 9,569 distinct utility premises, which are a unique combination of service address and meter. For residential customers, this is equivalent to an individual house or dwelling unit in a multi-tenant building. For business customers, it is either an individual businessor a separately metered portion of the business (which may be at the same address). Most Stillwater premises are residential, with a small number of commercial and industrial premises and a smaller portion of municipal premises rounding out the total (*Figure 2*).

[1] Source: U.S. Census Bureau American Community Survey, 2021 five-year estimates

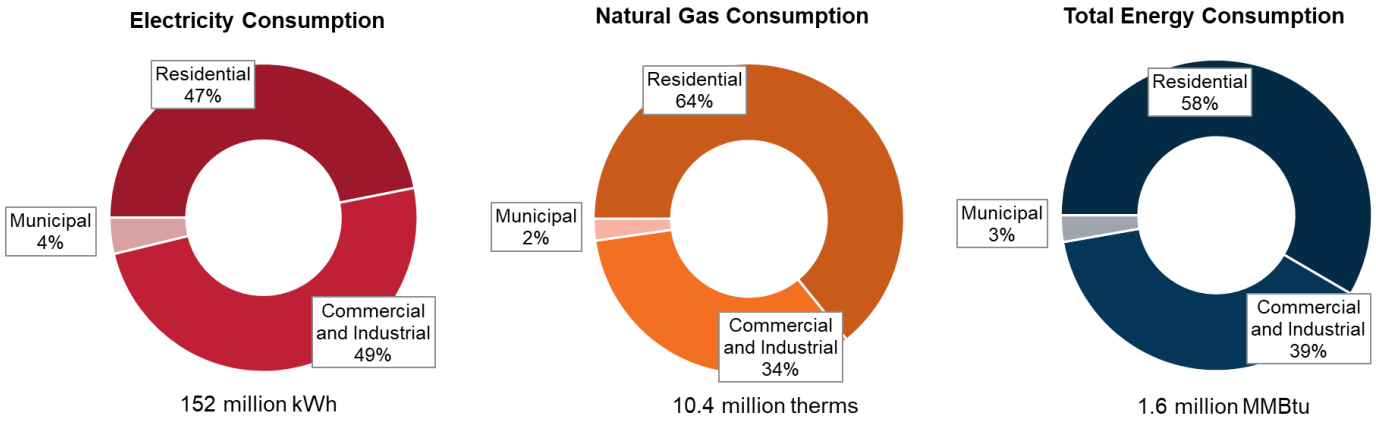
Figure 2. Total premises by sector, 2022



Grid Energy Use

On average over the baseline period (2020–2022), the Stillwater community consumes 152 million kWh of electricity and 10.4 million therms of natural gas across all sectors per year. To compare electricity and natural gas consumption on a common measure of energy savings potential, total energy consumption was calculated using both electricity and natural gas consumption converted into British thermal units. Although the commercial and industrial sector only makes up 11% of premises, it accounts for over a third of total energy consumption. Commercial and industrial premises use significantly more energy on average per premise than residential premises, a typical pattern for cities like Stillwater.

Figure 3. Average annual energy consumption by sector, 2020–2022



During the three-year baseline period (2020–2022), Stillwater's overall electricity consumption increased 1.8%. Electricity consumption in the residential sector decreased slightly by 0.8% during the three-year baseline, while commercial consumption increased by 4.1%, driving the overall increase (*Figure 4*). Stillwater's natural gas consumption increased across all sectors during the baseline period, with a total increase from 2020 of 13% (*Figure 5*). This correlates with an increase in heating degree days in 2022, indicating a colder winter and an increased demand for natural gas for space heating.

Figure 4. Electricity consumption by sector, 2020–2022

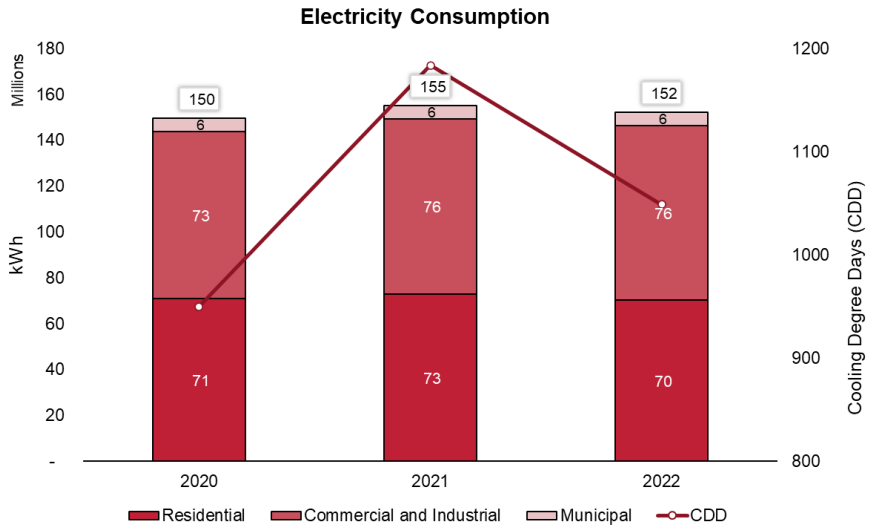
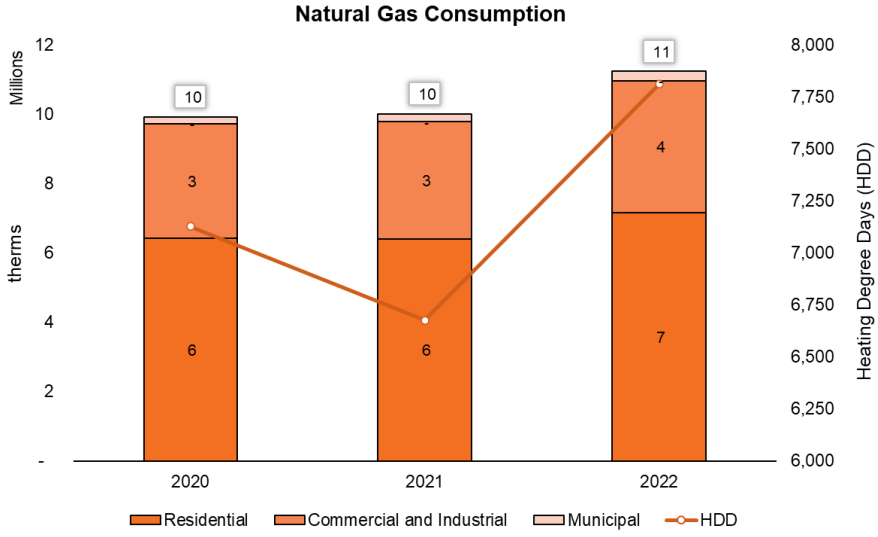


Figure 5. Natural gas consumption by sector, 2020–2022



Energy Costs and Energy Burden

During an average year, Stillwater spends an estimated $26 million on energy for both electricity and natural gas (*Figure 6*). More than half of these costs are paid by residents, with total annual average energy costs at $14.6 million. A residential premise spends an average of almost $1,800 annually on electricity and natural gas. The commercial and industrial sector averages $10.9 million annually in energy costs. While costs fluctuate greatly for commercial and industrial premises based on size and industry, on average these premises spend just over $10,000 annually.

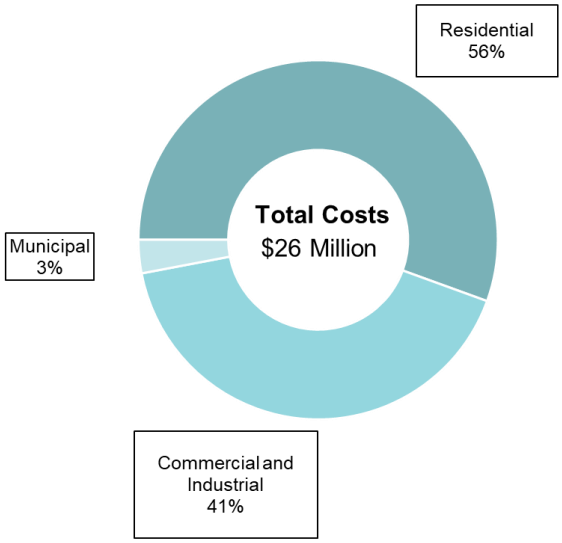


Figure 6. Total average annual energy costs by sector, 2020–2022

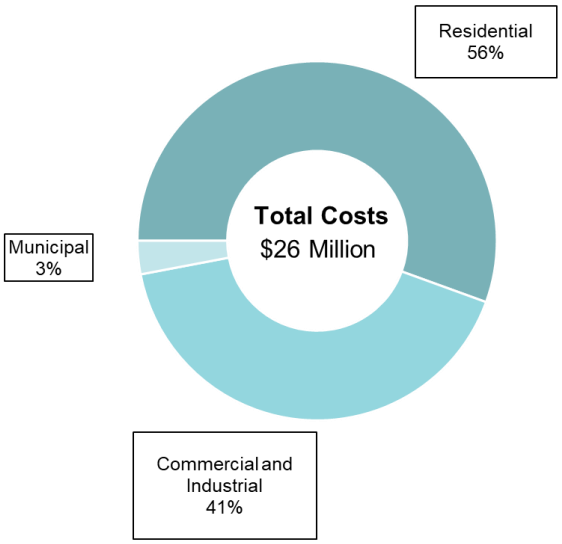
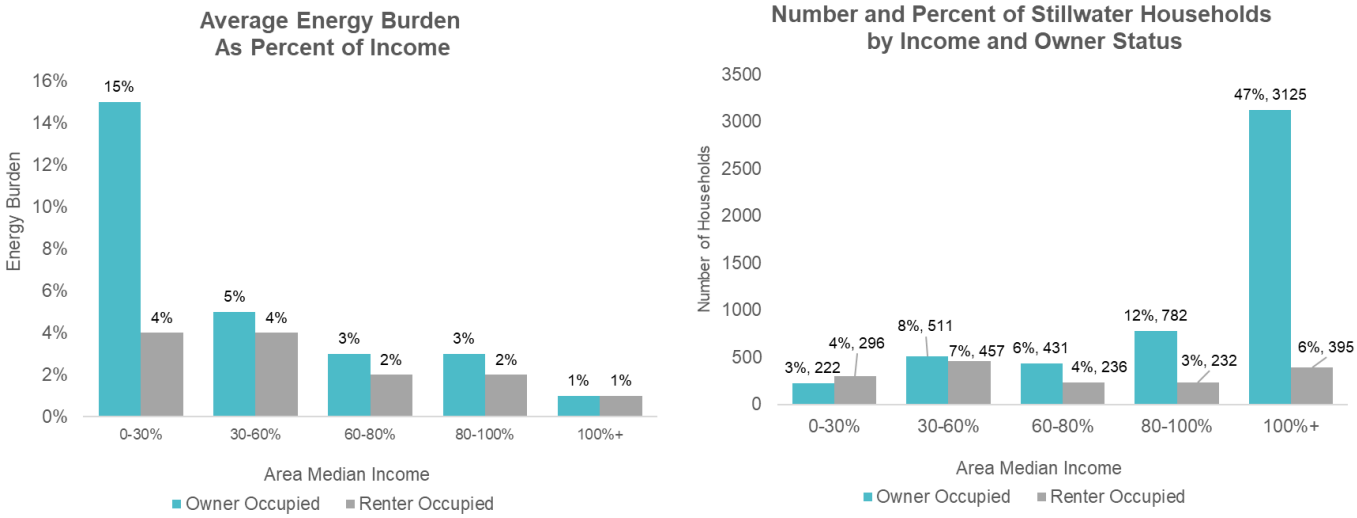


Table 1. Average annual energy costs by sector and fuel, 2020–2022

Sector	Annual Electricity Costs	Annual Natural Gas Costs	Annual Cost per Premise
Residential	$9.5 million	$5.1 million	$1,800
Commercial & Industrial	$8.5 million	$2.4 million	$10,100
Municipal	$626,000	$162,000	$9,500

Energy burden is the percentage of income that residents spend on energy. A high energy burden is defined as greater than 6% of income, while a severe energy burden is greater than 10% of income.[2] The Stillwater residents with the largest energy burden are those who own their homes and make 30% or less of the median income. This group spends up to 15% of their income on energy costs. The household data on the right side of *Figure 7* shows that 3% of residents fall in this category, while 47% of residents are homeowners who make more than the area median income, a group with a 1% energy burden.

