

North Mankato City Council Work Session
Monday, November 20, 2023
Presentation on climate action and the clean energy transition
by members of the executive board of the Southcentral Minnesota Clean
Energy Council (SMCEC)



1. Lou Schwartzkopf, emeritus professor of physics, Minnesota State University, Mankato – **the urgency of the climate crisis**
 - A. My View: Community must act now to zero net carbon, and Greenhouse gas emissions in Minnesota 2005-2020 Report Summary – **attachment**
 2. Jody Swanson, CPA and founder, Swanson Hinsch & Co. - **climate action economic opportunity: public-private partnership example**
 - B. City of Albert Lea Climate Action Plan - **attachment**
 3. Sabri Fair, Associate Planner, Region 9 Development Commission – **The importance of city leadership and planning**
 - C. Action plans in Minnesota: Winona, Winona State University, and the Morris model - **attachment**
 4. Leigh Pomeroy, executive board chair, Southcentral Minnesota Clean Energy Council – **Next steps**
5. Q & A

MANKATO FREE PRESS

EDITOR'S PICK

My View: Community must act now to zero net carbon

LOUIS SCHWARTZKOPF My View

May 26, 2023



Louis Schwartzkopf

Kudos to The Free Press for its May 16 editorial, in which it notes that the extreme weather in our region and the country this spring is another indication that our climate is changing and exhorts our policymakers to pick up the pace in fighting climate change.

Climate change isn't going away. The biggest driver is carbon dioxide in the atmosphere from burning fossil fuels. The more carbon dioxide we put into the atmosphere, the more violent and erratic our weather will be. Once the carbon dioxide is in the atmosphere, it stays there for centuries, until natural processes pull it out. This means that the weird weather we are having is already baked in for a long time to come and will only get worse, until we reduce our greenhouse gas emissions to zero.

There is some good news on this front. In January the Minnesota Pollution Control Agency submitted its biennial report tracking Minnesota's greenhouse gas emissions to the Legislature. The report shows a decline in emissions across all sectors of the economy of 23% from 2005 to 2020. It also shows that Minnesota is on track to meet its reduction goal of 30% by 2025.

This decline is due primarily to emissions reductions in the electricity generation sector of the economy. Since 2005, emissions from this sector have dropped by 54%, largely by shifting the production of electricity from coal to wind and solar.

Over half the electricity we use in Minnesota today comes from carbon-free sources. Building on this success, the Legislature this session passed the "100% clean electricity by 2040" bill, which became law upon the governor's signature. This law requires all utilities in Minnesota to meet the 100% goal.

Despite these advances, we still have a long way to go. Climate scientists tell us that we have to cut our emissions in half by 2030 and reduce them to zero by 2050 to reduce the worst effects of climate change. A strategy is taking shape nationally for the next steps: electrify everything.

At the same time that the utilities are moving down the path to 100% clean electricity, we must electrify the transportation sector by replacing gasoline- and diesel-powered cars and trucks with electric vehicles, and electrify residential and commercial buildings by replacing furnaces and boilers with heat pumps. Heat pumps efficiently heat buildings in the winter and cool them in the summer.

The challenge is that electrification means we'll need more electricity. Buildings will need to be made energy efficient, and the grid will have to be bolstered and made more resilient.

What can we do in the Greater Mankato area?

First, we must educate ourselves about electrification and the clean energy transition and be open to change. A good place to start is to watch the hourlong NOVA program "Chasing Carbon Zero" (available ~~on YouTube~~ at <https://www.pbs.org/video/chasing-carbon-zero-mzijvs/>), which shows how electrification is currently being deployed in the United States to get to net carbon zero.

Second, community leaders must come together and plan how best to move the deployment of electric vehicles and heat pumps. The envisioning project Greater Mankato 2040 is a good place to start.

Third, Mankato and other cities in the region must plan the infrastructure for electric vehicle charging stations and set up policies promoting heat pumps. Additional city staff will be necessary for this work, and city councils will need to support funding for them.

This will be a huge undertaking, but we have no choice. We should look at electrification, efficiency and infrastructure as an enormous opportunity for area businesses and workers that will directly benefit the local economy.

Failure to act condemns our children and grandchildren to life on an increasingly inhospitable Earth of excess heat and catastrophic weather events for centuries to come. We owe it to them to move with all deliberate speed.

We have 27 years — a generation — to reach the 2050 goal. It's time to proceed down the path of electrification. With persistence, money and resources we can do this. But we need to start now.

Louis Schwartzkopf, Mankato, is a retired physics professor, a member of the executive board of the Southcentral Minnesota Clean Energy Council and the author of the Citywide Greenhouse Gas Inventory referenced on the Sustainability page of the city of Mankato website.

