



PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

Minnetonka Workshop 2

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December 9, 2019

Workshop 2 Objectives



- Answer open questions from Workshop 1
- Clarify a few bits of “energy vocabulary”
- Review Xcel Energy’s carbon free goals
- Reach consensus on Vision Statement
- Develop Goal for the Energy Action Plan
- Review Focus Areas and identify priorities

Plan Development Steps



Agenda

Time (minutes)	Agenda
15 min	Welcome and Agenda
40 min	Review of Workshop 1 Questions and Bike Rack Items, Energy Vocabulary, Xcel Energy Carbon Free Goals
10 min	Vision Statement Review
30 min	Goal Discussion
15 min	BREAK
30 min	Focus Areas
10 min	Wrap-up and Topics for Next Workshop

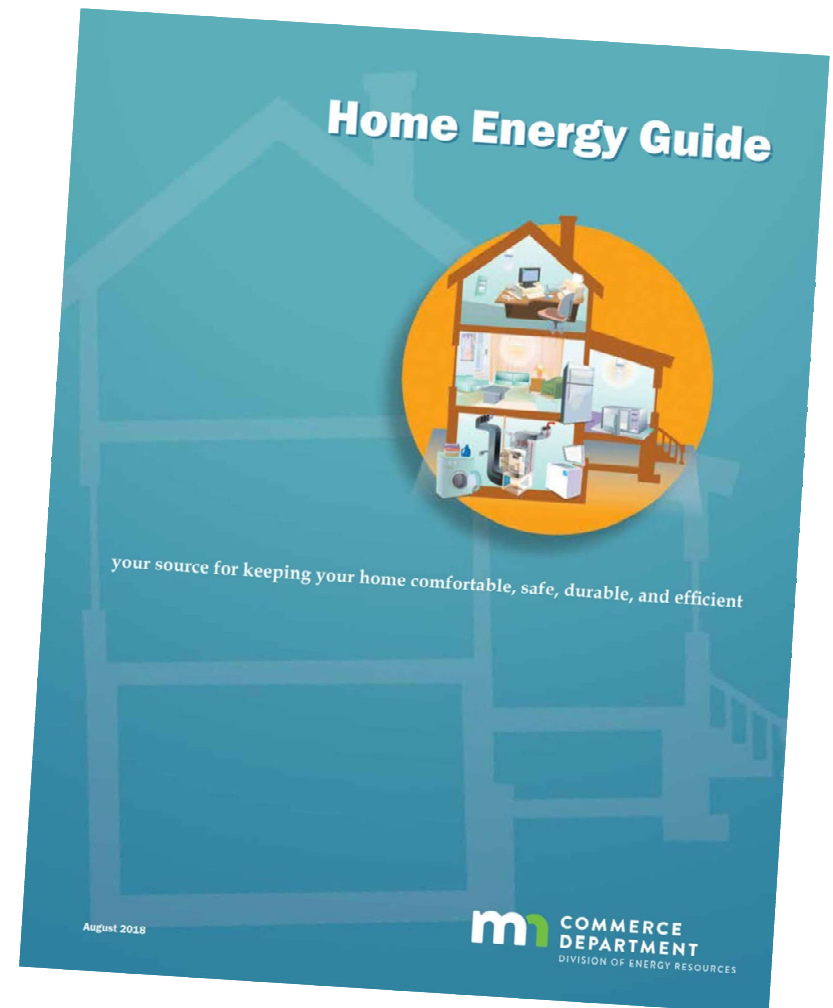
Questions & Bike Rack Items

Workshop 1 items

- Equipment lifespans
- Home energy usage
- Minnetonka building permit review
- Minnetonka Home Energy Audit recap
- Energy “vocabulary”

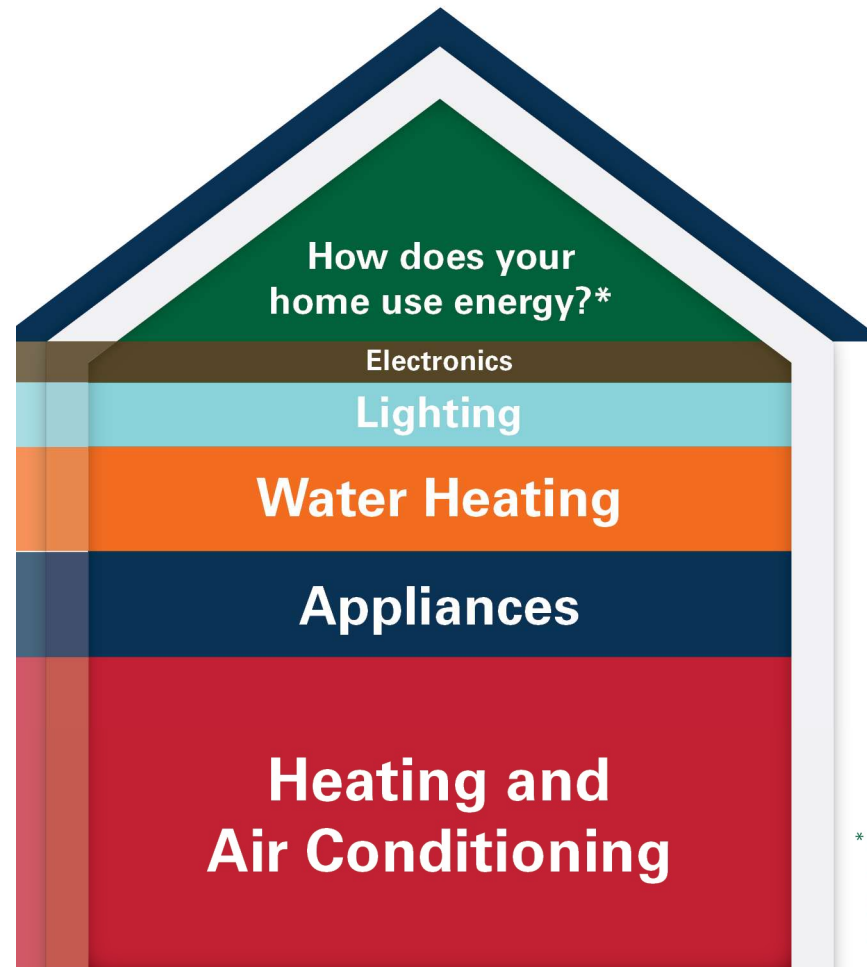
Equipment Lifespans

Equipment	Lifespan
Furnace	15 – 20 years
Boiler	20 – 30 years
Central Air Conditioning	15 – 20 years
Water Heater	10 – 12 years



Source: Home Energy Guide, 2018.
Minnesota Department of Commerce Division of Energy Resources

How does a home use energy?

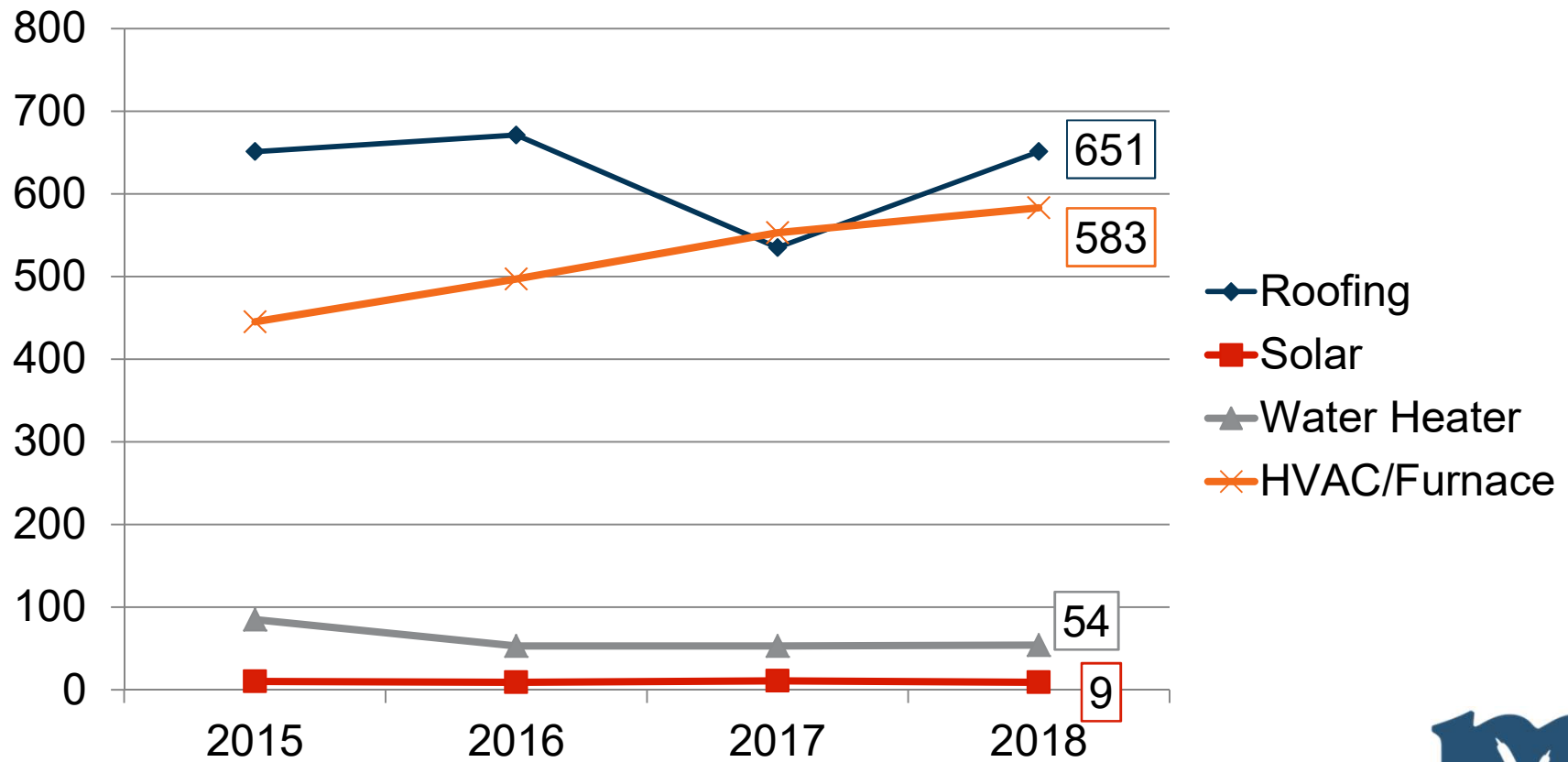


* Minnesota Department of Commerce Division of Energy Resources, Home Energy Guide, 2018

What kind of projects have Minnetonka homeowners been doing?