Figure 7. Energy burden and household count by income and owner status[3]



Greenhouse Gas Emissions

Greenhouse gas emissions are calculated for both electricity and natural gas consumption for all sectors in Stillwater (*Figure 8*).[4] Stillwater's energy-related greenhouse gas emissions in 2022 amount to almost 102,000 metric tons of carbon dioxide equivalent ($MTCO_2e$). Like total energy consumption, Stillwater's residential sector accounts for almost 60% of energy-related

[2] APPRISE (Applied Public Policy Research Institute for Study and Evaluation). 2005. LIHEAP Energy Burden Evaluation Study. Washington, DC: HHS (Department of Health and Human Services). www.acf.hhs.gov/sites/default/files/ocs/comm_liheap_ energyburdenstudy_apprise.pdf.
[3] Source: Department of Energy Low-Income Energy Affordability Data Tool.
[4] Electricity emissions are calculated using Xcel Energy's preliminary and certified emissions factors for their Upper Midwest Fuel Mix for 2020, 2021, and 2022. Emissions factors used during the planning process may change as Xcel Energy completes third-party verification for its emissions intensities. See *Table 12* for the emissions factors used to calculate Stillwater's energy-related emissions.

greenhouse gas emissions. Emissions have risen by 9% between 2020 and 2022, with increases in every sector. *Figure 9* breaks out the 2022 energy-related emissions by sector and fuel type. The largest proportion of emissions (37%) comes from natural gas in the residential sector, and in total, the residential sector generated 56% of Stillwater's energy-related greenhouse emissions while the commercial sector generated 41% of emissions. Natural gas consumption made up the largest proportion of total emissions, adding up to 58% of all energy-related emissions.

Figure 8. Energy-related greenhouse gas emissions, 2020–2022

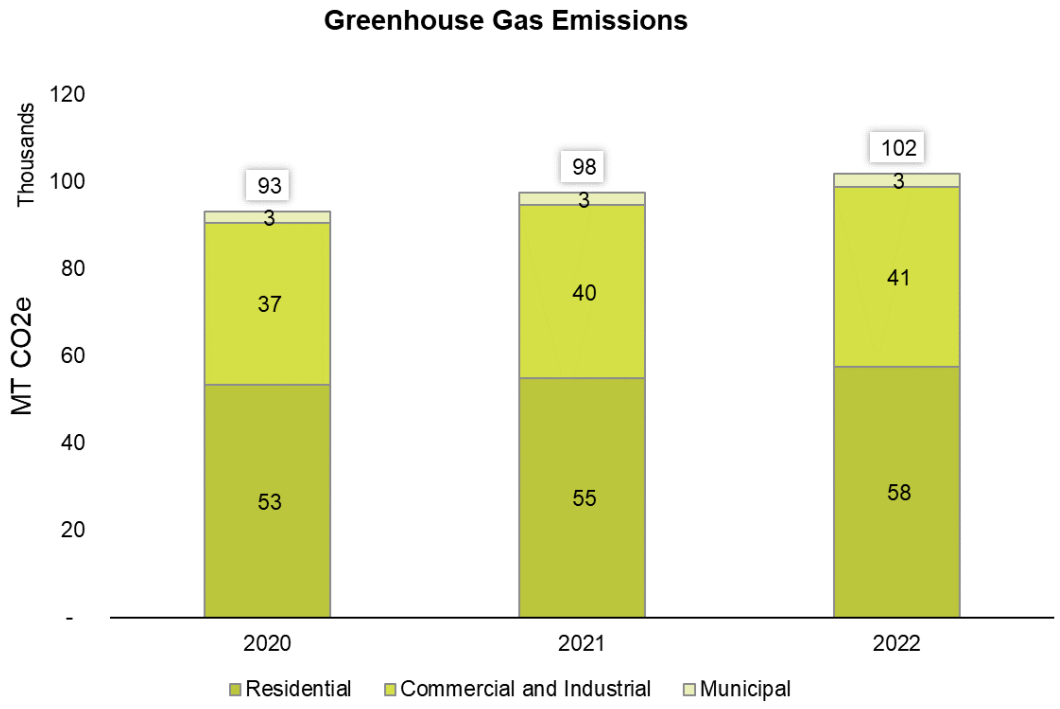
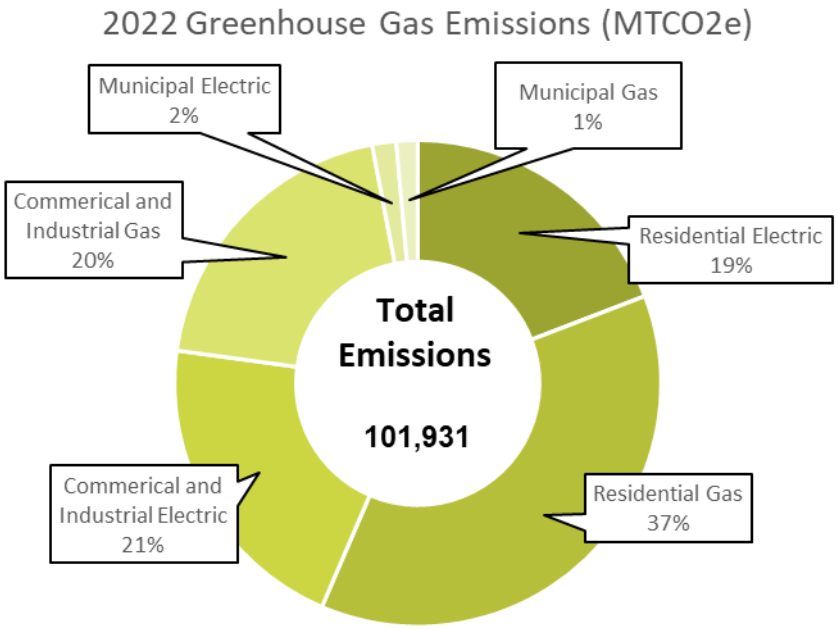


Figure 9. Energy-related greenhouse gas emissions by sector and fuel type, 2022



Renewable Energy Opportunities

Stillwater residents and businesses use subscription programs and on-site options to support renewable energy (*Table 2* and *Table 3*). In Stillwater, most renewable energy support is in the residential sector, where 677 residents receive renewable energy through subscription programs, equivalent to taking 313 gas-powered cars off the road for a year.[5] One hundred and fourteen residents have on-site solar installations. Fewer commercial and industrial customers participate in renewable energy offerings, with 13 renewable energy program subscribers and 11 on-site installations. However, commercial and industrial customers have larger subscriptions and installations per premise. As a result, commercial and industrial customers source more electricity from subscription renewable energy offerings, totaling 9.3% of sector electricity use, compared to 4.6% for the residential sector. Overall, there is potential to increase renewable energy use in Stillwater, with only about 7% of the community's electricity coming from renewable energy programs. The total excludes generation from on-site solar because those installations are behind the meter — that is, Xcel Energy is not able to track how much solar energy a household receives.

[5] https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

Table 2. Xcel Energy subscription renewable energy program support, 2022

	Residential	Commercial & Industrial
Windsource® & Renewable*Connect®		
Subscriber Count	548	1
Total Annual Electricity Subscribed (kWh)	2,119,000	4,900
Community Solar Gardens – Solar*Rewards® Community		
Subscriber Count	128	12
Total Annual Electricity Subscribed (kWh)	1,131,000	7,038,000
Total Xcel Energy Subscription Renewable Energy Support		
Subscriber Count	677	13
Total Annual Electricity Subscribed (kWh)	3,250,000	7,043,000

Table 3. Xcel Energy on-site solar program support, 2022[6]

	Residential	Commercial & Industrial
On-site Solar – Solar*Rewards® and Net-Metering[7]		
Participant Count	66	7
Total Electricity Capacity (kW)	530	775

Energy Efficiency Program Participation and Savings

Both residents and commercial and industrial premises participate in Xcel Energy's efficiency programs through which they can receive rebates for upgrading equipment and a building audit to understand their efficiency opportunities or manage their demand through rate savings programs. Participation in these programs results in energy savings for participants. Stillwater's residents and commercial and industrial premises saved an annual average of 1.2 million kWh and 72,700 therms during the baseline period by participating in Xcel Energy's efficiency programs (*Table 4*).

Table 4. Average annual program participation and energy savings, 2020–2022

Program Sector	Average Annual Participation	Average Electricity Savings (kWh)	Average Natural Gas Savings (therms)
Residential	798	231,957	65,197
Commercial & Industrial	50	968,012	7,534
Total	**848**	**1,199,969**	**72,730**

Stillwater residents and businesses rely on a few key programs from Xcel Energy to help them improve efficiency *(Table 5)*. The Residential Heating and Cooling rebate program, for which residents receive rebates for upgrading to more efficient equipment, had the most participants and resulted in the most savings, but programs like Refrigerator Recycling, a recycling rebate

[6] Source: Xcel Energy Community Energy Report for Stillwater, 2022.
[7] Excludes on-site solar due to behind the meter electricity generation.

program, and Efficient New Home Construction, an incentive program for builders to exceed local energy efficiency codes, also resulted in significant savings. In the commercial and industrial sector, the Lighting Efficiency and Small Business Lighting programs that offer audits and rebates for businesses to upgrade to more energy efficient lighting had the most participants and highest savings (*Table 6*).

Table 5. Average annual participation in top residential programs, 2020–2022

Residential Program	Average Annual Participation	Average Electricity Savings (kWh)	Average Natural Gas Savings (therms)
Residential HVAC	415	142,079	50,133
Refrigerator Recycling	42	31,318	-
Efficient New Home Construction	17	25,542	5,479
Home Energy Squad	18	16,814	612
Home Energy Savings Program	7	3,991	543

Table 6. Average annual participation in top commercial and industrial programs, 2020–2022

Commercial Program	Average Annual Participation	Average Electricity Savings (kWh)	Average Natural Gas Savings (therms)
HVAC+R Efficiency	14	81,121	7,034
Lighting Efficiency	15	449,353	-
Small Business Lighting	13	431,022	77

Photo: Greg Shulz

WHERE WE ARE GOING

Energy Vision Statement

During the planning process, the Energy Action Team created a vision statement for this Energy Action Plan. This statement guided the planning process and reflects the intention of the community.

VISION

Stillwater's Energy Action Plan educates and inspires residents and businesses to engage in energy action. With a focus on saving energy, the plan aims to save the community money, reduce emissions, and increase energy resiliency while embracing Stillwater's historic character and preserving it for future generations.

Focus Areas

To achieve a community-wide commitment to energy stewardship, the Energy Action Team identified the following focus areas to prioritize strategies and resources. These focus areas were chosen to provide a holistic approach to energy stewardship, while also heeding the need to conserve energy, switch to electricity when possible, and power the energy we use with renewables. Many of the strategies advance Demand Side Management (DSM) programs,

- Residential Energy Efficiency
- Business Energy Efficiency
- Reducing Energy Burden
- Renewable Energy Opportunities

which are voluntary modifications of consumer demand for energy through various methods, including education and financial incentives.

It was important to the Energy Action Team to educate the community about not only increasing energy efficiency, but also conserving energy. With new incentives coming to communities from the federal Inflation Reduction Act, and new utility programs delivered as part of the state of Minnesota's Energy Conservation and Optimization Act (ECO), the future of electrification will be more affordable and available to residents and businesses looking to make the switch. Tactics will include education and recommendations for switching to electrified appliances. Powering homes and businesses in Stillwater with renewable energy is the next crucial step to reducing greenhouse gas emissions.