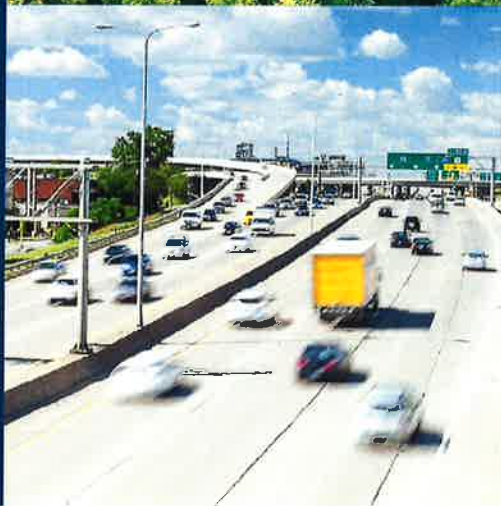
**REPORT TO THE
LEGISLATURE
JANUARY 2023**

Greenhouse gas emissions in Minnesota 2005-2020

Biennial report to the Legislature tracking the state's contribution to emissions contributing to climate change.



Pollution Control Agency
Department of Commerce



Progress and opportunities to address climate change

A summary of Minnesota's greenhouse gas emissions

Minnesota is on track to meet greenhouse gas reduction goals for the first time.

Efforts from individuals, businesses, and local governments as well as the COVID pandemic resulted in a sharp decline greenhouse gas (GHG) emissions in Minnesota. Minnesota's GHG emissions declined 23% between 2005 and 2020. If current trends continue, the state is on track to meet our goal of reducing emissions 30% by 2025. That goal was established in the bipartisan Next Generation Energy Act in 2007.

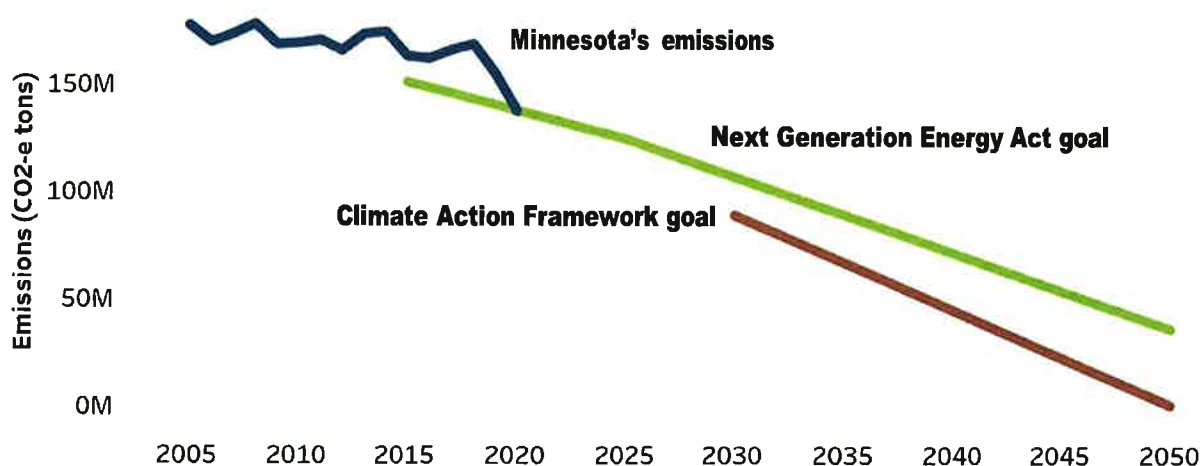
In 2022, Governor Tim Walz and Lt. Governor Peggy Flanagan rolled out Minnesota's Climate Action Framework that updates Minnesota's climate goals to reduce emissions 50% by 2030 and achieve net-zero emissions by 2050.



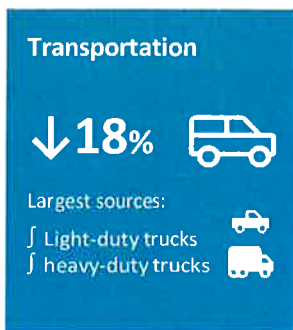
Decline in GHGs across all industry sectors 2005-2020

23%

GHG emissions 2005–2020 and goals from the Next Generation Energy Act and Climate Action Framework



GHG emissions by sector 2005-2020



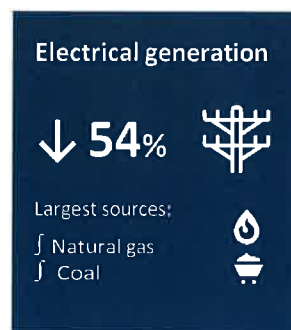
Transportation remains largest source of GHG emissions in Minnesota.

Transportation accounts for approximately 25% of the state's GHG emissions. While GHG emissions in the transportation sector have fallen 18% since 2005, most of that decrease is attributed to the reduction in aviation and vehicle usage during the pandemic.



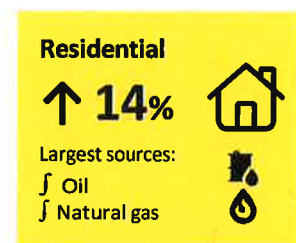
Forests continue to offset agriculture emissions through carbon sequestration.

This is important because the overall agriculture, forestry, and land use sector has become the second largest source of emissions as electrical generation emissions have declined. Emissions from manure and fertilizer use have increased since 2005.