Minnetonka Residential Upgrades 2015 - 2018



Source: Minnetonka Building Permit analysis – 11/2019

23,740 Households (2018). Avg. 519 HVAC per year



A Quick Reminder

Minnetonka Housing Age



Year Built	Housing Units	Percent
2014 or later	112	0.5%
2010-2013	346	1%
2000-2009	1207	5%
1990-1999	3451	14%
1980-1989	6731	28%
1970-1979	4210	18%
1960-1969	2977	12%
1959 or earlier	4910	21%

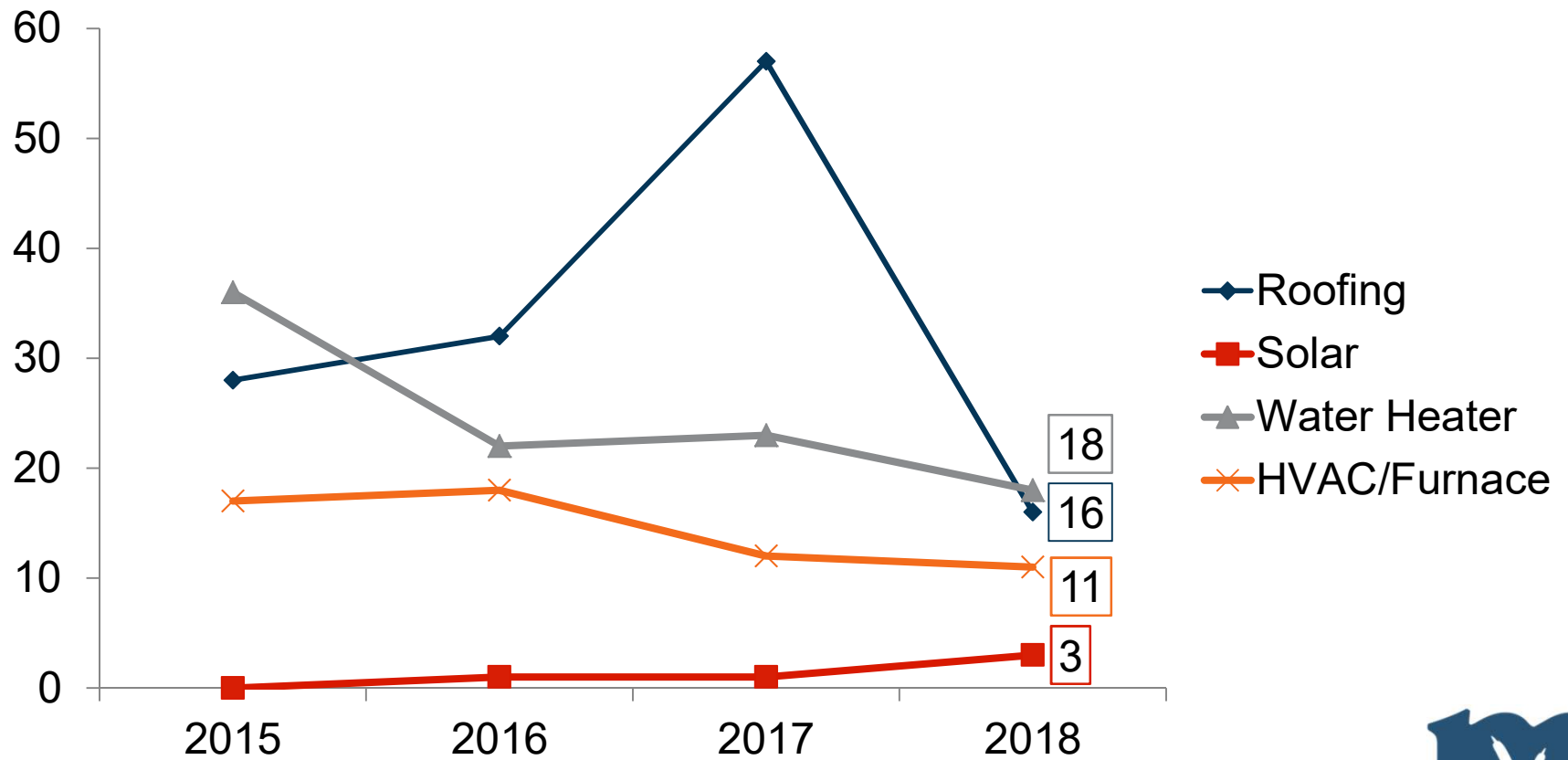
**93.5%
more than
20 years
old**



What kind of projects have Minnetonka commercial properties been doing?

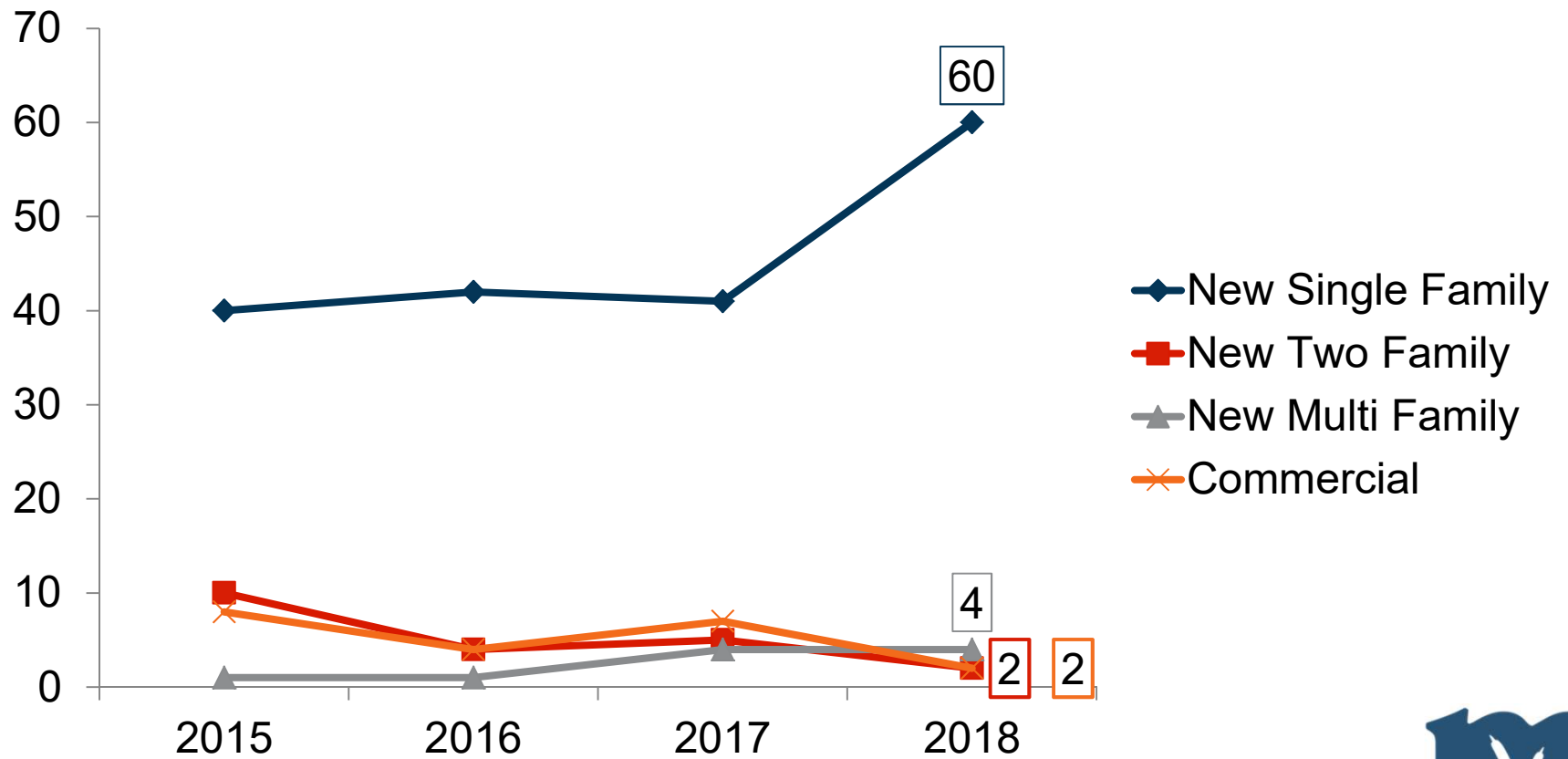


Minnetonka Commercial Upgrades 2015 - 2018



How much new construction has there been in Minnetonka?

Minnetonka New Construction 2015 - 2018

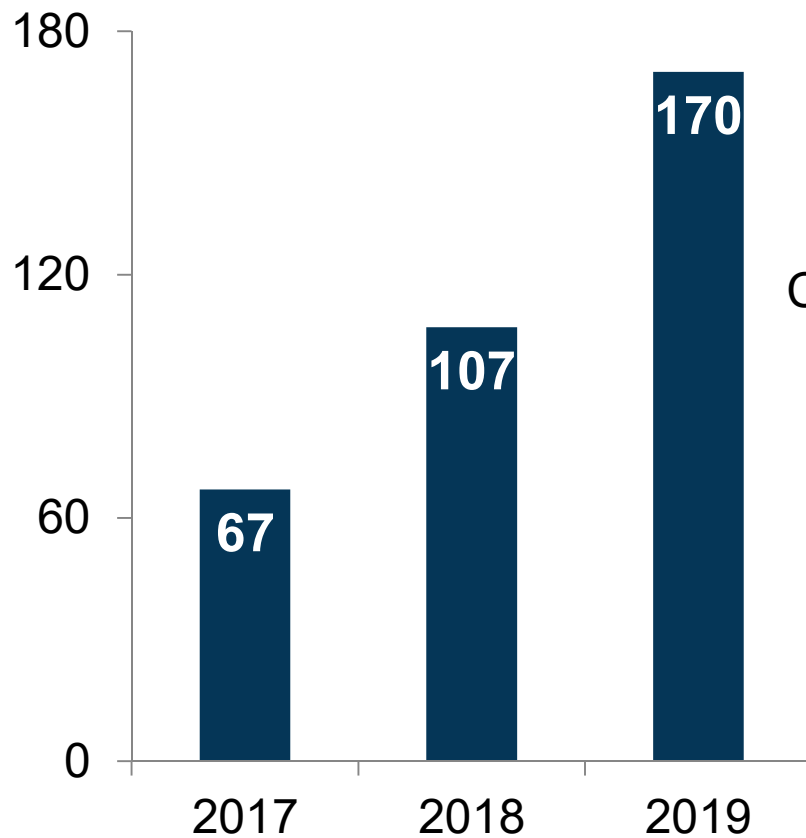


23,740 Households (2018)