Residential Energy Efficiency

- This focus area will support residents to conserve energy through energy efficiency projects, behavior change, and Demand Side Management (DSM) program participation.
- The residential sector consists of living quarters for private households in dwellings from one to four units.

Business Energy Efficiency

- This focus area will support businesses to conserve energy through weatherization of their buildings and DSM program participation.
- The commercial and industrial sector consists of service-providing facilities; Federal, State, and local governments; some multi-family housing; and other private and public organizations like schools or medical facilities.

Reducing Energy Burden

- This focus area will support income-qualified residents by offering information about energy assistance programs, and help them save energy and money through energy efficiency programs and behavior changes.
- Energy burden is the percentage of gross household income spent on energy costs. High energy burden is defined by the American Council for an Energy-Efficient Economy (ACEEE)[8] as spending more than 6% of your income on energy.

Renewable Energy Opportunities

- This focus area will help increase renewable energy support in Stillwater, with access to both wind and solar energy to power homes and businesses.
- Renewable energy can be accessed through utility subscription programs, community solar gardens, or on-site solar.

[8] https://www.aceee.org/energy-burden

Community-wide Goals

The Energy Action Team set goals during the planning process by deciding which metrics were important to measure, reviewing the community's energy baseline data to discuss ambition and feasibility, and constructing a timeline to achieve these goals. Goals are measured against the 2020–2022 baseline period.

Our Goal

By implementing this plan, Stillwater will save 198,000 therms of natural gas and 3.8 million kWh of electricity by the end of 2025.

This will avoid an additional 58% of energy-related greenhouse gas emissions and save the community $450,000.

The impact of our community-wide goal will help Stillwater reduce an additional 900 $MTCO_2e$ by the end of 2025 compared to business-as-usual. The energy-related greenhouse gas emissions are from electricity and natural gas. It includes the greenhouse gas emissions avoided from both energy efficiency and renewable energy program participation in Stillwater and grid decarbonization by the utility. Stillwater's greenhouse gas avoidance is equivalent to removing 205 passenger vehicles from the road for a year.[9]

Five-year Goal

The Energy Action Team wanted to include another goal that set a more distant timeline of five years. We will use the following targets to measure success through the end of 2028, which will be measured against the 2020–2022 baseline.

Five-year Goal

Stillwater will save 600,000 therms of natural gas and 8.9 million kWh of electricity by the end of 2028.

This will avoid an additional 54% of energy-related greenhouse gas emissions and save the community $1.1 million.

The impact of the five-year goal will help Stillwater achieve a reduction of an additional 2,219 $MTCO_2e$ by the end of 2028 compared to business-as-usual. The five-year goal savings are cumulative, meaning they include the savings from the two-year goal. The percentage of avoided emissions is at 58% for the two-year goal and 54% when extended to five years. The

[9] U.S. Environmental Protection Agency Greenhouse Gas Equivalencies Calculator, https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

energy saved will stay the same year over year, but the energy grid is getting cleaner every year, which results in avoided emissions. Stillwater's greenhouse gas avoidance is equivalent to removing 494 passenger vehicles from the road for a year.

Energy Action Plan Impact

To visualize the electricity and natural gas savings from the goals, *Figure 10* and *Figure 11* show the business-as-usual scenario with the goal impact. The business-as-usual scenario shows what will happen in Stillwater if we continue to operate the same as in years past. We would still see savings from program participation based on historic data. The navy blue wedge shows the impact the Energy Action Plan will have on electricity and natural savings in the community.

Figure 10. Electricity savings from Energy Action Plan impact through 2025

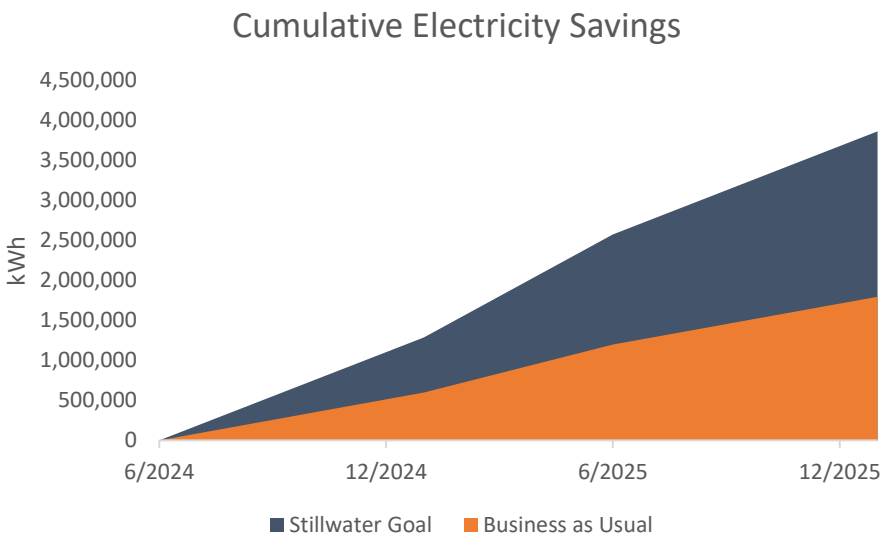
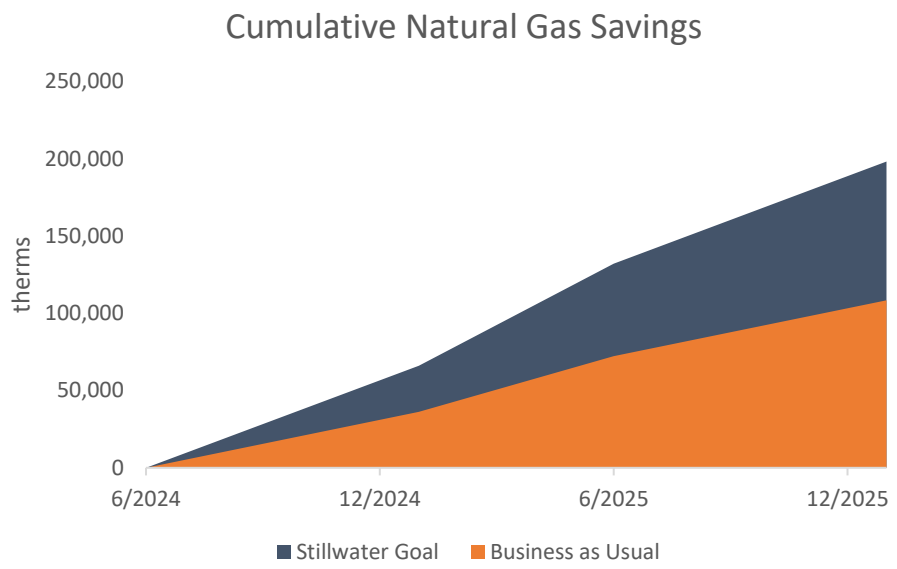


Figure 11. Natural gas savings from Energy Action Plan impact through 2025



Stillwater's goals will also impact the energy-related greenhouse gas emissions, as shown in *Figure 12*. The plan will avoid an additional 58% of greenhouse gas emissions by the end of 2025, which includes savings from electricity, natural gas, and renewable energy. Looking ahead to the end of 2028, we see even more avoided greenhouse gas emissions from grid decarbonization and plan impact. (In a quirk of the data, the percent avoided is slightly lower [54% vs. 58%], but the overall savings are greater.)

Figure 12. Stillwater's avoided greenhouse gas emissions based on community-wide goal, 2024–2025

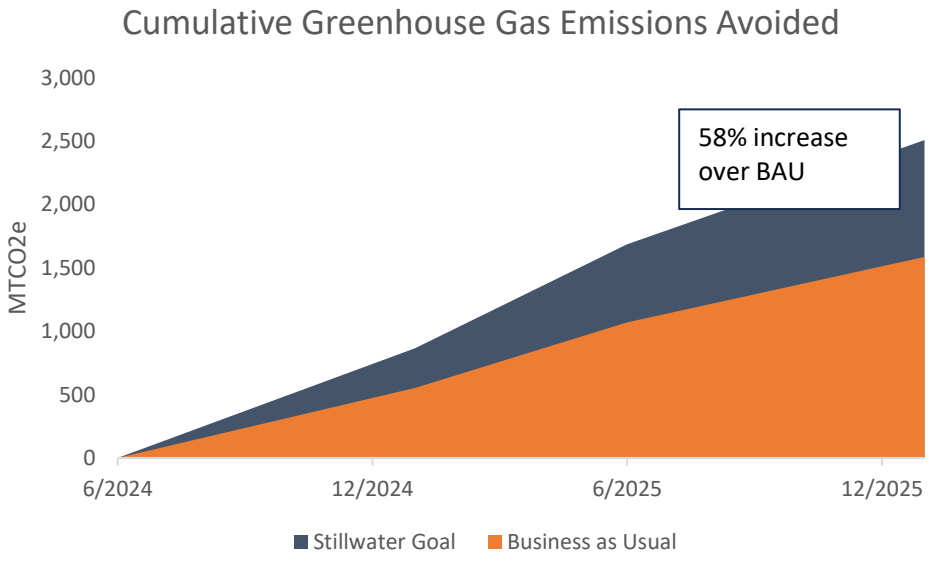


Figure 13. Stillwater's avoided greenhouse gas emissions, 2024–2028

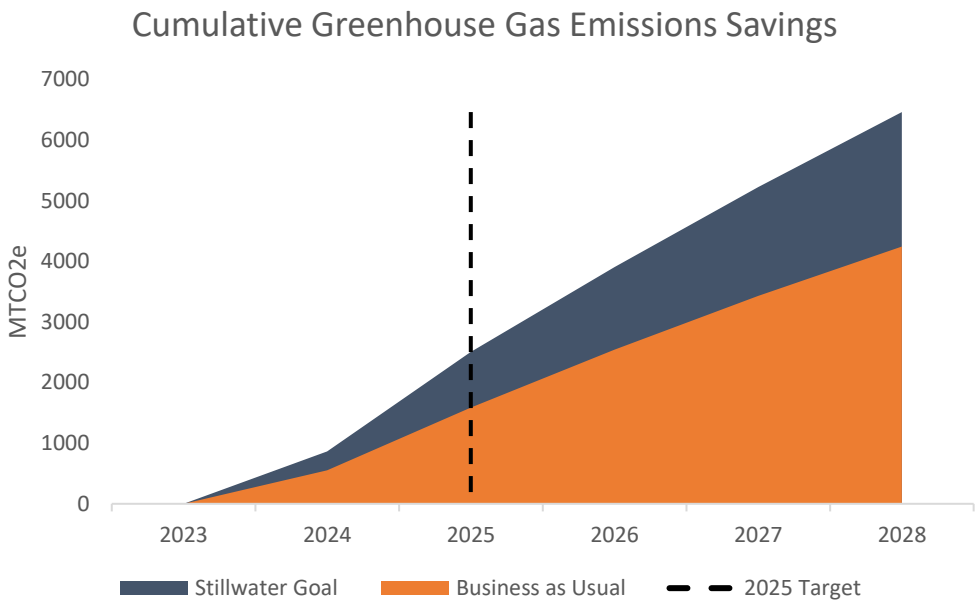


Photo: Dale Peterson

HOW WE ARE GOING TO GET THERE

The following section outlines the implementation work plan, including focus areas, strategies, and tactics to help achieve Stillwater's goals. These initiatives will be a collaboration between the City of Stillwater and Partners in Energy, Xcel Energy, and the Energy Action Team. Each focus area has background information, three to four strategies, and specific tactics describing the actions we will take. Additionally, the Energy Action Team identified resources to support our work are listed at the end of this section. For a more detailed work plan with a timeline and responsibilities, see Appendix 1: Implementation Work Plans.

The Energy Action Team, composed of volunteers, developed these strategies by considering the unique strengths and abilities of the Stillwater community. Taken as a whole, these strategies represent an effort to use energy more efficiently, reduce greenhouse gas emissions, and support renewable sources of energy (including electrifying equipment when possible), while heeding the cost of energy and its impact on low-income members of the Stillwater community.

