



An Energy Action Plan for Shorewood, Minnesota



CITY OF
SHOREWOOD

Draft: June 2, 2017

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Acknowledgements

Thanks to the following organizations and individuals for participating in developing this Energy Action Plan.

Shorewood's Energy Action Planning Team

Community Representatives

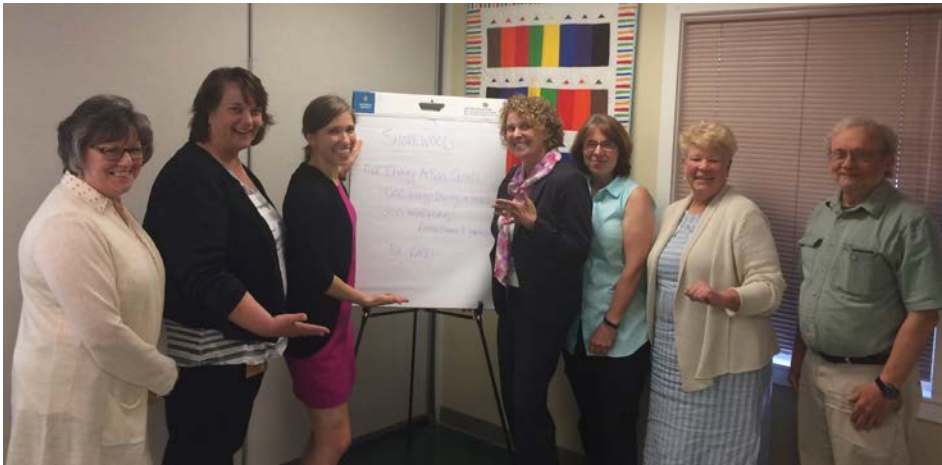
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Executive Summary

Shorewood is demonstrating how a small community can support a healthier future by engaging its residents, businesses, and neighbors to promote renewable energy investment, conservation, and economic benefits.

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Our Goals

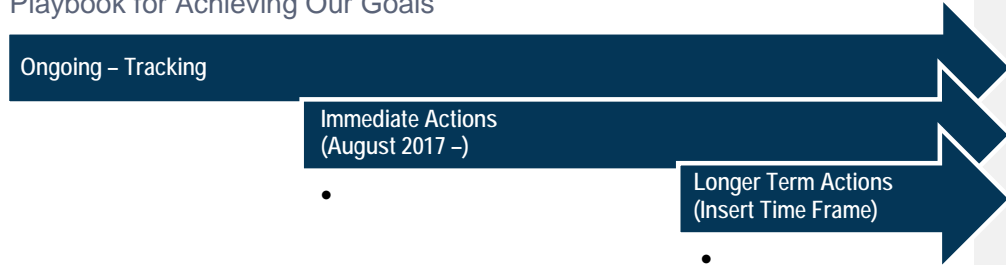
- Engage Shorewood businesses and residents in 500 energy saving programs annually.
- Engage 300 or more subscribers in Xcel Energy's Windsource® and/or Renewable*Connect by 2020.

How Will We Get There?

To support achievement of its goals, Shorewood will focus on these priority strategies:

Residential	Strategy: Community engagement campaign
Non-residential	Strategies:
Renewable Energy	Strategies:

Playbook for Achieving Our Goals



Introduction

This plan outlines tangible steps for the City of Shorewood to move the community towards its energy goals by increasing energy efficiency investments and participation across the community. The city's staff and council are interested in a community-wide energy plan prior to updating the City's Comprehensive Plan in 2018. Shorewood's main energy planning priorities are to:

- Advance the community goal to improve environmental impacts through clean energy investment and education
- Develop a community-wide energy program prior to the comprehensive plan update
- Engage the entire community (residents and businesses)
- Build on recent work and energy efforts

Two 4-hour workshops were held in Spring 2017 to gather ideas, discuss and refine the strategies contained in this Energy Action Plan. The plan provides an overview of the City of Shorewood's demographics, the community's baseline energy use and profile, documentation of the Partners in Energy planning process, a summary of priority focus areas identified by the planning team for implementation, and the near-term actions and strategies required to keep the implementation of this plan on track. Implementation of the Energy Action Plan will begin in July 2017 and will be supported by Xcel Energy.

Xcel Energy Partners in Energy

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

Xcel Energy will work with Shorewood to coordinate support for implementing the Plan and will develop a Memorandum of Understanding (MOU) that outlines specific support Xcel Energy will provide to help Shorewood deploy its strategies and achieve its targets and goals.



Figure 2. Partners in Energy Process for Success



Figure 1. Resources from Xcel Energy for Implementation

Who Are We? – Community Background and Geography

Shorewood is in Hennepin County, Minnesota and was incorporated in 1956. The city is 6 miles long and 1-mile wide with 3,600 acres. It is a heavily forested suburb that sits on the shores of Lake Minnetonka and somewhat “surrounds” the City of Excelsior. Three islands are included as part of Shorewood – Sprat, Shandy, and part of Enchanted. However, it is the nearby city of Mound that provides those islands with their postal services, fire protection, and schools. Most of the city is within the Minnetonka School District #276 which operates an elementary school in Shorewood.

There are six different parks within the city: Freeman Park, Manor Park, Badger Park, Silverwood Park, Cathcart Park, and Crescent Beach which has a public swim area. Shorewood is fortunate to have the Lake Minnetonka Regional Trail connecting to the city, which gives residents over 60 miles of trails for hiking, biking, running, and walking. The Southshore Center is another community asset, providing opportunities for fun, fitness, educational programs, and more.

Shorewood has long been a leader in environmental and sustainability initiatives. It was the first city in the state to establish a phosphorus-free fertilizer ordinance, the first city in the metro area to pass a bee-safe city ordinance, and is recognized as a Minnesota Green Step City. Green Step Cities is a voluntary program, offered by the Minnesota Pollution Control Agency and its partners, that helps cities achieve their sustainability and quality-of-life goals. The program is based on 29 best practices and associated actions that focus on cost savings, energy use reduction, and civic innovation. Shorewood is making plans to include sustainability and energy in its upcoming comprehensive plan update in 2018. As a leader in these areas, the city saw it as a natural next step to work with their energy utility to establish community energy efficiency goals.

