City of Falcon Heights
Environment Commission

City Hall
2077 Larpenteur Avenue West

AGENDA

Monday, January 12, 2026
6:30 p.m.

A. CALL TO ORDER: 6:30 p.m.

B. ROLL CALL:

Beth Mercer-Taylor (Chair) ____	David Smith ____
John Pellegrini (Vice-Chair) ____	Nuz Sanidad ____
Adam Keester ____	VACANT ____
Monika Chandler ____	

Staff Liaison Lynch ____
Council Liaison VACANT ____

C. APPROVAL OF AGENDA

D. APPROVAL OF MINUTES
1. December 8, 2025

E. NEW BUSINESS
1. Review of Officer Positions and 2026 Officer Elections
2. Adoption of the Standing Rules
3. 2026 Environment Commission Schedule, Goals, and Priorities
4. Climate Action Plan and Energy Action Plan Review

F. INFORMATION AND ANNOUNCEMENTS
1. Staff Liaison Report

G. ADJOURN

Next regular meeting date: February 9, 2026

City of Falcon Heights
Environment Commission

City Hall
2077 Larpenteur Avenue West

Minutes

Monday, December 8, 2025
6:30 p.m.

A. CALL TO ORDER: 6:30 p.m.

B. ROLL CALL:

Beth Mercer-Taylor (Chair) _X_	Georgiana May _X_
John Pellegrini (Vice-Chair) _X_	David Smith _X_
Adam Keester _X_	Nuz Sanidad _X_
Monika Chandler _X_	
Staff Liaison Lynch _X_	
Council Liaison Mielke _X_	

C. APPROVAL OF AGENDA
Commissioner May made a motion to approve the agenda, seconded by Commissioner Keester. Motion passed by consent.

D. APPROVAL OF MINUTES
1. November 10, 2025
Commissioner Chandler made a motion to approve the November 10, 2025 minutes, seconded by Vice-Chair Pellegrini. Motion passed by consent.

E. NEW BUSINESS
1. Sustainability Fair Updates
Staff Liaison Lynch advised the Commission that the Sustainability Fair will be held on April 18, 2026 at Falcon Heights City Hall in partnership with the City of Lauderdale Environment Commission. She stated the format would be very similar to the 2025 Sustainability Fair with electronics recycling, paper shredding, and hopefully textiles recycling. She asked for suggestions on potential organizations to table at the Sustainability Fair. Suggestions included Xcel Energy, MN Seed, UMN (with apples), Active Living Ramsey County, the Nature Conservancy, Sierra Club, Wild Ones, Ramsey County Urban Agriculture, Terra Market, UMN Climate Adaptation Partnership, and Sustainable Resources Center (with an induction stove). She also asked if presentations were wanted again in 2026, but that it would likely only be two instead of three. Finally, there were suggestions from Commissioners about holding a drawing for a rain barrel or compost bin. Staff Liaison Lynch stated she would begin to reach out to organizations about tabling and requested any further suggestions be sent to her by no later than January 2, 2026.

2. Standing Rules Review
   Staff Liaison Lynch briefly went over the standing rules for the Environment Commission and stated they would be approved at the January 2026 meeting. She asked Commissioners to review them and send her any potential changes prior to that meeting. A few suggestions were to edit the purpose and duties section to include transportation, discuss the implementation of the Energy Action Plan and Climate Action Plan, mention sustainability, and discuss sustainable land use.

3. Goal Setting for 2026
   Staff Liaison Lynch discussed goals for 2026. Commissioners stated a goal should be to review the Energy Action Plan and Climate Action Plan in January to assist with setting further goals for the year. Commissioners also discussed doing a "Salt for Sand Exchange," holding workshops around weatherization, providing incentives for certain sustainable home upgrades, looking to potentially have Public Works swap from gas-powered leaf blowers to electric leaf blowers, and work with the Parks and Recreation Commission on community gardens.

F. INFORMATION AND ANNOUNCEMENTS

1. Staff Liaison Report
   Staff Liaison Lynch reported the status of the Les Bolstad Golf Course sale. The RFP by the University closes on December 18, 2025, and the City of Falcon Heights will be hiring Bolton & Menk as a consultant to assist the City through the process of working with the developer/rezonings/community meetings/etc.

2. Council Liaison Report
   Council Liaison Mielke reported she had a Home Energy Squad Energy Audit completed recently and highly recommends everyone have one done. She learned through that process that an entire floor of her house is missing insulation.

G. Adjourn
   Commissioner Chandler made a motion to adjourn the meeting. Meeting was adjourned by consent at 8:00 p.m.

Next regular meeting date: January 12, 2025

ITEM FOR DISCUSSION

Meeting Date	January 12, 2026
Agenda Item	E-1
Attachment	N/A
Submitted By	Hannah B. Lynch, Community Development Coordinator / Planner

Item	2026 Environment Commission Officer Nominations
Description	The Environment Commission must nominate and elect officers for 2026. Descriptions of these positions are as follows: **Chairperson** Main contact between the commission and staff, conducts the meeting by opens/closes, calls for votes, and helps set the agenda for upcoming meetings. **Vice Chairperson** Fills duties in the Chair's absence and encouraged to work as a team and communicate needs with staff. **Secretary** Responsible for taking meeting minutes and sends to staff for review and approval at next meeting.
Budget Impact	None
Attachment(s)	None
Action(s) Requested	Staff recommends nominating and electing officers for 2026.

REQUEST FOR ACTION

Meeting Date	January 12, 2026
Agenda Item	E-2
Attachment	See below.
Submitted By	Hannah B. Lynch, Community Development Coordinator

Item	Adopt the Standing Rules
Description	The Commission must formally adopt the standing rules, which is a housekeeping item that is typically done at the beginning of each year. The Environment Commission last discussed the standing rules to better reflect the current purpose and duties of the commission on December 8, 2025. The Standing Rules, attached, were updated to reflect these changes. The commission should now view and discuss the proposed amendments to the standing rules before adopting them.
Budget Impact	N/A
Attachment(s)	• Environment Commission – Standing Rules (Revised) • Administrative Manual on City Commissioners • Sikkink's Seven Motion System
Action(s) Requested	Staff recommends approving the standing rules for 2026.

FALCON HEIGHTS ENVIRONMENT COMMISSION

STANDING RULES

January 12, 2026

PURPOSE & DUTIES

The purpose of the Environment Commission is to serve in an advisory capacity to the City Council on all policy matters relating to energy use, air quality, recreation and aesthetic appreciation, green infrastructure, water, solid waste, and environmental education.

The commission's duties and responsibilities shall be to:

1. Recommend community objectives and policy related to environmental concerns, including sustainability, green transportation, climate resilience, energy efficiency, and sustainable land use practices;

2. Plan and coordinate environmental and sustainability-focused events for the city, utilizing existing educational resources from governmental agencies, non-profit organizations, research bodies, or university and academic institutions to support implementation of the City's Energy Action Plan and Climate Action Plan;

3. Work with other city commissions to identify issues of common interest related to environmental stewardship, sustainable land use, transportation systems, and climate and energy goals;

4. Make recommendations regarding the handling of solid waste within the city in a manner that supports sustainability, waste reduction, and alignment with the City's Energy Action Plan and Climate Action Plan; and

5. Review all matters relating to or affecting the current and future handling of solid waste within the city, with consideration of long-term sustainability, climate impacts, and environmentally responsible land use.

MEMBERSHIP TERMS & ORGANIZATION

The commission may consist of up to seven (7) members, including one optional Youth Commissioner (excluding the Planning Commission). A majority of members must be Falcon Heights residents unless otherwise specified. Information on appointments, membership, and operations can be found within Section II, Commissions, of the City of Falcon Heights Administrative Manual.

The term of office for all commissioners shall be three years. No member shall serve more than two consecutive three-year terms.

All seven commissioners have one vote each and all can introduce motions. For purposes of leading the meeting, the chair, or in the absence of the chair, the vice-chair will be considered the chairperson. In the absence of the chair and vice-chair, the Commission shall name an acting chair for the duration of the meeting. The commission shall elect a chairperson from among its appointed members for a term of one year. The commission may create and fill other offices as determined necessary, also, with a term of one year.

RULES

I. Agenda

To be considered, an item must be on the agenda and the agenda must be distributed to all the commission members and any other persons having responsibility for an item at least three working days prior to the meeting. Distribution may be made by electronic media, including the city website. An agenda can be modified with addenda by a majority vote but this should be used only for minor items or items with extreme time constraints.

Since there may be an audience not familiar with each item, the chair, or person appointed by the chair, will give a brief explanation of each item as it is addressed.

The order of items on the agenda need not be followed absolutely. The chair may adjust the order in the interest of:

1. Filling in time before a scheduled item, i.e., a public hearing.

2. Grouping several items to best make use of consultant time.

3. Accommodating individuals who have attended the meeting specifically, to provide input on an item.

II. Process - Regular Commission Meetings

For these proceedings the commission will use the 'open discussion' procedure. That is, discussion is open to any member before or after a motion is made. This privilege is also extended to the Staff Liaison and any of the consultants who may have an interest in or can contribute to the item at hand.

At the discretion of the chair, this privilege is also extended to those members of the audience who wish to provide input. The chair may also rule out of order any input felt to be redundant, superfluous or irrelevant.

The chair can make liberal use of the "unanimous consent" procedure. That is, items that in the judgment of the chair are likely to be unanimously approved, can be introduced for approval with the statement "If there are no objections, ... stands approved (or denied)." If any commissioner has an objection, then the item reverts to the standard motion procedure.

This "unanimous consent" procedure cannot be used for items requiring formal votes, i.e. resolutions.

The standard motion procedure is changed to not require a second. A motion need only be made to be considered. This also applies to amendments.

To eliminate confusion, only one amendment will be considered at a time and that amendment must be germane to the motion. An amendment cannot itself be amended. If a change to an amendment is deemed appropriate, the amendment should be withdrawn and reintroduced accordingly.

The general mode of voting will be by acclamation but with enough clarity that the individual votes can be recorded in the minutes. If in doubt, the secretary can request a clarification.

If the commission action is the result of a resident request and that request is denied in whole or in part, reasons of fact supporting the denial will be made part of the public record.

No commission meeting will extend beyond 10:00 P.M. except by unanimous vote. This rule is not subject to the modification or suspension provisions of the Standing Rules.

The commission shall hold scheduled meetings, not less than one per calendar quarter.

ADOPTION/MODIFICATION/SUSPENSION

These rules, with the exception of the mandatory 10:00 P.M. adjournment, can be adopted, modified or suspended in whole or in part by a 3/4 vote of the commission. If suspended, they are automatically reinstated at the next meeting. Should they be suspended or a situation occurs that is not covered by the standing rules, Sikkink's Seven Motion System (attached) will apply.

ANNUAL REVIEW

These rules will be reviewed annually in January.

INTERPRETATION

The chair will interpret the rules. However, the chair's interpretation can be appealed by any commission member and can be overruled by a majority vote.

City of Falcon Heights Administrative Manual

Section II Commissions

Appointments, Membership, and Operations

I. Purpose

The purpose of this policy is to formalize the procedures and expectations for appointment, participation, and conduct of members serving on city commissions. Commissions serve as advisory bodies to the city council and are integral to public engagement and effective municipal governance.

II. General Policy

The City of Falcon Heights seeks to promote open and equitable access to public service through commissions, reflecting the city's diversity and encouraging citizen participation in governance. Commissioners provide insight, review policies, and make recommendations to the city council.

III. Commission Structure

A. Standing Commissions

The City Council has established the following standing commissions:

- Planning Commission
- Parks and Recreation Commission
- Community Engagement Commission
- Environment Commission

Additional ad-hoc committees may be created by the council as needed but are not covered under this section.

B. Membership

Each commission may consist of up to seven (7) members, including one optional Youth Commissioner (excluding the Planning Commission). A majority of members must be Falcon Heights residents unless otherwise specified.

IV. Appointment Process

A. Recruitment and Application

1. Vacancy notice: All vacancies are advertised for a period of at least 30 days with a post and end date stated. Vacancies are advertised through the city website, e-newsletter, and

may also be advertised on social media. Applications received after the stated end date shall not be considered.
2. Term vacancies: Openings can be advertised starting 30 days prior to the end of a commissioner's second term.
3. Resignation vacancies: vacancies due to resignation or removal are announced following formal acceptance by the council. New commissioners appointed following a resignation or removal vacancy would be eligible to serve full terms as outlined in Section IV C.
4. Application: All applicants must submit a completed application including contact information, interest statement, relevant experience, and availability. Applications will not be saved for future consideration.

B. Appointment

1. Applications for a city commission are collected by staff when a vacancy occurs as outlined in Section IV A.
2. Applications will be reviewed in a reasonable time frame by an interview committee consisting of the Staff Liaison, Commission Chair or senior ranking officer, and City Council Liaison to that commission. The interview committee will interview applicants and make a recommendation for appointment based on the applicant's application and interview to select the most qualified candidate for the commission. The criteria for determining the most qualified applicant is their ability to reflect the General Purpose as outlined in Section II.
3. The Mayor has the opportunity to review the recommendation of the selected applicant and reach out directly to the applicant if additional information is requested.
4. Appointments are made by majority vote of the City Council as a consent agenda item following a recommendation from the interviewing committee.
5. Commissioners may be reappointed up to a maximum of two consecutive terms, unless otherwise approved by the Council.

C. Term

1. Regular commissioners serve three-year terms, with up to one reappointment allowed consecutively. Upon completion of service on one commission, commissioners are eligible for appointment to another commission, or after a period of at least one year, for appointment to the same commission on which they termed out of one year prior.
2. Youth Commissioners serve one-year terms and may be reappointed up to two times.
3. Terms begin on the date of appointment by the City Council, not a fixed annual schedule.

D. Resignation and Removal

1. Resignations must be submitted in writing and formally accepted by the Council before a vacancy is filled.
2. Commissioners may be removed by a majority vote of the Council for any reason, including but not limited to poor attendance.

V. Youth Commissioners

A. Role and Eligibility

1. Youth Commissioners are full voting members and count toward quorum.
2. Must be residents of Falcon Heights and between ages 16–18. *If a youth commissioner would turn 19 years of age during their appointed term and seek reappointment, they must then be appointed as a regular commissioner, as vacancy allows.
3. Enrolled in high school or equivalent education program.

B. Appointment and Term

- Appointed through the standard process.
- Serve one-year terms from date of appointment.
- May serve up to three total terms. The maximum term shall not exceed six years total, as a mixture of youth and regular commission years served consecutively.

VI. Stipends and Compensation

1. All commissioners, including youth members and officers, receive a $50 stipend per formally noticed meeting attended, provided they are present for the majority of the meeting.
2. Stipends are paid through a sign-in record and processed as employee W-2 income.
3. Commissioners may decline compensation and serve voluntarily.
4. Commissioners receive stipends even if a meeting is canceled for lack of quorum, as long as attendance is pre-communicated with Staff Liaison (see VIII).

VII. Orientation and Onboarding

1. The Staff Liaison will provide new member orientation before or shortly after appointment, including overview of commission duties, policies, and open meeting laws.
2. Officers and continuing commissioners are encouraged to assist with recruitment and mentorship of new members.

VIII. Attendance and Participation

1. Regular attendance is expected. Missing more than 25% of scheduled meetings or three consecutive absences may result in removal.

2. Members should notify the Staff Liaison in advance of absences. If an absence is not communicated to the Staff Liaison by 3:00 PM the day of the meeting and the absence results in a meeting being held with a lack of quorum, this Member shall not receive their monthly stipend due to a non-communicated absence resulting in lack of quorum.
3. Members may be asked, on occasion to lead a project and/or to volunteer their time at events.

IX. Meeting Procedures and Reporting

1. Commissions meet at least quarterly and follow the Minnesota Open Meeting Law.
2. Each commission shall:
    - Elect officers annually.
    - Keep public records of actions.
    - Submit formal reports or requests to the City Council regarding policies or recommendations pursuant to their purpose as defined in City Code.

X. Staff and Council Liaisons

1. Each commission is assigned a Staff Liaison to assist with agendas, provide policy guidance, ensure communication with city departments.
2. A Council Liaison may be assigned annually to foster communication between the council and commission.

XI. Conflicts and Communications

1. Members must distinguish between personal opinions and official commission recommendations when speaking publicly.
2. Recommendations requiring City Council action must be submitted through the Staff Liaison to the City Administrator for agenda placement.

SIKKINK'S SEVEN MOTION SYSTEM

General Rules for a Simplified System of Parliamentary Procedure

1. The purpose of this decision making system is to allow efficient decision making that represents a majority position. Any motion, request, discussion or proposal, which seems to have as its purpose unreasonable delay, manipulation, or the goal of serving individual ends rather than group ends, can be ruled out of order by the chair. Such a ruling by the chair will be subject to the motion called appeal.

2. Free and open discussions are valued in this decision making system. For that reason, most motions are discussable and the motion to restrict discussion requires a 2/3 vote in order to pass. In recognizing persons for discussion, the chair first recognizes the person who made the motion, next recognizes other persons and always recognizes a person who has not spoken over a person who has already participated in the discussion. As far as possible, the chair should try to alternately recognize persons representing different viewpoints.