Strategies Overview

Core Strategies: Communications

1. Add a page to the City of Stillwater website with comprehensive information on Energy Action Stillwater's plan.
2. Create and implement communication plans tailored to individual strategies and focus areas.

Focus Areas

Residential Energy Efficiency

3. Create a volunteer group of energy ambassadors that can support the distribution of energy opportunities to residents.
4. Share energy resources at community events in Stillwater.
5. Design and implement energy efficiency outreach and education campaigns for homeowners.

6. Design and implement energy efficiency outreach and education campaigns for renters in multi-family buildings and property owners.

Business Energy Efficiency

7. Design and implement a multi-pronged outreach campaign to businesses to increase energy efficiency, with one prong tailored to building owners and another tailored to businesses that rent.
8. Collaborate with community organizations to incorporate energy efficiency into business programs.
9. Review, analyze, and possibly implement energy efficiency practices in Stillwater municipal buildings and community institutions.

Reducing Energy Burden

10. Design and implement a campaign to connect residents with income-qualified programs to increase their energy efficiency and save money.
11. Share funding opportunities to defray energy costs for residents.
12. Partner with community leaders, organizations, and schools to reach people who need support.

Renewable Energy Opportunities

13. Design and implement renewable energy outreach campaigns for residents to increase renewable energy support.
14. Explore the feasibility of on-site solar for Stillwater municipal infrastructure.
15. Provide resources and education to help residents install on-site solar on their properties.

Core Strategies: Communications

The Energy Action Team identified communicating with Stillwater residents and businesses as the foundation of the Energy Action Plan. Many programs and opportunities already exist for Stillwater community members to take action, and to communicate these opportunities.

Communications Strategy 1: Develop communications strategies and materials for all focus areas: Residential Energy Efficiency, Business Energy Efficiency, Reducing Energy Burden, and Renewable Energy.

We will create targeted outreach campaigns to audiences across relevant platforms. These will include outreach on renewable energy opportunities, access to income-qualified energy programs, business energy efficiency programs, and more. Energy Action Team member volunteers with specific expertise in communications (the communications team), will lead these efforts.

Communications Strategy 2: Develop an Energy Action Hub page on the City of Stillwater's website.

We will consolidate the information and opportunities to take energy action in a single place on the City of Stillwater's website. Creating a central resource will make it easier and more straightforward for Stillwater community members to learn about and access this info. The content will be developed primarily by Partners in Energy, with oversight by Council Member Odebrecht and City of Stillwater staff.

Communication Channels & Trusted Messengers

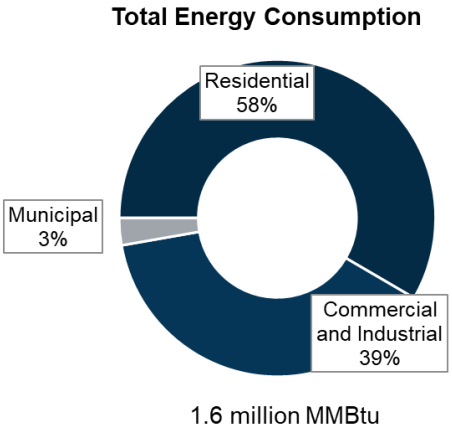
The Energy Action Team identified these communications channels and trusted messengers in Stillwater that can be leveraged throughout implementation.

- Newsletters: Washington County Newsletter, church newsletters, City of Stillwater email bulletin
- Local Media: Gazette, Pony Express
- Social Media: Facebook (City of Stillwater, various groups)
- City Events: Summer Tuesdays, Winterfest, Lumberjack Days, Night to Unite, Harvest Fest, Chalk Downtown, Art Alley, Da Vinci Fest
- Sustainable Stillwater
- Public library
- HOAs
- Chamber of Commerce
- Leadership in the Valley
- Rotary Club
- Stillwater Police Department and Stillwater Fire Department
- Churches and faith communities
- Local business owners
- Valley Outreach

Focus Area: Residential Energy Efficiency

The Energy Action Team identified residential energy efficiency as a main priority of the plan. They liked that it represented the interests of many different community members. Whether a resident wants to manage their energy costs or avoid greenhouse gas emissions, energy efficiency can be a point of access for them. Residential energy use comprises 58% of Stillwater's total energy consumption, so residents have a role to play in using energy more efficiently *(Figure 14*).

Figure 14: Stillwater total energy consumption



Residents will have different needs and challenges around this issue, so strategies are tailored to homeowners and renters. All these strategies are designed to minimally impact Stillwater staff

capacity and the City coffers, prioritizing volunteer and Partners in Energy resources when possible.

Strategy 1: Create a volunteer group of energy ambassadors that can support distribution of energy opportunities to residents.

We will tap into the clear excitement for energy action in the Stillwater community by forming a volunteer group of people who want to learn more about energy programs and spread these programs to their peers. This effort will be led by Energy Action Team members, with support from Partners in Energy. Our goal is to inspire energy action without adding to the City of Stillwater staff's considerable workloads.

Tactics
1A: Create a contact list and outreach efforts to invite people to volunteer.
1B: Partner with Community Threads, Valley Outreach, business groups, and faith organizations to perform outreach to the community for volunteers.
1C: Create the structure for the volunteer group and levels of engagement.
1D: Create a toolkit for volunteers to use at events and share with neighbors and friends.

Strategy 2: Share energy resources at community events in Stillwater.

Stillwater has an abundance of in-person events, each of which is an opportunity to connect directly with residents. This strategy intends to inform residents of the many opportunities they have to save energy (often with little or no expense). Outreach will include printed materials developed with support from Partners in Energy, and volunteers from the Energy Action Team will be present at the events.

Tactics
2A: Create a list of potential organizations to connect with and table at their events.
2B: Review City, Chamber of Commerce, and neighborhood event schedules for the year and decide which events to attend with an energy resource table.
2C: Create flyers, posters, and talking points for the community to engage in energy efficiency.
2D: Share incentives and giveaways to make energy efficiency fun.

Strategy 3: Design and implement energy efficiency outreach and education campaigns for homeowners.

To connect Stillwater residents to utility and other energy efficiency programs, we will design an outreach campaign tailored to Stillwater homeowners. Designed in concert with other relevant actions, this strategy will meet homeowners where they are to inspire them to take energy action. An Energy Action Team member with communications expertise will lead this strategy with support from Partners in Energy.

Tactics
3A: Add residential energy efficiency information to the City website. Present a range of options, from quick wins to large projects and funding resources.

3B: Use different forms of communication to reach all demographics, including printed letters, postcards, and newsletters, and digital outreach via social media, e-newsletters, and website.

3C: Create a guide for neighborhoods that might have similar housing stock using examples of common problems and energy efficiency projects.

Strategy 4: Design and implement energy efficiency outreach and education campaigns for renters in multi-family buildings and property owners.

Renters have different opportunities for and challenges with implementing energy efficiency measures than homeowners. We will design an outreach and education campaign tailored specifically to renters to connect them to relevant programs. Like the homeowner outreach campaign, this effort will be led by an Energy Action Team member with communications expertise and will be supported by Partners in Energy.

Tactics

4A: Use different forms of communication to reach property owners including printed letters and postcards, and digital outreach.

4B: Create outreach materials that detail behavior changes for renters to save energy and opportunities for programs in which renters can participate.

Focus Area: Business Energy Efficiency

Stillwater has a robust business community with an interest in energy efficiency and sustainability, as evidenced by the Stillwater Green Business Directory. Team members from the business community indicated that outreach to businesses tailored to their needs could impact their energy use while improving businesses' energy bills.

While businesses make up only 11% of premises in Stillwater, they use 39% of the energy consumed in Stillwater. This disproportionate rate of consumption is typical of cities like Stillwater, and it represents a significant opportunity for energy savings in the business community.

This focus area also includes municipal operations. City of Stillwater facilities make up 3% of total energy used in the community. Team members encouraged the City to lead by example and take energy action in its own infrastructure.

Strategy 5: Design and implement a multi-pronged outreach campaign to businesses to increase energy efficiency, with one prong tailored to building owners and another tailored to businesses that rent.

Businesses of all sizes have distinct challenges and opportunities to access energy efficiency programs. This strategy will connect with businesses at whatever level of engagement works for them to inform them of the ways energy efficiency can benefit them. Partners in Energy will drive the content, while Energy Action Team members with Communications will drive the outreach with support from the City Lead. As with all outreach, no communications will go out without review and approval by Xcel Energy.

Tactics

5A: Create outreach materials and language that educate businesses about the benefits of improving energy efficiency.

5B: Join business meetings and gatherings to share information in person. (Green Business Council, Chamber of Commerce)

5C: Find champions in the business community and highlight successful business stories as examples in marketing.
5D: Go door-to-door to businesses to educate them about energy efficiency audits and offer recommendations for projects.
5E: Create a friendly competition to engage in energy efficiency through recognition of businesses that complete projects.

Strategy 6: Collaborate with organizations to incorporate energy efficiency into business programs.

Stillwater has a robust ecosystem of organizations that are invested in energy, sustainability, and/or town character. This strategy leverages these dedicated organizations to connect businesses with resources that can save them energy and money. This effort will be led by Partners in Energy and Energy Action Team members, with support from the City Lead.

Tactics
6A: Explore incorporating energy efficiency measures into the Green Business Directory.
6B: Connect with the Heritage Preservation Commission to build buy-in for acceptable energy efficiency upgrades and share case studies of successful projects.
6C: Present to Downtown Business Forum about energy efficiency programs and opportunities to save energy and money.
6D: Partner with the Chamber of Commerce to share information about funding and incentives for businesses to complete energy efficiency projects.

Strategy 7: Review, analyze, and possibly implement energy efficiency practices in Stillwater municipal buildings and community institutions.

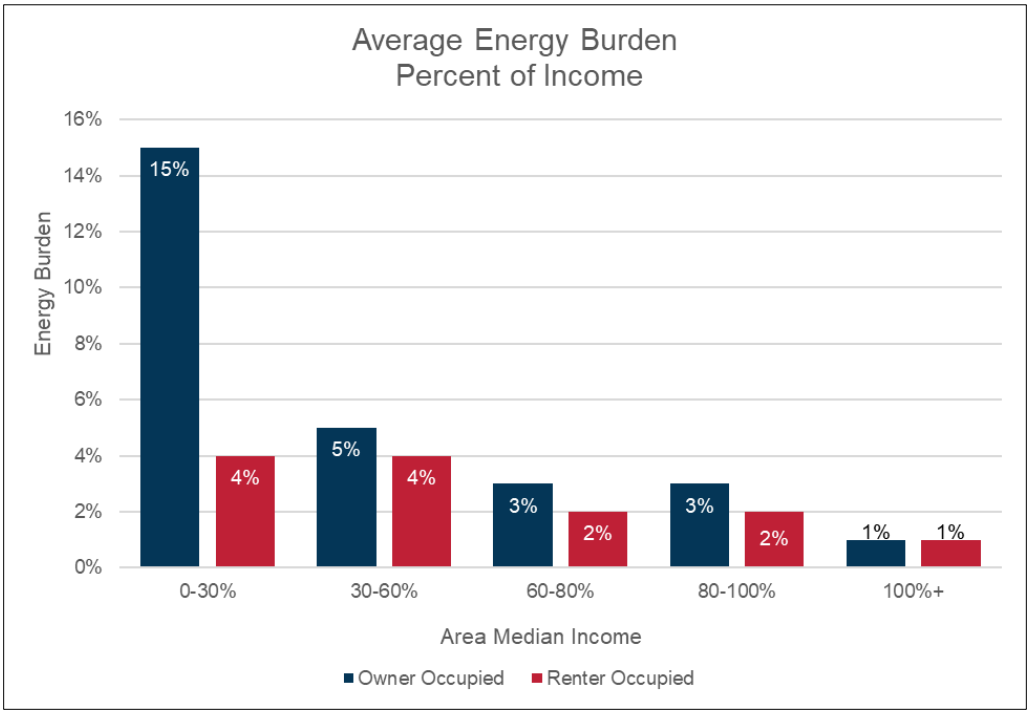
The City of Stillwater can lead by example by exploring and implementing energy efficiency programs in its own buildings. This approach focuses on programs that are affordable and easy to implement and that will reduce energy use and costs for the City. The City Lead will head up this strategy with support from Partners in Energy and City staff.