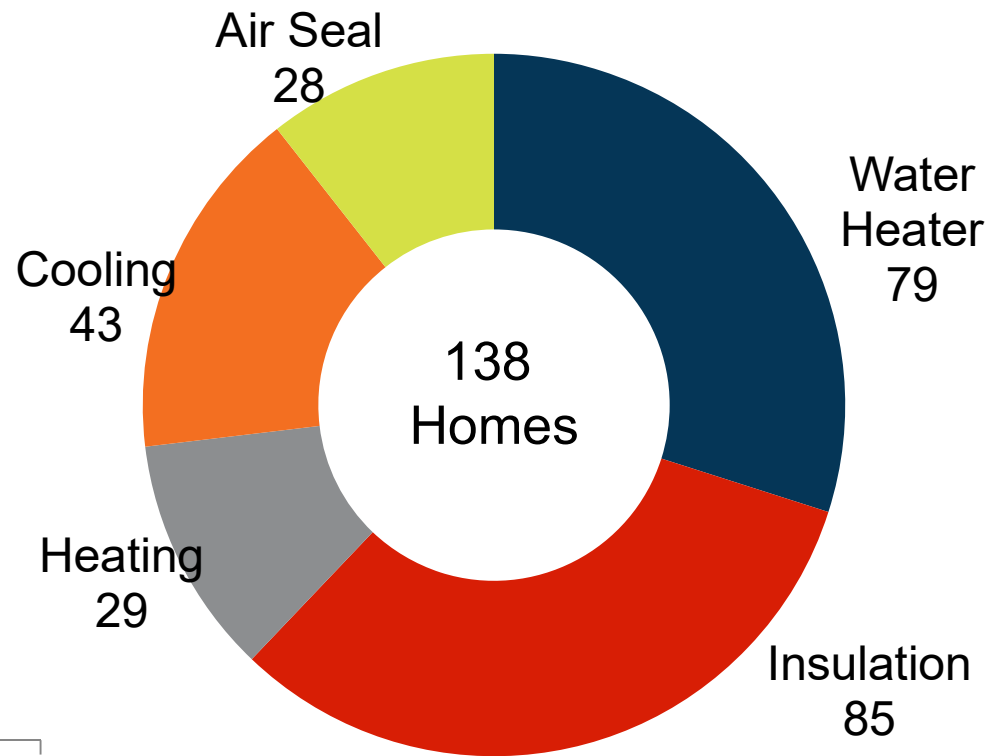
Minnetonka Home Energy Audit recap



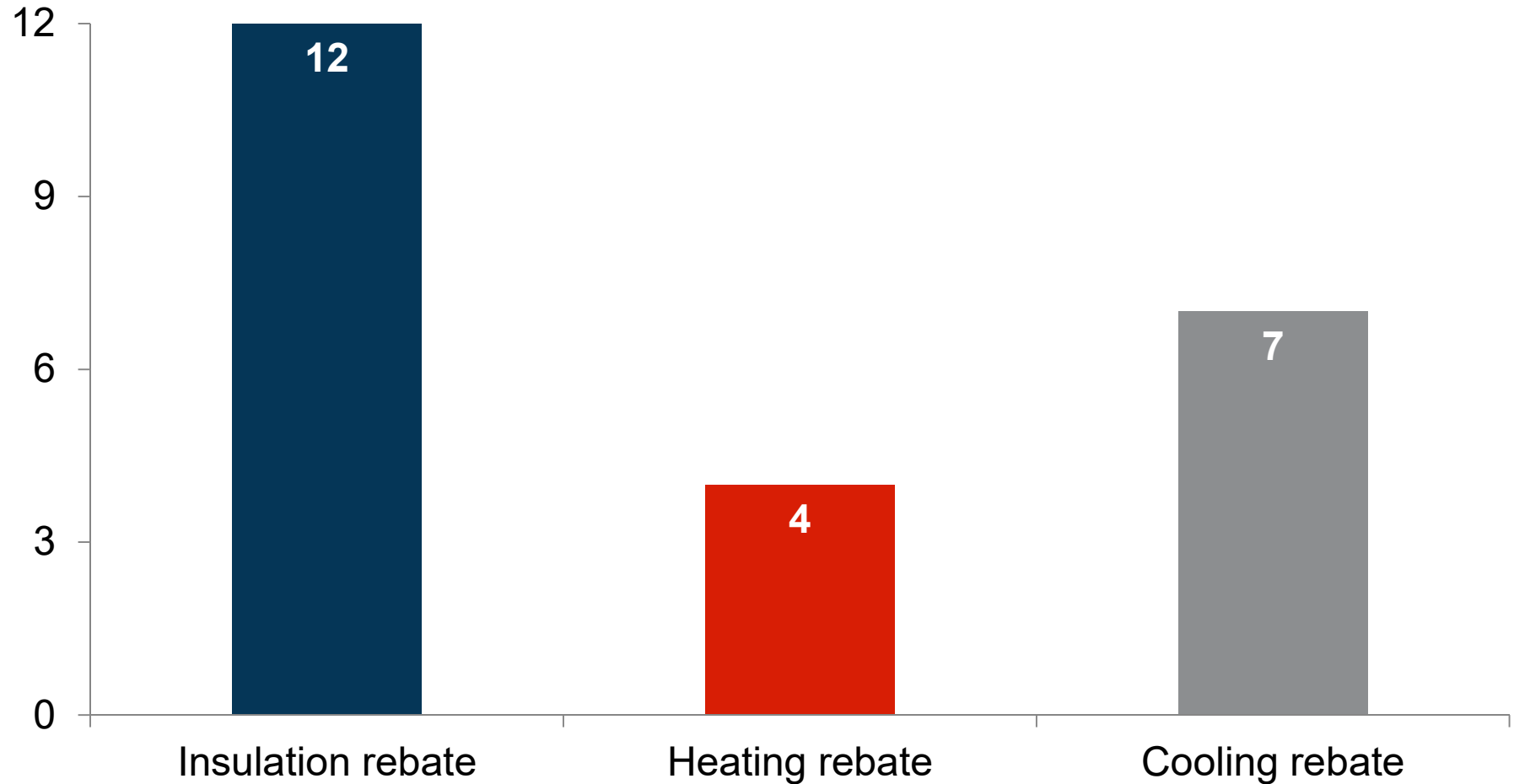
Completed Audits



2019 Recommendations



20 of 138 homes have earned rebates this year – incl. multiples



Energy Savings

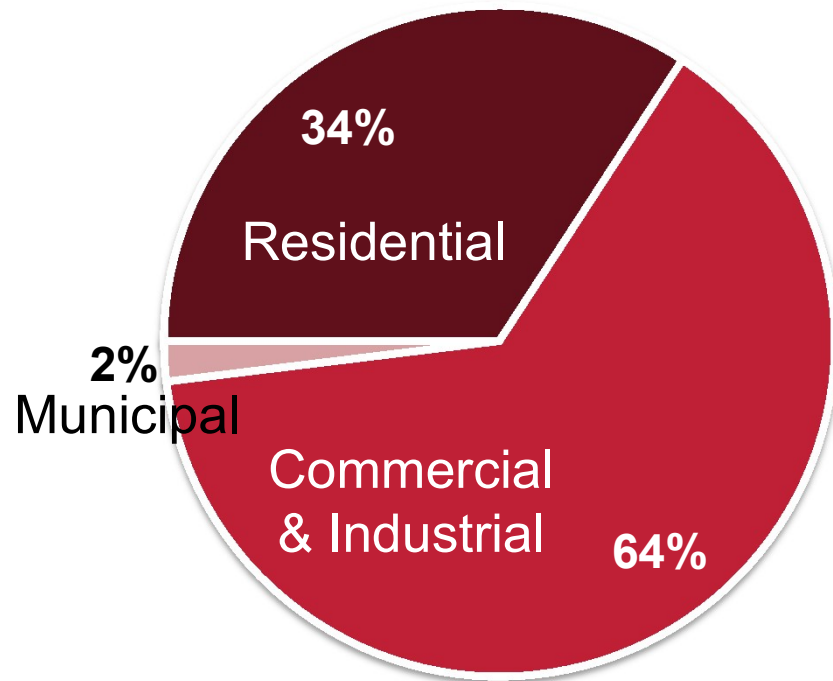
- Comes from a permanent change that results in using less energy to achieve the same results.
 - A new furnace uses X% less to keep your home at the same temperature (*all things being equal*)
- For accounting purposes, savings are only counted in the year the new equipment is installed

Energy Reductions

- The result of behavior changes that cause less energy to be used.
 - Setting the thermostat lower 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.

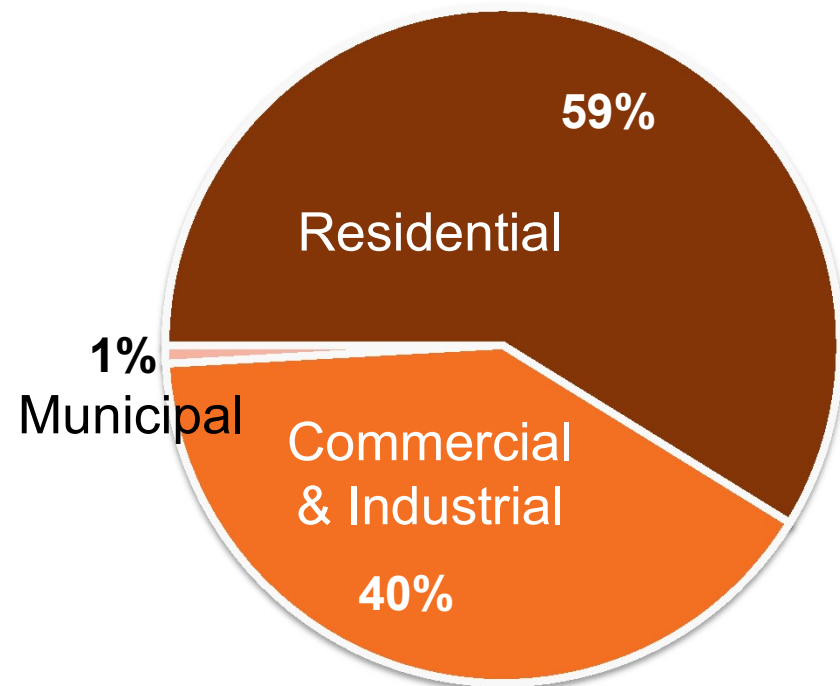
Energy Consumption (2018)