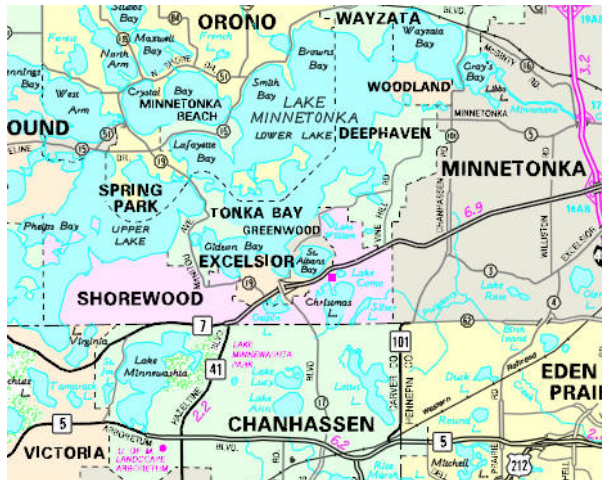


Figure 3. Minnesota State Highway Map of the Shorewood Minnesota area¹

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¹ “Minnesota State Highway Map of the Shorewood Minnesota Area.” Lakes n Woods: A Guide to Minnesota Communities. <http://www.lakesnwoods.com/images/Shorew16.jpg>

Population, and Demographics

The City of Shorewood's population was 7,557 in 2014. The community's population has been growing slowly, with an average increase of 0.8% per year for past 5 years. The Metropolitan Council forecast expects that Shorewood's population will reach 8,000 residents in 2020. The population is 51% male and 49% female per the 2014 American Community Survey (ACS).² Furthermore, an estimated 28% the population is under 18 years, and 12.9% is aged 65 years and older. Approximately 38% of households have children under the age of 18 living in them. The median age is 45.6 years, and recent population trends show there is a growing segment of aging adults in the community.³

The majority of Shorewood's residents (97%) are native residents of the U.S. and 65% of these residents were born in Minnesota. Ethnic diversity in the community is limited with 98% of residents identifying as white, 2% as Asian, and 1.9% identifying as Hispanic or Latino (of any race).⁴ English is the predominant language in the city, with only about 5% speaking a language other than English at home. Of those speaking a different language at home, 45% spoke Spanish and the other 55% reported something else.⁵

In terms of educational attainment, 99% of residents over 25 years of age have graduated from high school and 63% hold a bachelor's degree or higher.⁶

Housing

The community's housing stock is varied, including homes built at the turn of the century and homes still under construction. Shorewood's housing is predominantly single-family and owner occupied. In 2015, Shorewood had approximately 2,900 housing units – 94% of were single-unit structures, 6% were multi-unit, and less than 0.5% were mobile homes. It is estimated that around 31% of the housing units in the city have been built since 1990 and nearly 58% have been built since 1980. About half of the housing units have 4 or more bedrooms. In terms of heating of housing units, 90% are heated by utility gas and 8% are heated by electricity.⁷

According to Zillow, the median house value in Shorewood is \$487,500, which is an 8.1% increase over the previous year.⁸ The median home price is \$401,400 which is higher than the state average.⁹

There is a new residential development underway at the former Minnetonka Country Club, which closed in December of 2014. This new development will include 140 newly constructed homes of different styles and efforts are being made by the developer and the city to preserve and restore wetlands within the development area. Another project underway is the Oppidan Shorewood Senior Living project, which would provide 105 new units of senior housing, 80 of which are independent and assisted living apartments and 25 of which are memory care units.

² U.S. Census Bureau 2014 American Community Survey 5-year estimates

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ <http://www.zillow.com/shorewood-mn/home-values/>

⁹ U.S. Census Bureau 2014 American Community Survey 5-year estimates

Business and Economy

Shorewood remains primarily residential, although there are now several businesses scattered throughout its boundaries. Some of the larger employers in the community are Cub Foods, the City of Shorewood, and Minnewashta Elementary School. Per the 2014 American Community Survey (ACS) there is 3% unemployment in the city, with 3,891 employed and 117 unemployed, and no residents currently serving in the armed forces.¹⁰ Of those employed, 8.6% work from home.

A redevelopment study is underway for Smithtown Crossing, which is 10.9 acres of mostly commercial development that is relatively centered within the city. The area is prime for redevelopment, because existing commercial properties in the area are disjointed and buildings are underutilized.

As of last year, Shorewood is one of the wealthiest towns in Minnesota, with a median household income of \$113,719.¹¹ In the past 12 months, 1.8% of households received supplemental nutrition assistance program (SNAP or food stamp) benefits; 2.4% families and 3% of the population have incomes below the federal poverty level.¹²

Commitment to Sustainability

The Shorewood City Council has established a goal to improve the city's environmental impact through clean energy investment and education and conservation, and many of the city's residents are environmentally aware and take pride in the level of environmental stewardship that the city has exhibited.

While a small community, Shorewood has demonstrated a commitment to sustainability through its participation in myriad activities, such as the Minnesota GreenStep Cities program.

Shorewood recently completed work with Great Plains Institute on a renewable energy study, with specific interest in solar power. That 2016 Renewable Energy Study sets renewable energy goals, priorities, ordinances, and resources.

Other recent Shorewood energy and sustainability-related activities include:

1. Restrictions on lawn watering to reduce water consumption and energy for pumping facilities.
2. Amendments to ordinances to encourage use of renewable energy.
3. Evaluations of all public facilities for energy use, primarily for heating/cooling and initiated improvements to reduce energy consumption, including LED lighting upgrades in public works and City Hall facilities.
4. Preparation and distribution of educational information for residents regarding recycling, erosion control/reduction, and environmental issues such as pollinator safe planting awareness, aquatic invasive species awareness and site inspections at Christmas Lake public boat launch.

The Shorewood comprehensive plan is due to be updated by 2018 and efforts are being made to have water and energy conservation, greenhouse gas reduction, and energy plans included. Furthermore, the city's planning department is currently looking at options to update city building codes to ensure energy conservation initiatives and alternative energy options.

¹⁰ U.S. Census Bureau 2014 American Community Survey 5-year estimates

¹¹ <http://livability.com/mn/shorewood>

¹² 2011-2015 American Community Survey 5-year estimates

Finally, the City continually applies for grants for sustainability and conservation-related activities, such as a recent application for a potential rebate program for Energy Smart appliances and plumbing fixtures.