Tactics
7A: Review existing energy efficiency reports from energy audits of municipal buildings.
7B: Recommend building energy audits to assess opportunities for increasing energy efficiency in schools, churches, and municipal buildings.
7C: Communicate funding opportunities for nonprofits and public buildings to support projects.
7D: Once projects are complete, share successes with the community to act as a leader on energy.

Focus Area: Reducing Energy Burden

There are families and individuals in Stillwater who have a high energy burden (that is, who spend more than 6% of their income on utility bills). We want to connect them with programs that can defray their energy costs while increasing energy efficiency for our community. Energy burden in Stillwater is higher for homeowners than for renters (*Figure 15*). Focusing on energy burden may also help Stillwater access state and federal funding for energy efficiency upgrades.

Figure 15: Average energy burden in Stillwater as a percent of income[10]



Strategy 8: Design and implement a campaign to connect residents with income-qualified programs to increase their energy efficiency and save money.

Energy burdened residents have a unique set of challenges, and some programs can improve their situations. This strategy will help residents access those programs with targeted outreach. Partners in Energy will lead this strategy with outreach support from the communications team.

Tactics
9A: Use data mapping to identify renters and income-qualified households that are more likely to require assistance.
9B: Create postcards and flyers that share information that emphasizes how to take the first step and make it easy to access.
9C: Translate relevant materials into multiple languages to include all residents.

Strategy 9: Share funding opportunities to defray energy costs for residents.

While programs exist to support income-qualified residents facing high energy burden, they aren't always well known. This strategy raises awareness of non-utility funded resources. Partners in Energy will create content for this campaign, while the communications team implements the campaign. Organizations from Strategy 10 will also play a role.

Tactics
9A: Create a resource hub on the City website that includes information on federal and state incentives, tax credits, and rebates for energy efficiency projects. Include up-to-date information on the Inflation Reduction Act funds and how to access them.

[10] Low-Income Energy Affordability Data (LEAD) Tool, energy.gov

9B: Create materials to distribute at community events that share how to lower energy bills.

Strategy 10: Partner with community leaders, organizations, and schools to reach people who need support.

We recognize that other organizations have expertise in reaching residents who may qualify for low-income energy support programs. This strategy leverages that expertise by finding and connecting with organizations that may have goals that overlap with or sit adjacent to ours. The Energy Action Team will lead in identifying these groups, with support from Partners in Energy.

Tactics
10A: Identify food shelves, nonprofits, and schools as possible partners.
10B: Use joint communication channels and events to share resources.
10C: Remove barriers to attend events like providing childcare, meals, and transportation.

Focus Area: Renewable Energy Opportunities

The Energy Action Team felt there was significant interest among Stillwater community members to support renewable sources of energy. *Table 7* shows only 3% of Stillwater's residential electricity and 0.01% of commercial electricity is sourced through subscription programs. There is a massive opportunity for Stillwater community members who want to reduce their greenhouse gas emissions to do so. In addition to Xcel Energy's goal to reduce carbon emissions from electricity by 80% on the way to delivering 100% carbon-free electricity by 2050, Stillwater residents, businesses, and City facilities can explore ways to access renewable energy that suits their resources, capacity, and goals.

Table 7: Utility renewable energy program participation in Stillwater[11]

Xcel Energy	Residential	Commercial & Industrial
Subscription Programs – Windsource® & Renewable*Connect®		
Subscriber Count	554	1
Total Annual Electricity Subscribed (kWh)	2,221,000	4,875
Percent of Sector Xcel Energy Electricity Use	3%	0.01%
Community Solar Gardens – Solar*Rewards® Community		
Subscriber Count	128	12
Total Annual Electricity Subscribed (kWh)	1,132,300	8,844,200
On-site Solar – Solar*Rewards® and Net-Metering		
Participant Count	114	11
Total Electric Capacity (kW)	968	283

Strategy 11: Design and implement renewable energy outreach campaigns to residents to increase renewable energy support.

Numerous utility programs exist to support residents receiving their energy from renewable sources, both in on- and off-site arrangements. This strategy raises awareness of these programs while meeting residents at their level of need and interest. This strategy will be led by Partners in Energy and the communications team, with support from the Energy Action Team.

Tactics
11A: Educate about utility subscription programs via local media, social media, and City communication channels and the upsides of not having the physical infrastructure on site.
11B: Account for the wide range of renewable energy products to help residents make an informed choice.

Strategy 12: Explore the feasibility of on-site solar for Stillwater municipal infrastructure.

With state and federal incentives coming online, there is potential for cities to access funding for solar infrastructure in their facilities. This strategy will explore the funding opportunities and suitability for Stillwater to place cost-effective solar arrays on its buildings. Partners in Energy will lead on this strategy to identify accessible options, with support from the City Lead and Energy Action Team members and input from City staff.

[11] *Xcel Energy Partners in Energy 2022, Xcel Energy Stillwater Community Energy Report 2021*

Tactics
12A: Work with a third party to assess physical infrastructure to identify buildings that could support solar arrays and conduct solar suitability analysis.
12B: Issue RFP or other process to identify solar installers and costs for capital planning.

Strategy 13: Provide resources and education to support residents to install on-site solar on their properties.

Our workshop process uncovered significant interest in installing on-site solar among Stillwater residents, and expertise from residents who already installed it. This strategy will connect that expertise and interest. An Energy Action Team member and Partners in Energy will lead this strategy, with support from the Energy Action Team and the communications team.

Tactics
13A: Use solar suitability applications and mapping to determine if certain areas of the city are ready for solar.
13B: Review Stillwater codes that impact on-site solar.
13C: Create materials (both digital and print) that raise awareness of homes suitable for solar and the steps to installation.
13D: Share the funding and incentives available to lower the cost of on-site solar.

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 and community staff capacity.

Data and 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 both the community and Energy Action Team.

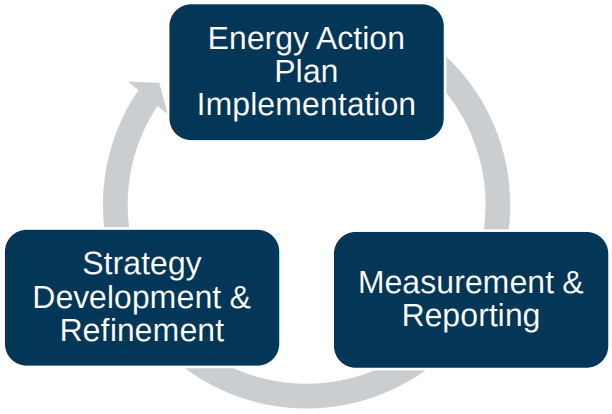


Figure 16. Actions and Tracking

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

Project Management and Tracking

Partners in Energy will host regular project management check-in calls with the City Lead to ensure we stay on course to achieve our strategies. If necessary, an implementation check-in meeting with the Energy Action Team or relevant members can be convened to assess progress toward goals and discuss strategy refinement.

Energy Action Team Commitment

Implementing the strategies outlined in this plan will require leadership and collaboration among the City of Stillwater, members of the Energy Action Team, community representatives, and Xcel Energy.

City of Stillwater

The City of Stillwater will provide a primary point of contact for implementation. Throughout the planning phase that point person has been City Council Member Larry Odebrecht, and he will continue to serve as the point person as long as he is willing. In the event that council member Odebrecht cannot continue as the community lead, a City staff member will take on that role. The City commits to leveraging existing communications channels and community connections to promote the Energy Action Plan. In addition, the City of Stillwater will lead strategies specific to City-owned buildings.

Energy Action Team

The Energy Action Team formed to create this plan will support implementation by serving as community connectors to their networks, promoting Stillwater's energy vision, encouraging participation in programs and outreach campaigns, and sharing success stories. When relevant, members will serve as partners and leaders in strategies targeting residents and businesses. Energy Action Team members may be invited to project management calls or other check-in meetings to ensure strategies are implemented successfully.

Xcel Energy

In addition to data reporting, project management and implementation tracking, Xcel Energy commits to supporting the first 18 months of implementation, including marketing and communications support and program expertise. Xcel Energy will also provide a dedicated community facilitator to serve as a primary point of contact. Partners in Energy digital resources, including webinars, community online portal, and events, will be available to the Stillwater team. After the first 18 months of implementation, Xcel Energy will continue to provide ad-hoc support and data to Stillwater.

APPENDIX 1: IMPLEMENTATION WORK PLANS

This appendix will serve as a draft work plan for the City of Stillwater and Partners in Energy. It provides additional details for each strategy: who will be primary implementer, who will support, and the specific tactics and timelines. All communications will be reviewed and approved by Xcel Energy before being circulated.

Abbreviations used in this plan:

City: City of Stillwater Council Member Larry Odebrecht, City Administrator Joe Kohlmann, or officials designated by them

Comms: Communications Team (a set of volunteers from the Energy Action Team)

Team: Energy Action Team volunteers who participated in the Partners in Energy planning process

PiE: Partners in Energy

Core Strategies: Communications									
Strategy	**Tactic**	**Primary**	**Support**	**Q2 '24**	**Q3 '24**	**Q4 '24**	**Q1 '25**	**Q2 '25**	**Q3 '25**
Strategy 1: Develop communications strategies and materials for all focus areas: Residential Energy Efficiency, Business Energy Efficiency, Reducing Energy Burden, Renewable Energy. Xcel Energy will review and approve all communications before they are circulated.	*See other focus areas*	Comms	PiE						
Strategy 2: Develop an Energy Action Hub page on the City of Stillwater's website.	*See other focus areas*	PiE	City						

Focus Area: Residential Energy Efficiency									
Strategy	**Tactic**	**Primary**	**Support**	**Q2 '24**	**Q3 '24**	**Q4 '24**	**Q1 '25**	**Q2 '25**	**Q3 '25**
Strategy 3: Create a volunteer group of energy ambassadors that can support distribution of energy opportunities to residents.	3A: Create a contact list and outreach efforts to invite volunteers. (Xcel Energy will review and approve all outreach materials before they are circulated).	PiE	Team & City						
	3B: Partner with Community Threads, Valley Outreach, business groups, and faith organizations to perform outreach to community for volunteers.	PiE	Team						
	3C: Create structure of volunteer group and levels of engagement.	Team	PiE						
	3D: Create a toolkit for volunteers to use at events and share with neighbors and friends.	PiE	Team, City						
Strategy 4: Share energy resources at community events in Stillwater.	4A: Create a list of potential organizations to connect with and table at their events.	Team	City, PiE						
	4B: Review City, Chamber of Commerce, and Neighborhood event schedules for the year and decide which events to attend with an energy resource table.	Team	PiE, City						
	4C: Create flyers, posters, and talking points for the community to engage in energy efficiency.	PiE	Comms, Team						

	4D: Share incentives and giveaways to make energy fun.	Team	PiE, City						
Strategy 5: Design and implement energy efficiency outreach and education campaigns for homeowners.	5A: Add residential energy efficiency information to City website. Present range of options, from quick wins to large projects and funding resources.	PiE	City						
	5B: Use different forms of communication to reach all demographics, including printed letters, postcards, and newsletters, and digital outreach via social media, e-newsletters, and website.	Comms	PiE						
	5C: Create a guide for certain neighborhoods that might have similar housing stock that feature examples of common problems and energy efficiency projects.	PiE	Comms, City						
Strategy 6: Design and implement energy efficiency outreach and education campaigns for renters in multi-family buildings and property owners.	6A: Use different forms of communication to reach property owners including printed letters and postcards, and digital outreach.	Comms	PiE, City						
	6B: Create outreach materials that share behavior changes for renters to save energy and opportunities for programs in which renters can participate.	PiE	Comms, City						