Electricity Consumption Xcel Energy



Total kWh: **596,662,489**
Total emissions:
221,395 MTCO₂e

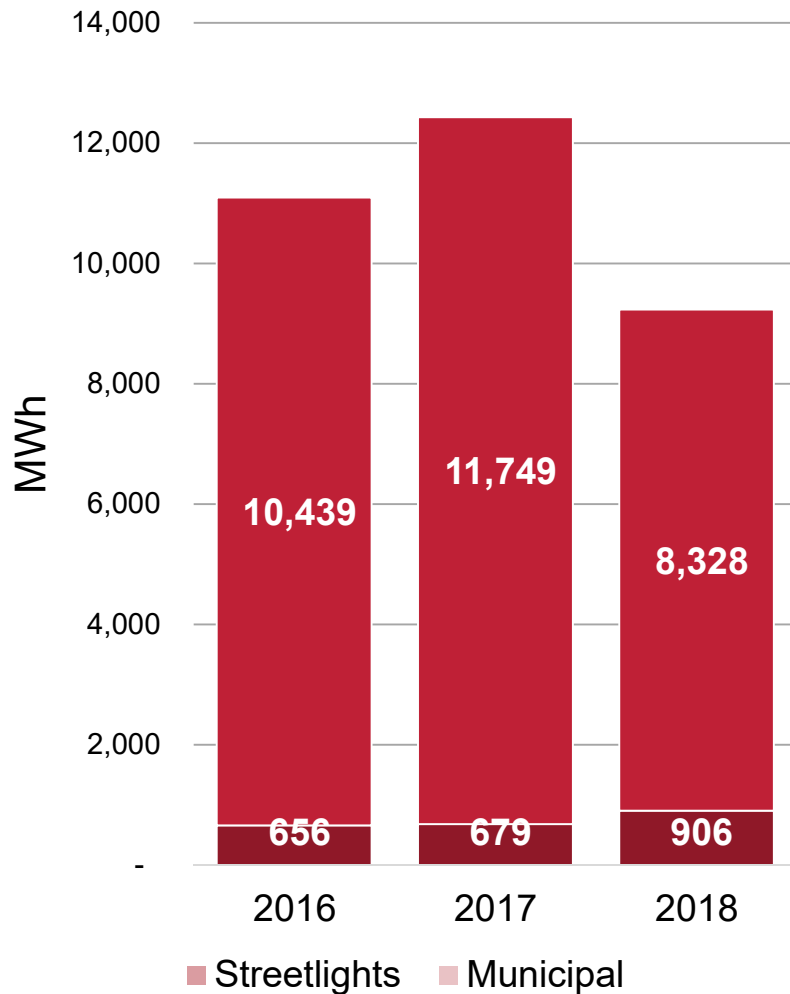
Natural Gas Consumption CenterPoint Energy



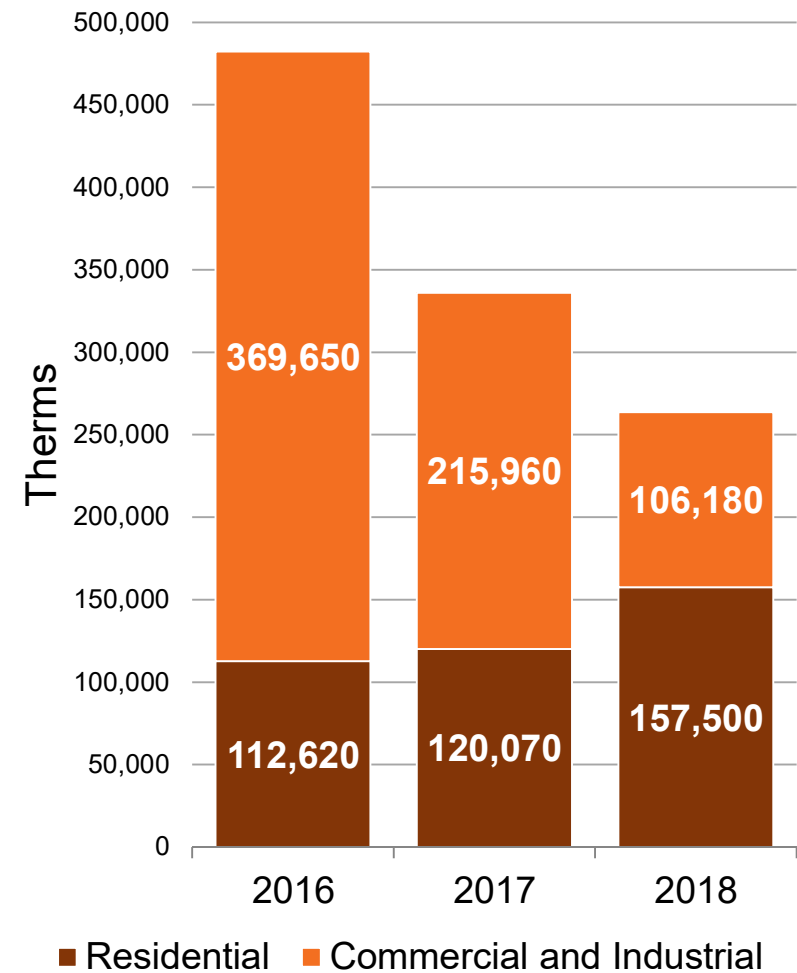
Total therms: **36,797,427**
Total emissions:
195,288 MTCO₂e

Energy Savings Trends

Electricity Savings Xcel Energy



Gas Savings CenterPoint Energy



Xcel Energy's Carbon Free Goals



BUILDING MINNESOTA'S ENERGY FUTURE

Clean, safe, reliable

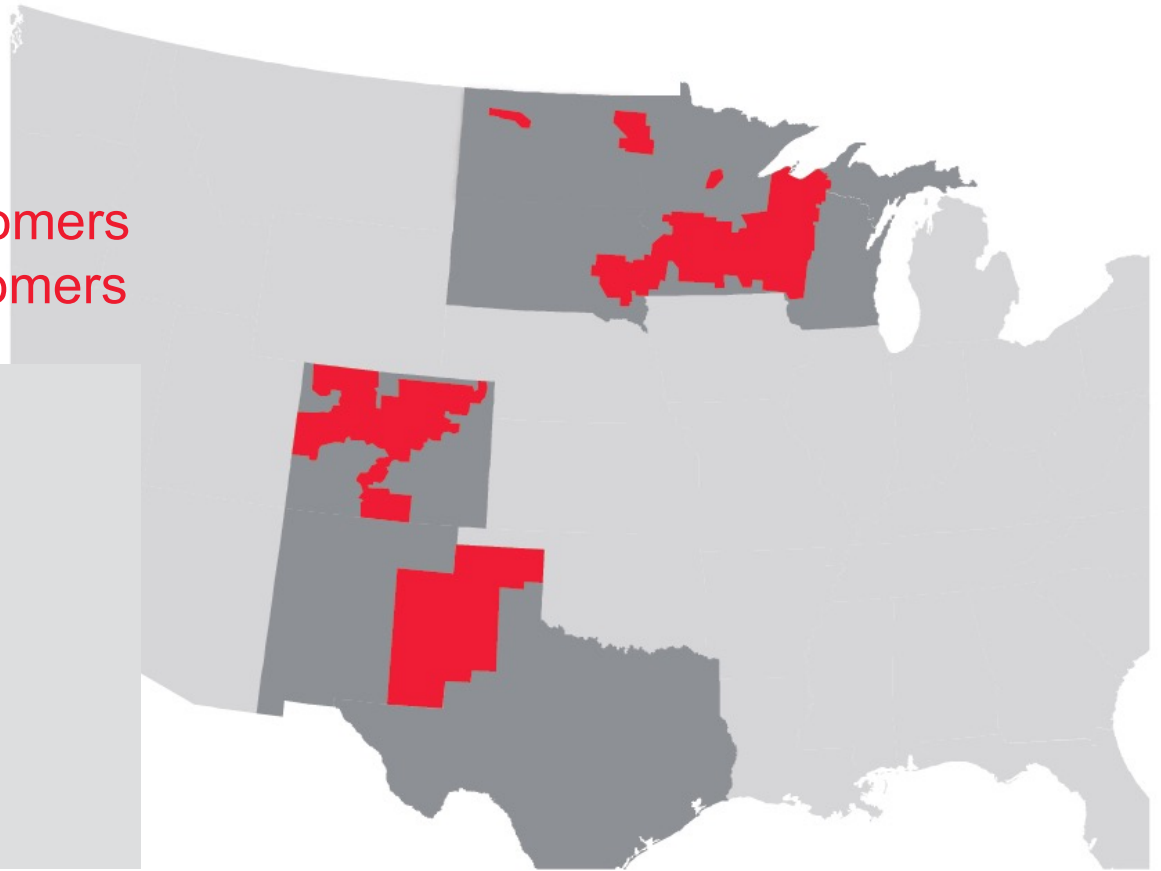
Xcel Energy

Serving eight states

- 3.6 million electricity customers
- 2 million natural gas customers

Nationally recognized leader:

- Wind energy
- Energy efficiency
- Carbon emissions reductions
- Innovative technology
- Storm restoration



Xcel Energy Priorities



Lead the Clean
Energy Transition



Enhance the
Customer Experience



Keep Bills Low

Xcel Energy Priorities

Lead the Clean Energy Transition

- 100% carbon-free electricity by 2050
- On track to cut carbon emissions 80% by 2030
- Estimate 60% renewable energy by 2030