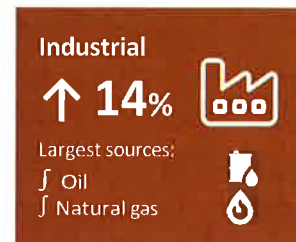
Electricity generation is a Minnesota success story.

Since 2005, emissions from the electricity generation sector have declined by 54%. The significant decrease is mainly a result of producing electricity from renewable sources like wind and solar instead of coal.



Emissions from homes and industrial facilities continue to rise.

Emissions from Minnesota's homes and industrial facilities have risen 14%, due to the continued use of oil and natural gas to heat and operate.



Our path forward: Minnesota's Climate Action Framework

The Minnesota's Climate Action Framework sets a vision for how our state will address and prepare for climate change. It identifies near-term actions we must take to achieve our long-term vision of a carbon-neutral, resilient, and equitable future for Minnesota.

The Framework is organized around six climate action goals with specific steps and progress measures to guide and evaluate our work.



Clean transportation



Climate-smart natural and working lands



Resilient communities



Clean energy and efficient buildings



Healthy lives and communities



Clean economy

Contact

Tom Johnson, Legislative Director
651-757-2031 Tom.E.Johnson@state.mn.us



City of Albert Lea Climate Action Plan

June 29, 2021

Prepared by:

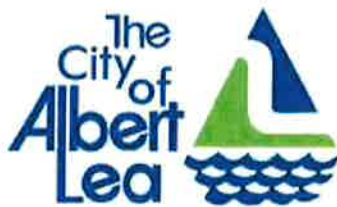


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Climate Vulnerability Assessment

Community Wide Solar Energy Potentials Study

Albert Lea's Future Climate

By 2050, Albert Lea's climate can be expected to be:



+3-5°F

warmer average annual temperature than now.



+10-15 more days

annually with a high temperature over 95°F.



+25% more

air conditioning demand and energy needed than now.



+5% higher

annual average rainfall than now.



+15% more

Heavy precipitation events annually.



+15-20 days longer

growing, allergy, and mosquito season.

The time is right for Albert Lea's first
Climate Action Plan.

Executive Summary

The City has been dedicated sustainability issues for many years, and its focus on these topics has become increasingly strong in recent years. In 2009, Albert Lea became a pilot Blue Zone Project community. The Blue Zone Project supports community transformation programs to increase sustainable healthy living community-wide.

In 2017, Albert Lea achieved “Step 3” in the GreenStep Cities program. Minnesota GreenStep Cities is a voluntary challenge, assistance and recognition program to help cities achieve their sustainability and quality-of-life goals.

In 2017, the City of Albert Lea was selected by the State of Minnesota to receive technical assistance in developing a Climate Vulnerability Assessment. The assessment was completed by paleBLUEdot in January 2018. In 2019, supported through a second grant by the State of Minnesota, the City of Albert Lea engaged paleBLUEdot for the development of a Climate Action Plan outlining strategies and actions to support achieving increased climate resilience as well as reductions in City of Albert Lea City-Wide emissions. This report plan is the result, developed in collaboration with the City’s Climate Action Planning Team.

Our Challenge

The complex systems that make up modern civilization result in stressors on the delicate balance of our ecosystems. The combustion of fossil fuels is warming earth’s atmosphere and changing our climate. Climate change is already affecting Albert Lea and its impacts are projected to become much more severe in the coming decades. These impacts also contribute to additional strain on vulnerable populations, social systems, and overall community resilience.

Our Opportunity

The impacts of cities represent a major sustainable development opportunity. Transformation of our energy system is essential in order to stop burning fossil fuels. This transition presents an opportunity for Albert Lea. Directing our energy investments into renewable sources will make them more resilient and provide for local job creation. Innovation, technology, and collective social change inherent in climate action can also support greater community abundance and shared equity.

The Process

The work that went into developing the Albert Lea Climate Action Plan

18 month
planning timeframe

18
planning team
members

2
foundational research
study documents



Executive Summary

GHG Emission Reduction Goal in State Context

The State of Minnesota has established state-wide greenhouse gas (GHG) reduction goals through 2050. Using a baseline year of 2005, the State's goals are to reduce total emissions by 80% by 2050 with a benchmark reduction of 30% by 2025. Through 2018, state-wide emissions have been reduced by 8%.