3. In examining the chart on the following page, you will note that five of the seven motions are amendable. However, only one amendment at a time may be considered. As soon as that amendment is passed or defeated, another amendment may be proposed.

4. The number in front of the motion listed indicates the rank of each motion. Thus, #1 – General motions are lowest in rank, and #7 – Restrict Debate motions are highest in rank. Two rules apply:

   (1) You usually cannot consider two motions of the same rank at the same time, and
   (2) If a motion of one rank is being considered, a motion of the same rank or lower rank is usually out of order, but a motion of higher rank is in order.

   While these rules generally apply, the chair may allow some flexibility in certain circumstances. These situations almost always occur with motions #5, 6 and 7. For example, if #7 - "Restrict Discussion" is being discussed and a member wants a secret ballot vote on the matter, Request, while lower in rank, could be used to accomplish this purpose. The chair is allowed to make all decisions on exceptions, but all such decisions are subject to appeal.

Important Note: The previous page and the chart below are taken verbatim from the existing Administrative Manual of the City of Falcon Heights, now in revision. Please note that in the chart, the motions were put in order of rank from highest (#7) to lowest (#1).

Type of Motion/Rank	Purpose	Applies To What Situations	Needs Recognition	Needs Second	Can Be Discussed	Amendable	Vote Required
7. Restrict Discussion (highest rank)	To stop or limit discussion	All discussable motions	Yes	Yes	Yes	Yes	2/3
6. Appeal	To let the group vote on a chair's decision	To decision of the chairperson	No	Yes	Yes	No	Majority
5. Request	Not a motion but a way to question, challenge, or seek help	Any appropriate situation	No	No	No	No	Chair decides subject to appeal
4. Postpone	To delay action on any general motion to a future time	General motions	Yes	Yes	Yes	Yes	Majority
3. Refer	To have a general motion studied by a committee	General motions	Yes	Yes	Yes	Yes	Majority
2. Meeting Termination	To recess during a meeting or to end a meeting	Made to recess or adjourn	Yes	Yes	Yes	Yes	Majority
1. General (lowest rank)	To bring up business for majority decisions by the group	For doing business	Yes	Yes	Yes	Yes	Majority

ITEM FOR DISCUSSION

Meeting Date	January 12, 2026
Agenda Item	E-3
Attachment	See notes below.
Submitted By	Hannah B. Lynch, Community Development Coordinator / Planner

Item	2026 Environment Commission Schedule, Goals, & Priorities
Description	Attached is an updated schedule for 2026 Environment Commission meetings, as well as goals and priorities as discussed at the December 8, 2025 EC meeting.
Budget Impact	None.
Attachment(s)	• 2026 Environment Commission Goals & Priorities • 2026 Environment Commission Schedule
Action(s) Requested	Staff recommends reviewing schedule for 2026 meetings and finalizing goals and priorities.

Falcon Heights Environment Commission - 2026 Goals and Priorities

Project	Tentative Date / Timeline	Project Lead	Cost	Notes
City Code Updates - Landscaping, Boulevard Trees	February - City Council Workshop?	Hannah Lynch	N/A	
Sustainability Fair with City of Lauderdale	April 18, 2026	Hannah Lynch	$5,000 - SCORE Funding	Will be held at City of Falcon Heights; shredding, textile recycing, e-recycling; tabling
Lawn and Garden Tours	July 2026		$200	Cost of yard signs
Tree Sale	June or October 2026	Hannah Lynch		Possibly in partnership with Arbor Day Foundation and City of Lauderdale; maybe TreeTrust
Fall Shredding/Recycling Event	October 2026	Hannah Lynch	$2,000 - SCORE Funding	
Green To Go Ordinance	February - City Council Workshop?	Hannah Lynch		
"Salt for Sand" Exchange	Winter 2026		Cost of sand?	
Community Garden - To work with Parks Commission	Spring 2026?			Need to hold joint meeting with Parks Commission. To discuss with Staff Liaison, Kelly Nelson / Schedule February joint meeting
Sustainable Home Upgrade Incentives	Spring 2026 to begin; throughout year		Depends on upgrade	Set incentive $$ per upgrade (ex. $50 for a low-flow toilet, $100 for insulation, etc.)
PW - Swap from gas powered leaf blowers to electric				Need to discuss with PW and City Administrator
Weatherization Workshop	Spring 2026, maybe also Fall 2026			

2026 CALENDAR

JANUARY

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4	5	6	7	8	9	10
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FEBRUARY

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MARCH

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APRIL

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MAY

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JUNE

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JULY

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AUGUST

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SEPTEMBER

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OCTOBER

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NOVEMBER

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29	30					

DECEMBER

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City Holidays		
City Council Meetings - 7:00 PM	Council Workshops - 6:30 PM	CE Commission - 6:30 PM
Environment Commission - 6:30 PM	Parks Commission - 6:30 PM	Planning Commission - 7:00 PM

ITEM FOR DISCUSSION

Meeting Date	January 12, 2026
Agenda Item	E-4
Attachment	See below.
Submitted By	Hannah B. Lynch, Community Development Coordinator / Planner

Item	Energy Action Plan Update
Description	The Commission requested an update on the implementation of the Climate Action Plan and Energy Action Plan. Included are the implementation tasks for each plan and the current status.
Budget Impact	None.
Attachment(s)	• Falcon Heights Climate Action Plan • Climate Action Plan Tasks • Falcon Heights Energy Action Plan • Energy Action Plan Work Plan – EC Focused • Energy Action Plan Work Plan - ALL
Action(s) Requested	Staff requests the Commission evaluate which tasks they would like to participate in and identify priorities.

FALCON HEIGHTS
THE CITY THAT SOARS

Climate Action Plan

A Collaborative Community Vision

May 2025

Table of Contents

Plan At A Glance

FALCON HEIGHTS
THE CITY THAT SOARS

6 Sectors
(Click icon to view)

- Transportation
- Buildings/Energy
- Waste
- Water
- Food
- Greenspace

focused on
23 Strategies

Transportation

- 53% lower GHG* emissions
- 5% fewer VMT**
- 40% increase in public transit
- 15% registered EVs***
- 8% increase in

Buildings/Energy

- 45% lower GHG* emissions
- 22% clean electricity
- 5% less electricity use
- 45% less fuel combustion
- 20% fuel switching from fossil

Waste

- 20% lower GHG* emissions
- 10% less solid waste
- 10% more organics diversion
- 10% more recycling diversion

Water

- 5% less water use
- 5% reduction in wastewater
- Increased stormwater resilience
- Increased water restoration

Food

- Increased access to local food
- Increased production of local food
- Decreased hunger and food waste

Greenspace

- 11% more tree canopy cover
- 15% less turf, more native grass
- 10% less dark impervious surfaces

* Greenhouse Gas Emissions (GHG)
** Vehicle Miles Traveled (VMT)
*** Electric Vehicle (EV)

To reduce our GHG* emissions

- **12,894** Metric tons (MT CO_2e) in 2023 from vehicle use citywide
- **19,681** Metric tons (MT CO_2e) in 2023 from building energy citywide
- **881** Metric tons (MT CO_2e) in 2023 from solid waste citywide

...and enhance our Climate Resilience

- Extreme Heat / Weather
- Flooding
- Air Quality
- Food Insecurity
- Infrastructure Failure

Achieving GHG Emission Reductions of

47% BY 2035 **100% BY 2050**

Introduction

QUICK FACTS

19,681
Metric tons (MT CO_2e) in 2023 from building energy citywide

12,894
Metric tons (MT CO_2e) in 2023 from vehicle use citywide

881
Metric tons (MT CO_2e) in 2023 from solid waste citywide

Falcon Heights has long been a leader in environmental stewardship, embracing sustainability as a core value of our community. Over the years, the City has adopted forward-thinking "green" practices—becoming one of Minnesota's first GreenStep Cities in 2009 and pioneering projects like a 40 kW solar installation on City Hall in 2012, community gardens, a native plant ordinance, and LED streetlight upgrades. This strong foundation reflects a commitment to a high quality of life through sustainable infrastructure and conservation.

Climate Emergency Resolution

Climate change is already impacting Falcon Heights, bringing warmer winters, hotter summers, and extreme weather. The City Council responded by unanimously declaring a Climate Emergency in January 2023, committing Falcon Heights to urgent action and a just transition. This Climate Action Plan (CAP), supported by a Minnesota Pollution Control Agency grant, is a key step in meeting that commitment.

Current Initiatives and Partnerships

Building on our strong foundation, Falcon Heights now holds Step 5 recognition in the GreenStep Cities program, reflecting ongoing leadership in energy savings, waste reduction, and sustainability. The City is also a Charging Smart community, recognized for electric vehicle readiness. With Xcel Energy, we've launched an Energy Action Plan to cut emissions—progress driven by residents and businesses. Falcon Heights collaborates with Ramsey County and nearby cities on recycling, composting, and resilience projects, and engages residents through events like the 2025 Sustainability Fair. These efforts show what's possible when our community works together for a sustainable future.

A Vision for the Future

This CAP outlines a clear path to a low-carbon, resilient future. It sets ambitious goals aligned with Minnesota's climate targets—cutting emissions 47% by 2035 and reaching net zero emissions by 2050. Shaped by public input, the plan calls on everyone—residents, businesses, and partners—to play a role. Together, we can protect what we value today and create a thriving, resilient Falcon Heights for generations to come.

Click here to return to TOC

Co-Benefits of Climate Action Planning

The World Health Organization reports growing evidence that climate policies can deliver both cost savings and significant health improvements. Community actions to cut greenhouse gas emissions in sectors like housing, transportation, and energy create multiple co-benefits beyond mitigating climate change. These include cleaner air, better public health, reduced health risks, greater resource efficiency, stronger local economies, and increased resilience of ecosystems and infrastructure.[1,2,3,4] These outcomes not only improve quality of life and natural resources but also generate financial gains.

Positive Financial Impacts

Many climate actions offer direct financial benefits, such as lower fuel costs, and indirect savings, particularly from improved air quality. Research shows that health and air pollution benefits can offset much of the cost of these initiatives.[5] Additional savings come from increased resilience, such as reduced reliance on fossil fuels—valued locally at $141 per metric ton (MT) of greenhouse gas reductions.[6,7,8] Health benefits may be even greater, with estimates ranging from $50 to $380 per MT of GHG reduced globally.[9]

Improved Quality of Life

Implementing climate action plans like this one can enhance quality of life by expanding mobility options, creating jobs, and reducing poverty and inequality.[10] These co-benefits strengthen community well-being as we address climate challenges.

Improved Natural Resources

Taking action on climate change also helps protect ecosystems that provide essential services.[11] For example, expanding Falcon Heights' tree canopy to meet this plan's goals could increase the annual economic value of community trees by up to $22,500. Other strategies will improve residents' access to green spaces, supporting both environmental health and quality of life.[12]

Planning Process

9 months	100+	2	2	31	5
Planning timeframe	Community members engaged	Community meetings and events	Online community input surveys	Planning team members	Foundational research documents

The Falcon Heights Climate Action Plan was developed collaboratively with a 31-member planning team, including community members, businesses, institutions, City commissions, and Falcon Heights staff. The planning team considered, created, and reviewed strategies and actions for each of the sectors included in this plan (see Plan Framework). The team participated in planning workshops from January to April 2025. The process included community engagement including community-wide surveys and input meetings and events. Goals and actions were shaped by community feedback, expert analysis, and best practices from other Minnesota and U.S. cities. Through workshops, the team refined and prioritized strategies, resulting in a co-authored plan that reflects the voices of Falcon Heights.

Research Based Climate Action Plan

To establish the plan's goals, strategies, and actions, the planning team conducted extensive research and produced several key assessments. These included studies on climate vulnerability, ground cover and tree canopy, greenhouse gas emissions, and renewable, or "clean" energy potential, providing critical data on climate risks, carbon sequestration, emissions trends, and solar opportunities. A final Climate Action Baseline Study synthesized these findings, reviewed key community metrics, and outlined preliminary sector-specific goals to guide planning discussions. Click on the icons below to view these documents:

Climate Action Baseline Study

Climate Vulnerability Assessment

Community-Wide GHG Inventory

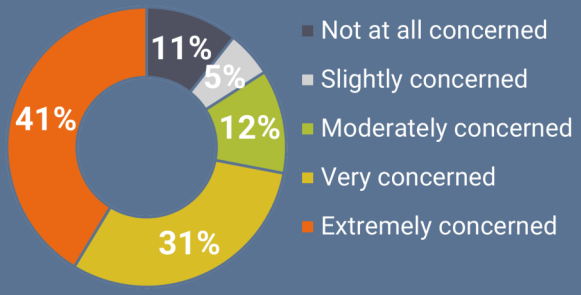
Ground Cover, Tree Canopy & Carbon Sequestration Study

Community-Wide Renewable Energy Potential Study

What We Heard

Community input was gathered through two surveys with over 75 responses from residents and businesses.[13] The first gathered climate concerns and action ideas; the second collected feedback on draft strategies. This input shaped the plan to reflect local priorities.

How concerned are you about climate change?

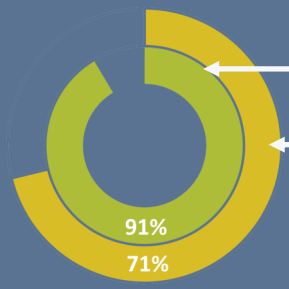


The City's Role in Climate Action

Respondents reported that they agree or strongly agree…

- It is important for Falcon Heights to take action to prepare for the projected impacts of climate change. **83%**
- It is important for Falcon Heights to take action to reduce greenhouse gas emissions. **82%**
- It is important for Falcon Heights to be a leader in proactively addressing climate change. **74%**

Climate Experience



91% have noticed signs of climate change

71% have been personally impacted

Key Themes

Key themes that emerged from the community included:

Support for Municipal Action and Leadership

84% of respondents are concerned about climate change. Additionally, 83% support the City preparing for impacts, 82% back reducing emissions, and 74% want Falcon Heights to lead on climate.

Clean Energy

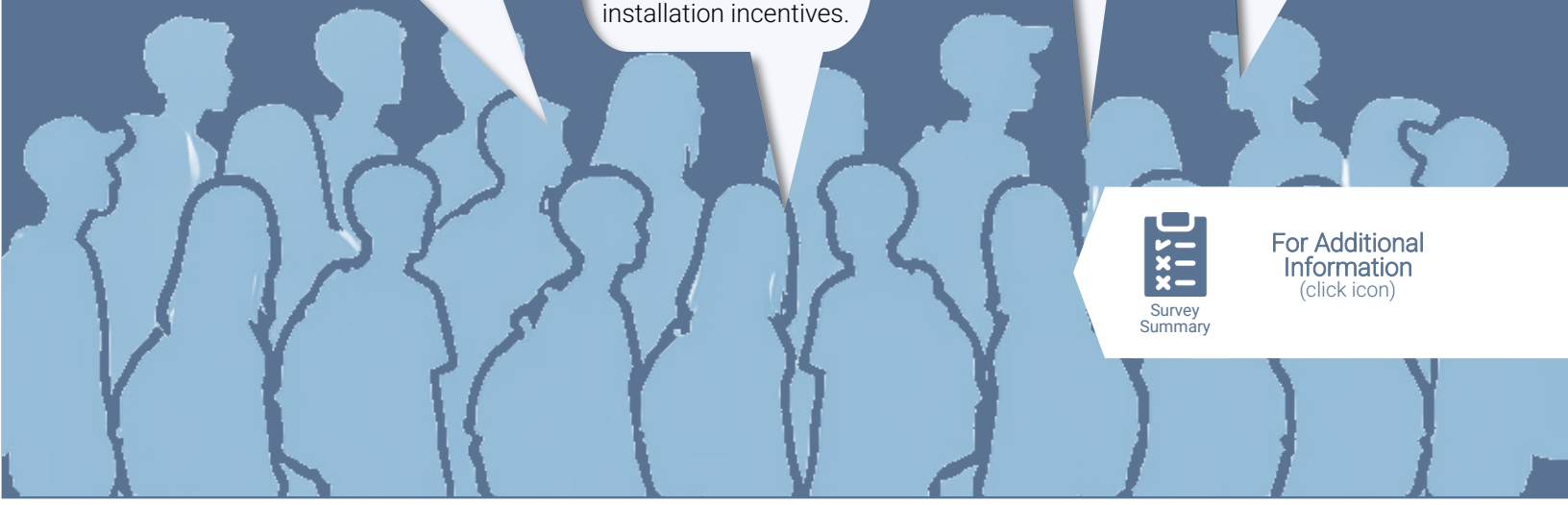
79% support rental properties meeting energy efficiency standards to reduce costs while 67% support incentives for efficiency and solar readiness, and 61% support solar installation incentives.

Impacts on Vulnerable Populations

Over 80% of respondents are concerned about climate change risks to vulnerable groups.

Protect Resources

84% are concerned about air quality, 82% about impacts on ecosystems, and 77% about risks to clean water.