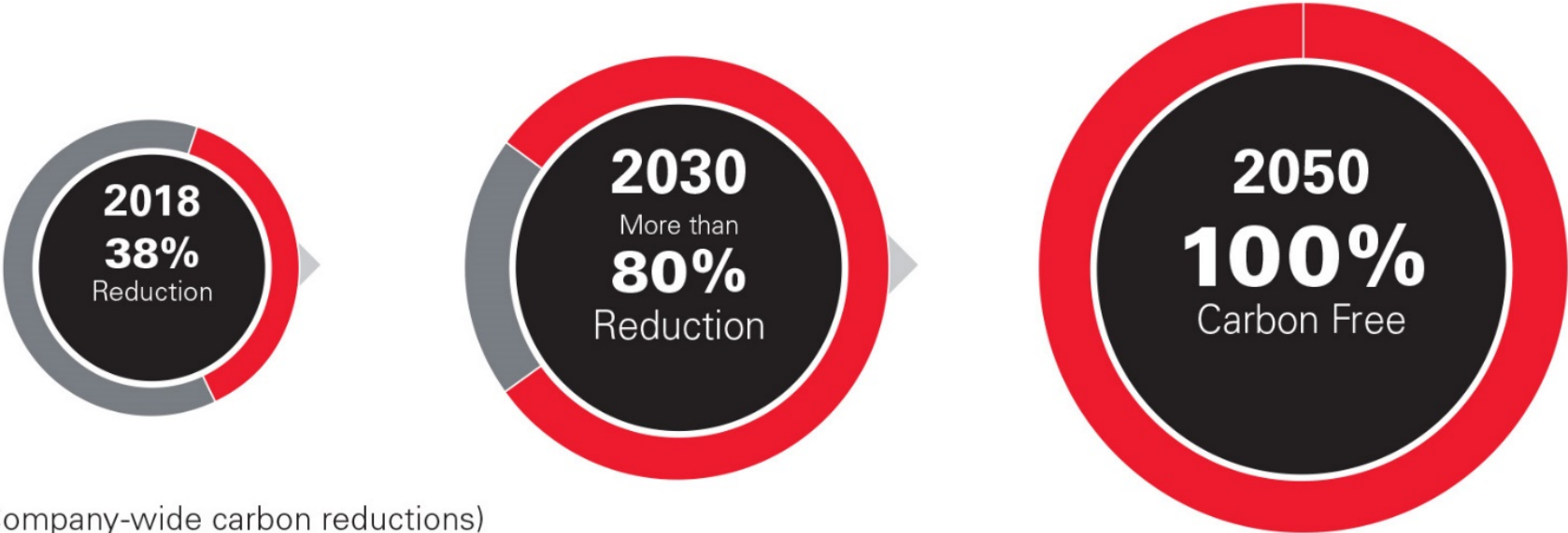
Enhance the Customer Experience

- Know our customers' needs and interests
- Make it easy to do business with us
- Deliver meaningful products, services and experiences

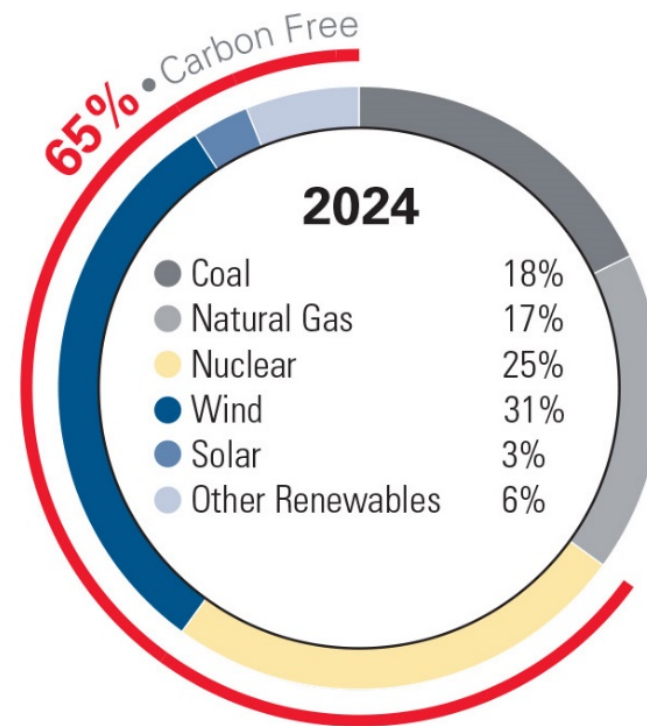
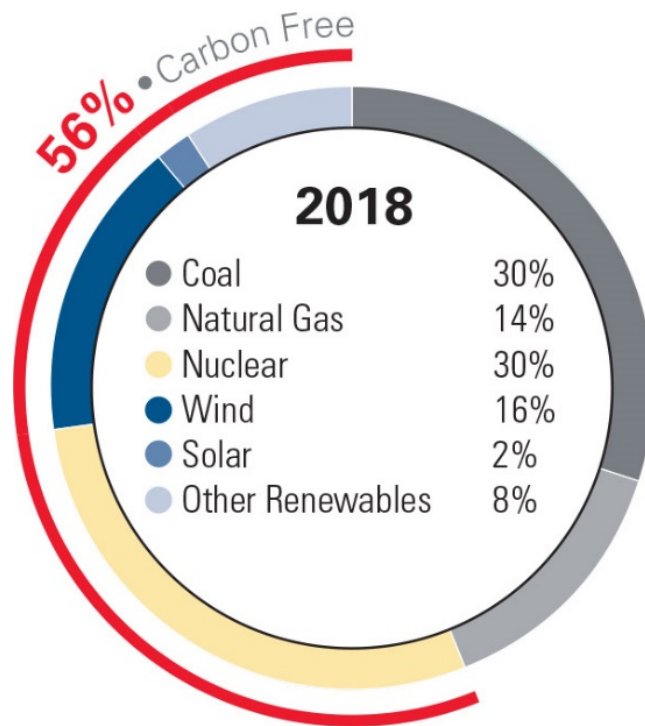
Keep Bills Low

- Bills below national average
- Low-cost renewables
- Extensive customer efficiency programs

Bold carbon-reduction goals



A cleaner energy mix

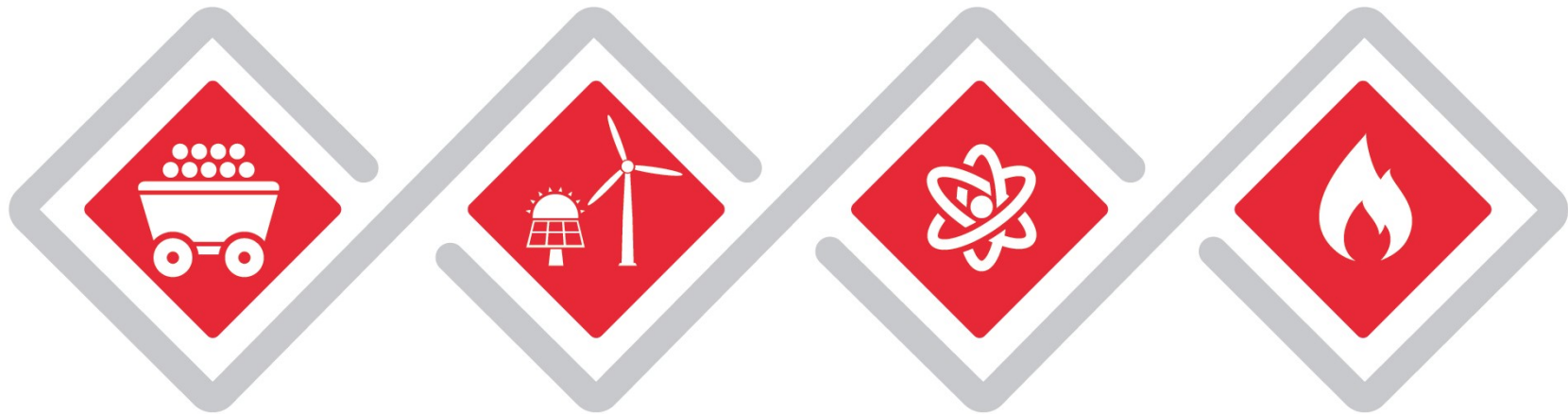


Upper Midwest Energy Plan

- Proposal to the Minnesota Public Utilities Commission in July 2019
- All the pieces of the integrated plan work together to provide:
 - 80% carbon reduction by 2030
 - Reliable service
 - Bills below the rate of inflation
- Robust public and stakeholder input process over the next year



Upper Midwest Energy Plan



Close coal plants

Retire the last of our coal plants in the Upper Midwest by 2030, a decade earlier than planned

Add renewables

Add at least 3,000 megawatts of solar by 2030, enough to power more than 650,000 homes each year, and complete our largest-ever wind expansion by 2022

Continue carbon-free nuclear

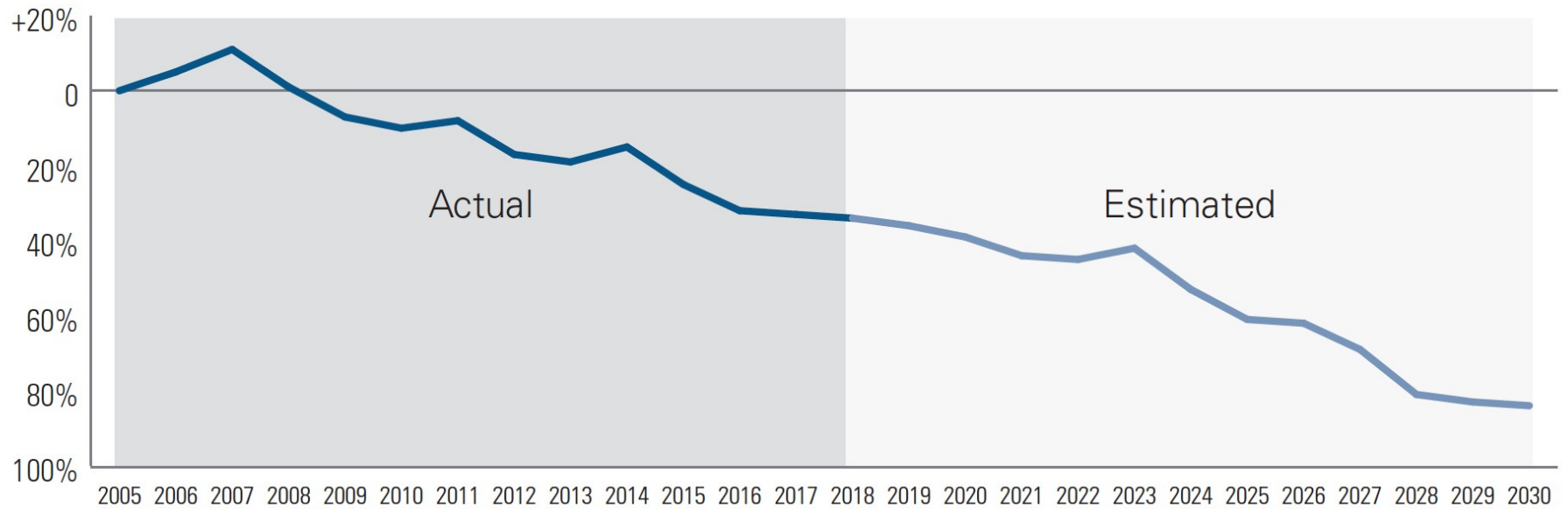
Start the process to gain regulatory approval to run our carbon-free Monticello nuclear plant until at least 2040