Focus Area: Business Energy Efficiency									
Strategy	**Tactic**	**Primary**	**Support**	**Q2 '24**	**Q3 '24**	**Q4 '24**	**Q1 '25**	**Q2 '25**	**Q3 '25**
Strategy 7: Design and implement a multi-pronged outreach campaign to businesses to increase energy efficiency, with one prong tailored to building owners and another tailored to business that rent.	7A: Create outreach materials and language that educates about the benefits of making improvements that could be a selling point in the future.	Comms	PiE						
	7B: Join business meetings and gatherings to share information in person. (Green Business Council, Chamber of Commerce)	Team	PiE						
	7C: Find champions in the business community and highlight successful business stories as examples in marketing.	City, Team, Comms	PiE						
	7D: Go door-to-door to businesses to share about energy efficiency audits and recommendations for projects.	Teams	PiE, City						
	7E: Create a friendly competition to engage in energy efficiency by recognizing businesses that complete projects.	City	PiE, Teams						
Strategy 8: Collaborate with organizations to incorporate energy efficiency into business programs.	8A: Explore incorporating energy efficiency measures into Green Business Directory.	City	PiE						

	8B: Connect with Heritage Preservation Commission to build buy-in for acceptable energy efficiency upgrades and share case studies of success stories.	City	PiE						
	8C: Present details about energy efficiency programs and opportunities to save energy and money to Downtown Business Forum.	Team	PiE						
	8D: Partner with the Chamber of Commerce to share information about funding and incentives for businesses to complete energy efficiency projects.	City	PiE						
Strategy 9: Review, analyze, and possibly implement energy efficiency practices in Stillwater municipal buildings and community institutions.	9A: Review existing energy efficiency reports from energy audits of municipal buildings.	City	PiE						
	9B: Recommend building energy audits to assess opportunities for increasing energy efficiency in schools, churches, and municipal buildings.	City	PiE						
	9C: Communicate funding opportunities for nonprofits and public buildings to support projects.	PiE	City, Team						
	9D: Once projects are complete, share successes with community to act as a leader on energy.	Comms	PiE						

Focus Area: Reducing Energy Burden									
Strategy	**Tactic**	**Primary**	**Support**	**Q2 ’24**	**Q3 ’24**	**Q4 ’24**	**Q1 ’25**	**Q2 ’25**	**Q3 ’25**
Strategy 10: Design and implement a campaign to connect residents with income-qualified programs to increase their energy efficiency and save money.	10A: Use mapping to identify renters and income-qualified households that are more likely to require assistance.	PiE	City						
	10B: Create postcards and flyers that explain how to take the first step and make it easy-to-access.	PiE	Comms						
	10C: Translate materials into multiple languages to include all residents.	PiE	Comms						
Strategy 11: Share funding opportunities to defray energy costs for residents.	11A: Create a resource hub on City website that includes information on federal and state incentives, tax credits, and rebates for energy efficiency projects. Include up-to-date information on the Inflation Reduction Act funds and how to access them.	PiE	City, Comms						
	11B: Create materials to distribute at community events that share how to lower energy bills.	PiE	Team						
Strategy 12: Partner with community leaders, organizations, and schools to reach people who need support.	12A: Research food shelves, nonprofits, and schools as possible partners.	Team	City, PiE						
	12B: Use joint communication channels and events to share resources.	Comms	PiE, City						

Focus Area: Renewable Energy Opportunities									
Strategy	**Tactic**	**Primary**	**Support**	**Q2 '24**	**Q3 '24**	**Q4 '24**	**Q1 '25**	**Q2 '25**	**Q3 '25**
Strategy 13: Design and implement renewable energy outreach campaigns to residents to increase renewable energy support.	13A: Share details about utility subscription programs and the benefits of not having the physical infrastructure on site via local media, social media, and City communication channels.	Comms, PiE	City						
	13B: Account for the wide range of renewable energy products and their effectiveness to help residents make an informed choice.	Comms, PiE	City						
Strategy 14: Explore feasibility of on-site solar for Stillwater municipal infrastructure.	14A: Work with a third party to assess physical infrastructure to identify buildings that could support solar arrays and conduct solar suitability analysis.	PiE, City	Team						
	14B: Issue RFP or other process to identify solar installers and costs for capital planning.	City	PiE						
Strategy 15: Provide resources and education to support residents to install on-site solar on their properties.	15A: Use solar suitability applications and mapping to determine if certain areas of the city are ready for solar.	PiE	Comms, Team						
	15B: Review Stillwater codes that impact on-site solar.	City	PiE						
	15C: Create materials (both digital and print) that raise awareness of homes suitable for solar and the steps for installation.	PiE	Comms, City						
	15:D: Share the funding and incentives available to reduce the cost of on-site solar.	PiE	City, Comms						

APPENDIX 2: BASELINE ENERGY ANALYSIS

Data was provided by Xcel Energy for all Stillwater premises for 2020–2022. Xcel Energy provides electric and natural gas service to the community. The data helped the Energy Action Team understand Stillwater's energy use and opportunities for energy conservation and renewable energy. Data included in this section establishes a baseline against which progress toward goals will be compared in the future.

Electricity and Natural Gas Premises

Most Stillwater premises are residential. Of the 9,569 distinct premises in Stillwater in 2022, 88% (8,393) are residential, 11% (1,092) are commercial and industrial, and the remaining 1% are municipal buildings (84).

Table 8. Premise counts by sector, 2020–2022

Sector	2020	2021	2022	Average
Residential	8,272	8,355	8,393	8,340
Commercial & Industrial	1,078	1,085	1,092	1,085
Municipal	82	82	84	83
Total	**9,432**	**9,522**	**9,569**	**9,508**

Electricity and Natural Gas Consumption and Trends by Sector

On average, the Stillwater community consumes 152 million kWh of electricity and 10.4 million therms of natural gas across all sectors per year. Total energy consumption increased by 9.4% over the baseline period, which can be attributed to a large 13.3% increase in natural gas consumption and more modest increase in electric consumption.

Table 9. Annual energy consumption by sector by fuel type, 2020–2022

Fuel Type	Sector	2020	2021	2022	Average
Electricity (kWh)	Residential	70,906,564	73,030,775	70,351,917	71,429,752
	Commercial & Industrial	73,079,255	76,319,790	76,040,120	75,146,388
	Municipal	5,659,811	5,681,245	5,855,840	5,732,299
	Total	149,645,630	155,031,810	152,247,877	152,308,439
Natural Gas (therm)	Residential	6,431,308	6,407,075	7,162,291	6,666,891
	Commercial & Industrial	3,291,834	3,375,488	3,808,475	3,491,932
	Municipal	198,482	229,820	271,432	233,245
	Total	9,921,624	10,012,383	11,242,198	10,392,068
Total (MMBtu)	Residential	885,064	889,889	956,270	910,407
	Commercial & Industrial	578,530	597,952	640,296	605,593
	Municipal	39,159	42,366	47,123	42,883
	Total	1,502,753	1,530,207	1,643,690	1,558,883

Total energy consumption during the baseline period varied in each sector consistent with variation in weather. Hotter summers (those with more cooling degree days) and colder winters (those with more heating degree days) had higher energy consumption. For example, of the three years considered, Stillwater's natural gas consumption was at its highest level in 2022, which was the coldest year with the most heating degree days.

Table 10. Cooling degree and heating degree days, 2020–2022

	2020	2021	2022
Cooling Degree Days	950	1,184	1,049
Heating Degree Days	7,128	6,678	7,812

Greenhouse Gas Emissions and Trends

Stillwater's overall greenhouse gas emissions increased from 2020–2022, growing by over 4% each year. To calculate Stillwater's energy-related emissions, preliminary and certified emissions factors from Xcel Energy's Upper Midwest Fuel Mix, and a standard emissions factor for natural gas emissions, were used. As Xcel Energy completes third-party verification, the emissions factors used during the planning process to estimate greenhouse gas emissions (*Table 12*) may change slightly.

Table 11. Energy-related greenhouse gas emissions in MTCO2e, 2020–2022

Fuel Type	Sector	2020	2021	2022	Average
Electricity	Residential	19,362	20,903	19,530	19,932
	Commercial & Industrial	19,955	21,844	21,109	20,969
	Municipal	1,545	1,626	1,626	1,599
	Total	40,863	44,373	42,264	42,500
Natural Gas	Residential	34,132	34,003	38,011	35,382
	Commercial & Industrial	17,470	17,914	20,212	18,532
	Municipal	1,053	1,220	1,441	1,238
	Total	52,655	53,137	59,663	55,152
Total	Residential	53,494	54,906	57,541	55,313
	Commercial & Industrial	37,426	39,758	41,321	39,502
	Municipal	2,599	2,846	3,066	2,837
Total		**93,518**	**97,510**	**101,928**	**97,652**

Table 12. Emissions factors used to calculate energy-related greenhouse gas emissions, 2020–2022[12]

Fuel Type	2020	2021	2022
Electricity Emissions Factor (lbs/MWh)	602	631	612
Natural Gas Emissions Factor (MTCO2e/Dth)	0.05307	0.05307	0.05307

Energy Costs

In total, Stillwater premises spent an annual average of $26.3 million on energy during the baseline period. Stillwater residential premises made up over half that spending ($26.3 million or 56%), while commercial and industrial premises made up most of the other half. Municipal premises contributed a small fraction of the spending. Residential premises spent an annual average of $1,753 per premise on energy. Commercial premises spent much more per premise on energy with an annual average of $10,060 per premise.

[12] Xcel Energy 2022. Carbon Dioxide Emission Intensities.

Table 13. Annual energy costs by sector and fuel type, 2020–2022

Fuel Type	Sector	2020	2021	2022	Average	Average Annual Cost Per Premise
Electricity	Residential	$9,040,685	$9,351,886	$10,045,660	$9,479,410	$1,137
	Commercial & Industrial	$7,400,234	$8,477,476	$9,747,044	$8,541,585	$7,872
	Municipal	$545,667	$619,700	$712,569	$625,979	$7,542
	Total	$16,986,586	$18,449,062	$20,505,273	$18,646,974	
Natural Gas	Residential	$3,595,796	$4,460,158	$7,372,501	$5,142,818	$617
	Commercial & Industrial	$1,495,519	$1,984,535	$3,640,119	$2,373,391	$2,187
	Municipal	$83,116	$147,945	$253,887	$161,649	$1,948
	Total	$5,174,431	$6,592,638	$11,266,507	$7,677,859	
Total	Residential	$12,636,481	$13,812,044	$17,418,161	$14,622,229	$1,753
	Commercial & Industrial	$8,895,753	$10,462,011	$13,387,163	$10,914,976	$10,060
	Municipal	$628,783	$767,645	$966,456	$787,628	$9,489
Total		**$22,161,017**	**$25,041,700**	**$31,771,780**	**$26,324,832**	

Energy Burden

Energy burden is the percentage of income that residents spend on energy. Stillwater residents who own their homes and make 30% or less of the median area income spend up to 15% of their income on energy costs. This group makes up 222 households, 3% of the total households. Notably, energy burden is higher across every income group for homeowners than for renters.

Table 14. Energy burden by unit occupancy and median income[13]

	Energy Burden		Household Count	
Percent of Area Median Income	Own	Rent	Own	Rent
0-30%	15%	4%	222	296
30-60%	5%	4%	511	457
60-80%	3%	2%	431	236
80-100%	3%	2%	782	232
100% +	1%	1%	3125	395
Total	**2.5%**	**2.7%**	**5,071**	**1,616**

[13] Source: Department of Energy Low-Income Energy Affordability Data Tool

Program Participation and Savings

Stillwater already has a significant number of participants in energy efficiency programs from Xcel Energy, resulting in energy savings for residents and commercial customers. While fewer commercial and industrial premises participated during the baseline period, their participation resulted in larger electricity savings per premise; residential premises accrued more natural gas savings over this time. In total, participation in these commercial programs saved an annual average of 968,012 kWh and 7,534 therms, while participation in residential programs saved an annual average of 231,957 kWh and 65,197 therms.