Our Climate Goals

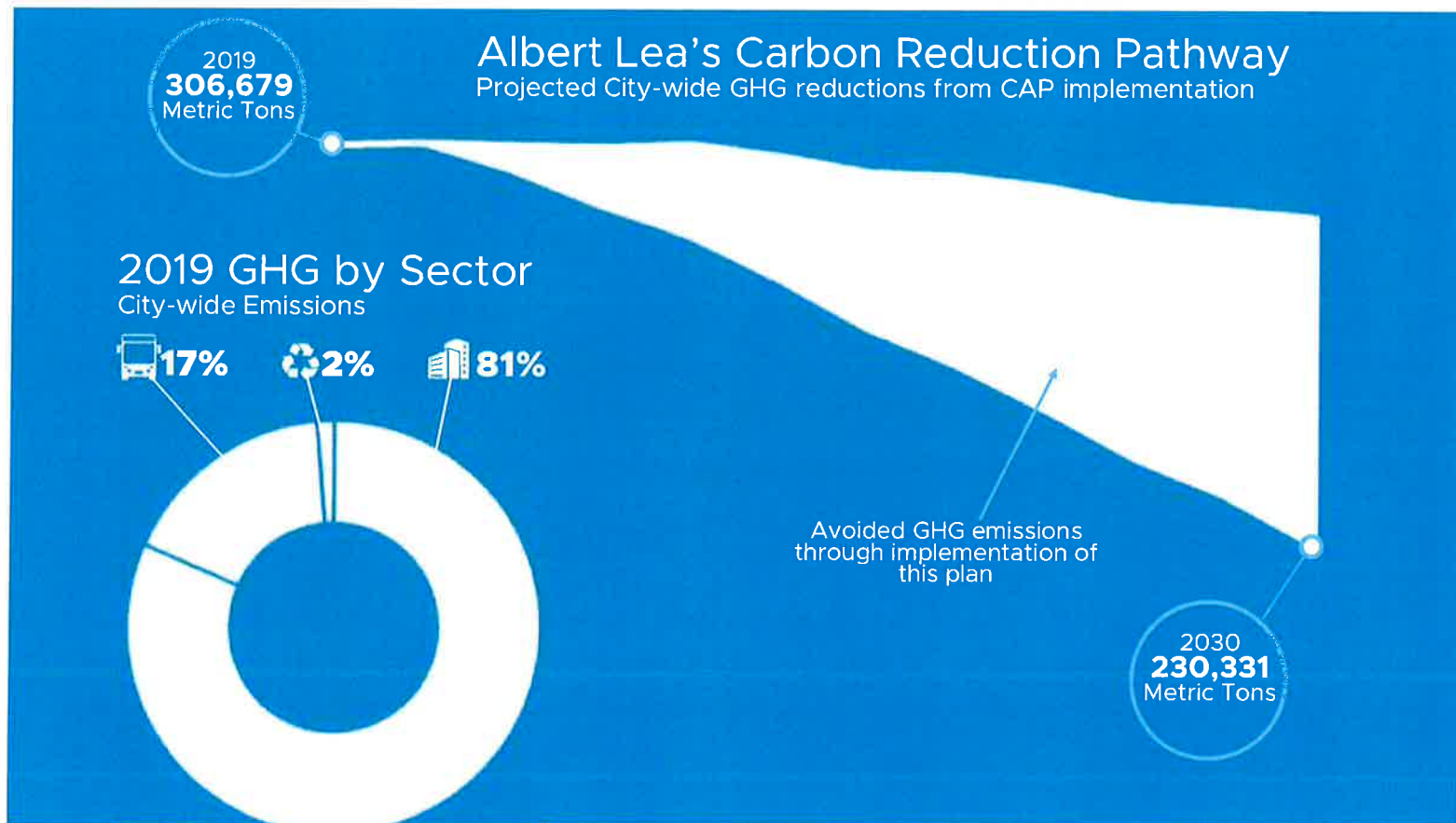
This Climate Action Plan includes a Climate Resilience Vision as well as a GHG reduction goal. These goals are designed to support and relate to the overall State of Minnesota goals and fit with current science based recommendations:

Albert Lea Climate Resilience Vision

To become a climate resilient community, making the social and economic transitions necessary to reduce city-wide greenhouse gas emissions while protecting Albert Lea's natural ecosystems, most vulnerable populations, and economic vitality against the increasing impacts of climate change.

Albert Lea GHG Reduction Goal

The City of Albert Lea's GHG emission reduction goals are to be compatible with the State of Minnesota GHG Emissions goals and shall target a reduction in City operations and community-wide emissions of 25% below 2019 levels by 2030 and 80% below 2019 levels by 2040.



Executive Summary

Climate Action Plan as Living Plan

This Climate Action Plan is intended as a “living plan” rather than a static document. This means that the implementation phase of this plan should be characterized by intermittent measurement of progress and plan adjustments. Plan adjustments should look towards increasing implementation goals for actions which illustrate success, modify goals for actions which may fall short of desired outcomes, and identifying additional action opportunities.

As a “living plan,” the 2030 emission reduction goal should be seen as a guiding constant and recognition should be given that initial implementation actions may not yet fully achieve plan goals. Intermittent plan progress measurements and adjustments should identify additional actions, or increases in action implementation targets as needed to meet the ultimate 2030 GHG reduction goal.

Next Steps and Implementation

This Albert Lea Climate Action Plan is only the beginning of an on-going process of evaluating and advancing the City’s climate resilience, GHG emissions reductions, and overall sustainability. The plan includes a Climate Action Implementation section providing a framework for launching, guiding, monitoring, and evaluating the execution of this plan. The implementation section outlines specific next steps, and important implementation considerations and recommendations. As details and outcomes are uncovered during the implementation phase, adjustments to quantitative goals, milestones, and detailed actions will be made responsively.