The Case for a Community Energy Action Plan

Shorewood's participation in Xcel Energy's Partners in Energy was preceded by several years of sustainability work. The city has worked with Clean Energy Resource Teams (CERTs) in the past to review city facility energy efficiency. This is an area the city could repeat and replicate. Shorewood would also like to expand this evaluation to all city-owned buildings, including well houses and the community center.

Because much of the community's energy-related work to-date has focused on city facilities, there is growing interest in and opportunity for engaging the entire community (residents and businesses) in energy efficiency and clean energy initiatives. This Energy Action Plan can build on previous energy and sustainability efforts and serve as a unifying call to action for all members of the community. Moreover, Shorewood is excited to demonstrate how a smaller community can leverage its unique resources to be a local energy leader.

Where Are We Now?

Baseline Energy Analysis

An early step in the Partners in Energy planning process was to review current energy use in Shorewood. Energy statistics were calculated and presented by the Xcel Energy team from 2014 to 2016.¹³ Comparing these data helped the planning team understand how and where electricity is used in the city. While the three years of data were used for trending purposes, the year 2016 was established as the baseline for this Plan.

Electricity data, provided by Xcel Energy, show that Shorewood had 3,228 residential, commercial, and industrial premises that consumed approximately 48 million kWh of electricity in 2016. Figure 4 shows Shorewood's proportion of premises and Figure 5 shows distribution of energy use by sector in 2016. It is important to note that natural gas in Shorewood is provided by CenterPoint Energy, and thus natural gas use is not included in this community energy baseline.

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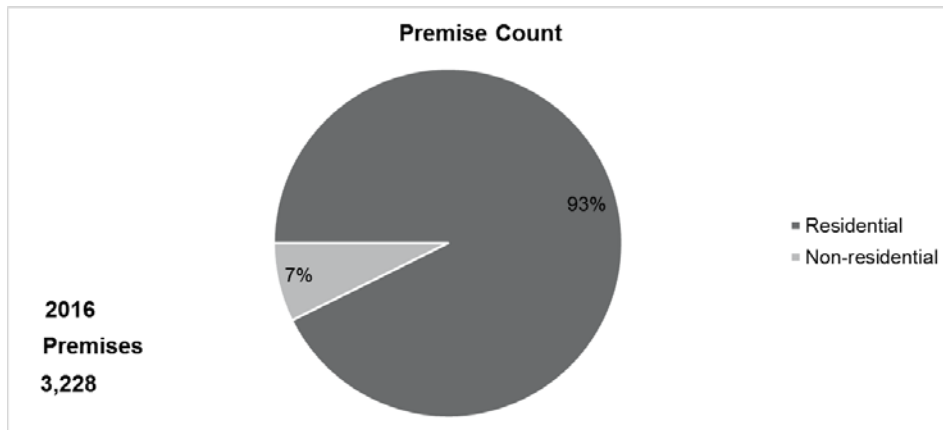


Figure 4: Electricity Use by Premises in 2016

¹³ All energy data presented through this process was developed for planning purposes and may contain variations from data obtained through other sources, including census data. All energy and program data presented here comply with Xcel Energy's Minnesota data privacy policies (all summary statistics must contain at least 15 entities, and no single entity can be responsible for more than 15% of the total or they will be removed from the summary) One premise was removed from Shorewood's data summary.

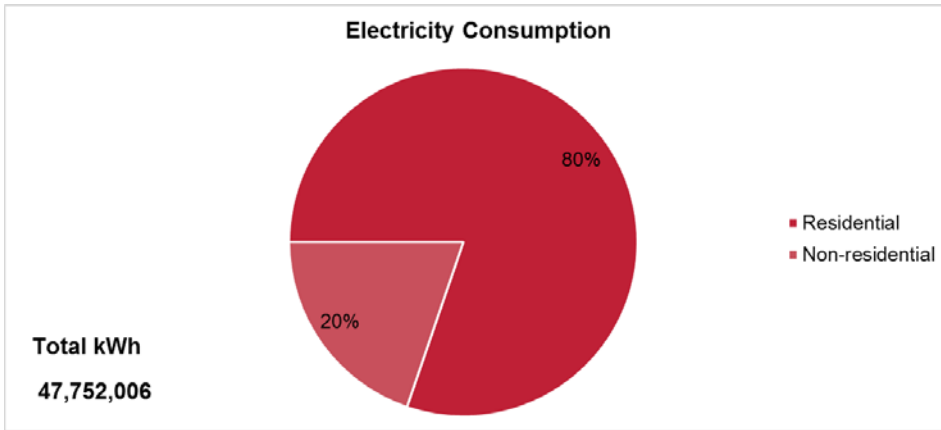


Figure 5: Electricity Consumption by Sector in 2016

As Figure 4 indicates, 80% of Shorewood's electricity use is by residential premises rather than non-residential, which includes commercial, industrial, and municipal use combined. Given that there were only 236 non-residential premises in 2016 accounting for 20% of total energy use, compared to 2,992 residential premises, the residential sector will provide the greatest opportunity for energy efficiency measures.

As seen in Figure 6, Shorewood experienced a relatively stable total energy use trend across the electricity sector over the 3-year period from 2014 to 2016.