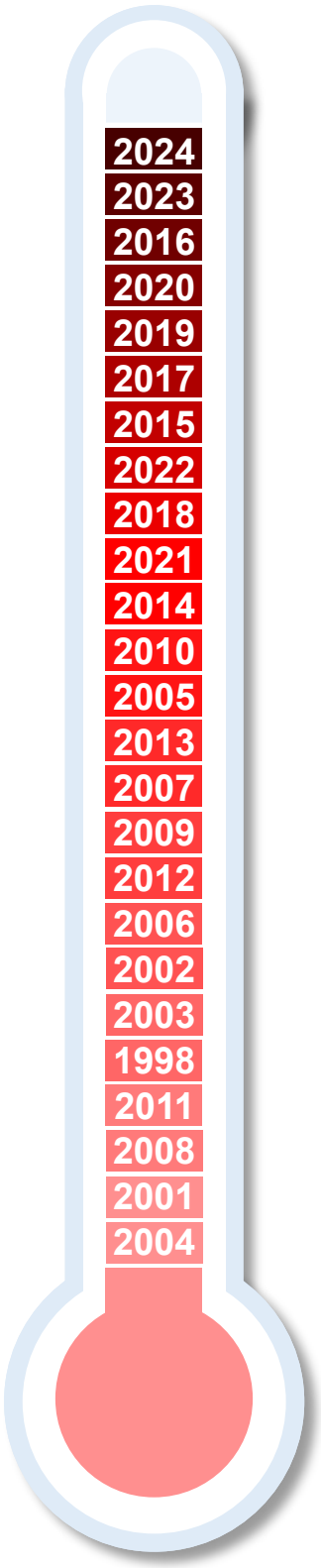
Survey Summary

For Additional Information (click icon)

Climate Change Impacts

The Hottest

25 Hottest Global Years on Record[27]



Climate change is a global issue with serious local impacts. Scientists agree that rising greenhouse gas emissions are destabilizing Earth's climate. Twenty-four of the 25 hottest years on record have occurred since 2000. In Minnesota, much of the state has warmed nearly 3°F over the past century, causing drier soils and a 20% increase in heavy rain events.[14,15,16]

Climate Change in Falcon Heights

Falcon Heights is already experiencing these changes. Between 1980 and 2018, the city saw rising average temperatures, more days above 95°F, more heavy rain events, and fewer days below 32°F.[17,18] One of the most notable shifts is in precipitation patterns. While overall annual precipitation has increased, the change is uneven. Fall and winter precipitation rose up to 15.5%, while spring and summer levels remained largely unchanged.[19]

Climate Projections for Falcon Heights[7]

Over their lifetime, a child in Falcon Heights can expect:[20,21]

Climate Conditions	Baseline	Mid-Century (2050 average)	End of Century (2100 average)
Average Daily Maximum Temperature	55° F	62°F	62°F - 67°F
Number of Days Per Year with Maximum > 95° F	2	23	23 - 52
Number of Days Per Year With Minimum < 32° F	154	131	130 - 107
Change in Growing, Allergy, & Tick/Mosquito Season[22,23]	9 days	23 days	24-37 days
Average Annual Precipitation [24]	26"	32"	28-35"
Increase in Heavy Precipitation Events (Days with > 1" Rainfall)	N/A	27%	27-55%
Air Conditioning Demand (Cooling Degree Days)	700	1500	1500-2200
Heat Related Increase In Per Capita Electricity[25]	N/A	36%	36-53%

Falcon Heights' Climate Risks

The anticipated climate changes in Falcon Heights over the next few decades pose potential risks to residents, with certain populations—such as children, seniors, and individuals with disabilities—being more vulnerable to these impacts. Below are some of the most notable risks to the community.[7]

Extreme Heat and Weather

Certain individuals face higher risks of stress, health issues, or even death from extreme weather events like severe storms, hail, heavy rain events, and heat waves.[26,27] Susceptibility to heat stress increases with pre-existing conditions such as diabetes and heart disease, as well as demographic, socioeconomic, and environmental factors like land cover.

Flooding

The latest National Climate Assessment shows that heavy precipitation events are already on the rise across the U.S. and in Minnesota. These intense rainfall events are expected to continue increasing throughout the state. The growing frequency of both extreme and total precipitation is likely to contribute to more frequent over-bank flooding (river and lake flooding) and flash floods.

Air Quality

Climate change is anticipated to impact air quality through various channels, including higher levels of allergens and pollen, increased regional ozone concentrations, greater risks of smoke from wildfires, and elevated particulate pollution and dust.

Food Insecurity

Climate change is likely to destabilize cropping systems, interrupt transportation networks, and trigger food shortages and spikes in food cost.

Infrastructure / Power Failure

Extreme weather events, flooding, flash flooding, and the growing daily challenges from climate variability all pose risks to the stability of our aging infrastructure. Power outages, road damage, bridge collapses, and water system failures are significant physical climate risks to the community, particularly for those most vulnerable to climate impacts.

Greenhouse Gas Emissions

Measuring, tracking, and reducing greenhouse gas (GHG) emissions is essential for effective climate action. Understanding our emissions helps us focus efforts on minimizing our community's climate impact.

In Falcon Heights, community-wide emissions decreased from 37,466 MT CO_2e in 2019 to 33,457 MT CO_2e in 2023, a reduction of nearly 11%.[6]

2022 GHG EMISSIONS IN Falcon Heights[6]

38.5%	37.4%	21.4%	2.6%
12,894 MT CO_2e from transportation	12,514 MT CO_2e from natural gas	7,168 MT CO_2e from electricity	881 MT CO_2e from solid waste

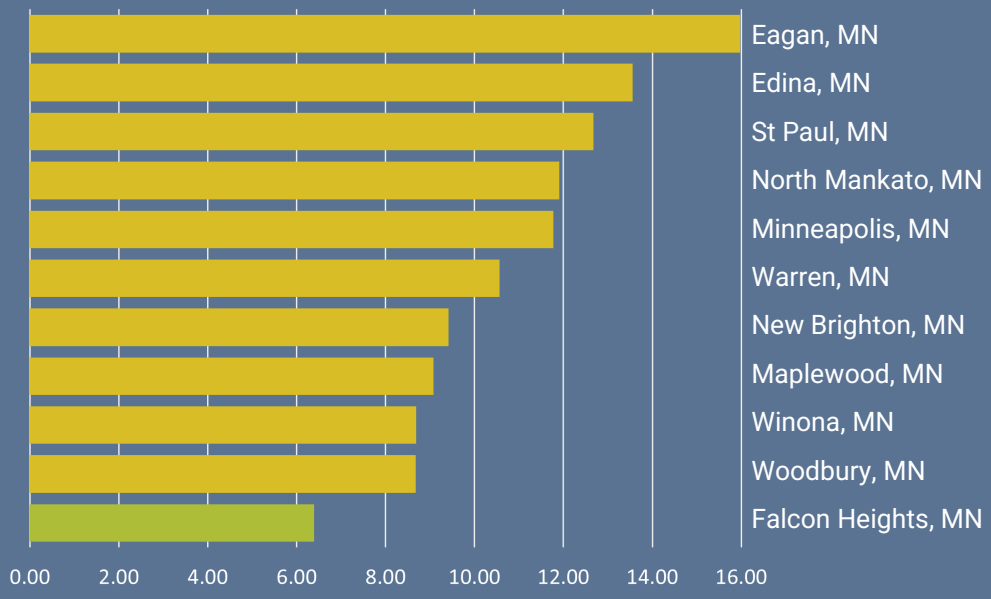
Inside The Numbers:

Total Vehicle Miles Traveled (VMT): 27,333,000	Non-residential therms used: 1,186,300	Non-residential kWh used: 17,215,000	Total solid waste generated: 6,160 tons
Gasoline consumed (est): 1,035,911 gallons	Residential therms used: 1,175,347	Residential kWh used: 12,964,000	Solid waste landfilled: 669 tons
Diesel fuel consumed (est): 398,464		Customer-owned clean energy share: 0.58%	Solid waste used for waste-to-energy: 2,330 tons
Electric Vehicle (EV) share of total: 2.7%			Solid waste recycled: 1,936 tons
			Organic solid waste recycled/composted: 1,224 tons

How Large Are The Citywide GHG Emissions?

The City's total emissions for 2023 are equal to **656 Million** cubic feet of human-made greenhouse gas. This volume of atmosphere is equal to a cube **869** feet on each face shown here west of Snelling on Larpenteur Ave as viewed from Como Avenue from over **1.5 miles away**.

Emissions Per Capita



How Do We Stack Up?

Falcon Heights emits 6.73 MT CO_2e per person, significantly below the U.S. average of 20.7 MT CO_2e.[6] The chart on the left compares Falcon Heights' emissions to other Minnesota communities.

GHG Inventory

For Additional Information
(click icon)

Plan Framework

The plan guides Falcon Heights' municipal operations and citywide climate action, covering GHG reductions and climate resilience. It includes an implementation section and six sectors, each with goals and detailed actions for implementation.

Click here for section

Transportation and Land Use

Strengthening Falcon Heights' mobility resilience while reducing emissions and environmental impacts.

Sector Strategies:

- Reducing vehicle use
- Increasing public transit use
- Increasing population density (within already developed land)
- Increasing zero emission vehicle registration
- Increasing community "EV Readiness"

Click here for section

Buildings and Energy

Increasing building resilience through energy efficiency, clean energy adoption, and decreased on-site fuel use.

Sector Strategies:

- Reducing energy use
- Switching from fossil fuel combustion
- Increasing clean energy use

Click here for section

Waste Management

Reducing GHG emissions by increasing recycling and organic diversion, and decreasing overall waste.

Sector Strategies:

- Reducing amount of solid waste produced
- Recycling more of our waste
- Sending less organic waste to landfills

Click here for section

Water and Wastewater

Decreasing water consumption and wastewater effects while improving resilience to flooding and stormwater.

Sector Strategies:

- Using less water
- Preparing for more and heavier rainfall
- Keeping water clean and protecting it

Click here for section

Local Food and Agriculture

Strengthening the resilience, accessibility, and security of the community's local food system.

Sector Strategies:

- Making it easier to get locally grown food
- Growing more food in the community
- Cutting down on food waste and reducing hunger

Click here for section

Greenspace and Ecosystems

Encouraging community adaptation by increasing green infrastructure and strengthening ecosystem resilience.

Sector Strategies:

- Planting more trees to increase shade and tree coverage
- Planting more pollinator-friendly native plants instead of lawns
- Reducing the amount of pavement

GHG Reduction Goal

This plan aligns with science-based greenhouse gas reduction targets to limit global warming to 1.5°C above pre-industrial levels. Meeting this target would greatly reduce climate risks and impacts.[29,30] The CAP sets both interim and long-term goals.

City of Falcon Heights' GHG interim reduction goal:

Interim Goal

"To reduce citywide GHG emissions by 47% below 2019 levels by 2035."*

City of Falcon Heights' long-term GHG goal:

Long-Term Goal

"To achieve net zero emissions by 2050."**

This citywide goal guides sector-specific strategies. Sector goals aim to evenly distribute greenhouse gas reductions and meet the community's overall emissions targets. They are designed to be achievable yet ambitious, surpassing business-as-usual outcomes.

* Goal aligns with IPCC recommended reduction targets which use 2019 as the baseline year[31]

** A community, business, institution, or building that produces the same amount of energy it consumes through renewable GHG emission-free sources ("clean energy"), resulting in zero net emissions over a year. See Glossary of Terms for more information.

Survey of Peer Community Carbon Reduction Goals

Burnsville	Reduce community-wide GHG emissions 40% below 2005 levels by 2030 and 80% below 2005 levels by 2050.
Eagan	To reduce community-wide GHG emissions 55% below 2014 levels by 2035, and net zero emissions by 2050 .
Edina	To reduce community-wide GHG emissions 45% below 2019 levels by 2030, and net zero emissions by 2050 .
Maplewood	Reducing greenhouse gas emissions to 20 percent of the City's 2015 baseline levels by 2050 (an 80 percent reduction).
Minneapolis	100% renewable energy for city operations by 2022 and citywide electricity by 2030.
New Brighton	To reduce community-wide GHG emissions 42% below 2013 levels by 2030, and achieve carbon neutrality by 2050 .
St Louis Park	100% renewable electricity citywide by 2030, carbon neutrality by 2040.
St Paul	Carbon neutral municipal operations by 2030, carbon neutral citywide by 2050.

Plan Impacts

This plan includes strategies and actions designed to reduce emissions over the long term. Their potential impact has been modeled using projections for reduced energy and fuel use. The modeling also accounts for expected adoption rates of clean energy and low- or zero-emission transportation options. From this modeling, we know that with the successful implementation of the strategies outlined in this CAP, citywide annual GHG emissions are projected to drop to 19,892 MT CO_2e by 2035, a 46.9% decrease below 2019 levels. The potential cumulative GHG emissions reductions over the 10 year implementation period are estimated at over 42,498 MT CO_2e. This is equal to the elimination of over 834 million cubic feet of greenhouse gases by 2035.[6]

29.5% Business-as-usual Reductions

5.2% Mobile Combustion Reductions

3.6% Electricity Reductions

8.2% Stationary Combustion Reductions

0.4% Solid Waste Reductions

53.1% Remaining Annual Emissions

Note: Reductions Achieved refer to emissions reductions that have occurred since 2014 based on the City of Falcon Heights Community GHG Inventory. 'Business-as-usual' (BAU) Reductions are anticipated reductions resulting from existing requirements or commitments, such as federal vehicle fuel efficiency standards and electric utility carbon-reduction commitments, which are outside the scope of this plan.

Potential Economic Savings

Below is an estimate of the cumulative community-wide economic savings potential of implementing the plan through 2035.

Transportation Economic Potential*:

Sector Savings:	$9,517,233
Sector Cost Increases:	-$1,564,585

Potential Sector Net Cost Savings:

$7,952,649

Buildings and Energy Economic Potential*:

Sector Savings:	$3,526,485
Sector Cost Increases:	-$2,543,594

Potential Sector Net Cost Savings:

\+ **$982,892**

Waste Reduction Economic Potential*:

Residential Savings:	$463,869
Commercial Savings:	$1,531,208

Potential Sector Net Cost Savings:

\+ **$1,995,078**

Social Cost of Avoided Carbon:

\+ **$6,002,051**

Estimated Localized Social Cost of Carbon: $141

Cumulative Community Savings Potential:

= **$16,932,669**

* Estimated community-wide costs and savings are calculated based on achieving goal statements and are not calculated on an individual action basis. Values do not include economic potential of job creation and new business potential represented in the plan actions. See Appendix for a detailed illustration of how cumulative costs and savings are arrived at.

The Plan:

Transportation and Land Use

Transportation is energy- and resource-intensive. Beyond road vehicles, off-road equipment (such as construction machinery and gas-powered lawn mowers) also burns significant fossil fuel. Globally, transportation accounts for nearly one-third of all energy use and roughly one-quarter of energy-related carbon emissions.[1] In Falcon Heights, transportation contributes about 38% of the city's greenhouse gas emissions.[2] As electricity gets cleaner, transportation's share of emissions could grow—making it a key focus for climate action.

There are many ways to make transportation more sustainable while improving quality of life and equity, including:

- Shared and Public Transportation: Riding together on buses, trains, or carpools means fewer single-occupancy cars on the road. This cuts traffic and pollution while improving access to transportation for everyone.
- Bicycle-sharing stations like Nice Ride Minnesota offer a clean and active way to get around. Encouraging walking, biking, or e-scooter use reduces air pollution and improves public health.
- Electric Vehicles and Clean Fuels: Transitioning to electric vehicles (EVs) and renewable fuels can dramatically reduce transportation emissions. EVs produce no tailpipe pollution, improving air quality for everyone.

The Link Between Land Use and Transportation Emissions

Transportation emission strategies often focus on technology and low-carbon fuels, but studies show smart growth and compact development are also key. Denser, well-planned communities reduce driving and support more energy-efficient housing. In the 125 largest U.S. urban areas, a 10% increase in population density could cut CO_2 emissions by 4.8% from travel and 3.5% from residential energy use.[3]

QUICK FACTS

38.5%
of community-wide GHG emissions in 2023 from transportation

27,333,000
Vehicle Miles Traveled in 2023

45.9%
Commuters drove alone in 2023

10.3%
Commuters use public transit

87
Battery Electric Vehicles (BEV) registered in 2023

For More Information (click icon):

Vulnerability GHG Inventory

Click here to return to TOC

ACTIONS

TL 1-1	Adopt and implement a Living Streets policy. (Note: Living Streets are green, multimodal streets that enhance walking and biking conditions, safety, and neighborhood livability while reducing environmental impacts and maintenance costs.)
TL 1-2	Create an Active Mobility Plan emphasizing multimodal transportation, transit access, bike/pedestrian safety, and infrastructure improvements. Prioritize protected bike lanes. Review Ramsey County's bike/pedestrian plan and partner with adjacent communities, the University of Minnesota and State Fair on connected routes.
TL 1-3	Establish a policy for a Transportation Demand Management (TDM) plan, which includes a transit component, applicable to all new developments and redevelopments projects.
TL 1-4	Collaborate with partners on a branded campaign and incentives to promote alternative transportation, focusing on short trips and equity-driven support for bike and eBike adoption.
TL 1-5	Develop and distribute a resident-focused brochure through landlords that highlights local parks, transit options, bike and walk routes, sustainability resources, waste and recycling programs, clean energy opportunities, and related incentives, including links to the current City information.