The Plan

The Albert Lea Climate Action Plan:

addresses **9 sectors**
of GHG emissions and
climate vulnerabilities

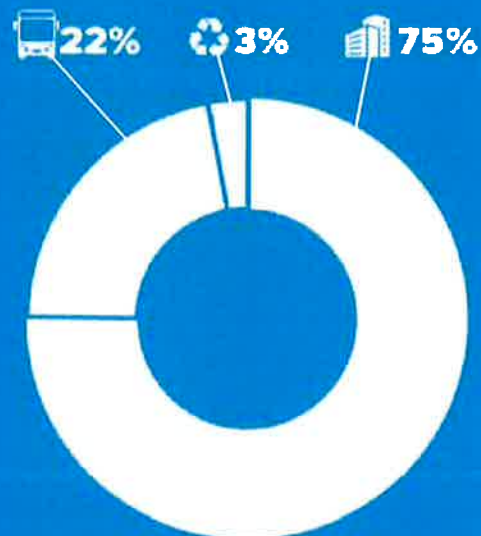
through **37 strategies**
addressing climate
goals

supported by **176 actions**
detailing steps to be
taken

during a **9 year**
implementation
timeframe

Reduction Share by Sector

Share of Total 2030 Reductions of
Climate Action Plan actions by Sector:



Acknowledgements

We are deeply grateful for the community collaboration and input that went into this plan. Below are some of the main contributors that made Albert Lea's first CAP possible:

City of Albert Lea Project Lead

Dalton Syverson City of Albert Lea Environmental Engineer

Mayor

Vern Rasmussen

City Council Members

Rich Murray, 1st Ward

Larry Baker, 2nd Ward

Jason Howland, 3rd Ward

Reid Olson, 4th Ward

Robert Rasmussen, 5th Ward

Al "Minnow" Brooks, 6th Ward

Community Climate Action Planning Team

JD Carlson	City of Albert Lea	Tom Jensen	Freeborn County
Mark Goskeson	Freeborn County	Philip Johnson	ALEDA
Joe Grossman	City of Albert Lea	Josh Karaus	POET Biorefining
Rich Hall	Freeborn County	Linda Lares	SEMCAC
Andy Henshel	Shell Rock River Watershed District (SRRWD)	Ian Rigg	City of Albert Lea
Jackie Hillman	Senior Resources of Freeborn County	Bryan Skogheim	Freeborn Mower Electric Coop
Eric Hunnicutt	REG	Dalton Syverson	City of Albert Lea
Brandon Huston	City of Albert Lea	Jen Vogt-Erickson	Resident of Albert Lea
Steven Jahnke	City of Albert Lea	Rachel Wehner	Freeborn County

Funding



Partial funding for this project was provided through a 2018 State of Minnesota Pollution Control Agency (MPCA) Environmental Assistance Grant supporting the climate adaptation planning portion of this plan.

Consultant Team



Climate Planning

Ted Redmond

Colleen Redmond



Alliance for Sustainability

Community Engagement

Consultant

Sean Gosiewski

Top Climate Actions

The following are likely the most impactful 15 actions and initiatives included in the Climate Action Plan. These actions represent a "Quick Start" sub-list of highly impactful actions for community-wide and municipal operations climate action. These actions are recommended for prioritized implementation over the next 1 to 3 years:

Community-Wide Quick Start Climate Actions



Strategy BE-1: Improve total Community wide residential, commercial, and industrial building energy efficiency by 8% Electricity and 8% Thermal Fuel by 2030.

BE-1-1 Work with Freeborn Mower Cooperative Services, Minnesota Energy Resources, and other partners to establish commercial energy efficiency audit and upgrade program similar Minnesota Chamber of Commerce's EnergySmart commercial energy savings program. Program could be integrated with the commercial waste audit service identified in Solid Waste action WM-1-1. Target: 24 commercial/industrial businesses per year with 10% electricity savings and 10% natural gas savings each. (<https://www.mnchamber.com/your-opportunity/energy-smart>)

BE-1-3 Work with Freeborn Mower Cooperative Services, Minnesota Energy Resources, and other partners to establish residential and multi-family energy efficiency audit and upgrade program similar to Xcel Energy's "Home Energy Squad Visits". Target 120 households per year (<https://www.homeenergysquad.net/>)



Strategy BE-4: Achieve 7% residential and 7% commercial and industrial building thermal "fuel switching" to reduce on-site fossil fuel use by 2030.

BE 4-1 Promote incentive programs for electrification. Work with Freeborn Mower or other regional partnerships to create financial incentives to electrify new and existing buildings. For example, rebates for panel upgrades, electric appliances, Air Source Heat Pumps, and Ground Source Heat Pumps can encourage the transition to electric energy use in homes and businesses. Goal: Target 10% residential market conversion (75 households annually) and 5% commercial/industrial market conversion (an estimated 10 commercial businesses, 10 industrial businesses annually) by 2030. Resource: <https://fmec.coop/rebates>



Strategy BE-5: Increase on-site distributed renewable energy to 5% of Residential and Commercial electric use by 2030.