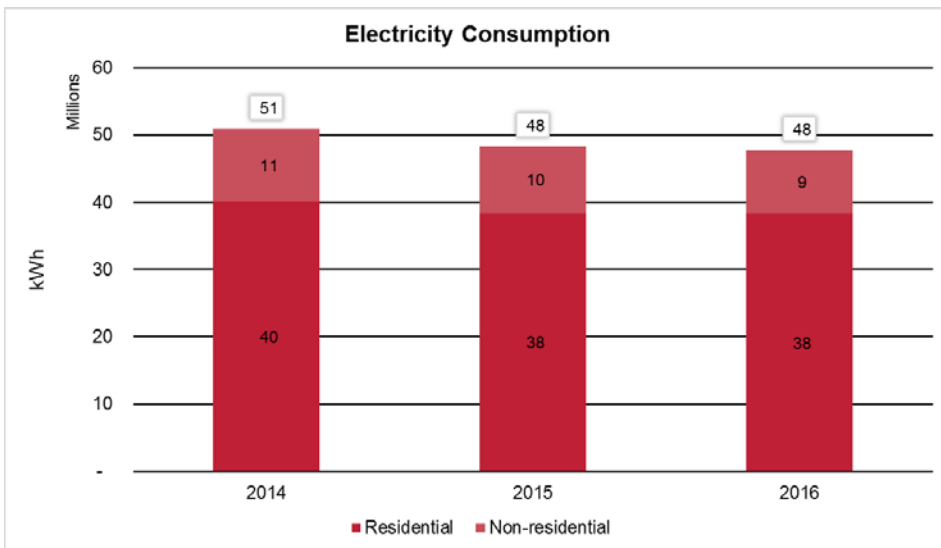


Figure 6. Energy Use Since 2014

Community Efficiency Program Participation

Baseline data gathered to help in developing this Energy Action Plan includes a historic Xcel Energy demand side management (DSM) rebate program participation count specifically for Shorewood. These data provide a snapshot of what types of programs both residential and commercial customers are using, to what degree, and likely channels of information. Figure 7 and Figure 8 show the DSM program participation for three years, including 2014, 2015, and 2016, plus the average annual savings (in kilowatt hours) from these residential and commercial programs. These data indicate that there is opportunity for greater participation in the available DSM programs.

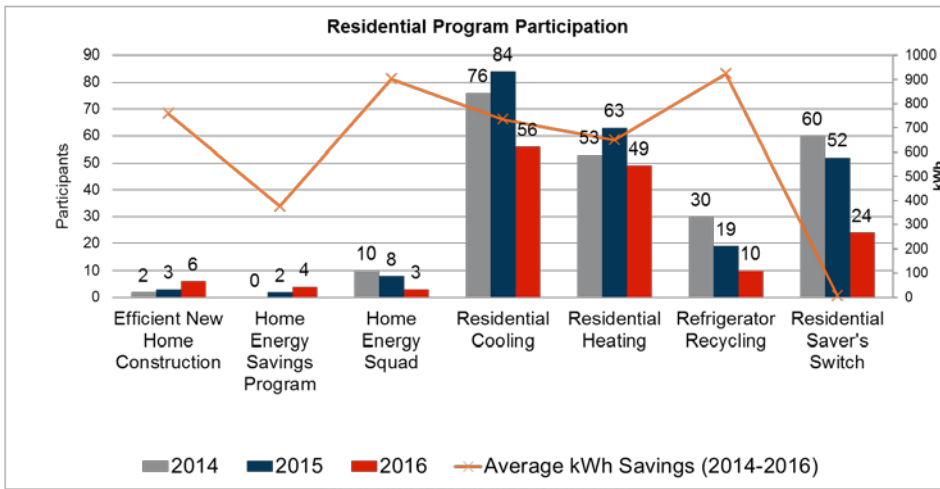


Figure 7. 2014-2016 Residential Program Participant Counts and Average Savings

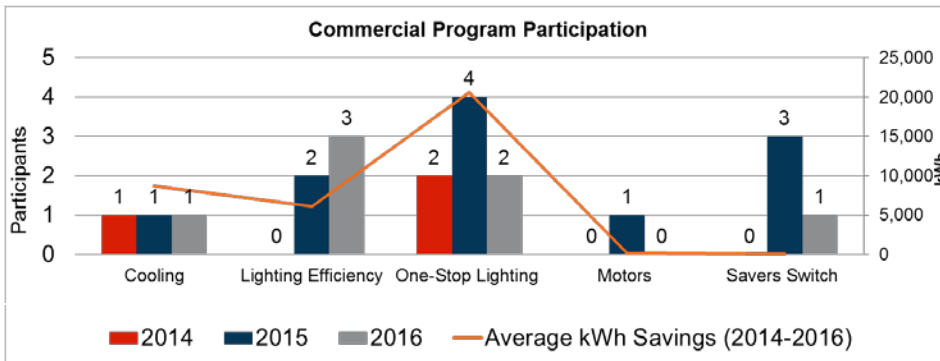


Figure 8. 2014-2016 Commercial Program Participation Counts and Average Savings

Renewable Energy Program Participation

One of the renewable energy programs offered in Shorewood is a wind energy subscription program called Windsorce®. In 2016, there were 100 participants in Shorewood. Ninety-nine were residential participants, and one was a commercial/industrial participant. The total electricity subscribed from wind was 465,231 kWh, approximately 1% of total electric use

Table 1. 2016 Renewable Energy Program Participation

	Participants	kWh Subscribed
Residential	99	468,757
Commercial/ Industrial	1	3,526

Existing Energy Practices

The following table summarizes the energy and sustainability-related practices already completed or underway in Shorewood.

Table 2. Shorewood Energy Initiatives

Community Energy Initiatives
<p>City of Shorewood Efforts</p> <ul style="list-style-type: none"> • Conducted a Renewable Energy Analysis in 2016 <ul style="list-style-type: none"> ○ Includes 10 priorities including working with energy utilities to encourage residents and businesses to participate in energy efficiency offerings ○ Includes some suggested strategies and next steps for promoting energy efficiency across homes and businesses, city facilities and critical infrastructure ○ <i>The City's total rooftop solar potential is 14,124 MW/hrs (14.1 GW/hrs), or about 30% of the City's annual electric usage.</i> • 2009 Comprehensive Plan <ul style="list-style-type: none"> ○ Community Facilities Services Goals and Objectives: <ul style="list-style-type: none"> ▪ Shorewood residents are to continue to have safe, reliable energy services to meet their needs. ▪ Energy service conservation is to be constantly promoted and facilitated. ○ Community Facilities Services Policies <ul style="list-style-type: none"> ▪ Energy <ul style="list-style-type: none"> • Encourage use of alternative energy forms in new construction. • Continue to disseminate information on governmental energy conservation programs and helpful ideas on personal energy conservation methods. • Where practical, promote overall energy conservation in the community development process. • Minnesota GreenStep Cities - Best Practice Actions Underway and Completed detailed here <ul style="list-style-type: none"> ○ Make no/low cost indoor lighting and operational changes in city-owned/school buildings to reduce energy costs: The City is working with the Minnesota Retiree Environmental Technical Assistance Program (Minnesota RETAP) to have energy audits of city hall, public works facility, community center and all warming houses that have heat. This is planned to be completed in January. ○ Implement information technology efforts and city employee engagement to reduce plug loads and building energy use: City employees will turn off computers,

Commented [SS4]: Julie, do you think we should include this as an appendix?