ACTIONS

TL 2-1	Collaborate with Metro Transit and partners to secure funding for free or reduced fares for Falcon Heights residents and expand transit access through fare reductions, Bus Rapid Transit, and other strategies.
TL 2-2	Collaborate with Metro Transit and partners to enhance bus stop infrastructure according to industry best practices, including pullouts, shelters, and safe pedestrian crossings.
TL 2-3	Partner with Metro Transit and others to develop and distribute educational materials about public transit options and resources
TL 2-4	Work with local businesses to promote and expand Metro Transit's Guaranteed Ride Home and Employer Sponsored Pass programs for employees and students

STRATEGY TL1:

Decrease community-wide Vehicle Miles Traveled (VMT) by 5% by 2035.

Strategy Co-Benefits

In 2023, Falcon Heights' total vehicle miles traveled (VMT) was 27.3 million miles. VMT rose 1% from 2014 to 2019 but then fell, ending 2023 20% below 2014 levels.[2]

Reducing VMT by 5% would eliminate 1.7 million miles and cut annual greenhouse gas emissions by over 640 MT CO_2e[4,5] Expanding safe, accessible bike and walking routes to schools, shops, and recreation areas can help reduce vehicle use for daily trips.

STRATEGY TL2:

Increase public transit commuter ridership 4% by 2035.

Strategy Co-Benefits

Since 2013, Falcon Heights' 6,100 workers have averaged a 19.9-minute commute. About 97% commute in from outside the city, while 87% of employed residents work elsewhere.[6,7] With vehicle operating costs at $0.81 per mile, each 1% shift to public transit could reduce driving by 273,000 miles and save commuters over $200,000 annually.[8]

STRATEGY TL3:

Increase average population per developed acre by 8% by 2035.

Strategy Co-Benefits

The city has 875 acres of developed land, covering 61% of its total area and supporting 5,232 residents—an average of 6 residents per developed acre.[9,10] Falcon Heights' population could grow by up to 12.8% by 2035.[18] Research shows that every 1% increase in population-weighted urban density reduces household travel CO_2 emissions by 0.12% to 0.48%.[3,11] Zoning policies and incentives that promote higher density in developed areas, while ensuring affordable housing and preventing gentrification, can help reduce citywide emissions.*

ACTIONS

TL 3-1	Amend zoning ordinances to support higher-density, walkable neighborhoods by increasing building heights, allowing approved densities, encouraging Accessory Dwelling Units (ADUs), promoting Transit-Oriented Development (TOD) near transit stations, and supporting mixed-use developments.
TL 3-2	Use the Comprehensive Plan process to identify vacant or underutilized land suitable for higher-density development, walkability improvements, transit access, or greenspace.
TL 3-3	Attract and support mixed-use, multimodal redevelopment projects on priority sites identified through the Comprehensive Plan.

* Note: a significant portion of vacant land within the boundary of Falcon Heights is owned by the Minnesota State Fair and University of Minnesota over which the City does not have jurisdictional control.

STRATEGY TL4:

Increase battery electric vehicle (BEV) use to 15% of vehicles on the road by 2035.

Strategy Co-Benefits

Shifting vehicles communitywide from fossil fuels to low- and zero-emission alternatives is key to cutting long-term emissions. Electric vehicles (EVs) reduce vehicle emissions by 50–70%, with battery production impacts offset within two years.[12]

Falcon Heights has about 3,200 vehicles but only 87 battery electric vehicles (BEVs) as of January 2024.[4,13] Nationally, EV sales have grown fivefold in three years, showing strong potential for local adoption.[14] Each 1% shift to EVs in the city could reduce annual emissions by up to 112 MT CO_2e, even with added electricity use.[2,5]

ACTIONS

TL 4-1	Collaborate with Xcel Energy and partners to expand incentives for electric vehicles (EVs), residential chargers, and eBike adoption, including low-cost loan or bulk-purchase programs to reduce costs.
TL 4-2	Provide information to the community through workshops, an EV guide, and enhanced website content highlighting EV technology, incentives, and available programs.
TL 4-3	Partner with Ramsey County Environmental Health to host and promote a Falcon Heights EV Fair, providing education, test drives, and vendor interaction.
TL 4-4	Through trash hauler permitting, promote or require fleet efficiency improvements such as fuel-efficient practices, optimized routing, zero-emission vehicles or low-emission fuels, and advanced technologies. Include a provision for annual reporting on progress.

ACTIONS

TL 5-1	Implement an "EV Ready" building ordinance for new developments that includes EV charging infrastructure and dedicated parking.
TL 5-2	Create an Electric Vehicle Infrastructure Readiness Plan that assesses current and future charging needs, maps existing stations, identifies expansion opportunities in public, commercial, and multi-family residential areas, and prioritizes equitable access in low/moderate-income neighborhoods.
TL 5-3	Promote funding opportunities and resources for local businesses to provide electric vehicle charging stations.
TL 5-4	Identify an existing or develop and distribute an "EV Ready Guide" with building readiness standards and fleet conversion resources.

STRATEGY TL5:

Make the community "EV-ready" with electric vehicle charging stations in every public and private parking lot or ramp by 2030.

Strategy Co-Benefits

As a core climate action strategy, communities are prioritizing EV readiness by expanding Level 2 and DC fast charging infrastructure across public and private parking areas. This widespread access reduces range anxiety, increases EV adoption, and cuts transportation emissions.[15] Benefits include cleaner air, improved public health, and economic growth through job creation and cost savings.[16] Making all parking EV-ready also supports equitable access, strengthens transportation systems, and supports community resilience.

ACTIONS

TL 6-1	Conduct phased fleet analyses to transition to electric and alternative fuel vehicles and equipment. Identify replacements, infrastructure requirements, and facility upgrades.
TL 6-2	Adopt a policy for new City fleet vehicles to be electric or use low/no-carbon fuels by 2030 for light-duty and by 2040 for medium/heavy-duty vehicles.
TL 6-3	Implement and enforce a city operations anti-idling policy of combustion vehicles.
TL 6-4	Create an "Eco Driving Guide" to promote fuel efficiency, distribute it to City employees, include it in new employee training, and make it available to Falcon Heights residents and businesses.

STRATEGY TL6:

Convert 100% of the municipal non-emergency fleet and equipment to EVs and improve remaining combustion vehicle fuel efficiency by 10% by 2035.

Strategy Co-Benefits

Falcon Heights can lead in sustainable transportation by transitioning its fleet to EVs, reducing emissions, costs, and supporting EV adoption. In 2023, gasoline made up 43% of fleet fuel use (1,141 gallons). Converting to EVs by 2035 could cut emissions by 10 MT CO_2e annually, with a 10% increase in efficiency of remaining vehicles saving another 2 MT CO_2e.[2, 17]

The Plan:

Buildings and Energy

Energy use in buildings is a major contributor to greenhouse gas (GHG) emissions from both residential and commercial properties. Emissions come from direct on-site fossil fuel use, like heating and cooking, and from off-site power generation. Prioritizing efficient building design improves long-term energy performance and comfort. Increasing efficiency reduces emissions, lowers energy costs for households and businesses, and strengthens climate resilience. Improving Falcon Heights' built environment also creates environmental, economic, and social benefits for the community.

Residential Energy

In 2023, Falcon Heights' residential sector consumed over 12.9 million kWh of electricity (6,324 kWh per household) and 1.175 million therms of natural gas (573 therms per household). This resulted in 9,059 MT CO_2e of GHG emissions, about 46% of citywide building energy emissions.[1]

Non-Residential Energy

The non-residential sector consumed over 17.2 million kWh of electricity (2,816 kWh per job) and 1.186 million therms of natural gas (194 therms per job) in 2023. This resulted in 10,607 MT CO_2e of GHG emissions, about 54% of citywide building energy emissions.[1]

QUICK FACTS

58.8%
of community-wide GHG emissions in 2023 from buildings and energy

30,240,951
kWh or electricity used in 2023

2,361,647
Therms of natural gas used in 2023

78.9%
of all homes were built before 1980

52
solar arrays community-wide in 2023

For More Information (click icon):
Vulnerability GHG Inventory Renewable

Click here to return to TOC

ACTIONS

BE 1-1	Collaborate with partners to establish a program achieving deep energy retrofits for 80% of low/moderate-income households by 2030. Goal: 100 households annually, each achieving 15% energy reductions. (Comprehensive Plan)
BE 1-2	Offer and promote fully subsidized Home Energy Squad visits for income-qualified residents.
BE 1-3	Adopt an energy benchmarking ordinance (Comprehensive Plan)
BE 1-4	Establish a policy for City-funded projects to meet energy efficiency standards (e.g., SB2030, LEED Gold, Enterprise Green Communities, ICC/ASHRAE 700). Encourage other developments needing PUD, CUP, and zoning approval to meet the same standard. (Comprehensive Plan)
BE 1-5	Consider establishing a Mayor's Home Energy Challenge to encourage and incentivize residential energy-efficiency upgrades.
BE 1-6	Adopt and promote a voluntary net-zero energy code through the building permit process (Comprehensive Plan)
BE 1-7	Consider adopting a "Dark Sky" lighting ordinance to promote ecosystem and human health and reduce exterior lighting energy consumption.

STRATEGY BE1:

Improve total Citywide building energy efficiency 5% for electricity and 15% for natural gas by 2035.

Strategy Co-Benefits

Homes built between 2000 and 2009 use 15% less energy per square foot than 1980s homes.[2] Retrofitting older homes offers significant potential to reduce citywide energy use, especially natural gas. In Falcon Heights, 85% of owner-occupied and 69% of renter-occupied homes were built before 1980, making energy upgrades a key opportunity.[3,4] Building permits suggest up to 20% of residential units could be added, renovated, or replaced over 10 years.[3]

ACTIONS

BE 2-1	Coordinate an annual group purchase campaign for residents and small businesses to reduce costs of electrification, energy efficiency, and weatherization upgrades (e.g., air and ground source heat pumps). Prioritize equity in program design, support local contractors, and consider integration with clean energy purchase programs. Goal: 30 households and 10 businesses annually.
BE 2-2	Collaborate with partners to expand and promote incentives for low-income residents to electrify their homes. Goal: 15 households annually.
BE 2-3	Address misconceptions and promote new technologies through educational materials and City communications.

STRATEGY BE2:

Achieve 30% building "fuel switching" from on-site fossil fuel combustion to electrification or renewable fuels by 2035.

Strategy Co-Benefits

64.7% of the city's residential heating is provided by natural gas and 28.5%.[5] As Falcon Heights' electric grid nears carbon neutrality, building heating fuel will become an increasingly important target for emission reductions.[6] Reduction, and ultimately the elimination of all fossil fuel heating (oil, propane, natural gas), in the buildings sector will be required in order to achieve community wide carbon reductions.[1,7]

STRATEGY BE3:

Increase customer-owned or purchased clean electricity to 22% of total building electricity use citywide by 2035.

Strategy Co-Benefits

Grid electricity emissions are expected to decline, but increasing consumer clean energy purchases remains essential to meet GHG reduction goals as well as offering cost savings and increased resilience.[1,6,8,9] As of 2023, Falcon Heights had 52 customer-owned solar systems generating 1 MW.[10] Those unable to install solar can buy clean energy from their utility to reduce their emissions and support grid decarbonization.[11,12,13]

ACTIONS

BE 3-1	Collaborate with partners to implement and promote an annual Residential Solar Group Purchase program, supported by a program administrator such as the Midwest Renewable Energy Association or others experienced in solar group purchase programs. Goal: 15 participants and 100 KW installed Annually.
BE 3-2	Establish a policy to incorporate clean energy standards into the PUD ordinance. (Comprehensive Plan)
BE 3-3	Identify top privately-owned sites for Solar PV installations (rooftop, ground, carport) and develop site assessments detailing estimated costs, energy generation, and 20-year economic payback. Provide assessments to additional property owners biennially through 2032 to maximize solar incentives. Coordinate with the Commercial property and Industrial property Solarize program.
BE 3-4	Organize an annual group solar purchase program for commercial and industrial properties, coordinating with the City's "Top Solar Potentials" initiative. Goal: 5 participants installing 150 kW annually.
BE 3-5	Organize education and outreach promoting net-zero energy development, clean energy rebates, and tax credits; provide resources on the City's Energy Hub website. (Comprehensive Plan)

STRATEGY BE4:

Improve total municipal building energy efficiency by 5% for electricity and 15% for natural gas by 2035.

Strategy Co-Benefits

In 2023, the City of Falcon Heights municipal buildings and operations consumed over 151 thousand kWh of electricity and 8,238 therms of natural gas. Building energy consumption represents over 76% of GHG emissions associated with municipal operations.[1] Increasing energy efficiency of municipal operations by 5% for electricity and 15% for natural gas would save as much as 7,500 kWh and 1,200 therms, eliminating 8.5 MT CO_2e of GHG emissions annually.[1,14]

ACTIONS

BE 4-1	Establish a policy for City-owned buildings to achieve and maintain ENERGY STAR ratings of 75 or higher, meet or exceed IGCC standards, and publicly report energy use. All facility design and construction RFPs for new or major renovation projects must also evaluate opportunities to achieve Net Zero Energy.
BE 4-2	Conduct energy audits of all City facilities, including Dark Sky LED outdoor lighting guidance. Use audit results to prioritize facility improvements in the Capital Improvement Plan, with implementation within 5 years.

ACTIONS

BE 5-1	Identify and assess City facilities to prioritize for electrification and schedule improvements.
BE 5-2	Establish a policy for all new City-owned buildings to be 100% electric (or have zero onsite fossil fuel combustion).
BE 5-3	Conduct a City Facility Solar and Clean Energy Master Plan study assessing on-site solar feasibility, options for achieving 100% clean electricity including ownership options, community solar, RECs, and solar+storage microgrids. Establish an implementation timeline. (Comprehensive Plan)

STRATEGY BE5:

Achieve 100% municipal building clean electricity use and "fuel switching" from on-site fossil fuel combustion to electrification by 2035.

Strategy Co-Benefits

By expanding clean energy and reducing fossil fuel use, the city can model sustainable, resilient energy systems. Reaching 100% municipal electric use through on-site generation and green energy purchases could cut emissions by up to 36 MT CO_2e annually.[1] Switching City facilities to electric heating as the grid decarbonizes could reduce emissions by another 44 MT CO_2e each year.[1]

The Plan:

Waste Management

Waste management—including solid waste, recycling, and organics—plays a key role in reducing climate impacts. Landfills emit methane, a greenhouse gas over 25 times more potent than carbon dioxide, as organic waste like food, paper, and yard trimmings decomposes without oxygen.[1] Reducing landfill waste, especially organics, is critical to lowering these emissions.

Waste collection also produces carbon emissions from diesel-powered trucks. Cutting waste through recycling and composting reduces collection trips and transportation emissions.[2] Recycling conserves natural resources and lowers emissions from raw material extraction and manufacturing.[3] Composting prevents methane emissions, enriches soil, and helps sequester carbon.[4]

Waste reduction is the most effective strategy, cutting emissions throughout a product's life cycle.[5] In Minnesota, waste reduction and recycling already prevent nearly 4.9 million metric tons of CO_2 annually—the equivalent of removing one million cars from the road.[6] Expanding recycling, composting, and waste reduction can help Falcon Heights cut climate pollution, conserve resources, and build healthier, more sustainable systems.

Solid Waste in Falcon Heights[7]

Total solid waste handled in 2019 was 6,598 tons. By 2023 the total was 6,160 for a 6.6% decrease. On a per-capita basis, however, the decrease in total solid waste handled is lower at 2.1%. The share of solid waste being diverted for recycling has decreased from 33% in 2019 to 31.4% in 2023. Organics diversion, however, has increased from 17.2% in 2019 to 19.9% in 2023. These numbers highlight a significant opportunity to divert more waste from landfills, especially organic materials, which generate the most greenhouse gas emissions.

QUICK FACTS

2.6%
of community-wide GHG emissions in 2023 from solid waste

669
tons of landfilled waste in 2023 - 10.9% of all solid waste

2,330
tons of waste used for waste-to-energy in 2023 - 37.8% of all solid waste

1,224
tons of organics diversion in 2023 - 19.9% of all solid waste

52
tons of recycling diversion in 2023 - 37.8% of all solid waste

For More Information (click icon):
GHG Inventory
Renewable

Click here to return to TOC

ACTIONS

WM 1-1	Establish a Zero Waste policy for City operations with clear annual waste reduction targets to achieve Zero Waste. External users of City facilities to comply with the Zero Waste policy, and event permit applications must be updated to mandate recycling and composting at events.
WM 1-2	Explore waste hauling improvements to support CAP goals, including updates to the City's licensing process and the implementation of organized waste hauling strategies.
WM 1-3	Establish a policy for all construction and demolition projects to submit waste management plans demonstrating how they will meet specific waste diversion targets aligned with the City's Climate Action Plan goals
WM 1-4	Collaborate with partners such as Reuse MN to promote material reuse and waste reduction, including community events like swaps and garage sales.
WM 1-5	Collaborate with partners to create a comprehensive communication campaign to provide standardized information and communications on waste reduction, recycling, and organics collection options to reach the residential sector.

STRATEGY WM1:

Decrease total annual municipal solid waste generated by 10% by 2035.