BE-5-1 Establish a policy which requires all new construction and significant renovation projects for City facilities to be constructed to meet "Solar Ready" requirements and to include a solar feasibility assessment and project option for inclusion of on-site solar, include "Return on Investment" assessment, and incorporate solar where return is favorable.

BE-5-3 Coordinate and promote a commercial Solar Group Purchase Campaign annually to help reduce the costs of solar installation through volume purchasing power (goal, 600KW installed annually). Group purchase campaign could include/focus on properties identified in the "Solar Top 30" assessment effort. Program design to explore strategies to support local small business solar installers and strategies to support local workforce development in coordination with Riverland Community College.



Strategy TL-1: Decrease community wide VMT by 5% by 2030.

TL-1-2 Conduct a Complete Streets Status and Quality Assessment to provide a comprehensive review of the coverage, quality, and opportunities of complete streets in the community. Study to identify needs to accelerate bike paths, building sidewalks, crosswalks, and other walking infrastructure, particularly in high-need areas and areas serving vulnerable populations. Create an implementation plan establishing annual increases in the total miles of sidewalks, on-road bicycle lanes and multi-use paths.



Strategy TL-3: Increase battery electric vehicle (BEV) utilization to 20% of community wide rolling stock (from approximately 3,200 vehicles community-wide).

TL-3-1 Create a citywide EV Roadmap. Plan should create citywide and city facility electric vehicle (EV) charging station study and masterplan to map existing infrastructure, determine the current and future demand for EV charging stations, Establish public EV parking regulation, and to identify options for increasing number of electric charging stations in public parking areas and in commercial and high-density residential areas. Plan should include implementation strategies to meet citywide EV charging demand and promote adoption of EVs within the community.



Top Climate Actions

City Operations Quick Start Climate Actions



Strategy BE-1: Improve total Community wide residential, commercial, and industrial building energy efficiency by 8% Electricity and 8% Thermal Fuel by 2030.

- BE-1-2 Conduct a City Facilities Energy Audit on all buildings within the next 3 years. Use results from City Facilities Energy Audit to prioritize City Facilities Capital Improvement Plans (CIPS) and maintenance improvements. Goal: Reduce City of Albert Lea facility energy consumption by 10%.

- BE-1-4 Convert all City streetlights and signals to LED by 2030.



Strategy BE-3: Achieve 10 ENERGY STAR certified new or renovated commercial buildings within the community by 2030.

- BE-3-1 Establish a policy to require all primary City facilities to benchmark (using ENERGY STAR Portfolio Manager or B3 Benchmarking) and disclose annual energy consumption. Invite County, School District, and other public agencies located within the City to participate in City's facilities benchmarking and disclosure effort.



Strategy BE-4: Achieve 7% residential and 7% commercial and industrial building thermal "fuel switching" to reduce on-site fossil fuel use by 2030.

- BE 4-2 Work with regional energy partnerships to develop and implement an Electrification Action Plan for all City facilities. Include new and existing buildings, incorporate strategies to address electricity storage, and focus on highlighting any hurdles or solutions that would be applicable to the broader community



Strategy TL-3: Increase battery electric vehicle (BEV) utilization to 20% of community wide rolling stock (approximately 3,200 vehicles community-wide).

- TL-3-2 Conduct a Fleet and Equipment Use and Operations Assessment to analyze city fleet and equipment use and to provide a guide for the right vehicle/equipment for City functions, with a focus on advancing EV and high fuel efficiency features (like auto-off). Assessment to identify most economical ways of operating which minimize emissions and fuel consumption (i.e. mowing patterns and schedules, street plowing efficiency study, policy patrol efficiency study, etc)

- TL-3-3 Update City vehicle purchasing policy/budget process to default to EV and non-fossil fuel alternatives with traditional internal combustion engine (ICE) as optional requiring proof of need. For ICE vehicle options, establish minimum fuel efficiency requirements. Focus on small vehicles as well as large vehicles for alternative fuels. EV replacement to be prioritized for high mileage vehicles. Goal: Achieve 50% EVs within City Fleet by 2030.



Strategy W-3: Mitigate the projected increased flood hazards and impacts due to climate change.

- W-3-1 Establish a Storm Water Infiltration Plan identifying priority areas and strategies for improved infiltration of storm water to minimize storm water volumes requiring handling while increasing water aquifer recharging. Strategies to focus on reduction of impervious surfaces, increase of permeable surfaces, trees, bio swales, rain barrels, rain gardens, compost, mulch, etc. Coordinate and integrate Plan with city's Citywide Heat Island Impact Study (see Buildings and Energy actions)



Strategy CE-4: Establish sustainable financing for the City's climate action implementation.

- CE-4-1 Establish a policy that savings generated by energy efficiency measures and renewable energy installations/agreements for City facilities and operations shall be used as a fund to support future energy efficiency and renewable energy projects in support of the CAP goals.

An Energy Action Plan for **Winona**



October 6, 2017

Executive Summary

Winona has set a bold goal of carbon neutrality by 2050. This Energy Action Plan represents an important first step that will ultimately lead to an estimated 34 percent reduction in the city's energy-related greenhouse gas emissions.