Community Energy Initiatives

- monitors and printers when leaving for the day. All charging devices will be unplugged from the wall when not in use. Office lights will be turned off when leaving the office for meetings, lunch, or during the day.
- Create or participate in a marketing/outreach program to promote/achieve residential energy/water use reduction and energy efficiency: In 2012, the city published energy saving tips in at least six newsletters.
- Replace the city's existing traffic signals with LEDs: Shorewood is responsible for two semaphores on State Highway 7. Both of those lights have been updated to use energy efficient LED lighting technology

City Policies and Goals

- Energy Policy
 - City council has established a goal to improve our environmental impact through clean energy investment and education and conservation. We plan to do this by addressing the following priorities:
 - Investigate on-site solar energy installation on public buildings.
 - Prioritize potential community solar garden sites on public land.
 - Enable solar development and energy efficiency development through city policy and regulatory tools.
 - Promote existing utility incentive programs and continue to work with energy utilities to encourage residents and businesses to participate.
 - Prepare educational opportunities for residents and businesses on GHG reduction measures.
 - Identify fleet maintenance, purchases, and fuel conversion opportunities.
 - Improve efficiency of city buildings.
 - Implement measures to improve energy use for critical infrastructure with high energy intensity.
 - Amend joint powers agreement for police/fire station to accommodate renewable energy and energy efficiency measures.
 - Revisit technologies that will reduce GHG emissions for city facilities (20 years out) and incorporate as they become available.
 - Upgrade of lighting to LED in our public works facility and in our city hall (took place in April 2016).
 - The city has worked with Energy Squad and CERTS in the past to review city facility energy efficiency. This is an area we would like to evaluate again. We would also like to expand this evaluation to all city owned buildings, including well houses and the community center.
 - The city recently completed the final draft of a renewable energy study that sets priorities for renewable energy goals, priorities, ordinances, and resources. The city has initiated the following items over the past several years:
 - Restrictions on lawn watering – reduces water consumption and energy for pumping facilities.
 - Currently working on Ordinances to encourage use of renewable energy
 - Performed evaluations of all public facilities for energy use, primarily for heating/cooling. Initiated improvements to reduce energy consumption.

Community Energy Initiatives

- Sustainability Policies/Goals
 - Shorewood's planning department is currently looking at options to update city building codes to ensure energy conservation initiatives and alternative energy options. The comprehensive plan is due to be updated by 2018 and efforts are being made to have water and energy conservation, greenhouse gas reduction, and energy plans included.
 - The city will be applying for grants to introduce a rebate program for Energy Smart appliances and plumbing fixtures when the new grant period is introduced. These rebates would take place in 2017.
- Programs
 - Energy Programs (list from 2009 Comprehensive Plan)
 - Department of Energy (DOE) Programs. Fuel assistance and weatherization programs available to assist qualified homeowners with fuel payments and weatherization improvements of dwelling units.
 - MHFA Fix Up Fund (FUF). The Fix -up Fund provides below- market interest rates, fully- amortizing home improvement loans -to- assist low -to- moderate - income homeowners in improving the livability and energy efficiency of their homes.
 - MHFA Home Energy Loans. Available to qualified homeowners to increase the energy efficiency of their homes.
 - Rehabilitation Loan Program. The Rehabilitation Loan Program provides interest - free, deferred loans to low- income homeowners to finance home improvements directly affecting the safety, habitability, energy efficiency and accessibility of their homes. The program is administered by local agencies that contract to deliver the program in accordance with statute and program requirement
- Sustainability Programs
 - Go Green Webpage provides basic information about energy, water, recycling, composting, cleaning, watershed, green building, and transportation

Where Do We Want to Go?

Our Energy Vision

To establish an energy vision for the community, the planning team reviewed examples that other communities have developed and provided input via surveys and workshops to identify what elements were most important to incorporate. After several iterations and discussions, the planning team established the following vision for Shorewood's energy future:

Shorewood is demonstrating how a small community can support a healthier future by engaging its residents, businesses, and neighbors to promote renewable energy investment, conservation, and economic benefits.



Figure 9: Shorewood's energy vision reflects the community's commitment to the natural environment and future generations

What are our Energy Priorities?

Our Focus Areas

Shorewood's Energy Action Plan identifies three areas of focus to organize efforts and implementation strategies: residential, non-residential, and renewable energy.

Residential

The residential focus area includes the 7,614 residents, 2,899 housing units, and nearly 3,000 residential electricity premises in Shorewood.

As you can see in Figure 5, 80% of the electricity consumption in the City of Shorewood goes towards powering residents' homes. Although electricity use in homes accounts for most of the electricity consumption in Shorewood, very few of the 2,899 housing units have been involved in an electricity saving program offered by Xcel Energy. In fact, program participation rates for all residential electricity conservation programs offered by Xcel Energy are under 3%. This savings potential is what caused the Energy Action Team to prioritize this sector.



Figure 10: Shorewood has many established homes that are a focus of this plan

Non-residential

The non-residential focus area includes businesses, community facilities, and approximately 236 commercial, industrial, and municipal electricity premises in Shorewood.

Figure 5 also shows that the nonresidential sector in Shorewood uses 20% of the total electricity consumed in the city. Although this is a much smaller portion than the residential sector, the Energy Action Team still prioritized nonresidential users due to their energy savings potential. In 2016, Shorewood residents participated in a total of 174 residential energy-saving actions through Xcel Energy's Demand-Side Management (DSM) programs. The average electricity savings from each of these actions was 540 kWh. That same year, the nonresidential sector participated in a total of seven DSM program actions and ended up saving an average of 16,560 kWh- far greater savings than the residential sector. This demonstrated that even though Shorewood has limited nonresidential buildings, each one has a significant potential for savings.



Figure 11: Non-residential facilities in Shorewood include businesses like Cub Foods and Minnewashta Elementary School

Renewable Energy

The renewable energy focus area includes all efforts and activities related to solar, wind, and other renewable energy within and serving the Shorewood community.