Bridge to carbon-free

Use natural gas-fired plants in the coming years as a reliable, cleaner source of electricity as we bridge toward future carbon-free technologies

Our journey to reduce carbon

Upper Midwest





Workshop 2 Survey Results

Minnetonka's Energy Vision



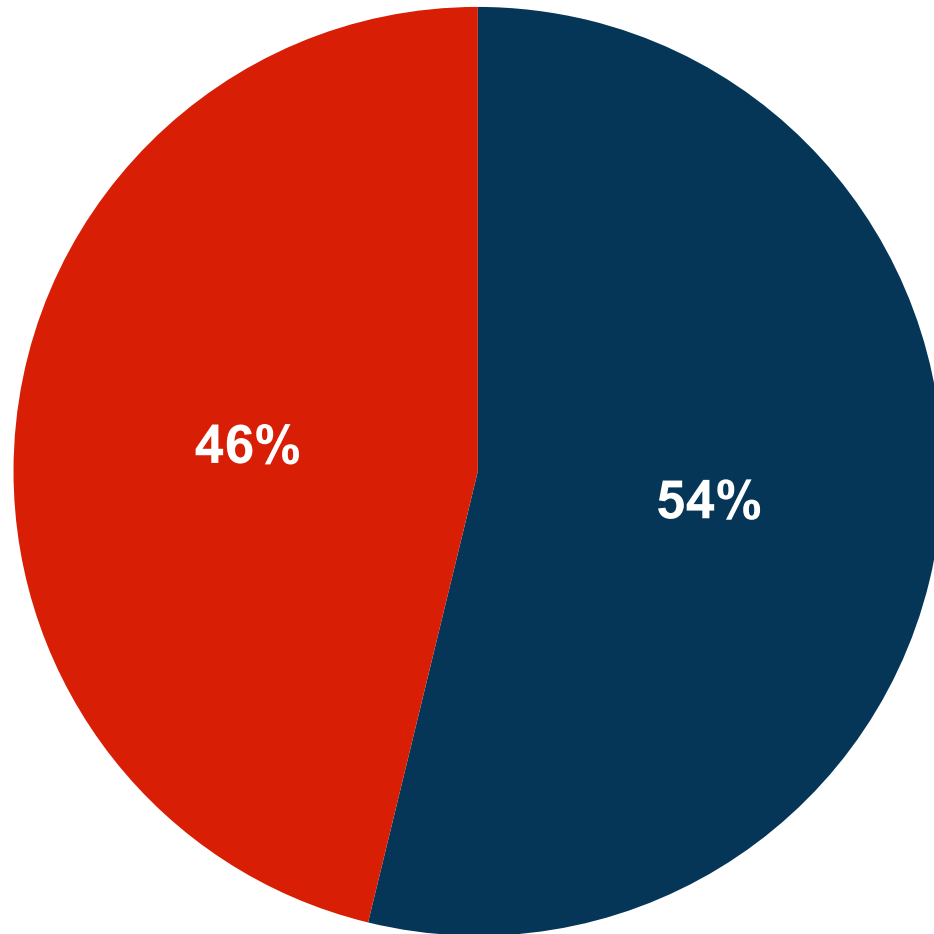
For people who care about responsible energy stewardship, Minnetonka will be their community of choice.

We will lead the metro in efficient energy management.

- Our buildings will be examples of the best approaches to using energy wisely.
- Minnetonka's residents will show that responsible resource management is a high priority here. We will support and celebrate community practices that ...
 - Improve our understanding of resource management
 - Reduce the impact that we have on limited resources
 - Let us enjoy the financial and health benefits of these activities



1. Does this vision statement accurately capture what should be included in our Energy Vision?



- Yes
- Yes, with minor modifications (please provide input in the comment box)

“What changes are needed to our Energy Vision statement for you to feel confident in approving it?”



- “Residents”
- “Buildings”
- “Sustainability”
- “Climate change”
- “Future generations”

I would go beyond just speaking about residents in the second bullet and change it to **community members** (including people that belong to businesses, non-profits, etc.)

The words **Our buildings is vague** to me. I think it should be more specific as to city owned or leased buildings, private sector manufacturing and administrative structures, institutions within the city, condos, apartment buildings, commercial structures, and residential homes.

Stronger language regarding environments sustainability and mitigating the effects of climate change (carbon emission reduction, renewable sources)

I believe that it should be noted that Minnetonka is a community that actively works towards mitigating climate change and **looking out for future generations.**

Our **homes and buildings** will be.....

I would like to see more specifics, or at least more specifics as an addendum to this vision, namely the creation of an energy buying credit union by the city that would allow citizens to buy into solar gardens ...

Minnetonka's Energy Vision



For people who care about responsible energy stewardship, Minnetonka will be their community of choice.

We will lead the metro in efficient energy management.

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



Goal Setting

Elements of a Well-Defined Goal



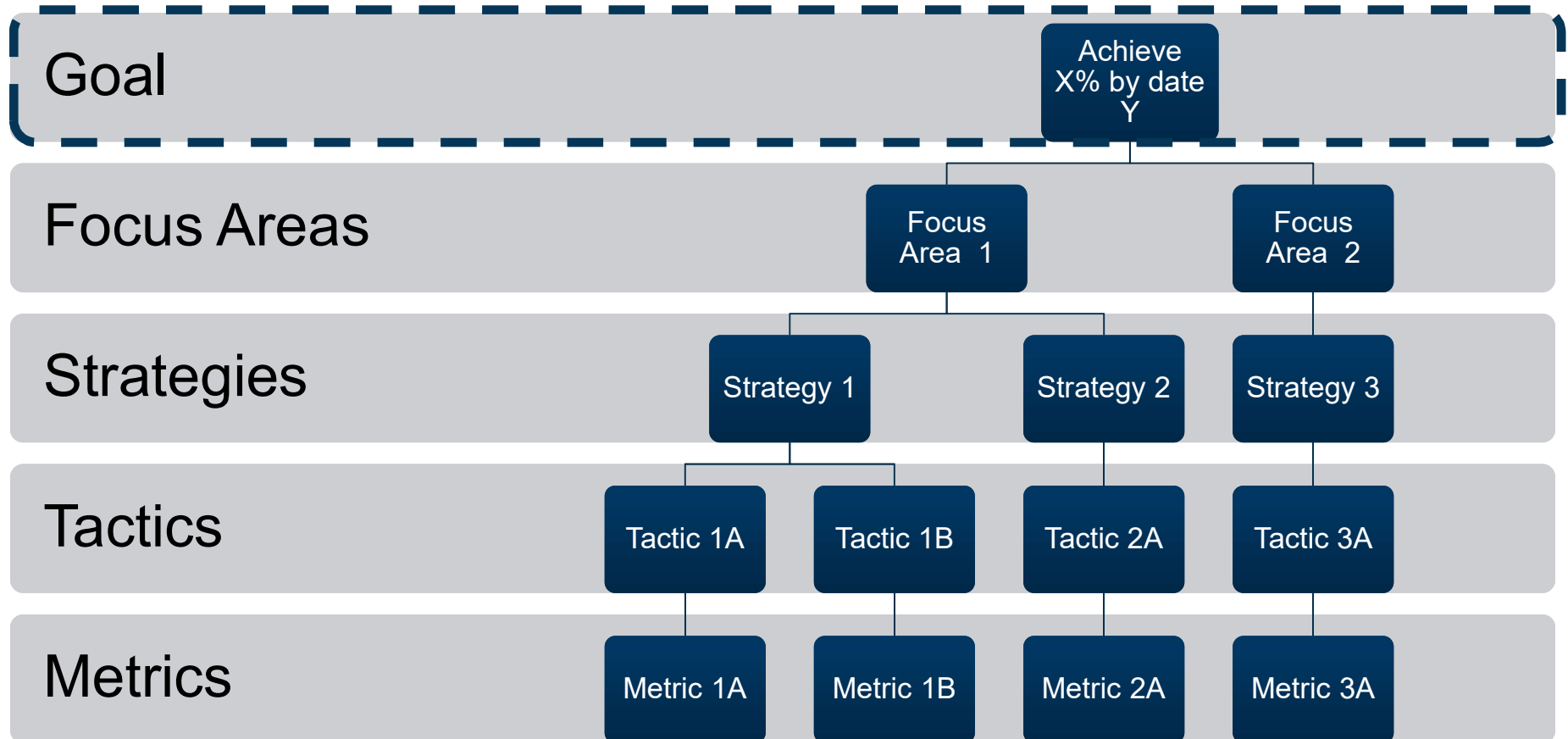
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- S Specific** Well defined, clear, and unambiguous
- M Measurable** With specific criteria that measure your progress towards the accomplishment of the goal
- A Achievable** Attainable and not impossible to achieve
- R Realistic** Within reach, realistic, and relevant to the vision
- T Time-bound** With a clearly defined timeline, including a starting date and a target date.
The purpose is to create urgency.