Winona is a unique community that stands out as a regional leader in taking action to both reduce energy bills and substantially decrease carbon emissions. Accomplishing the goals outlined in this plan will require proactive action by both residents and businesses in the community, and it will not happen without the support and engagement of a myriad of community groups and individuals.

In releasing this plan, the Energy Action Team hopes to spur interest and motivation among community and business leaders. There has been significant effort over the last two years to build momentum around energy and its relationship to climate change. The goals and strategies outlined in this plan will accelerate that momentum and generate some important and tangible results.

Our Vision

Winona will be a leader in efforts to reduce energy consumption and produce renewable energy, in pursuit of long-term environmental sustainability and reducing our carbon footprint. These efforts will be available to all, will maintain our high quality of life and vibrant economy, and will not limit growth.

Our Goals

The City of Winona aims to:

- Reduce energy use 10 percent over a 2016 baseline by 2025
- Achieve a 100 percent reduction in energy-related greenhouse emission (carbon neutrality) by 2050



Images from downtown Winona

How Will We Get There?

To achieve these results, Winona outlined a set of goals and strategies in four focus areas:

Residential Energy	Goals: <ul style="list-style-type: none">• Double annual participation in conservation programs.• Double the average number of renewable energy subscribers and double the average monthly subscription amount within one year.
Institutions	Goals: <ul style="list-style-type: none">• Reduce institutional energy use by 15 percent below a 2016 baseline by 2025.• Engage Winona institutions to support renewable energy development equal to 10 percent of their energy use by 2030.
Large Commercial/Industrial Energy Users	Goals: <ul style="list-style-type: none">• Engage 90 percent of large commercial/industrial customers to participate in at least one conservation program within three years.• Ensure at least three large commercial/industrial customers commit to adding on-site renewable energy generation within three years.
Small- and Medium-Size Businesses	Goals: <ul style="list-style-type: none">• Engage at least 40 small/medium size businesses to participate in conservation programs annually.• Double annual energy use reductions among small/medium businesses.• Ensure at least one small business subscribes to or installs renewable energy generation annually.

Starting in the fall of 2017, Winona will begin the process of implementing this Energy Action Plan. Xcel Energy's Partners in Energy will work with Winona for the first 18 months, providing marketing, project management, technical, and data tracking support. Key players from the City of Winona and the Energy Action Team will play an important role in implementing the plan, and the City will also seek community volunteers to help with outreach and community engagement. Interested individuals should contact John Howard, Natural Resources and Sustainability Coordinator, at jhoward@ci.winona.mn.us, or at 507-457-8273.

Introduction

Winona is a unique community that prides itself on its high quality of life and connection to its surrounding natural environment. Winona is already a regional leader in arts, culture, and education, and is a hub for industry. In developing and implementing this Energy Action Plan, Winona also stands out as a leader in its efforts to reduce energy use and substantially decrease carbon emissions.

Winona has set a bold goal of carbon neutrality by 2050. Achieving this goal will require increased energy efficiency and renewable energy generation, as well as substantial changes in transportation-related emissions and actions to offset any remaining carbon emissions. This Energy Action Plan represents an important first step down a path that will ultimately lead to an estimated 34 percent reduction in the city's energy-related greenhouse gas emissions.

Accomplishing the goals outlined in this plan will require pro-active action by both residents and businesses in the community, and it will not take place without the support and engagement of numerous individuals and community groups. In adopting this plan, Winona hopes to spur interest and motivation among community and business leaders and build on momentum generated by previous and current efforts. The goals and strategies outlined in this plan will accelerate that momentum and generate some important and tangible results.

Winona Values and Assets

The Energy Action Team was asked to list two things — the values they feel are most representative of the community and the community's greatest assets.

Values	<ul style="list-style-type: none">• Appreciative of the natural landscape (i.e. river, bluffs, lakes)• Strong commitment to local food• High quality of life• Sense of frugality• Community engagement
Assets	<ul style="list-style-type: none">• Access to diversity of educational and employment opportunities• Great schools• Diverse economy (i.e. hub for arts, education, industry, transportation)• Low cost of living• Community engagement• Farmers markets and local food• Multiple outdoor recreational opportunities that have a regional and local draw• Lake Winona and the Healthy Lake Winona group• People willing to take action and invest time and energy to make improvements• Lots of manufacturing and a large, diverse industrial base



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Leading Energy Savings & Sustainability

LESS is truly more with the Leading Energy Savings & Sustainability initiative.

This project is part of what makes WSU the most energy efficient university in the Minnesota State System.

WSU successfully implemented a \$12 million campus-wide paid from savings energy conservation project that:

- dramatically improves campus energy and water efficiency
- addressed \$7.5 million in deferred maintenance
- reduces WSU's environmental impact
- improves educational experiences
- increases comfort and improves aesthetics

- will save \$26 million over the project's lifetime

This project also features the largest solar energy system on any Minnesota State campus.

Project Impact

The LESS project modernizes and improves facilities and removes \$7.5 million of deferred maintenance from the facilities project backlog as a result.