In addition to prioritizing energy conservation actions in the community, the Energy Action Team also decided to focus on renewable energy to support the vision for a healthier future. The City has already completed some actions related to renewable energy, including the recent 2016 renewable energy analysis, and recent acceptance into the SolSmart program, an offering which helps communities reduce solar cost and barriers to solar energy growth. This plan focuses on building on that momentum and engaging the full community, not just the municipal organization, in renewable energy opportunities.

Commented [SS5]: Julie, do you have any renewable energy photos to include in this section?

Our Goals

Two goals were established to help Shorewood achieve its energy vision. One goal reflects the City's desire to conserve energy by engaging in energy efficiency actions, and the other reflects the importance of renewable energy investments. Both goals are described below.

Energy Efficiency Goal

Shorewood's energy efficiency goal applies to the residential and non-residential focus areas. The goal is to engage Shorewood businesses and residents in 500 energy saving programs annually to save an estimated 945,000 kWh, or 2% of Shorewood's annual baseline energy use.

The table below outlines an illustrative pathway showing how the Energy Action Team envisions a 2% annual baseline savings could be achieved. This ambitious goal more than doubles the average annual baseline program participation seen between years 2014-2016, and was determined through an iterative and facilitated process that looked at different energy-savings impacts from different levels of program participation and explored what's feasible and most likely given historic trends and the make-up of the community described earlier in this plan.

Table 3. Program Participation Scenario for 2% Annual Energy Savings

Program	2014-2016 Average Annual Participation	Annual Participation Required to meet proposed Goal	Change in Participants
Residential Focus Area			
Efficient New Home Construction	4	3	-1
Home Energy Squad	7	90	+83
Residential Cooling	72	77	+5
Residential Heating	55	70	+15
Refrigerator Recycling	20	50	+30
Residential Savers Switch	45	157	+112
Non-Residential Focus Area			
Lighting Efficiency	2	20	+18
One-Stop Lighting	3	20	+17
Commercial Saver's Switch	1	13	+12
Total	209	500	291

Figure 13 and Figure 14 show how the energy programs listed above contribute to the overall savings goal (note that the numbers in the pie chart show the participation counts, whereas the proportion of each section of the pie chart shows the program's relative electric savings contributions). Here it is important to recognize that some programs are expected to drive more savings per participant than others. For example, the refrigerator recycling program and Home Energy Squad program contribute almost the same amount of savings to the goal, but the Refrigerator Recycling program requires 40 less participants. If residents and businesses participate in a different combination of programs that will affect the electricity savings associated with the 500 energy action goal.

Figure 12: Residential Program Electric Savings Contributions

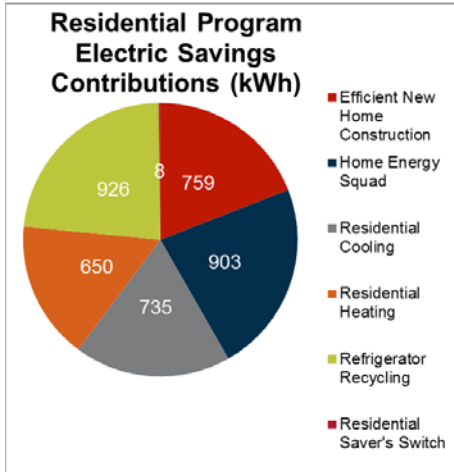


Figure 13: Commercial Program Electric Savings Contributions

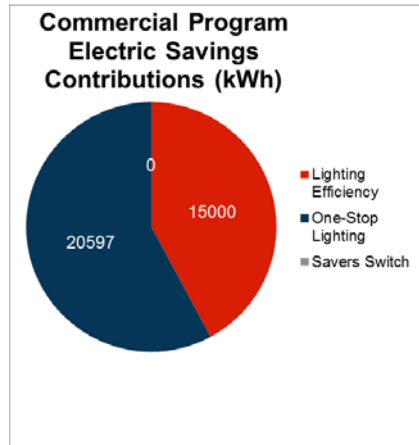


Figure 14: Annual Electricity Saving Contributions from Program Participation Scenario

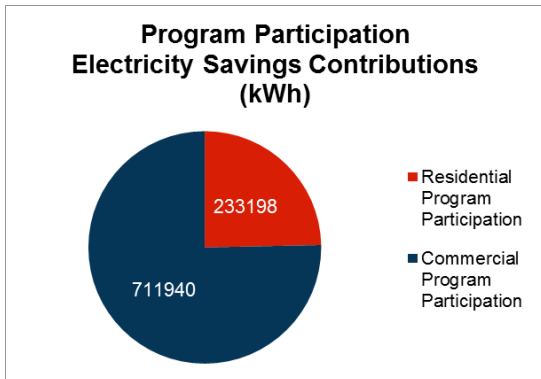


Figure 15 above shows that residential program participation will drive about a quarter of the total estimated electricity savings and commercial program participation will drive the remaining portion.

Renewable Energy Goal

In addition to Shorewood's goal to save energy in the community, the City is also seeking to increase investments in renewable energy opportunities. The City's renewable energy goal is to engage 300 or more subscribers in Windsource® and/or Renewable*Connect by 2020. More detail about these programs is provided in the paragraphs below.

As referenced in Table 1, Shorewood's baseline participation for Windsource® was 100 participants. The Energy Action Team wanted to triple this goal as a testament to the community's commitment to investing in local, renewable energy resources.

Renewable*Connect

Through Renewable*Connect, residents and businesses can power with up to 100 percent clean, local wind and solar energy. Participants choose how much they want and select the subscription duration that best fits their needs, with options for month-to-month, five-year or 10-year terms. The longer-term options provide price certainty with lock-in price schedules over the term of the contract. The associated Renewable Energy Credits (RECs) are Green-e Energy certified and retired on behalf of Renewable*Connect participants, allowing these customers to claim and promote their use of renewable energy and meet sustainability goals.

In 2016, the program was approved by regulatory commissions in Colorado and Minnesota. Xcel Energy began offering Renewable*Connect to in Minnesota in the spring of 2017 with locally generated solar and wind energy from the North Star Solar project in Chisago County and the Odell Wind Farm in southern Minnesota.

Windsource®

Windsource is a program that allows residents and businesses to pay a little extra every month to get some or all of their energy from wind energy. Xcel Energy electricity customers can subscribe to Windsource online or by calling a program representative. Subscriptions are then added to an Xcel Energy bill, making it easy for participants to automate their support of renewable energy. The program is certified by Green-e Energy and regulated by the Public Utilities Commission.