Strategy Co-Benefits

The Minnesota Pollution Control Agency (MPCA) ranks waste management strategies by environmental impact, prioritizing reduction, reuse, recycling, and organics recovery.[8] Reducing waste conserves resources, cuts emissions, and can save homes and businesses hundreds of dollars annually.[9,10,11] Strengthening waste reduction policies offers a major environmental opportunity for Falcon Heights.

ACTIONS

WM 2-1	Promote participation in the Ramsey/Washington Recycling and Energy Center's Food Scraps Pickup Program when available for Falcon Heights residents. Goal 75% household participation by 2035.
WM 2-2	Incorporate zoning standards for commercial and multi-family buildings that ensure convenient organics and recycling collection, making diversion as easy as garbage disposal.
WM 2-3	Collaborate with partners to promote backyard composting by providing residents with low-cost or free compost bins and educational materials.
WM 2-4	Collaborate with partners such as Ramsey County Urban Agriculture Coordinator to promote use of the community compost drop off site for residents unable or unwilling to compost at home.

STRATEGY WM2:

Increase organics and compostable diversion from 19.9% to 22% of total MSW handled by 2035.

Strategy Co-Benefits

Most landfill gas arises from bacterial decomposition when organic waste breaks down by bacteria. Organic wastes include food, garden waste, street sweepings, textiles, wood, and paper products.[12] The State's 2013 Waste Characterization study shows that over 50% of Falcon Heights' landfill and waste-to-energy stream is organic material, including paper—presenting a major emissions reduction opportunity.[13,14]

STRATEGY WM3:

Increase recycling diversion from 31.4% to 35% of total MSW handled by 2035.

Strategy Co-Benefits

The 2013 State Waste Characterization study identifies significant potential to boost recycling, estimating that up to 48% of landfilled waste could be recycled.[14] The largest opportunities lie in paper and plastics, with additional potential in metals and glass.

ACTIONS

WM 3-1	Collaborate with partners on a comprehensive communication campaign providing standardized education and guidance on waste reduction, recycling, organics collection, hazardous waste management, and available waste diversion programs for residential and commercial sectors.
WM 3-2	Partner with Ramsey County and the Recycling Ambassador program to reduce barriers to recycling participation at multifamily and commercial properties.
WM 3-3	Through waste hauler permitting or organized waste collection processes, incentivize or include conditions for haulers to educate customers on recycling, waste reduction, and diversion.
WM 3-4	Adopt an ordinance that ensures all "to-go" packaging is recyclable, compostable, or reusable.

The Plan:

Water and Wastewater

Climate change directly impacts water and wastewater systems, affecting availability, quality, and infrastructure capacity in Falcon Heights.[1] Rising temperatures and shifting rainfall patterns increase water risks, requiring strategies like conservation, efficient irrigation, and drought-resistant landscaping to protect limited resources.[2,3]

Heavier rainfall can overload wastewater systems, causing overflows.[4] Adaptive strategies include increasing wastewater facility capacity, using green infrastructure like rain gardens and bioswales to manage stormwater, and preventing contamination. Integrating climate projections into planning supports proactive adaptation and strengthens the long-term sustainability of water and wastewater systems. By prioritizing resilience, Falcon Heights can protect public health, the environment, and the local economy while ensuring safe water and reliable wastewater treatment.[5]

Regional Water Stress

By 2025, an estimated 1.8 billion people will live in areas plagued by water scarcity, with two-thirds of the world's population living in water-stressed regions. Since 1985 the Falcon Heights area has had a reduction in water yield of approximately 10%. Through 2050, the City can anticipate an increase in water demand of 20%.[6]

QUICK FACTS

36%
annual precipitation increase projected by 2100

27-55%
heavy precipitation event increase projected by 2100

144
flood and severe storm events in Ramsey County reported since 2000

$30,869,000
in flood and storm damage reported by NOAA since 2000

For More Information (click icon):

Vulnerability | GHG Inventory | Ground Cover

Click here to return to TOC

STRATEGY W1:

Promote a 5% reduction in water use and wastewater generation Citywide by 2035.

Strategy Co-Benefits

Reducing water use and wastewater is key to cutting emissions and building climate resilience. Using less water eases pressure on freshwater resources, supports ecosystems, and lowers energy demand for treatment and transport, reducing greenhouse gases. Minimizing wastewater further conserves energy and cuts emissions. Together, these actions strengthen sustainability and water security.

ACTIONS

W 1-1	Collaborate with regional partners, including Saint Paul Regional Water Services, Capitol Region, Rice Creek Watershed Districts, and Met Council, to help Falcon Heights' largest water users reduce consumption through an opt-in program. Offer technical resources or grants for water-efficient equipment to assist large institutions and businesses in conserving water internally.
W 1-2	Promote community-wide adoption of WaterSense fixtures by accelerating installation in homes and expanding to commercial properties. Goal: achieve 30 households and 10 businesses upgraded annually.
W 1-3	Evaluate adopting a Lawn and Landscaping watering policy that provides clear irrigation guidelines and promotes water conservation.
W 1-4	Implement a policy establishing rainwater collection systems and WaterSense fixtures and appliances as standard for all City facility projects, including modeling best practices in the anticipated new park building. Encourage projects receiving City financing or public funds to adopt similar practices and offer technical support as needed.
W 1-5	Partner with Ramsey County, Saint Paul Regional Water Services, and others to establish a reduced-cost or giveaway program for rain barrels.

STRATEGY W2:

Identify flood-prone areas and develop plans to address future stormwater and climate-related impacts.

Strategy Co-Benefits

Falcon Heights can expect as much as a 36% increase in annual precipitation and 55% more heavy downpours by 2100. [1,7,8] These trends are likely to lead to more runoff and flash flooding on less absorbent ground.[9] Infrastructure is often based on past rainfall, but climate-ready designs must use projections from NOAA and others to account for increased precipitation and heavier storms.

ACTIONS

W 2-1	Incorporate anticipated increases in precipitation and extreme weather into the City's stormwater management plans, including addressing redevelopment of currently exempt properties. Collaborate with Capitol Region and Rice Creek Watershed Districts.
W 2-2	Conduct a pavement analysis and permeable pavement conversion study, prioritizing flood-vulnerable areas identified in the City's 2024 Ground Cover Study. Develop an implementation master plan and replacement schedule. (Consider integration with the Land Conversion Opportunity Study.)
W 2-3	Explore zoning adjustments to reduce impervious surfaces citywide, emphasizing pavement removal, permeable pavement installation, floodplain preservation, and green stormwater infrastructure. Collaborate with Capitol Region and Rice Creek Watershed Districts.
W 2-4	Partner with Capitol Region and Rice Creek Watershed Districts to create or expand incentive programs encouraging rain garden installations, prioritizing areas vulnerable to stormwater impacts.

ACTIONS

W 3-1	Partner with Capitol Region and Rice Creek Watershed Districts to assess the percentage of impervious surface runoff treated by Best Management Practices (BMPs) and set a 2035 improvement goal.
W 3-2	Strengthen ordinances and enforcement to protect riparian areas, streams, and wetlands that store and filter floodwaters.
W 3-3	Adopt a no-fertilizer, no-pesticide policy for all City-owned or managed properties and encourage reduced fertilizer and pesticide use by residents and businesses.
W 3-4	Collaborate with partners to educate residents on environmentally safer alternatives to road and sidewalk salt for ice control.

STRATEGY W3:

Increase groundwater, stream, river and wetland water quality protection and restoration.

Strategy Co-Benefits

Protecting aquifers, lakes, and natural water bodies is vital for climate adaptation, as they store freshwater, support ecosystems, and meet human needs.[10] Climate change harms water quality through evaporation, flooding, and contamination. Groundwater management, land use planning, and riparian restoration are key. Green infrastructure like permeable pavements and rain gardens reduces runoff and improves water quality.[11]

The Plan:

Local Food and Agriculture

Transporting food across long distances relies heavily on fossil fuels, contributing significantly to greenhouse gas emissions. The extended travel time also increases the need for energy-intensive refrigeration, further adding to the environmental impact. By minimizing transportation and refrigeration, we can make our food systems more sustainable.[1]

Choosing locally grown food helps reduce the carbon footprint associated with our meals while also strengthening the local economy. Studies indicate that local produce markets support approximately 32 jobs per $1 million in sales, compared to just 10.5 jobs generated by wholesale distribution channels. Additionally, community gardens and neighborhood gardening provide social and environmental benefits.[2] These spaces can foster a sense of community, create opportunities for people of all ages to engage in shared activities, encourage low-impact outdoor exercise, and support biodiversity by creating habitats for plants, animals, and pollinators.[3]

At the same time, our food systems face increasing threats from climate change.[4] Extreme weather events, rising temperatures, and changing precipitation patterns put crops and livestock at risk. Challenges range from animal heat stress to increased pest infestations and disruptions to natural cycles. These physical impacts are compounded by social and economic consequences. Food insecurity—when access to adequate nutrition is limited by factors like income or availability—disproportionately affects low-income households, who are nearly three times more likely to experience it.[5] As climate change intensifies, it is likely to deepen these existing inequities and further strain food security in many communities.[6]

QUICK FACTS

1
community gardens within the city

0
farmers markets within the city

10.5%
average food insecurity rate in Ramsey County

19.0%
child food insecurity rate in Ramsey County

For More Information (click icon):

GHG Inventory

Ground Cover

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ACTIONS

LF 1-1	Collaborate with the Saint Paul–Ramsey County Food and Nutrition Commission to complete a Food Security Assessment, identify underserved areas, and develop strategies to improve food access—especially for vulnerable populations.
LF 1-2	Partner with organizations like Good Acre, the University of Minnesota, Gibbs Farm, and St. Paul Farmer's Market to create or expand farmers market access in Falcon Heights. Pursue grant opportunities to support these efforts.
LF 1-3	Work with partners to promote subsidy programs that provide local produce at reduced prices for qualifying residents.
LF 1-4	Offer City facilities or parking lots as pickup sites for Community Supported Agriculture (CSA) programs that accept SNAP and EBT payments.

STRATEGY LF1:

Enhance access to local food, especially for low-income and food-insecure individuals.

Strategy Co-Benefits

U.S. agriculture faces regional climate risks.[7] Pacific states face less water, warmer winters, and variable springs. Extreme weather, heat, and flooding threaten Plains and Midwest grain. Livestock in the Plains and Southeast faces weather and supply risks.

Low-income and food-insecure groups will be hit hardest by the effects of these impacts. Strong local food systems boost resilience, food security, jobs, and community wealth.[8,9]

ACTIONS

LF 2-1	Identify and map potential sites for community gardens or farms, prioritizing underserved populations and food-insecure areas. Include parks and public lands, and collaborate with partners to implement garden locations.
LF 2-2	Plant fruit and nut trees on City-owned land, boulevards, and rights-of-way. Partner with groups like Every Meal to collect and distribute the harvest.
LF 2-3	Establish a "Grow Falcon Heights" program to expand community garden plots and create a market garden that offers youth training and internships. Collaborate with local restaurants, food shelves, and organizations to distribute produce to food-insecure residents.

STRATEGY LF2:

Increase production of local food, particularly serving low-income and food-insecure individuals.

Strategy Co-Benefits

Some Falcon Heights residents face economic stress, limited transportation, and live over ½ mile from a grocery store (see the Falcon Heights Climate Baseline Assessment).[10] Others face food insecurity from lack of money, culturally appropriate foods, or resources. Improving food access reduces insecurity and strengthens climate resilience.

STRATEGY LF3:

Reduce food waste and hunger, achieve a 50% decrease in food insecurity Citywide by 2035.

Strategy Co-Benefits



Nationally, 30-40% of food is wasted.[11] Falcon Heights generates about 480 tons of food waste yearly, based on the State's 2013 Waste Study.[12,13] This waste emits greenhouse gases and costs $1 million annually.[14] It also wastes resources like land, water, and energy, and could have helped families in need. Reducing food waste supports sustainability and may reduce food insecurity.

ACTIONS

LF 3-1	Collaborate with the Saint Paul–Ramsey County Food and Nutrition Commission to complete a Food Security Assessment. Identify food-insecure areas, especially vulnerable populations, and develop strategies to improve food access in the city.
LF 3-2	Work with Ramsey County, the University of Minnesota, and the State Fair to explore creating a Food Recovery Network that improves surplus food collection and distribution from large events and facilities to food-insecure and elderly populations.
LF 3-3	Coordinate with local food banks to support edible food donations from City and community events. Expand partnerships with food retailers and restaurants, and share food bank resources on the City's website.

The Plan:

Greenspace and Ecosystems

Trees and natural vegetation are vital to community well-being, helping improve air and water quality, lowering building energy use, and supporting climate action efforts.[1] Research also links exposure to nature, like time spent in parks, with better physical and mental health and reduced stress.[2] Additionally, trees help clean the air by removing pollutants such as carbon dioxide, particulate matter, and ground-level ozone—substances that can worsen asthma and other respiratory conditions when present at high levels.[3]

Prairie Grass and Climate Action

Switching from traditional lawns to native grasses and wildflowers strengthens climate resilience. Native plants require less water and upkeep, cutting down on irrigation, chemical fertilizers, pesticides, and emissions from lawn maintenance.[4] Their deep roots enhance soil stability, improve water absorption, reduce flooding risks, and sequester carbon. Native grasses also promote biodiversity by providing essential habitats for wildlife.[5]

Impervious Surfaces and Heat

More pavement and buildings increase the urban heat island effect, where cities become hotter than surrounding rural areas due to heat absorption by man-made surfaces. This effect worsens extreme heat events, raising health risks and discomfort. Research shows that areas with more impervious surfaces and fewer trees experience significantly higher temperatures.[6]

QUICK FACTS

22.5%
average tree canopy coverage citywide

38.7%
average impervious surface coverage citywide

27.8%
manicured lawn coverage citywide

7.7 °F
Falcon Heights is hotter than nearby rural areas on hot days.

For More Information (click icon):

Vulnerability

Ground Cover

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STRATEGY GE1:

Increase tree cover, particularly in the priority neighborhoods, from 22.5% to 25% by 2035.

Strategy Co-Benefits

Our tree canopy reduces runoff, cleans water, cools urban heat islands, lowers building energy use, stores carbon, and supports economic growth.[7,8,9] Expanding canopy coverage boosts climate adaptation.[10,11]

Prioritizing tree canopy expansion enhances equity, benefits more households, and reduces heat island effects. Suggested neighborhood increases and criteria are outlined in the City's 2024 Ground Cover Study.

ACTIONS

GE 1-1	Adopt a No Net Loss policy that ensures every removed public street or space tree is replaced with a seedling or sapling. If replanting on-site isn't feasible, a tree should be planted in a nearby space or within a tree bank established by or designated by the City.
GE 1-2	Partner to create or expand an annual tree giveaway or discount program for residents. Example: grow and distribute 400 seedlings or saplings each year.
GE 1-3	Update the City's Landscape Ordinance to establish minimum tree and native/pollinator planting coverage standards based on lawn or impervious surface area. Ensure planting islands are included in parking lots for new or expanded developments. Promote diversity in native trees, shrubs, and pollinator-friendly groundcovers.
GE 1-4	Collaborate with partners to share educational resources on climate-adaptive trees, promotion of tree and plant diversity, carbon gardening, tree care, and other sustainable greenspace practices such as reducing fertilizer use, biochar amendments, and polyculture lawns. Post resources on the City website.

STRATEGY GE2:

Enhance pollinator habitats and replace 15% of turf with native grasses and wildflowers citywide by 2035.

Strategy Co-Benefits

Replacing lawns with native grasses and wildflowers creates a natural landscape and helps address climate change. Native plants support wildlife, improve water quality, reduce air pollution, protect biodiversity, and increase carbon sequestration.[12,13,14]

In Falcon Heights, 99% of grasslands are lawns, presenting turf reduction opportunities. Replacing turf boosts stormwater uptake, reduces water use, and increases soil carbon.[15,16,17] Areas with more grass have the greatest potential for native plant restoration.[18]

ACTIONS

GE 2-1	Complete a Land Conversion Opportunity Study to identify turf and impervious areas suitable for conversion to native grasslands, wetlands, shrubs, or forests. Develop an implementation plan by census tract, explore incentives, and launch outreach to promote turf conversion.
GE 2-2	Establish a policy for City properties to reduce impervious surfaces and enhance natural diversity by incorporating pavement reduction, permeable pavement, green roofs, and replacing turf with native wildflowers and prairie grasses to support pollinators.
GE 2-3	Collaborate with partners like the University of Minnesota Bee Lab, Capitol Region and Rice Creek Watershed Districts to develop and share resources on selecting appropriate native and pollinator-friendly plants.
GE 2-4	Partner with the University of Minnesota Master Gardeners to create a greenspace ambassador and education program.

ACTIONS

GE 3-1	Collaborate with partners to create an incentive program supporting the conversion of underutilized paved and turf areas into sustainable green spaces, following the City's Land Conversion Opportunity Study.
GE 3-2	Encourage or require commercial developments receiving City funding, PUD approval, or Conditional Use Permits to implement heat island reduction strategies, including cool surfaces, solar-friendly shading, impervious surface reduction, and breeze capture.
GE 3-3	Collaborate with partners to develop and promote best practices for reducing heat island effects on commercial properties.
GE 3-4	Collaborate with partners to create a cool roofs and pavements incentive program and develop a Falcon Heights demonstration project featuring a cool roof, green roof, green/live wall, or vertical garden.