Table 15. Annual residential sector efficiency program participation and savings, 2020–2022

Residential Sector Programs	2020			2021			2022		
	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)
Efficient New Home Construction	18	27,556	5,649	18	29,210	5,454	14	19,860	5,334
Home Energy Audit	8	-	-	20	-	-	34	-	-
Home Energy Savings Program	4	4,120	0	12	2,051	1,321	6	5,803	308
Home Energy Squad	13	15,606	550	17	11,488	627	25	23,348	660
Insulation Rebate	37	5,307	10,512	12	1,345	2,978	10	1,755	4,401
Low-Income Home Energy Squad	2	1,109	225	3	2,485	62	2	1,304	225
Refrigerator Recycling	43	27,269	-	51	35,285	-	32	31,400	-
Residential HVAC	447	217,968	37,366	456	134,229	59,483	342	74,040	53,550
Residential Saver's Switch	144	294	-	270	279	-	71	76	-
Smart Thermostat	9	933	560	127	7,858	4,305	129	2,940	1,155
Water Heater Rebate	17	8,516	755	0	0	0	0	0	0
Whole Home Efficiency	0	0	0	1	2,438	110	0	0	0
Total	742	308,678	55,617	987	226,668	74,340	665	160,526	65,633

Table 16. Annual commercial/industrial sector efficiency program participation and savings, 2020–2022

Commercial Sector Programs	2020 Count	2020 Savings (kWh)	2020 Savings (therms)	2021 Count	2021 Savings (kWh)	2021 Savings (therms)	2022 Count	2022 Savings (kWh)	2022 Savings (therms)
Electric Rate Savings	0	0	-	6	-4,266	-	0	0	-
Fluid System Optimization	0	0	-	1	14,784	-	0	0	-
Foodservice Equipment	0	0	0	1	8,982	1,270	0	0	0
HVAC+R Efficiency	15	39,516	550	17	179,541	942	10	24,307	19,609
Lighting Efficiency	7	224,364	-	19	348,238	-	18	775,456	-
Multi-Family Building Efficiency	1	0	0	0	0	0	0	0	0
Saver's Switch for Business	1	18	-	8	20	-	4	9	-
Small Business Lighting	10	427,893	0	17	316,238	230	11	548,936	0
Turn Key Services	0	-	-	3	-	-	1	-	-
Total	34	691,791	550	72	863,537	2,442	44	1,348,708	19,609

Renewable Energy Support

There is support for renewable energy in Stillwater with 677 residential premises and 13 commercial/industrial premises subscribing to Xcel Energy renewable programs. These premises respectively receive a total of 3.25 and 7.0 million kWh of their electricity from renewable sources. While the commercial/industrial sector has fewer subscribers to renewable programs, these customers receive a larger amount of electricity from renewables due to larger subscriptions per premise. Furthermore, 114 residential premises and 11 commercial premises have on-site solar generation.

Table 17. Xcel Energy subscription renewable energy program support, 2022

	Residential	Commercial & Industrial
Windsource® & Renewable*Connect Flex®		
Subscriber Count	548	1
Total Annual Electricity Subscribed (kWh)	2,119,471	4,875
Community Solar Gardens – Solar*Rewards® Community		
Subscriber Count	128	12
Total Annual Electricity Subscribed (kWh)	1,130,717	7,037,917
Total Xcel Energy Subscription Renewable Energy Support		
Subscriber Count	677	13
Total Annual Electricity Subscribed (kWh)	3,250,188	7,042,792
Percent of Sector Xcel Energy Electricity Use	4.6%	9.3%

Table 18. Xcel Energy on-site solar program support, 2022[14]

	Residential	Commercial & Industrial
On-site Solar – Solar*Rewards® and Net-Metering		
Participant Count	66	7
Total Electricity Capacity (kW)	530	775

[14] Source: Xcel Energy Community Energy Report for Stillwater 2022

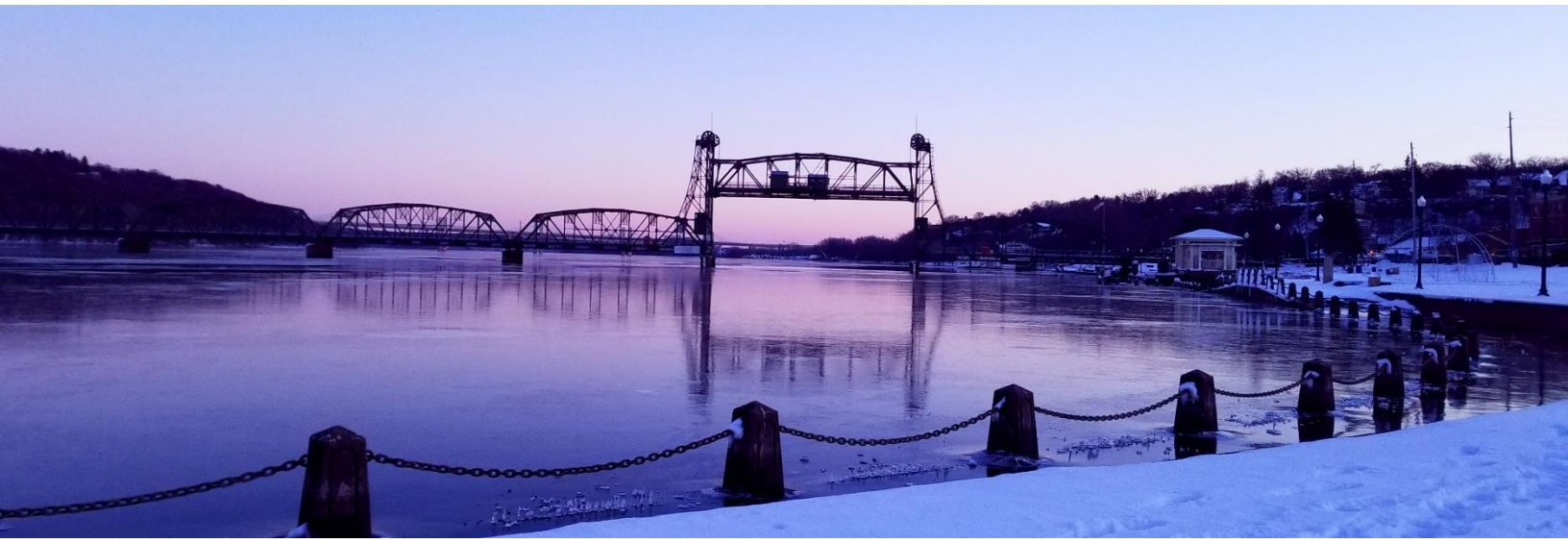


Photo: Kelsey Depew

APPENDIX 3: METHODOLOGY FOR MEASURING SUCCESS

As part of implementation support, Partners in Energy will provide biannual progress reports for Xcel Energy participation and savings data for Stillwater. All goals will be measured against Stillwater's three-year baseline of 2020–2022 data unless otherwise noted.

The following section defines the three-year baseline against which progress is measured, including the Xcel Energy program(s) included in the baseline.

Community-wide Goals

- Stillwater will save 198,000 therms of natural gas and 3.8 million kWh of electricity by the end of 2025.
    - This will avoid an additional 58% of energy-related greenhouse gas emissions and save the community $450,000.
- Stillwater will save 600,000 therms of natural gas and 8.9 million kWh of electricity by the end of 2028.
    - This will avoid an additional 54% of energy-related greenhouse gas emissions and save the community $1.1 million.

These goals assume a business-as-usual (BAU) savings scenarios based on the three-year baseline. The community-wide goal will be measured comparing cumulative greenhouse gas emissions, estimated dollars saved and energy savings equivalencies for electricity and natural gas savings for all sectors between 2024 and 2028 against the estimated BAU value for the same time period. This goal includes current and future Xcel Energy efficiency programs and measures the first-year savings data the utility provides.

Table 19. Cumulative savings for Stillwater's goals

	BAU	2025 Goal	2028 Goal
Natural Gas Savings (therms)	108,406	198,241	594,494
Electricity Savings (kWh)	1,794,244	3,860,466	8,940,274
Greenhouse Gas Emissions Savings (MTC02e)	1,586	2,508	6,464
Cost Savings	$242,711	$ 452,625	$ 1,127,961

To calculate energy savings, Partners in Energy will analyze data provided by Xcel Energy that summarizes the energy savings by program participant.

To calculate greenhouse gas emissions, Partners in Energy will use preliminary and certified emissions factors from Xcel Energy's Upper Midwest Fuel Mix. Partners in Energy will use energy savings by sector and fuel type to calculate estimated dollars saved in the community.

To meet Stillwater's 2025 and 2028 goals, the community will need to save more electricity and natural gas annually than the BAU scenario. *Table 20* identifies the annual energy savings targets needed to stay on track to meet the 2025 and 2028 goals, and the assumption of annual BAU savings.

Table 20. Annual energy savings targets

	BAU	Annual Target Through 2028
kWh savings	1,196,163	2,573,644
therm savings	72,270	132,161
MMBtu savings	11,308	21,997

Focus Area Goals

Residential Energy Efficiency Goal

- Save 507,000 kWh and 145,000 therms by 2025.
- Save 350,000 kWh and 98,000 therms annually through 2028.
- Engage 1,091 residents annually.

This goal will be measured by comparing actual program participation against the BAU scenario. Progress will be measured from April 2024 through December 2028. *Table 21* identifies annual program participation targets for select programs to meet this goal. These targets are based on select Xcel Energy programs. If Xcel Energy offers new residential efficiency rebate programs, they will be included in this calculation at the discretion of the Stillwater team and Partners in Energy. All low-income program offerings will be excluded from this calculation to avoid double counting toward the Reducing Energy Burden focus area goal.

Table 21. Residential energy efficiency focus area annual participation targets by program

	BAU Annual Participation	2025 Goal	Annual Target Through 2028
Xcel Energy Programs Total	**788**	**1637**	**1091**
Efficient New Home Construction	17	38	25
Home Energy Audit	21	32	21
Home Energy Squad	18	42	28
Insulation Rebate	20	45	30
Residential HVAC	421	947	631
Refrigerator Recycling	42	95	63
Residential Saver's Switch	162	243	162
Smart Thermostat	88	200	133

Business Energy Efficiency Goal

- Save 3.3 million kWh and 52,000 therms by 2025.
- Save 2.2 million kWh and 34,000 therms annually through 2028.
- Engage 94 businesses annually.

This goal will be measured by comparing actual program participation against the BAU scenario. Progress will be measured from April 2024 through December 2028. Table 22 identifies annual program participation targets for select programs to meet this goal. These targets are based on select Xcel Energy programs. If Xcel Energy offers new commercial and industrial efficiency rebate programs, they will be included in this calculation at the discretion of the Stillwater team and Partners in Energy.

Table 22. Business energy efficiency focus area annual participation targets by program

	BAU Annual Participation	2025 Goal	Annual Target Through 2028
Xcel Energy Programs Total	**51**	**141**	**94**
Business Energy Assessments	1	3	2
Business New Construction	1	2	1
Electric Rate Savings	2	3	2
HVAC +R Efficiency Rollup	14	42	28
Lighting Efficiency[15]	15	44	29
Saver's Switch for Business	4	6	4
Small Business Lighting[16]	13	38	25
Turn Key Services	1	2	1

Renewable Energy Goals

- Replace 3.4 million kWh of grid electricity with renewable energy by 2025.
- Replace 10.4 million kWh of grid electricity with renewable energy by 2028.
- Reach 584 residential subscribers in Renewable*Connect Flex® by 2025.
- Reach 4 business subscribers in Renewable*Connect Flex® by 2025.

This goal will measure program participation by sector in Xcel Energy's utility subscription programs. The program currently offered by Xcel Energy is Renewable*Connect Flex® (formerly Windsource® and Renewable*Connect Flex®). If Xcel Energy offers a new subscription program where customers retain the Renewable Energy Credit, this program will be added to the annual goal calculation. Table 23 identifies the total participation targets for Renewable*Connect Flex® by sector for 2025 and 2028.