How Are We Going to Get There?

To meet the energy goals outlined above, the Energy Action Team has proposed the following strategies for the three focus areas: residential, non-residential, and renewable energy. Each strategy includes details about the target outcome, target behaviors, target audiences, communication pathways, messengers, timeline, responsibilities, and measurements of success.

Using the principles of community based social marketing, the details of each strategy will be further refined during the implementation stage. Some preliminary community surveying was completed during the planning stage to inform the strategy development. It is envisioned that techniques such as surveys, focus groups, and interviews will continue to be an important part of Shorewood's implementation efforts, especially during the initial months, to further identify and refine the barriers and benefits specific to the target audiences and desired behaviors.

Residential Strategy

To achieve the goal of 500 energy-saving actions, the Energy Action Team identified a strategy of a residential engagement campaign. To inform the strategy development, a residential energy survey was developed and distributed online between planning workshops 1 and 2. The report summary from the survey's 187 participants helped the Energy Action Team identify critical components of their residential engagement campaign.

Table 4. Residential Engagement Campaign Details

Strategy 1: Residential Engagement Campaign Summary

Strategy Overview

This strategy focuses on a tailored outreach and engagement campaign for Shorewood residents, encouraging them to sign up for Home Energy Squad® visits and other Xcel Energy residential energy efficiency programs. Once the campaign messaging is developed, outreach will be ongoing through trusted messengers and effective communication pathways.

Target Behaviors

- Have residents participate in the following Xcel Energy residential programs:
 - Efficient New Home Construction®
 - Home Energy Squad®
 - Residential Cooling®
 - Residential Heating®
 - Refrigerator Recycling®
 - Residential Savers Switch®

Target Audience

- Adults who own or rent a home in Shorewood

Strategy 1: Residential Engagement Campaign Summary

Communication Pathways

- Shorewood Energy and Environmental Sustainability Web Site (www.cityofshorewood.com/gogreen)
- Shore Report monthly newsletter issued by the City of Shorewood
- Sun Sailor newspaper
- City of Shorewood Facebook page
- Next Door.com neighborhood social media platform
- Possible tables/information booths at Farmers' Markets
- Lake Minnetonka Cable Commission Cable Channel 8

Trusted Energy Messengers

- The City of Shorewood
- Energy Utilities
- Nonprofits
- School district/elementary school outreach

Potential Message Elements

- Tie campaign messaging back to nature- use visuals of lakes and wooded areas
- Link to quality of life values- quiet, peaceful, safe surroundings
- Link energy program participation to having a comfortable, well-maintained, and inviting home

Timeline

First Steps (months 1-3)

- Develop key messages (possibly through focus group and/or additional surveys)
- Determine details for Home Energy Squad discount opportunity (e.g., a select number of households can apply for a discounted Home Energy Squad visit if they agree to be a case study/spotlight household for marketing efforts)
- Develop Home Energy Squad application and select participants
- Develop website content and collateral marketing materials

Second Steps (months 4-6)

- Develop case studies/spotlights on Home Energy Squad participants

Ongoing (monthly)

- Newsletter articles/updates
- Social media posts
- Website updates
- Updates about Home Energy Squad participants and success stories

Funding/Resource Needs

- City of Shorewood provide funding to discount Home Energy Squad visits (standard cost is \$100 per visit)

Strategy 1: Residential Engagement Campaign Summary

Strategy Leaders

- Julie Moore
- Kris Sundberg
- Nancy Mulhern
- Pat Arnst

Measurement

Success will be measured by:

- Program participation
- Social media/website analytics
- Energy savings of Home Energy Squad® case study participants

Non-residential Strategies

The Energy Action Team identified two strategies that build on one another to support achievement of the energy efficiency goals. The first is a focus on updates to City facilities and showcasing those efforts to the broader community. The second is an outreach and engagement campaign targeting energy actions by Shorewood businesses and commercial property managers.

Table 5. City Facility Updates and Showcase Strategy Details

Strategy 2: City Facility Updates and Showcase

Strategy Overview

This strategy focuses on Shorewood's municipal facilities leading by example in their adoption of energy efficiency practices. It includes completing lighting upgrades at all major City facilities, followed by the development of marketing materials including a short video and case study narrative to share with the broader community. These materials will then be used in the non-residential outreach campaign strategy.

Target Behaviors

- Lighting upgrades and energy audits at City facilities

Target Audience

- Users of all City of Shorewood facilities (and all Shorewood residents and businesses)

Potential Message Elements

- The City of Shorewood is saving energy and money, so can you
- It's easy to get started with energy actions

Potential Communication Pathways

A key component of this strategy will be identifying the best communications pathways to reach businesses through market research. Possible communications pathways include:

- Shorewood Energy and Environmental Sustainability Web Site (www.cityofshorewood.com/gogreen)
- Shore Report monthly newsletter issued by the City of Shorewood
- Business organizations and groups

Funding/Resource Needs

- City of Shorewood to provide funding for audits and associated improvements
- Xcel Energy to provide rebates for eligible improvements

Strategy Leaders

- Julie Moore
- Kris Sundberg
- Greg Lerund

Measurement

Success will be measured by:

- Program participation and energy savings at municipal facilities participants

Commented [SS6]: Julie: are there others at the City we should include on this team?

Table 6. Non-Residential Outreach Campaign Strategy Details

Strategy 3: Non-Residential Outreach Campaign**Strategy Overview**

This strategy focuses on outreach and engagement of Shorewood's business community to inform them about energy efficiency programs and opportunities, with the intent of encouraging them to participate in programs to realize cost savings and to support achievement of Shorewood's energy efficiency and renewable energy goals.

Target Behaviors

Have businesses participate in the following Xcel Energy programs:

- Lighting Efficiency
- One-Stop Lighting
- Commercial Saver's Switch

Communication Pathways

A key component of this strategy will be identifying the businesses in Shorewood and exploring and/or establishing effective communications pathways to engage them. Possible communications pathways include:

- Shorewood Energy and Environmental Sustainability Web Site (www.cityofShorewood.com/gogreen)
- Shore Report monthly newsletter issued by the City of Shorewood
- Business organizations and groups

Trusted Energy Messengers

As with the communications pathways, identifying the trusted energy messengers for Shorewood's businesses will be an important first step in this strategy.