STRATEGY GE3:

Reduce heat island effect by decreasing dark impervious surfaces 10% citywide by 2035, prioritizing high-impact neighborhoods.

Strategy Co-Benefits

The heat island effect causes urban areas to be warmer than nearby rural regions due to human activities and infrastructure. This increases discomfort and health risks, especially during heat waves, which are expected to grow more frequent and intense in Falcon Heights.[19,20] Dark-colored impervious surfaces contribute significantly to this effect.[21] Reducing these surfaces can help lessen heat island impacts.

Implementation

QUICK FACTS

6
Climate Action Plan Sectors

23
strategies to achieve GHG reduction and climate resilience goals

92
detailed actions outlining a menu of steps that can be taken to support strategies

10 Year
implementation timeframe

The initial years following the adoption of the Falcon Heights Climate Action Plan (CAP) are crucial for setting a successful trajectory. Clarifying roles and securing funding early will be essential to achieving ambitious greenhouse gas reduction and climate resilience goals.

Everyone Has a Role

Climate change affects many aspects of community life, requiring a comprehensive response. Some actions will be led directly by Falcon Heights' elected officials, city leadership, or municipal departments. Other efforts will depend on local government support and active participation from residents, families, and businesses. Building a resilient future demands commitment from both city officials and the entire community.

Climate Action is a Continuous Process

Implementing a multi-year plan comes with uncertainties, especially regarding future technologies and opportunities. To accommodate this, the CAP will follow annual or biennial implementation cycles. Each cycle will identify and prioritize actions across sectors for the upcoming period, ensuring alignment with city initiatives, current projects, and budget planning. Actions will be flexible and adaptable, with refinements made as implementation progresses. Policy changes, new ordinances, or city-funded initiatives will require City Council approval.

The City will prioritize CAP implementation through collaboration among city departments, the Environment Commission, and community stakeholders. This approach ensures integration of climate actions into annual planning and budgeting processes, promoting consistency with broader city efforts.

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Organizational Actions

The following actions outline steps the City can take to organize the implementation of the climate action plan:

I 1-1	Create a City "CAP Implementation Team" comprised of the Environment Commission with the Staff/Council liaisons to meet quarterly, prioritize and track progress, and develop two-year work plans outlining tasks, timelines, resources, and staffing needs. The team will provide annual progress updates to the Environment Commission and City Council.
I 1-2	Explore the potential and benefits of the Environment Commission forming a Falcon Heights Climate Action Collaboration Team with members from local government, nonprofits, community groups, and residents. The team could meet regularly to coordinate CAP implementation, pursue joint initiatives, share lessons, support cross-jurisdictional projects, and identify funding opportunities.
I 1-3	Create a process to review city policies and plans for consistency with the Climate Action Plan. Resource: paleBLUEdot example CAP Alignment Memo
I 1-4	Implement a cohesive annual communication and education campaign that addresses the communication and educational needs of each CAP section. Enhance the City's Energy Action Hub to disseminate CAP resources and foster community action.
I 1-5	Regularly evaluate CAP progress and impacts (every 1-2 years), including updated community-wide and municipal GHG inventories. Review strategies for effectiveness and relevance, adjusting actions as necessary.

Implementation Support Tools

To aid the City's initial implementation, the paleBLUEdot team has developed supportive tools:

Implementation Matrix:
Excel tool for action implementation and monitoring.

Example Programs, Policies and Ordinances
Example programs, policies, and ordinances supporting the City's Climate Action Plan strategies: https://palebluedot.llc/falcon-heights-cap-policies

Example Policy Alignment Memo

For use in reviewing policy items against Climate Action Plan goals: Plan Alignment Statement Memo Falcon Heights.pdf

What You Can Do

Our success in building a sustainable and resilient future depends on all of us. The City has initiated this planning effort, but now we need everyone's involvement to keep the momentum going. Here are some simple steps you can start taking today!

Transportation and Land Use

- Keep vehicles tuned and tires properly inflated.
- Limit idling to 30 seconds, even in winter.
- Walk or bike instead of driving short distances.
- Use public transit regularly for commuting or errands. Plan your trip here.
- Telecommute or carpool to reduce driving.
- Fly less; vacation locally or use remote meetings.
- Consider becoming a one-car household. Explore how to make the change here.
- Choose an electric or hybrid vehicle for your next car. Search models available here.

Buildings and Energy

- Switch all home lighting to energy-efficient LED bulbs.
- Adjust your thermostat slightly higher in summer, lower in winter.
- Check out State of Minnesota's energy savings tips for summer and winter.
- Get a home energy audit to identify efficiency improvements.
- Weatherize your home by sealing drafts and adding insulation.
- Replace older appliances with ENERGY STAR® efficient models.
- Take advantage of incentives from Xcel, the State of Minnesota, and the US Government.
- Replace gas appliances with efficient electric alternatives.
- Install rooftop solar or subscribe to clean electricity through Xcel or a community solar garden.

Waste Management

- Follow Ramsey County recycling guidelines.
- Purchase durable, reusable products to reduce waste.
- Choose reusable bags, bottles, and containers to avoid single-use plastics.
- Repair items instead of discarding; donate or sell usable goods.
- Buy second-hand or borrow items rather than purchasing new.
- Plan meals carefully and shop to reduce food waste.
- Dispose of hazardous waste like batteries and electronics at proper facilities.
- Participate in Ramsey County food scraps program to easily divert scraps from the landfill.
- Participate in Ramsey County's yard waste drop off program.

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Water and Wastewater

- Reduce indoor water use by shortening showers and turning off faucets promptly. See other tips here.
- Repair leaks immediately to avoid unnecessary water loss.
- Keep gutters and storm drains clear to keep your home storm ready. Check out other rain-ready tips here.
- Use rain barrels to collect rainwater for gardening or lawn care.
- Water lawns and gardens infrequently and only during cool parts of the day.
- Install WaterSense water efficient fixtures like low-flow toilets, faucets, and showerheads.
- Install a rain garden to absorb stormwater runoff and reduce flooding.
- Understand your home's flood risk and have a preparedness plan.

Local Food and Agriculture

- Plan meals to use groceries fully and minimize waste.
- Incorporate more plant-based meals into your diet.
- Choose seasonal foods grown locally to reduce transport emissions.
- Select ethically-produced climate-friendly items, such as fair-trade coffee or chocolate.
- Support restaurants and stores selling locally-grown food products.
- Purchase food directly from local farmers through markets or CSA programs.
- Start a small garden at home to grow fruits, vegetables, or herbs.
- Join or start a community garden if space at home is limited.
- Plant fruit or nut trees and shrubs suitable for Minnesota's climate.

Greenspace and Ecosystems

- Avoid chemical pesticides and herbicides; use natural yard-care methods.
- Volunteer locally to assist with tree plantings or gardens.
- Create a pollinator-friendly garden with native plants and wildflowers.
- Reduce lawn size by planting drought-tolerant grasses and native species. Apply for funding to help.
- Plant and care for trees to provide shade and absorb carbon emissions.
- Design your yard to support local wildlife habitats.
- Replace unnecessary pavement with permeable surfaces or greenery.
- Consider installing a green roof to manage stormwater and reduce heat.

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Appendix A
References

The following are sources and additional references used in the Climate Action Plan.

Introduction

1 Estimating the Health-Related Costs of 10 Climate-Sensitive US Events During 2012: https://www.nrdc.org/resources/bitter-pill-high-health-costs-climate-change

2 Stop Climate Change, Save Lives: https://www.nrdc.org/stop-climate-change-save-lives

3 World Health Organization Building Capacity on Climate Change for Human Health Toolkit: https://www.who.int/activities/building-capacity-on-climate-change-human-health/toolkit/cobenefits

4 United Nations Economic Commission for Europe: https://unece.org/DAM/Sustainable_Development_No._2__Final__Draft_OK_2.pdf

5 Bollen, J. et al. (2009), Co-benefits of Climate Change
Mitigation Policies: Literature Review and New Results, https://www.oecd-ilibrary.org/economics/co-benefits-of-climate-change-mitigation-policies_224388684356

6 City of Falcon Heights Community GHG Inventory, 2024; https://view.publitas.com/palebluedot/falcon-heights-ghg-inventory/

7 City of Falcon Heights Climate Vulnerability Assessment: https://view.publitas.com/palebluedot/falcon-heights-climate-vulnerability-assessment/

8 i Parry, I, Veungh, C. and Heine, D. (2014), How Much Carbon Pricing is in Countries' Own Interests? The Critical Role of Co-Benefits; https://www.imf.org/external/pubs/ft/wp/2014/wp14174.pdf

9 UNC Gillings School of Global Public Health, "Reducing greenhouse gases benefits air quality, saves lives"; https://sph.unc.edu/sph-news/reducing-greenhouse-gases-benefits-air-quality-saves-lives/

10 Mapping the co-benefits of climate change action to issues of public concern in the UK: a narrative review: https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30167-4/fulltext

11 Union of Concerned Scientists, Top 10 Benefits of Climate Action: https://www.ucsusa.org/resources/top-10-benefits-climate-action

12 Based on existing average economic value per acre of tree canopy cover. City of Falcon Heights Ground Cover, Heat Island, and Carbon Sequestration Study: https://view.publitas.com/palebluedot/falcon-heights-ground-cover-heat-island-and-carbon-sequestration-study/

13 City of Falcon Heights, Climate Action Plan Community Survey; https://view.publitas.com/palebluedot/falcon-heights-community-survey-report/

14 US EPA, "What Climate Change Means for Minnesota"; https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-mn.pdf

15 State of Minnesota, Interagency Climate Adaptation Team, Building Resiliency to Extreme Precipitation in Minnesota; https://bwsr.state.mn.us/sites/default/files/2018-12/Building_Resiliency_to_Extreme_Precipitation_in_Minnesota-ICAT_White_Paper%20%282%29.pdf

16 NASA, Global Temperature (Global Avg Temperature); https://climate.nasa.gov/vital-signs/global-temperature/?intent=121

17 US Climate Resilience Toolkit Climate Explorer: https://toolkit.climate.gov/tool/climate-explorer-0

18 U.S. Global Change Research Program, Climate Science Special Report: https://science2017.globalchange.gov/

19 US National Oceanic and Atmospheric Administration, National Centers For Environmental Information, Climate Data Online: https://www.ncdc.noaa.gov/cdo-web/

20 Projections assume global greenhouse gas emissions are not reduced in line with the recommendations of the International Panel on Climate Change. Reductions in greenhouse gas emissions can positively effect the projected climate impacts, particularly in the second half of the century. Projections use climate model RCP 8.5 which is recommended by Woodshole Research Center and others as the best match through mid-century under current and stated policies with still highly plausible through 2100. "RCP8.5 tracks cumulative CO_2 emissions" Christopher R. Schwalm University of California, Los Angeles: https://www.pnas.org/doi/full/10.1073/pnas.2007117117#data-availability

21 Unless noted otherwise, projections are based on U.S. Climate Resilience Toolkit CLIMATE EXPLORER, NOAA: https://crt-climate-explorer.nemac.org/

22 Assumes 60% of decrease of days <32° F occur during frost-free season with balance occurring during winter months. All numbers are shown as change over baseline column.

23 University of Minnesota, Changing Seasons: https://climate.umn.edu/our-changing-climate/changing-seasons

24 Argonne National Laboratory, Center for Climate Resilience and Decision Science: https://disgeoportal.egs.anl.gov/ClimRR/

25 Increases are due to increased air conditioning needs. Calculations are based on US Environmental Protection Agency's "Climate Change Indicators: Residential Energy Use": https://www.epa.gov/climate-indicators/climate-change-indicators-residential-energy-use and an estimated average of 16.9% of total residential electric use for air conditioning based on US Energy Information Administration "Use of energy explained": https://www.eia.gov/energyexplained/use-of-energy/electricity-use-in-homes.php

26 University of Minnesota Climate Adaptation Partnership; https://climate.umn.edu/our-changing-climate/extreme-events

27 NASA, Global Temperature (Global Avg Temperature); https://climate.nasa.gov/vital-signs/global-temperature/?intent=121

28 State of Minnesota MPCA, Climate Change Impacts; https://www.pca.state.mn.us/air-water-land-climate/climate-change-impacts

29 UN Intergovernmental Panel on Climate Change (IPCC), AR6 Synthesis Report Climate Change 2023; https://www.ipcc.ch/report/ar6/syr/

30 United Nations, The Paris Agreement (2015), 2.1.a, https://unfccc.int/sites/default/files/english_paris_agreement.pdf

31 UN Intergovernmental Panel on Climate Change, IPCC AR6 Synthesis Report; https://www.ipcc.ch/report/ar6/syr/figures/figure-spm-5

The Plan - Transportation

1 US Energy Information Administration, International Energy Outlook 2016 https://www.eia.gov/outlooks/ieo/pdf/transportation.pdf

2 City of Falcon Heights Community GHG Inventory, 2024; https://view.publitas.com/palebluedot/falcon-heights-ghg-inventory/

3 The Influence of Urban Form on GHG Emissions in the U.S. Household Sector (Lee, S., and Lee, B. 2014) https://www.researchgate.net/publication/270952371_The_influence_of_urban_form_on_GHG_emissions_in_the_US_household_sector

4 National Academies, "Transportation's Role in Equity and Justice: Restoring and Revitalizing Neighborhoods and Communities": https://www.nationalacademies.org/news/2021/07/transportations-role-in-equity-and-justice-restoring-and-revitalizing-neighborhoods-and-communities

5 City of Falcon Heights Climate Action Baseline Assessment and Strategic Goal Recommendations, 2024: https://view.publitas.com/palebluedot/city-of-falcon-heights-climate-action-baseline-assessment/

6 US Census accessed via Deloitte Data USA: https://datausa.io/profile/geo/Falcon Heights-mn

7 US Census, On The Map: https://onthemap.ces.census.gov/

8 AAA "Your Driving Costs, 2023": https://newsroom.aaa.com/wp-content/uploads/2023/08/YDC-Fact-Sheet-FINAL-8.30.23-1.pdf

9 Social Explorer Tables (SE), Environmental Summaries 2011, Social Explorer; National Historical Geographic Information System (NHGIS)

10 US Census https://data.census.gov/

11 TRB *Special Report 298: Driving and the Built Environment: Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions* Impacts of Land Use Patterns on Vehicle Miles Traveled Evidence from the Literature https://www.nap.edu/read/12747/chapter/5#88

12 New York Times, "E.V.s Start With a Bigger Carbon Footprint. But That Doesn't Last"; https://www.nytimes.com/2022/10/19/business/electric-vehicles-carbon-footprint-batteries.html

13 EV HUB: https://www.atlasevhub.com/materials/state-ev-registration-data/

14 US EPA, Automotive Trends Report, 2023; https://www.epa.gov/automotive-trends

15 US Department of Transportation, Electric Vehicle Charging Infrastructure; https://www.transportation.gov/sites/dot.gov/files/2024-12/EV%20Charging%20Infrastructure%20-%20Climate%20Strategies%20that%20Work.pdf

16 US Department of Energy, Alternative Fuel Data Center, Electric Vehicle Benefits and Considerations; https://afdc.energy.gov/fuels/electricity-benefits

17 US Energy Information Administration, Carbon Dioxide Emissions Coefficients: https://www.eia.gov/environment/emissions/co2_vol_mass.php

18 Metropolitan Council Community Profiles; https://stats.metc.state.mn.us/profile/

The Plan – Buildings and Energy

1 City of Falcon Heights Community GHG Inventory, 2024; https://view.publitas.com/palebluedot/falcon-heights-ghg-inventory/

2 US Department of Energy, Residential Program Solution Center: https://rpsc.energy.gov/energy-data-facts

3 City of Falcon Heights, residential and non-residential construction permit history, 2021, 2022, and 2023.

4 Social Explorer, Market Profile Data 2022 based on US Census American Census Survey; https://www.socialexplorer.com/data/EASI2025/documentation/7933fdf1-4c9b-4cb2-ad82-5a8e949ac78f

5 US Census Bureau ACS 5 year estimates; https://data.census.gov/table/

6 State of Minnesota House of Representatives, "State establishes standard of 100% carbon-free electricity by 2040" https://www.house.mn.gov/NewLaws/story/2023/5473

7 City of Falcon Heights Climate Action Baseline Assessment and Strategic Goal Recommendations, 2024: https://view.publitas.com/palebluedot/city-of-falcon-heights-climate-action-baseline-assessment/

8 US Department of Energy, Benefits of Residential Solar Electricity: https://www.energy.gov/energysaver/benefits-residential-solar-electricity

9 ACEEE Understanding Energy Affordability: https://www.aceee.org/sites/default/files/energy-affordability.pdf

10 City of Falcon Heights Renewable Energy Potentials Study, 2024: https://view.publitas.com/palebluedot/falcon-heights-renewable-potentials-study/

11 Xcel Energy, Renewable Energy Opportunities: https://mn.my.xcelenergy.com/s/renewable

12 Dakota Electric Association, Renewable Energy: https://www.dakotaelectric.com/renewable-energy/

13 US Department of Energy, Renewable Energy Certificates: https://www.epa.gov/green-power-markets/renewable-energy-certificates-recs