Table 23. Renewable energy focus area participation targets by sector

Renewable*Connect Flex®	BAU Annual Participation	2025 Goal	2028 Goal
Residential	554	584	644
Commercial/Industrial	1	4	10

Reducing Energy Burden Goals

- Save 13,000 kWh and 1,600 therms by 2025.
- Save 8,650 kWh and 1,100 therms annually through 2028.
- Reach 16 residents annually.

[15] Modeled participation for Lighting Efficiency declines from 29 to 15 in 2026 to account for market saturation.
[16] Modeled participation for Small Business Lighting declines from 25 to 13 in 2026 to account for market saturation.

This goal will be measured by comparing actual program participation against the BAU scenario. Progress will be measured from April 2024 through December 2028. Table 24 identifies annual program participation targets to meet this goal. These targets are based on current Xcel Energy programs. If Xcel Energy offers new low-income programs or programs to address energy burden, they will be included in this calculation at the discretion of the Stillwater team and Partners in Energy.

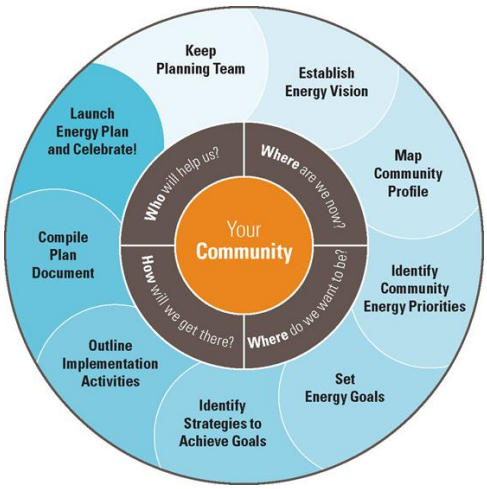
Table 24. Energy burden focus area annual participation targets by program

	BAU Annual Participation	2025 Goal	Annual Target
Xcel Energy Programs Totals	**10**	**24**	**16**
Home Energy Savings Program	7	17	11
Low-Income Home Energy Squad	2	6	4
Multi-Family Energy Savings Program	1	1	1

APPENDIX 4: XCEL ENERGY'S PARTNERS IN ENERGY PLANNING PROCESS

About Xcel Energy's Partners in Energy

Xcel Energy is an electric and natural gas utility that provides the energy that powers millions of homes and businesses across eight Western and Midwestern states. Each community Xcel Energy serves has its own unique priorities and vision for its energy future. The energy landscape is dynamically changing with communities leading the way in setting energy and sustainability goals. To continue to innovatively support their communities, Xcel Energy launched Partners in Energy in the summer of 2014 as a collaborative resource with tailored services to complement each community's vision. The program offerings include support to develop an energy action plan or electric vehicle plan, tools to help implement the plan and deliver results, and resources designed to help each community stay informed and achieve their outlined goals.



Partners in Energy Process for Success

Resources from Xcel Energy for Implementation

Plan Development Process

The content of this plan is derived from a series of five planning workshops held in Stillwater with a planning team committed to representing local energy priorities and implementing plan strategies. The engagement process took place from July 2023 through December 2023.

Figure 17. Stillwater Energy Action Team members

Workshop 1: What should Stillwater's energy future look like?
July 2023

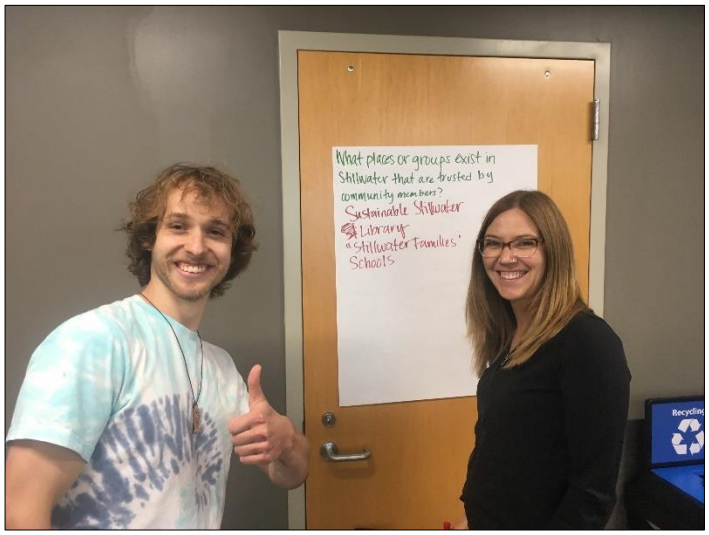
The Energy Action Team learned about Partners in Energy and got acquainted with other team members. Energy data from Xcel Energy was shared to help the team understand Stillwater's baseline energy use. After brainstorming what the future of energy action could look like in Stillwater, the team considered a vision for the Energy Action Plan.

Figure 18. Team members learn about utility programs

Workshop 2: How will we focus our efforts to achieve our vision?
August 2023

The Energy Action Team discussed what focus areas they would like to pursue in Stillwater and the themes included in each. They learned about utility programs for residents and businesses and how historic participation in these programs could help model their goals. They learned about the different elements of goal setting and finalized the vision.

Figure 19. Brainstorming places, groups, and resources unique to Stillwater



Workshop 3: How will we measure success?
September 2023

The Energy Action Team finalized the elements of the goal, noting metrics, timeline, ambition, and approach. They defined the language and priorities of the focus areas. Team members then brainstormed community assets and communication resources that could support energy initiatives in Stillwater.

Figure 20. Developing strategies to engage the Stillwater community

Workshop 4: What are we going to do?
October 2023

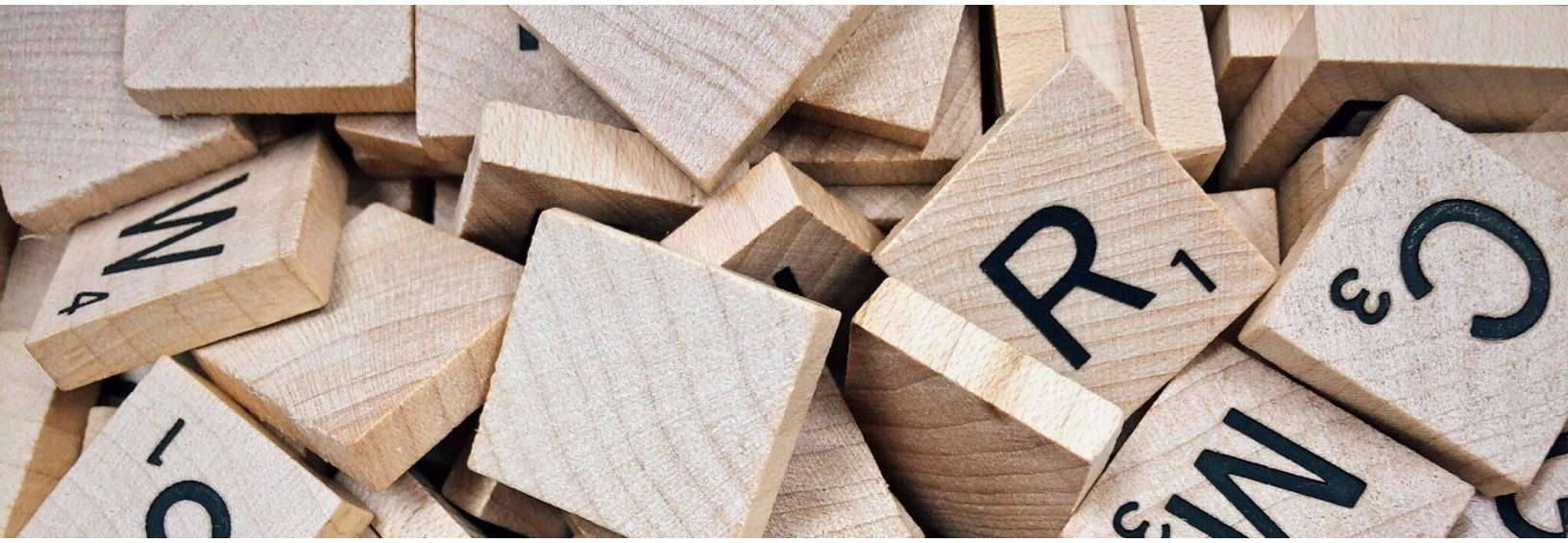
The Energy Action Team confirmed the ambition level of the goal based on a few scenarios and how that could lead to energy savings and greenhouse gas emissions reductions. They learned about the Stillwater City staff structure and how the team will interact with them during implementation. They brainstormed barriers and benefits to engage in energy efficiency and renewable energy, which helped develop the first strategies for the plan.

Figure 21. Team members discuss ideas for implementation support

Workshop 5: How are we going to do the work?
December 2023

The goal language and metrics were presented and finalized. The Energy Action Team reviewed the draft strategies for each focus area and planned who would be responsible for leading and supporting them. They learned about the components of the Energy Action Plan and completed an activity that allowed for small-group brainstorming around the best way to launch the plan to the community.

Figure 22. Brainstorming how to launch the plan to the community



APPENDIX 5: GLOSSARY OF TERMS

4 x 50: Xcel Energy's privacy rule, which requires all data summary statistics to contain at least four premises, with no single premise responsible for more than 50% of the total. Following these rules, if a premise(s) is responsible for more than 50% of the total for that data set, it is/they are removed from the summary.

British Thermal Unit (BTU): the amount of heat needed to raise one pound of water at maximum density through one degree Fahrenheit

Carbon-free: Carbon-free refers to sources of energy that will not emit additional carbon dioxide into the air. Wind, solar and nuclear energy are all carbon free sources but only wind and solar are renewable.

Carbon-neutral: Carbon-neutral, also described as "net zero", could include carbon-free sources but is broader and refers to energy that removes or avoids as much carbon dioxide as is released over a set period of time. Carbon-neutral is sometimes used to describe a site that produces an excess amount of electricity from a renewable energy source, such as solar, compared to what it consumes. That excess energy is put back into the grid in an amount that offsets the carbon dioxide produced from the electricity it draws from the grid when it is not producing renewable energy.

Community Data Mapping: A baseline analysis of energy data in a geospatial (map) format across the community.

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.

Demand Side Management (DSM): Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours, or to shift time-of-energy use to off-peak periods such as nighttime and weekends.

Direct Installation: Free energy-saving equipment installed by Xcel Energy or other organization, for program participants, that produces immediate energy savings.

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

Energy Reduction: The result of behavior changes that cause less energy to be used. For example, setting the thermostat to a lower temperature *reduces* the energy used in your home during the winter. Since energy reductions can be easily reversed, they are not accounted for when calculating changes in energy usage.

Energy Savings: Comes from a permanent change that results in using less energy to achieve the same results. A new furnace uses X% less energy to keep your home at the same temperature (all things being equal), resulting in energy *savings* of X%. For accounting purposes, energy savings are only counted in the year the new equipment is installed.

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.

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

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

Metric Tons of Carbon Dioxide Equivalent (MTCO2e): A unit of measure for greenhouse gas emissions. The unit "CO2e" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO2), based on the global warming potential (GWP) of the gas.

Megawatt (MW): A unit of electric power equal to 1 million watts.

Premise: A unique combination of service address and meter. For residential customers, this is the equivalent of an individual house or dwelling unit in a multi-tenant building. For business customers, it is an individual business, or for a larger business, a separately metered portion of the business’s load at that address.

Renewable Energy Certificate (REC): For every megawatt-hour of clean, renewable electricity generation, a renewable energy certificate (REC) is created. A REC embodies all 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.

Recommissioning: An energy efficiency service focused on identifying ways that existing building systems can be tuned up to run as efficiently as possible.

Solar Garden: Shared solar array with grid-connected subscribers who receive bill credits for their subscriptions.

Solar Photovoltaic (PV): Solar cells/panels that convert sunlight into electricity (convert light, or photons, into electricity, or voltage).

Subscription: An agreement to purchase a certain amount of something in regular intervals.

Therm (thm or therm): 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 and assisting with rebate paperwork, to receiving rebates for equipment sold.

APPENDIX 6: IMPLEMENTATION MEMORANDUM OF UNDERSTANDING