Potential Message Elements

- The City of Shorewood is saving energy and money, so can you
- It's easy to get started with energy actions

Timeline

First Steps (months 1-2)

- Identify a business community member to participate on strategy team
- Develop a business list and invite businesses to participate in a focus group to identify key messages and communications pathways (e.g., possible different messages and pathways for business tenants versus owners)

Second Steps (months 3-4)

- Develop key messages and collateral materials
- Finalize outreach and engagement plan (e.g. door -to-door versus direct mail, etc.)

Ongoing/monthly

- Newsletter articles/updates
- Social media posts

Strategy 3: Non-Residential Outreach Campaign

- Website updates

Funding/Resource Needs

Possible staff support if a door-to-door campaign is pursued

Strategy Leaders

- Julie Moore
- Kris Sundberg
- Nancy Mulhern
- Business community representatives (to be identified)

Measurement

Success will be measured by:

- Program participation
- Social media/website analytics

Renewable Energy Strategies

The Energy Action Team identified two strategies to support achievement of the renewable energy goal of engaging 300 or more subscribers in Windsource® and/or Renewable*Connect by 2020 and to support the vision of promoting renewable energy investment. The first strategy builds on the residential and non-residential outreach campaigns and includes targeted outreach about renewable energy subscription opportunities. The second strategy includes efforts to remove barriers to renewable energy.

Table 7. Renewable Energy Subscription Outreach Campaign Strategy Details

Strategy 4: Renewable Energy Subscription Outreach Campaign

Strategy Overview

This strategy focuses on outreach and engagement to the Shorewood Community to increase awareness and information about renewable energy subscription programs and installation opportunities.

Target Behaviors

- Have residents and businesses participate in the following Xcel Energy programs:
 - Windsource®
 - Renewable*Connect

Communication Pathways and Trusted Messengers

The ideal communications pathways, trusted messengers, and message elements for residents and businesses will be identified through the residential and non-residential outreach campaign strategies and will be leveraged for this renewable energy strategy as well.

Timeline

First Steps (months 1-2)

- Include questions about renewable energy messaging and communications pathways in residential and business surveying and focus groups

Second Steps (months 3-4)

- Develop key messages and collateral materials for renewable energy outreach efforts (in coordination with collateral material development for other strategies)

Ongoing/monthly

- Newsletter articles/updates
- Social media posts
- Website updates

Strategy Leaders

- Julie Moore
- Kris Sundberg

Funding/Resource Needs

- Possible funding for City of Shorewood facilities to subscribe to renewable energy program(s)

Strategy 4: Renewable Energy Subscription Outreach Campaign**Measurement**

Success will be measured by:

- Program participation
- Social media/website analytics

Table 8. Renewable Energy Opportunities Strategy Details

Strategy 5: Renewable Energy Opportunities**Strategy Overview**

This strategy focuses on reducing barriers for the City of Shorewood and the greater community in accessing renewable energy. It includes a feasibility analysis for a potential community solar garden, as well as continued participation in the SolSmart program (with emphasis on the community engagement activities).

Target Behaviors

- Achieve and maintain SolSmart certification at the bronze level or higher
- Complete a feasibility analysis for a community solar garden

Communication Pathways and Trusted Messengers

- City of Shorewood website

Timeline

First Steps (months 1-2)

- Coordinate with Clean Energy Resource Teams (CERTs) on a community solar garden exploration/feasibility analysis
- Review the SolSmart criteria and develop a game plan for which criteria to pursue
- Develop an approach to inventory existing and track future solar installations

Ongoing/monthly

- Meet to review criteria needs and accomplishments
- Share updates and progress on City website

Funding/Resource Needs

- Possible City financial support for a Community solar garden study (and possible future development investment)

Strategy Leaders

- Julie Moore
- Kris Sundberg

Measurement

Success will be measured by:

- SolSmart certification level and criteria accomplishments
- Solar installations (number and size)

How Are We Going to Stay on Course?

The Energy Action Team in Shorewood will help the City reach its goals by maintaining consistent and clear communication between Energy Action Team leaders, community partners, and Partners in Energy community facilitators.

Energy Action Team members will meet on a bi-weekly basis during the first stages of implementation, and then shifting to monthly or less frequent meetings as implementation progresses.

Tracking and Monitoring

On a quarterly basis, the full Energy Action Team will review the energy action strategies and timelines to make sure everyone remains on task and has the resources needed to complete the activities identified in this plan.

Partners in Energy will provide bi-annual (twice a year) tracking and reporting of participation in Xcel Energy's programs and the associated savings from program participants. Each strategy team will also be responsible for tracking supplemental quantitative and qualitative information about implementation, such as social media and website analytics, number of materials distributed, event dates and estimated participants, etc.

Changing Course: Corrective Action

An effective energy plan is cyclical in nature. To ensure that the Shorewood Energy Action Plan remains on track, the Energy Action Team will review bi-annual tracking information and compare it against the supplemental strategy tracking metrics and information to assess whether the efforts appear to be making an impact. In the event that the strategies appear to be off-course, it is possible that the strategy teams will assess their progress and make corrective actions to get back on track.

Beyond the Plan Horizon

Looking forward to beyond the plan horizon, it is recommended that Shorewood integrate its energy efficiency and renewable energy goals and aspirations in the community's comprehensive plan and other City plan and policy documents to ensure a legacy and commitment to these ideas. Furthermore, future updates to this plan may be necessary as goals are achieved and new energy opportunities and ideas emerge.

Commented [SS7]: Julie/Kris/Greg: How do we want to talk about how this plan relates to the comprehensive plan?

Appendix 1: Glossary of Terms

Use whichever appendices are appropriate. The following is a preliminary glossary.

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 weekend.

Energy Action Plan: a written plan that includes an integrated approach to all aspects of energy management and efficiency. This includes both short- and long-term goals, strategies, and metrics to track performance.

Goals: the results toward which efforts and actions are directed. There can be a number of objectives and goals outlined in order to successfully implement a plan.

kWh (kilowatt-hour): a unit of electricity consumption

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

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

Therm: a unit of natural gas consumption

Appendix 2: Implementation Memorandum of Understanding

To be added.

Appendix 3: SolSmart Criteria

To be added.

Commented [SS8]: Julie, what do you think about including the SolSmart criteria here?