14 Savings calculated on Falcon Heights average commercial electricity rate as reported by Electricity Local (https://www.electricitylocal.com/) and Natural Gas Local (https://naturalgaslocal.com/)

The Plan – Waste Management

1 US EPA, Understanding Global Warming Potentials; https://www.epa.gov/ghgemissions/understanding-global-warming-potentials

2 Northwestern Global News, How cities can cut transportation emissions. New Northeastern research reveals key strategies; https://news.northeastern.edu/2025/03/19/climate-plan-city-research/

3 Lawrence University, The Impact of Recycling on Environmental Sustainability; https://blogs.lawrence.edu/careercenter/2024/10/the-impact-of-recycling-on-environmental-sustainability.html

4 US EPA National Recycling Strategy: https://www.epa.gov/circulareconomy/national-recycling-strategy

5 MPCA, Waste planning and recycling: https://www.pca.state.mn.us/air-water-land-climate/waste-planning-and-recycling

6 MPCA, Understanding Solid Waste; https://www.pca.state.mn.us/air-water-land-climate/understanding-solid-waste

7 City of Falcon Heights Community GHG Inventory, 2024; https://view.publitas.com/palebluedot/falcon-heights-ghg-inventory/

8 MPCA Waste Planning and Recycling; https://www.pca.state.mn.us/air-water-land-climate/waste-planning-and-recycling

9 Minnesota Chamber of Commerce, WasteWise program: https://www.mnchamber.com/sites/default/files/Waste%20Wise%20Annual%20Report.pdf

10 North Carolina State University Extension, How Your Business Can Cut Costs by Reducing Waste: https://content.ces.ncsu.edu/how-your-business-can-cut-costs-by-reducing-wastes

11 ReFed, A Roadmap To Reduce US Food Waste by 20 Percent: https://www.refed.com/downloads/ReFED_Report_2016.pdf

12 Agency for Toxic Substances and Disease Registry: https://www.atsdr.cdc.gov/hac/landfill/html/ch2.html

13 City of Falcon Heights Climate Action Baseline Assessment and Strategic Goal Recommendations, 2024: https://view.publitas.com/palebluedot/city-of-falcon-heights-climate-action-baseline-assessment/

14 State of Minnesota, 2013 Statewide Waste Characterization; https://www.pca.state.mn.us/sites/default/files/w-sw1-60.pdf

The Plan – Water and Wastewater

1 City of Falcon Heights Climate Vulnerability Assessment: https://view.publitas.com/palebluedot/falcon-heights-climate-vulnerability-assessment/

2 Center for Climate and Energy Solutions, "Resilience Strategies for Drought"; https://www.c2es.org/wp-content/uploads/2018/10/resilience-strategies-for-drought.pdf

3 Aspen Public Radio, "How Landscaping Plays a Key Role in The Fight Against Climate Change"; https://www.aspenpublicradio.org/2023-10-17/how-landscaping-plays-a-key-role-in-the-fight-against-climate-change

4 Climate Central, "Overflow: Climate Change, Heavy Rain, And Sewage"; https://assets.climatecentral.org/pdfs/Overflow_sewagereport_update.pdf

5 Johnson T, Butcher J, Santell S, Schwartz S, Julius S, LeDuc S. A review of climate change effects on practices for mitigating water quality impacts. J Water Clim Chang. 2022 Mar 22; https://iwaponline.com/jwcc/article/13/4/1684/87748/A-review-of-climate-change-effects-on-practices

6 City of Falcon Heights Climate Action Baseline Assessment and Strategic Goal Recommendations, 2024: https://view.publitas.com/palebluedot/city-of-falcon-heights-climate-action-baseline-assessment/

7 Argonne National Laboratory, Center for Climate Resilience and Decision Science, https://disgeoportal.egs.anl.gov/ClimRR/

8 Defined as Days Per Year with > 1" Rainfall, U.S. Climate Resilience Toolkit CLIMATE EXPLORER, NOAA; https://crt-climate-explorer.nemac.org/

9 WUFT, "Why the risk for flash flooding increases after a drought"; https://www.wuft.org/weather/2022-08-12/why-the-risk-for-flash-flooding-increases-after-a-drought

10 American Public Health Association, "Climate Changes Health: Water Quality and Accessibility";https://www.apha.org/topics-and-issues/climate-health-and-equity/water-quality

11 US EPA, National Menu Best Management Practices: https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater

The Plan – Local Food and Agriculture

1 H. Nabipour Afrouzi, J. Ahmed, B. Mobin Siddique, N. Khairuddin, Ateeb Hassan, A comprehensive review on carbon footprint of regular diet and ways to improving lowered emissions, Results in Engineering, Volume 18, 2023; https://doi.org/10.1016/j.rineng.2023.101054

2 Conner, David & Knudson, William & Hamm, Michael & Peterson, H.. (2008). The Food System as an Economic Driver: Strategies and Applications for Michigan. https://www.researchgate.net/publication/247521128_The_Food_System_as_an_Economic_Driver_Strategies_and_Applications_for_Michigan

3 North Carolina State Extension, Research & Benefits of Community Gardens: https://nccommunitygardens.ces.ncsu.edu/resources-3/nccommunitygardens-research/

4 USDA Climate Indicators for Agriculture: https://www.usda.gov/sites/default/files/documents/climate_indicators_for_agriculture.pdf

5 US Department of Health, Office of Disease Prevention and Health Promotion, Food Insecurity: https://odphp.health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/food-insecurity

6 US Global Change Research Program, Fifth National Climate Assessment, Agriculture, Food Systems, and Rural Communities Chapter; https://nca2023.globalchange.gov/chapter/11/

7 Lengnick, Laura. (2015). The vulnerability of the US food system to climate change. Journal of Environmental Studies and Sciences. https://www.researchgate.net/publication/282499666_The_vulnerability_of_the_US_food_system_to_climate_change

8 Cleveland Foundation, ParkWorks, Kent State University Cleveland Urban Design Collaborative, Neighborhood Progress Inc., Cleveland-Cuyahoga County Food Policy Coalition: https://docs.google.com/viewerng/viewer?url=https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-masi-et-al.pdf

9 American Planning Association, Local Food Systems Key to Healthy, Resilient, Equitable Communities: https://www.planning.org/planning/2021/winter/local-food-systems-key-to-healthy-resilient-equitable-communities/

10 USDA Food Access Research Atlas; https://www.ers.usda.gov/data-products/food-access-research-atlas/

11 USDA, Why Should You Care About Food Waste: https://www.usda.gov/foodlossandwaste/why

12 State of Minnesota, 2013 Statewide Waste Characterization; https://www.pca.state.mn.us/sites/default/files/w-sw1-60.pdf

13 City of Falcon Heights Community GHG Inventory, 2024; https://view.publitas.com/palebluedot/falcon-heights-ghg-inventory/

14 ReFed, A Roadmap To Reduce US Food Waste by 20 Percent: https://www.refed.com/downloads/ReFED_Report_2016.pdf

The Plan – Greenspace and Trees

1 US EPA, Using Trees and Vegetation to Reduce Heat Islands; https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands

2 Dahlia Stott, et al, Interactions with Nature, Good for the Mind and Body: A Narrative Review, Int J Environ Res Public Health. 2024 Mar; 21(3): 329. Published online 2024 Mar 12; https://www.mdpi.com/1660-4601/21/3/329

3 US EPA, Throwing Shade Exploring Benefits of Trees; https://www.epa.gov/sciencematters/throwing-shade-exploring-benefits-trees

4 US EPA, Landscaping with Native Plants; https://archive.epa.gov/greenacres/web/html/conf_knwldge.html

5 Audubon, Why Native Plants Matter; https://www.audubon.org/content/why-native-plants-matter

6 Comparison of impervious surface area and normalized difference vegetation index as indicators of surface urban heat island effects in Landsat imagery. Fi Yuan and Marvin Bauer, February 2007: https://doi.org/10.1016/j.rse.2006.09.003

7 Francisco J. Escobedo, Timm Kroeger, John E. Wagner, Urban forests and pollution mitigation: Analyzing ecosystem services and disservices, Environmental Pollution, Volume 159, Issues 8–9, 2011: https://www.sciencedirect.com/science/article/abs/pii/S0269749111000327

8 T Elmqvist, H Setälä, SN Handel, S van der Ploeg, J Aronson, JN Blignaut, E Gómez-Baggethun, DJ Nowak, J Kronenberg, R de Groot, Benefits of restoring ecosystem services in urban areas, Current Opinion in Environmental Sustainability, Volume 14, 2015: https://www.sciencedirect.com/science/article/pii/S1877343515000433

9 USDA Forest Service, Carbon Storage and Sequestration by Urban Trees in the USA: https://research.fs.usda.gov/treesearch/15521

10 US EPA, Using Trees and Vegetation to Reduce Heat Islands: https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands

11 USDA Forest Service, Trees Reduce Building Energy Use in US Cities: https://research.fs.usda.gov/treesearch/53420

12 US EPA, Green Landscaping: Greenacres, a Source Book on Natural Landscaping for Public Officials: https://archive.epa.gov/greenacres/web/html/chap2.html

13 Fight Climate Change at Home: Landscaping with Native Grasses, Lindsay Ifill: https://wildrootsnj.com/blog/ecological-landscaping-with-native-grasses-climate-change

14 Tallgrass Ontario: Tallgrass Prairie and Carbon Sequestration: https://tallgrassontario.org/wp-site/carbon-sequestration/

15 University of Minnesota, "The Potential of Turfgrass to Sequester Carbon and Offset Greenhouse Gas Emissions"; https://turf.umn.edu/news/potential-turfgrass-sequester-carbon-and-offset-greenhouse-gas-emissions

16 Resource Central, Unearth the Turf: Outdoor Water Savings; https://resourcecentral.org/unearth-the-turf-outdoor-water-savings/

17 US EPA, Know Your Roots; https://cfpub.epa.gov/npstbx/files/KSMO_KnowYourRoots.pdf

18 City of Falcon Heights Ground Cover, Heat Island, and Carbon Sequestration Study: https://view.publitas.com/palebluedot/falcon-heights-ground-cover-heat-island-and-carbon-sequestration-study/

19 US EPA, Climate Change and Heat Islands: https://www.epa.gov/heatislands/climate-change-and-heat-islands

20 City of Falcon Heights Climate Vulnerability Assessment: https://view.publitas.com/palebluedot/falcon-heights-climate-vulnerability-assessment/

21 Comparison of impervious surface area and normalized difference vegetation index as indicators of surface urban heat island effects in Landsat imagery. Fi Yuan and Marvin Bauer, February 2007: https://linkinghub.elsevier.com/retrieve/pii/S0034425706003191

Appendix B

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Potential Cumulative Community Cost Savings From Plan Implementation

The following documents the calculations and source references used for estimating the potential cumulative communitywide cost savings of the actions included in the Climate Action Plan.

Summary of Estimated Cumulative Savings of Modeled Reductions
City of Falcon Heights

Notes

Transportation

VMT Reductions (public transit, bike, walk, etc)

Formula:

Cumulative vehicle miles saved x Average vehicle operation cost per mile = Gross VMT savings

	VMT saved (goal year)	1,366,663
	Cumulative vehicle miles saved (through goal year):	8,199,979
1	Average vehicle operating cost per mile:	$0.820
	Gross VMT savings	**$8,199,979**

1 Savings per VMT based on AAA estimates (https://newsroom.aaa.com/wp-content/uploads/2023/08/YDC-Fact-Sheet-FINAL-8.30.23-1.pdf , https://www.slashgear.com/aaa-says-it-costs-about-74-cents-per-mile-to-drive-23496316/)

Increased Public Transit Use

Formula:

Cumulative increased public transit mileage x Average public transit cost per mile = Increased spending on public transit

	Increased public transit miles (goal year)	1,093,331
	Cumulative increased public transit miles (through goal year):	6,559,983
2	Annual increased public transit pass costs (goal year):	-$230,208
	Cumulative increased public transit pass costs (through goal year):	-$1,381,248
	Increased spending on public transit	**-$1,381,248**

2 Annual increased public transit pass costs calculated based on increased percentage of population using public transit (target increased public transit percentage) multiplied by cost of monthly transit pass. Negative numbers indicate increased consumer spending. (https://www.census.gov/programs-surveys/sis/resources/data-tools/quickfacts.html https://www.metrotransit.org/fares-passes)

EV and Alt Fuel Conversions

Formula:

Cumulative VMT converted to EV/alt fuel x Average vehicle operation cost savings per mile = Gross EV VMT savings - Gross EV purchase spending difference = Net EV VMT Savings

	VMT converted to EV/Alt fuel (goal year)	1,366,663
	Cumulative VMT converted to EV/alt fuel (through goal year)	8,199,979
3	Average fuel savings per mile:	$0.121
4	Average vehicle maintenance savings per mile:	$0.040
	Cumulative Gross EV VMT savings (through goal year)	$1,317,255
5	Spending difference per vehicle on EV purchase vs ICE purchase	-$390
	New electric vehicle purchases	470
	Gross EV purchase spending difference (through goal year)	-$183,337
	Net EV VMT savings	**$1,133,918**

3 Fuel Savings per VMT based on average reported gasoline costs (https://gasprices.aaa.com/state-gas-price-averages/) divided by current average MPG (Federal Highway Administration: https://www.fhwa.dot.gov/policyinformation/quickfinddata/qftravel.cfm) compared against average fuel cost per mile using current kWh rate (https://www.electricitylocal.com/) and average kWh/100 mile data (https://www.fueleconomy.gov/feg/byfuel/EV2024.shtml ; https://ev-database.org/cheatsheet/energy-consumption-electric-car)

4 Maintenance savings per mile based on US Department of Energy FOTW #1190, June 14, 2021: Battery-Electric Vehicles Have Lower Scheduled Maintenance Costs than Other Light-Duty Vehicles: (https://www.energy.gov/eere/vehicles/articles/fotw-1190-june-14-2021-battery-electric-vehicles-have-lower-scheduled)

5 Average EV purchase price increse per vehicle on Kelly Blue Book average EV purchase price compared to average gasoline vehicle purchase price (https://www.coxautoinc.com/market-insights/february-2025-atp-report/) with a $7,500 tax credit applied. The total cost difference is then divided by an assumed 5-year financing term to arrive at an estimated annualized cost difference. Negative numbers indicate increased consumer spending (https://www.nerdwallet.com/article/taxes/ev-tax-credit-electric-vehicle-tax-credit)

Potential Total Cumulative Transportation Cost Savings

Formula:

Transportation sector savings - Transportation sector cost increases = Potential Total Cumulative Transportation Cost Savings

Transportation Sector Savings	
Gross VMT savings	$8,199,979
Gross EV VMT savings	$1,317,255
Total Gross Transportation Savings	$9,517,233
Transportation Sector Cost Increases	
Increased spending on public transit	-$1,381,248
Gross EV purchase spending difference	-$183,337
Total Gross Transportation Cost Increases	-$1,564,585
Potential Total Cumulative Transportation Cost Savings	**$7,952,649**

Summary of Estimated Cumulative Savings of Modeled Reductions
City of Falcon Heights

Energy - Residential

Residential Savings - grid electricity to customer owned solar

Formula:

Cumulative kWh converted to solar x Average cost savings per kWh = Residential solar savings

Notes		
	Residential kWh converted (goal year)	1,166,795
	Cumulative residential kWh converted (through goal year)	7,000,768
	Average net solar cost savings per solar kWh	$0.058
6a	Average solar installation cost per KW	$3,116.50
7	Average kWh produced annually per solar pv KW installed	1,287
	Estimated installed solar PV KW installed (goal year)	907
	Estimated total solar installation costs	$2,825,420
8	Est average lifespan kWh produced per solar pv KW installed	38,429
8	Estimated cumulative lifespan kWh produced	34,839,759
9	Estimated value of cumulative lifespan kWh produced	$4,840,145
	Average solar cost savings per kWh produced	$0.058
	Residential solar savings	**$404,843**

6a Recent average cost per KW is 1000x the per watt cost reported by Solar Reviews https://www.solarreviews.com Value includes assumed financing costs based on 20% initial payment and 80% financed through 10 year loan with 3.5% annual interest rate. Potential savings from tax credits, depreciation, or grants are not included and would reduce these costs.