Energy Action Plan Structure

Vision: Community of Choice for Responsible Energy Stewardship



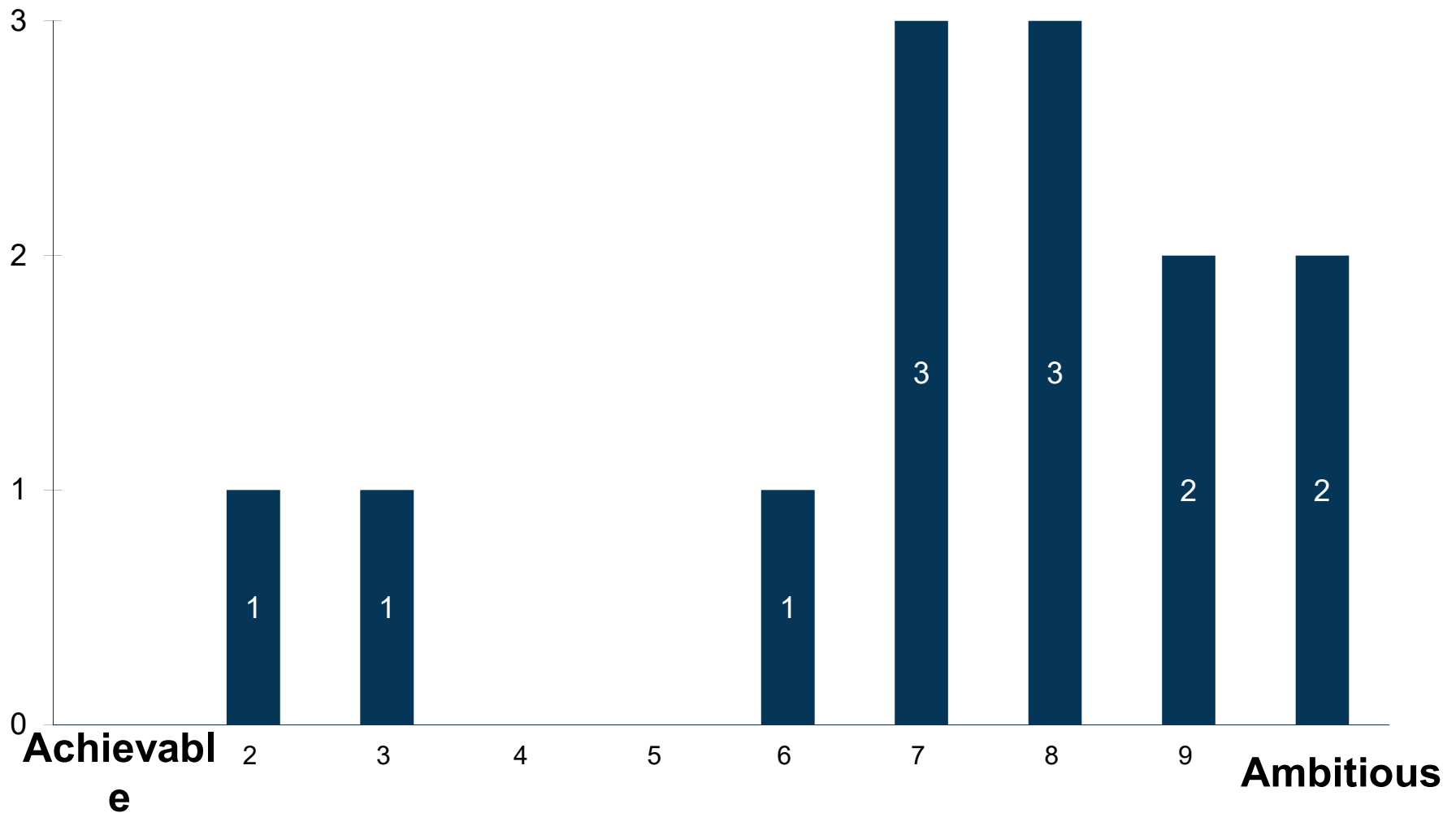
Goal Setting

1 AMBITION

How ambitious, or achievable, should goals be?



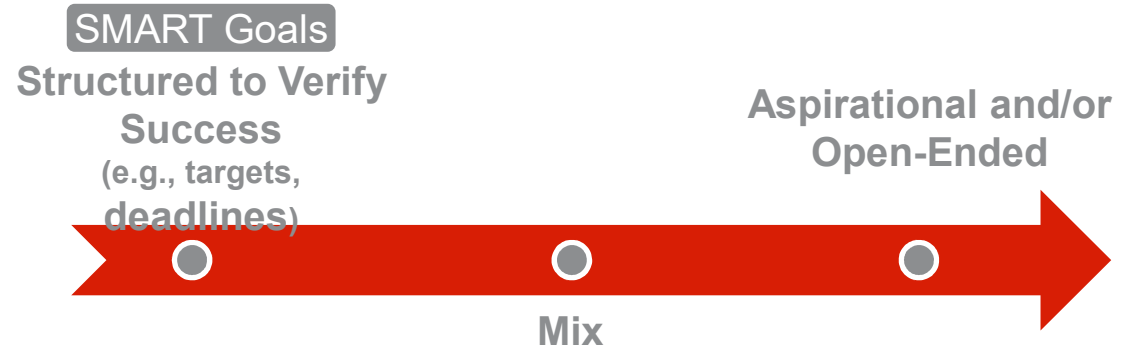
How ambitious, or achievable, should our energy goals be?



Goal Setting

2 STRUCTURE

What's the most appropriate goal structure?



Aiming for the most appropriate time horizon...

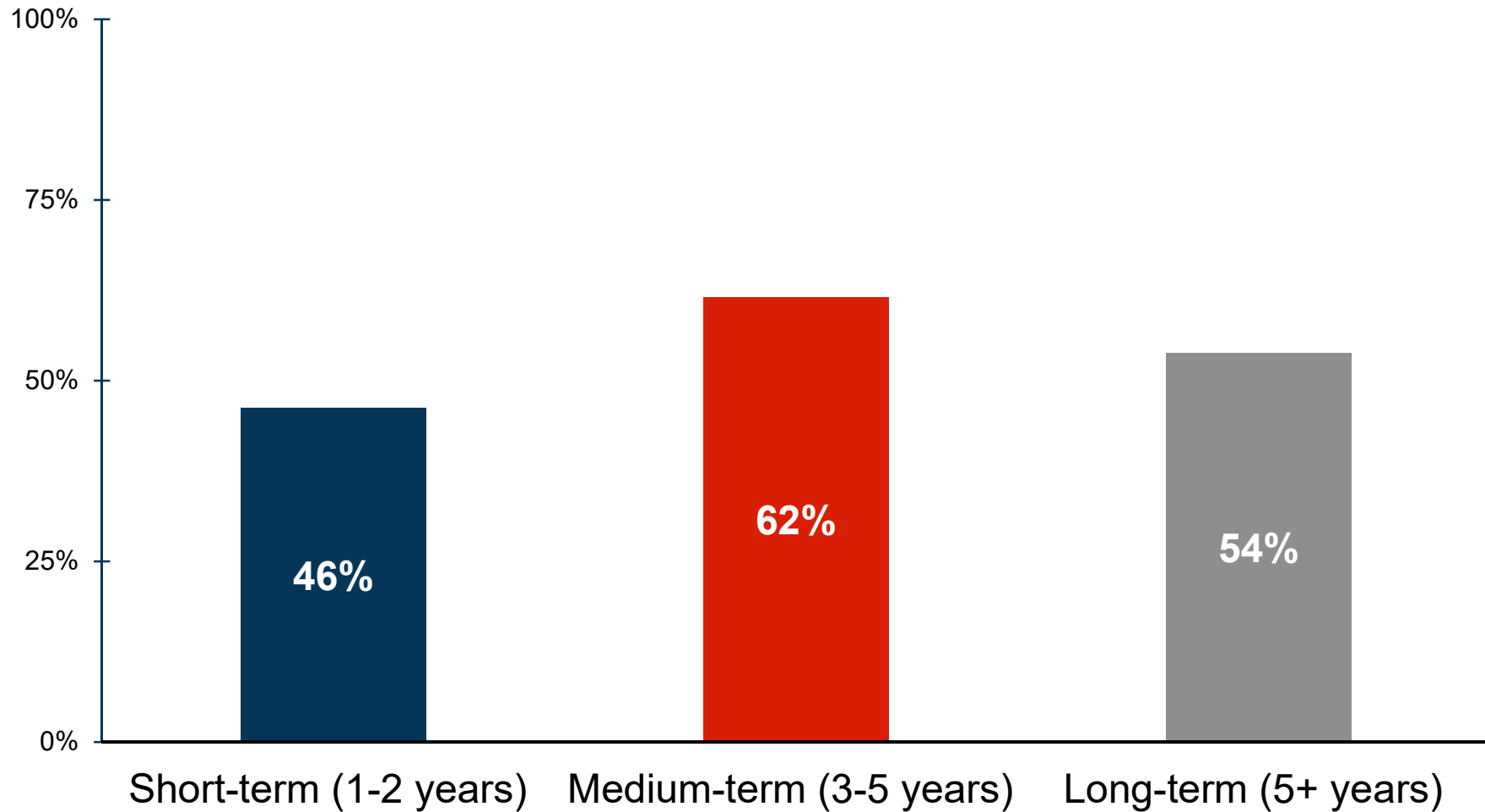


- Short Term:
 - Incremental goal achievement of 1-2 years
 - Implemented by the community
 - Direct support from *Partners in Energy*
- Long Term:
 - Goal achievement time horizon >5 years
 - More appropriate for aspirational goals
 - Implemented by the community

What makes sense for Minnetonka?



What is the most appropriate time horizon for our energy goals?



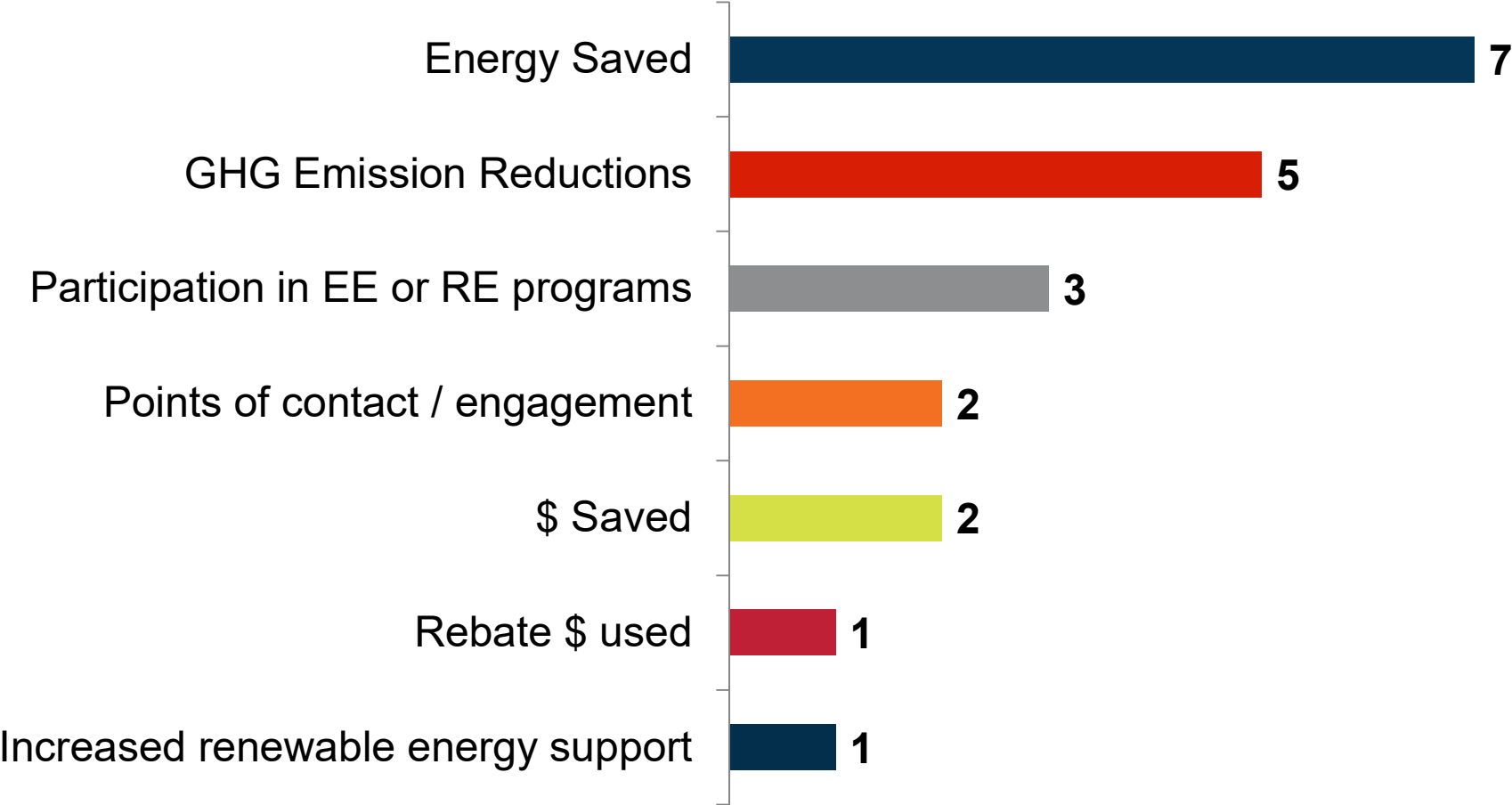
What metric best speaks to the community energy vision?