It also reduces maintenance expenditures with \$26 million cumulative savings anticipated over the 25-year project lifespan.



23.8%

Utility Cost Savings

25.4%

Annual Carbon Emissions Reduction



16.4%

Water Savings in Gallons



This project made significant changes that affect nearly every part of campus. The profound impact is due to these renovations.



Community Benefits

This project not only has benefits for our environment, but also our campus and local community.

It improves finances, learning opportunities, and even community job opportunities.

- Largest Guaranteed Energy Savings Program project in the 9-year history of the program
- Largest Minnesota State campus solar project at 1.4 MW
- First rooftop solar variance on a Minnesota State campus
- Makes WSU the most efficient Minnesota State university on a cost/square foot basis
- Construction provides jobs that contribute money back to the community, with preference toward hiring construction businesses owned by women, veterans, and people of minority populations
- Solar provides interdisciplinary learning opportunities



Financing Strategy

Project financed on a paid-from-savings basis through a lease purchase agreement. These annual lease payments are structured to be less than the annual guaranteed savings.

There is no cash down for WSU. Plus, the project contractor guarantees annual savings and is responsible for any shortfall— meaning there is no risk to WSU.

The self-funding timeframe is 18 years, and all savings go to WSU after this point.

10 Energy & Sustainability Areas of Impact

Interior & Exterior Lighting





MORRIS IS A SMALL MINNESOTA TOWN WITH BIG CLIMATE GOALS

By: Dan Gunderson, Morris, Minn., August 29, 2023



Morris, Minn., mayor Kevin Wohlers and recently retired city manager Blaine Hill stand outside the community center. Dan Gunderson | MPR News

Morris, Minn., is a small town in western Minnesota with big clean energy goals.

By 2030 the town aims to produce 80 percent of the energy it consumes from

renewable sources and reduce energy use by 30 percent.

What started with LED lights and an international sister city program in 2015 has become an all out sustainability effort unique enough to garner national accolades.

Recently retired city manager Blaine Hill said a light went on for him when Morris joined the Climate-Smart Municipalities project and was paired with the German town of Saerbeck.

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Who We Are

Region Nine Development Commission strives to promote the development of the region through intergovernmental cooperation, community and

"We had pretty cheap electricity, and we had pretty cheap fuel for our vehicles," recalls Hill. "And we got to see a small little community in Germany that didn't have that."

Hill started thinking about the great solar and wind energy potential in Morris. He started bringing sustainability ideas like LED streetlights to the city council, but there was no grand plan at the time.

"It came back down to sensible reasonable kinds of things that you could take a look at and say, 'Yeah, we could try to do that, that makes sense,'" said Hill.

Sustainability quickly gathered momentum as Hill learned more about resources available for planning and specific projects. In addition to clean energy, the city aims to stop sending waste to landfills by 2025.

The city joined forces with the University of Minnesota Morris, Stevens County, Morris schools and other partners to create the Morris Model.

In 2018 a brainstorming meeting resulted in 100 sustainability projects from renewable energy to composting food waste.

"And I still remember people going 'Well, that's not gonna happen, you know, that's not gonna happen,'" recalls Hill. "And yet they happened."

human development, long-range planning and technical assistance. [Learn more](#)



Morris sustainability coordinator Griffin Peck stands next to a recently installed sign part of a walking tour through downtown explaining the Morris Model. Dan Gunderson |

MPR News

About half of the 100 projects are complete or in progress. The initiative was recently recognized by the U.S. Department of Energy Energizing Rural Communities competition.

Sustainability coordinator Griffin Peck loves to show off some of the highly visible projects. City hall, the community center, the library and the municipal liquor store are all powered by rooftop solar panels. The library is heated and cooled by a geothermal system.

Peck is the first sustainability coordinator in Morris. He's been on the job just over a year.

He envisions a micro grid with battery storage so public buildings can function off the grid in emergencies.

But he will need to find the resources to make that happen.

"Sustainability isn't a one size fits all model. And different models are going to work for different communities in different climate zones," said Peck of the approach Morris takes to clean energy. "We're a town of 5,000 in a county of 10,000. So a lot of the cities that are doing these projects are much larger, and have a lot more resources than we do."



Southcentral Minnesota Clean Energy Council (SMCEC)



Background Information

The Southcentral Minnesota Clean Energy Council (SMCEC) is a dedicated group of citizens who share a passionate interest in renewable energy, energy efficiency and climate change.

Our purpose

The Southcentral Minnesota Clean Energy Council promotes sustainability by helping the clean energy transition move forward in southern Minnesota.

What we do

The Southcentral Minnesota Clean Energy Council pursues opportunities to promote energy saving technologies, the renewable energy industry, and the use of clean energy in southern Minnesota. We share resources and information with local stakeholders, including citizens, businesses, governments and nonprofits by holding monthly forums on topics of interest to the community. Renewable energy and energy efficiency offer opportunities for diversifying the regional economy and strengthening local communities by creating quality, high-paying jobs in the region, lessening reliance on outside energy sources, and limiting greenhouse gas emissions that contribute to climate change.