- Energy saved
- Dollars saved
- Rebate dollars utilized
- Greenhouse gas emissions reductions
- Participation in energy efficiency or renewable energy programs
- Increased renewable energy support
- Points of contact (engagement with residents, businesses)
- Multiple metrics needed



Results



Elements of a Well-defined Goal

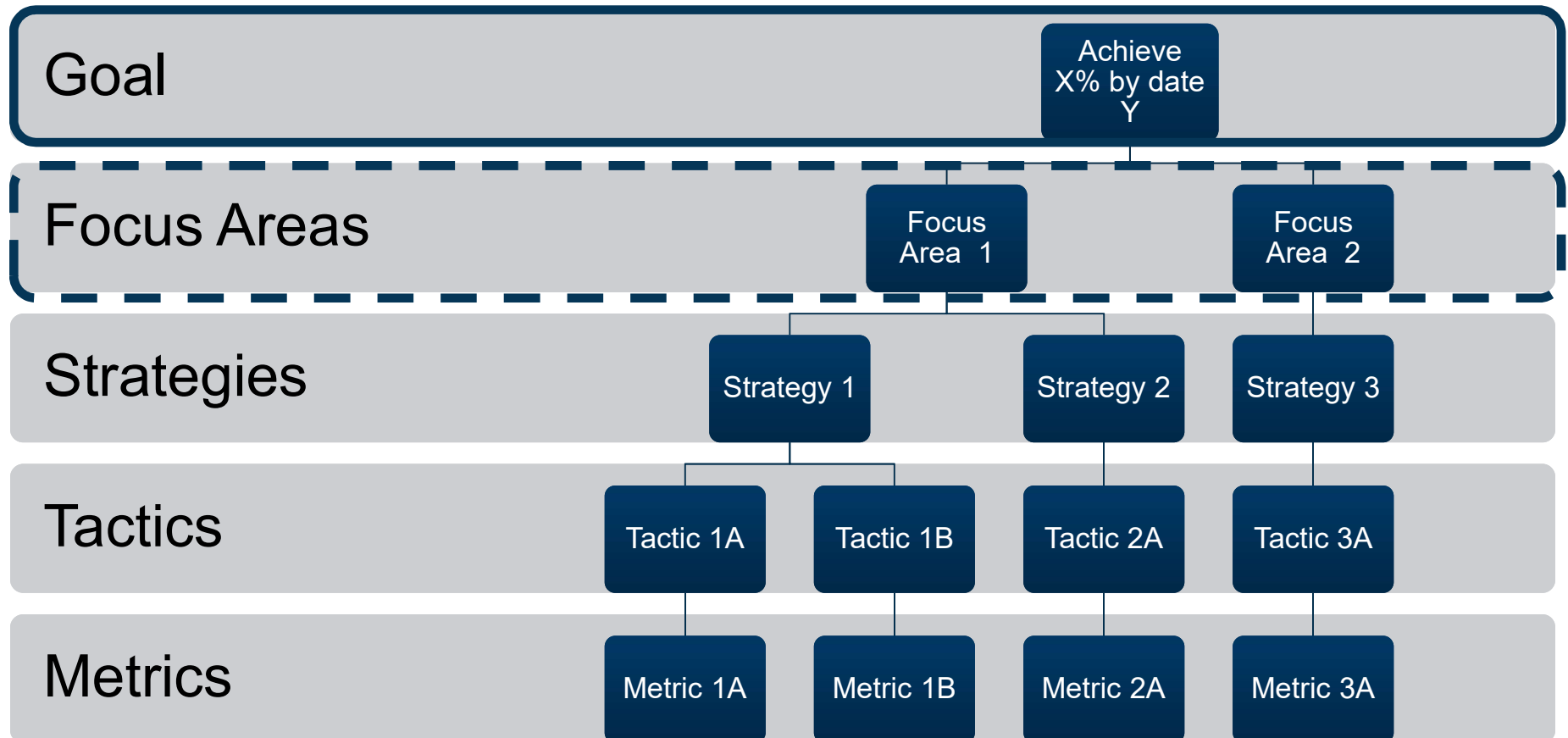
- S** **Specific** Well defined, clear, and unambiguous
- M** **Measurable** ✓ **GHG and / or energy savings data**
- A** **Achievable** Attainable and not impossible to achieve
- R** **Realistic** ✓ **Within reach, realistic, and relevant to the vision**
- T** **Time-bound** ✓ **Define short, medium and long-term targets**

BREAK

Focus Areas

Energy Action Plan Structure

Vision: Community of Choice for Responsible Energy Stewardship



Focus Areas

Large
Businesses

Resiliency
(Backup generation)

Residential
Energy
Efficiency

Small
Businesses

Homes Built
Before 1990

Renewable
Energy
(Subscription, solar,
exchange)

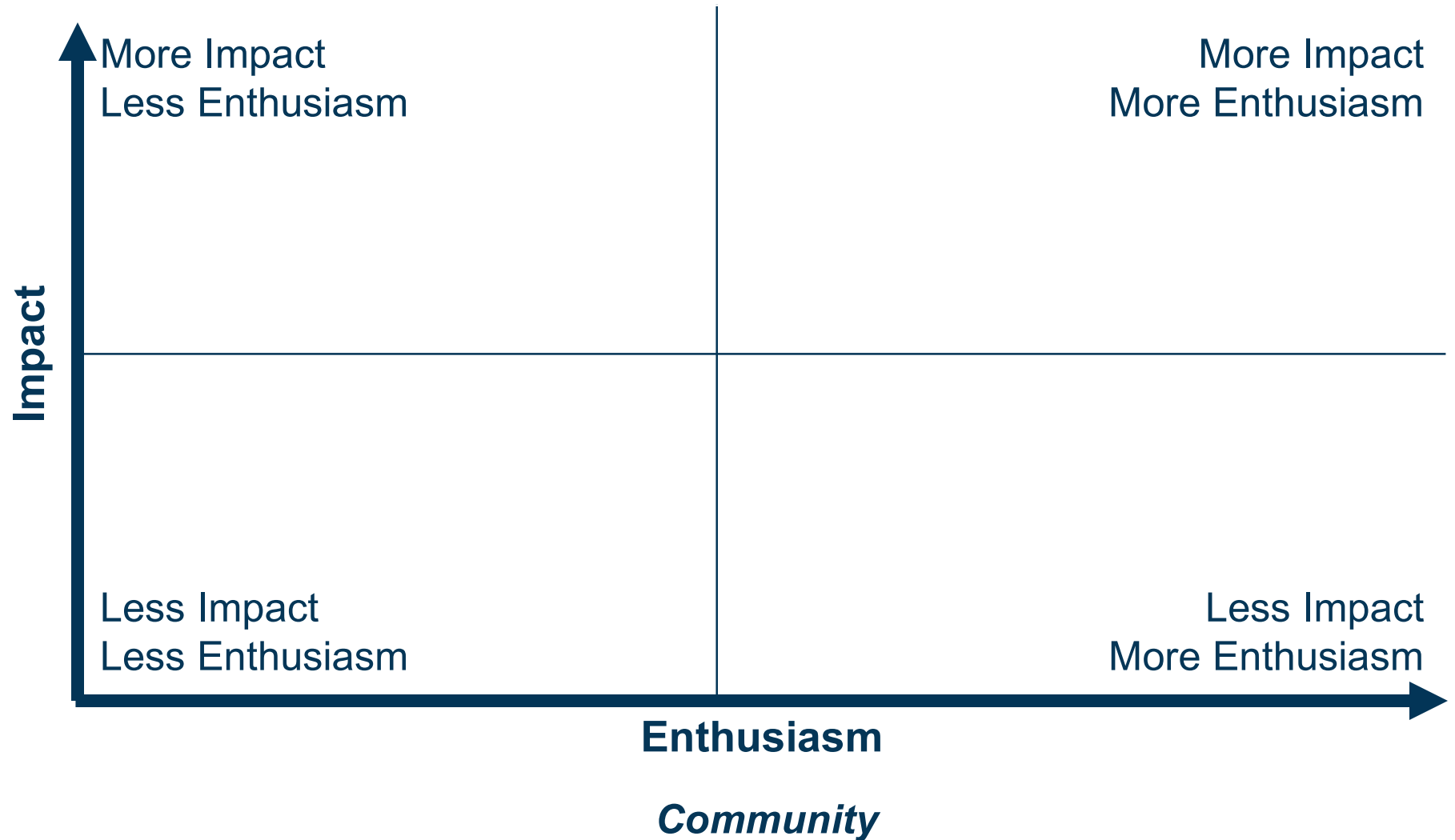
Institutions
(Schools, Municipal
Bldg's, Houses of
Worship)

Multi-family
Buildings

Electric
Vehicles

Are there any potential focus areas you believe are missing from the list above?

Prioritize Focus Areas



Workshop Dates



- Workshop 3: Wednesday, January 15
- Workshop 4: Wednesday, February 19
- Workshop 5: Wednesday, March 24



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