7 Calculations are based on the geographic energy production factor (https://www.nrel.gov/docs/fy04osti/35297.pdf) multiplied by an average performance ratio of 78% (https://www.nrel.gov/docs/fy13osti/57991.pdf)

8 Based on an assumed average useful life of 32.5 years according to NREL research with an average degradation rate of 0.5% (https://www.nrel.gov/docs/fy24osti/90042.pdf)

9 Savings per kWh based on average electricity cost per kWh (https://www.electricitylocal.com/) calculated to the solar array's midlife (year 16) using an estimated average electrical cost inflation of 2% annually

Residential Savings - community solar

Formula:

Cumulative kWh converted to community solar x Average cost savings per kWh = Residential community solar savings

Notes		
	Residential kWh converted (goal year)	0
	Cumulative residential kWh converted (through goal year)	0
10	Average community solar cost savings per kWh	$0.010
	Residential solar savings	**$0**

10 The average cost savings per kWh of community solar subscription is estimated at 10%.

Residential Savings - utility purchased renewable

Formula:

Cumulative kWh converted to utility purchased renewable x Average cost/savings per kWh = Residential utility purchased cost/savings

Notes		
	Residential kWh converted (goal year)	1,166,795
	Cumulative residential kWh converted (through goal year)	7,000,768
11	Average utility purchased cost/savings per kWh	-$0.013
	Residential utility purchased cost/savings	**-$88,840**

11 The average cost/savings per kWh of utility purchased renewable energy subscription is based on utility fee information. Negative numbers indicate increased consumer spending

Residential Savings - electrical energy efficiency

Formula:

Cumulative kWh saved from energy efficiency x Average cost per kWh = Gross Residential electrical energy efficiency savings - Residential Efficiency Upgrade Costs = Net Residential Electrical Energy Efficiency Savings

	Residential kWh saved (goal year)	648,219
	Cumulative residential kWh saved (through goal year)	3,889,316

12a	Average cost per kWh	$0.101
	Gross Residential electrical energy efficiency savings	**$393,599**
13	Residential Electrical Efficiency Upgrade Costs	-$346,367
	Net Residential Electrical Energy Efficiency Savings	**$47,232**

12a Energy efficiency savings per kWh saved based on average electricity cost per kWh: (https://www.electricitylocal.com/)

13 Assumed energy efficiency upgrade costs are calculated assuming an average ROI of12% (https://www.aceee.org/blog/2019/05/existing-homes-energy-efficiency) Negative numbers indicate increased consumer

Residential Savings - natural gas energy efficiency

Formula:

Cumulative therms saved from energy efficiency x Average cost per therm = Gross Residential natural gas energy efficiency savings - Residential Natural Gas Efficiency Upgrade Costs = Net Residential Electrical Natural Gas Efficiency Savings

14	Residential therms saved (goal year)	58,767
14	Cumulative residential therms saved (through goal year)	352,604
15	Average cost per therm	$1.848
	Gross Residential natural gas energy efficiency savings	**$651,612**
14, 16	Residential Natural Gas Efficiency Upgrade Costs	-$573,419
	Net Residential Electrical Natrual Gas Efficiency Savings	**$78,193**

14 Includes fuel switching from fossil fuel heat to electric

15 Energy efficiency savings for natural gas is based on average natural gas cost per therm (https://naturalgaslocal.com/)

16 Assumed energy efficiency upgrade costs are calculated assuming an average ROI of12% (https://www.aceee.org/blog/2019/05/existing-homes-energy-efficiency) Negative numbers indicate increased consumer spending

Potential Total Cumulative Residential Energy Cost Savings

Formula:

Residential solar savings + Residential community solar savings + Residential utility purchased renewable + Residential electrical efficiency savings + Residential natural gas energy efficiency savings - Residential increased electrical costs = Potential Total Cumulative Residential Energy Savings

Residential solar savings	$404,843
Residential community solar savings	$0
Residential utility purchased renewable cost/savings	-$88,840
Residential electrical efficiency savings (net)	$47,232
Residential natural gas energy efficiency savings (net)	$78,193
Potential Total Cumulative Residential Energy Savings	**$441,428**

Summary of Estimated Cumulative Savings of Modeled Reductions
City of Falcon Heights

Notes

Energy - Non Residential

Non-Residential Savings - grid electricity to solar

Formula:

Cumulative kWh converted to solar x Average cost savings per kWh = Non-Residential solar savings

	Non-Residential kWh converted (goal year)	1,554,891
	Cumulative Non-Residential kWh converted (through goal year)	9,329,346
	Average solar cost savings per kWh	$0.050
6b	Average solar installation cost per KW	$1,978.00
7	Average kWh produced annually per solar pv KW installed	1,287
	Estimated installed solar PV KW installed (goal year)	1,208
	Estimated total solar installation costs	$2,389,724
8	Estimated average lifespan kWh produced per solar pv KW installed	38,429
8	Estimated cumulative lifespan kWh produced	46,428,071
9	Estimated value of cumulative lifespan kWh produced	$4,712,200
	Average solar cost savings per kWh produced	$0.050
	Non-Residential solar savings	**$466,683**

6b Recent average cost per KW is 1000x the per watt cost reported for commercial solar arrays by NREL (https://www.nrel.gov/docs/fy21osti/77324.pdf https://www.nrel.gov/solar/market-research-analysis/solar-installed-system-cost.html) Value includes assumed financing costs based on 20% initial payment and 80% financed through 10 year loan with 3.5% annual interest rate. Potential savings from tax credits, depreciation, or grants are not included and would reduce these costs.

7 Calculations are based on the geographic energy production factor (https://www.nrel.gov/docs/fy04osti/35297.pdf) multiplied by an average performance ratio of 78% (https://www.nrel.gov/docs/fy13osti/57991.pdf)

8 Based on an assumed average useful life of 32.5 years according to NREL research with an average degradation rate of 0.5% (https://www.nrel.gov/docs/fy24osti/90042.pdf)

9 Savings per kWh based on average electricity cost per kWh (https://www.electricitylocal.com/) calculated to the solar array's midlife (year 16) using an estimated average electrical cost inflation of 2% annually

Non-Residential Savings - community solar

Formula:

Cumulative kWh converted to community solar x Average cost savings per kWh = Non-Residential community solar savings

	Non-Residential kWh converted (goal year)	0
	Cumulative Non-Residential kWh converted (through goal year)	0
10	Average solar cost savings per solar kWh	$0.01
	Commercial solar savings	**$0**

10 The average cost savings per kWh of community solar subscription is estimated at 10%.

Non-Residential Savings - utility purchased renewable

Formula:

Cumulative kWh converted to utility purchased renewable x Average cost/savings per kWh = Non-Residential utility purchased cost/savings

	Non-Residential kWh converted (goal year)	1,554,891
	Cumulative Non-Residential kWh converted (through goal year)	9,329,346
11	Average utility purchased cost/savings per kWh	-$0.013
	Non-Residential utility purchased cost/savings	**-$118,389**

11 The average cost/savings per kWh of utility purchased renewable energy subscription is based on utility fee information. Negative numbers indicate increased consumer spending

Non-Residential Savings - electrical energy efficiency

Formula:

Cumulative kWh saved from energy efficiency x Average cost per kWh = Gross Non-Residential electrical energy efficiency savings - Non-Residential Efficiency Upgrade Costs = Net Non-Residential Electrical Energy Efficiency Savings

	Commercial kWh saved (goal year)	2,591,485
	Cumulative commercial kWh saved (through goal year)	15,548,909
12b	Average cost per kWh	$0.074
	Gross Commercial electrical energy efficiency savings	**$1,149,583**
13	Commercial Electrical Efficiency Upgrade Costs	-$1,011,633
	Net Commercial Electrical Energy Efficiency Savings	**$137,950**

12b Energy efficiency savings per kWh saved based on average electricity cost per kWh reported for commercial and industrial with a weighted average (2/3rds commercial rate, 1/3rd industrial rate) reflecting typical non-residential electric consumption patterns (https://www.electricitylocal.com/)

13 Assumed energy efficiency upgrade costs are calculated assuming an average ROI of12% (https://www.aceee.org/blog/2019/05/existing-homes-energy-efficiency) Negative numbers indicate increased consumer spending

Non-Residential Savings - natural gas energy efficiency
Formula:

Cumulative therms saved from energy efficiency x Average cost per therm = Gross Non-Residential natural gas energy efficiency savings - Non-Residential Natural Gas Efficiency Upgrade Costs = Net Non-Residential Electrical Natural Gas Efficiency Savings

14	Non-Residential therms saved (year 10)	177,945
14	Cumulative Non-Residential therms saved	1,067,670
15	Average cost per therm	$0.431
	Gross Non-Residential natural gas energy efficiency savings	**$460,166**
14, 16	Non-Residential Natural Gas Efficiency Upgrade Costs	-$404,946
	Net Non-Residential Natural Gas Energy Efficiency Savings	**$55,220**

14 Includes fuel switching from fossil fuel heat to electric

15 Energy efficiency savings for natural gas is based on average natural gas cost per therm https://naturalgaslocal.com/

16 Assumed energy efficiency upgrade costs are calculated assuming an average ROI of12% (https://www.aceee.org/blog/2019/05/existing-homes-energy-efficiency) Negative numbers indicate increased consumer spending

Potential Total Cumulative Non-Residential Energy Cost Savings

Formula:

Non-Residential solar savings + Non-Residential community solar savings + Non-Residential utility purchased renewable + Non-Residential electrical efficiency savings + Non-Residential natural gas energy efficiency savings - Non-Residential increased electrical costs = Potential Total Cumulative Non-Residential Energy Savings

Non-Residential solar savings	$466,683
Non-Residential community solar savings	$0
Non-Residential utility purchased renewable cost/savings	-$118,389
Non-Residential electrical efficiency savings	$137,950
Non-Residential natural gas energy efficiency savings	$55,220
Potential Total Cumulative Non-Residential Energy Savings	**$541,463**

Potential Total Cumulative Energy Cost Savings (Residential + Non-Residential)

Formula:

Energy sector savings - Energy sector cost increases = Potential Total Cumulative Energy Cost Savings

Energy Sector Savings	
Total solar energy savings	$871,526
Total community solar energy savings	$0
Total energy efficiency savings - electricity	$1,543,181
Total energy efficiency savings - natural gas	$1,111,778
Total Gross Energy Savings	$3,526,485
Energy Sector Cost Increases	
Total solar PV installation costs	(included in estimated Total Solar Energy Savings)
Total utility purchased renewable cost/savings	-$207,229
Total energy efficiency upgrade costs - electricity	-$1,358,000
Total energy efficiency upgrade costs - natural gas	-$978,365
Total Gross Energy Cost Increases	-$2,543,594
Potential Total Cumulative Energy Cost Savings	**$982,892**

Summary of Estimated Cumulative Savings of Modeled Reductions

City of Falcon Heights

Notes

Solid Waste - Residential

Residential savings - Food Waste Reduction

Formula:

Cumulative tons of food waste reduced and diverted x Average cost savings per ton = Residential food waste savings	
Residential food waste reduced (goal year)	31
Cumulative residential food waste reduced (through goal year)	188
17 Average cost savings per ton reduced	$2,469
Residential food waste savings	**$463,869**

17 Value per ton of residential food waste avoided is based on average for Prevent and Recover strategies by ReFED "A Roadmap To Reduce U.S. Food Waste" (https://refed.com/downloads/the-roadmap-to-reduce-u-s--food-waste/). Food waste share of total organics diverted is calculated based on available waste sort data (see Baseline Assessment document)

Potential Total Cumulative Residential Solid Waste Reduction Cost Savings

Residential food waste savings	**$463,869**

Notes

Solid Waste - Non-Residential

Non-Residential savings - Solid Waste Reduction

Formula:

Cumulative participant/years x Average reported cost savings per participant/year = Non-Residential solid waste savings	
Participating businesses (goal year)	50
Cumulative participant/years (through goal year)	550
18 Average cost savings per participant/year	$431
Commercial solid waste savings	**$1,422,300**

18 Savings per business engaged in waste reduction programs are based on MN WasteWise reported average business savings ($431) escalated to 5 year (mid point) Cumulative savings assume businesss reduction strategies remain in force (https://www.mnchamber.com/your-opportunity/waste-wise)

Commercial savings - Food Waste Reduction

Formula:

Cumulative tons of food waste reduced and diverted x Average cost savings per ton = Non-Residential food waste savings	
Commercial food waste reduced (goal year)	37
Cumulative non-residential food waste reduced (through goal year)	221
19 Average cost savings per ton reduced	$494
Commercial food waste savings	**$108,908**

19: Average cost savings per ton of food waste avoided is based on an assumed 20% wholesale share of value per ton of residential food waste average for Prevent and Recover strategies by ReFED "A Roadmap To Reduce U.S. Food Waste" (https://refed.com/downloads/the-roadmap-to-reduce-u-s--food-waste/) Additionally, the World Resources Institute conducted a study which found that for every $1 invested in food waste reduction, businesses saved $14 in operational costs (https://www.wri.org/news/release-new-research-finds-companies-saved-14-every-1-invested-reducing-food-waste)

Potential Total Cumulative Solid Waste Savings

Formula:

Residential Food Waste Savings + Commercial Solid Waste Savings + Commercial Food Waste Savings = Potential Total Cumulative Solid Waste Savings

Residential Food Waste Savings	$463,869
Non-Residential Solid Waste Savings	$1,422,300
Non-Residential Food Waste Savings	$108,908
Potential Total Cumulative Solid Waste Savings	**$1,995,078**

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Appendix C
Abbreviations and Glossary of Terms

The following are abbreviations and terms used in the Climate Action Plan as well as others common to sustainability and climate action concepts.

Abbreviations

ADU	Accessory Dwelling Unit
BAU	Business as usual forecast
BEV	Battery electric vehicle
BIPOC	Black, Indigenous, people of color
C&D	Construction and demolition
CAP	Climate Action Plan
CE	Carbon Equivalent
CDP	Carbon Disclosure Project
CFC	Chlorofluorocarbons
CH_4	Methane
CHP	Combined Heat and Power
CO_2	Carbon dioxide
CO_2 e	Carbon dioxide equivalent
CSG	Community Solar Garden
DCFC	Direct Current Fast Charger
DOE	U.S. Department of Energy
EMS	Emergency medical services
EPA	U.S. Environmental Protection Agency
EV	Electric vehicle
EVSE	Electric vehicle supply equipment
FEMA	Federal Emergency Management Agency
FTE	Full-time equivalent
GCoM	Global Covenant of Mayors
GDP	Gross Domestic Product
GHG	Greenhouse gas
GWP	Global warming potential
HFC	Hydrofluorocarbons
HVAC	Heating, Ventilation, and Air Conditioning
ICE	Internal Combustion Engine vehicle
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilowatt-hour
LEED	Leadership in Energy and Environmental Design
LEV	Low emission vehicle
LIDAC	Lower Income and Disadvantaged Community
MWH	Megawatt hour – 1,000 Kilowatt-hours
MSW	Municipal Solid Waste
MT	Metric ton equivalent to 1,000 kg (also known as Metric Tonne)
MMT	Million Metric tons
MMBTU	Million British Thermal Units
MT CO_2 e	Metric tons of carbon dioxide equivalent
NGO	Non-Governmental Organization
N_2O	Nitrous Oxide
NO_x	Nitrogen Oxides
NOAA	National Oceanic and Atmospheric Administration
NZE	Net-Zero Emissions
O_3	Ozone
ODS	Ozone Depleting Substances
PACE	Property Assessed Clean Energy
PFC	Perfluorocarbons
PHEV	Plug-in hybrid electric vehicle
PM2.5	Particulate matter of 2.5 micrometer diameter or less
POC	People of color
PPA	Power Purchase Agreement
PUB	Public Utilities Board
PV	Photovoltaic (solar photovoltaic)
REC	Renewable Energy Credit
RCP	Representative Concentration Pathway
SO_2	Sulfur Dioxide
SF_6	Sulfur Hexafluoride
SULEV	Super ultra-low emission vehicle
t	Ton equivalent to 2,000 lbs (United States)
TOG	Total Organic Gasses
USGS	U.S. Geological Survey
VMT	Vehicle miles traveled
VHT	Vehicle hours traveled
ZEV	Zero emission vehicle
ZNEB	Zero Net Energy Building

A

Accessory Dwelling Unit (ADU)
Accessory dwelling unit means a second dwelling unit contained within a single-family dwelling or within a detached building located on the same lot as a single-family dwelling.

Action
Specific tasks set out to realize the objectives and methods highlighted in a given plan.

Activity Data
Information regarding the scale of human actions that lead to emissions or removals within a specified timeframe. This includes data like energy consumption, metal production, land coverage, management procedures, and usage of lime, fertilizers, and waste generation.

Adaptation
Refer to “Climate Readiness or Resilience”

Adaptive Capacity
The combination of societal, technological, and monetary abilities that individuals or groups possess to initiate and sustain actions against climate change.

Aerosols
Airborne particles, either solid or liquid, typically ranging between 0.01 and 10 micrometers. These particles, which can be of natural or human-made origin, can persist in the atmosphere for extended periods. They can affect climate by directly interfering with radiation or indirectly by influencing cloud properties.

Afforestation
The process of establishing forests on lands that weren't previously forested.

Air Pollutant
Any substance, either originating from human activities or naturally, present in the atmosphere that might have detrimental impacts on humans, fauna, flora, or materials.

Anthropogenic
In relation to greenhouse gas records, "anthropogenic" denotes emissions and removals directly stemming from human actions or from natural processes influenced by human activities.

Atmosphere
The layer of gases encasing the Earth. It mainly consists of nitrogen and oxygen, along with trace gases like argon, helium, and certain greenhouse gases like carbon dioxide and ozone. The atmosphere also encompasses varying amounts of water vapor and contains other components like clouds and aerosol particles.

B

Baseline Emissions
A reference point, either through measurement, calculation, or a specific timeframe, for making comparisons. It represents emission levels in scenarios devoid of policy changes or project implementations. Such evaluations are crucial to gauge the impact of emissions-reducing measures.

Base Year
The initial year used for data gathering. Emission-reducing goals are often set with this year as a reference.

Beneficial Electrification
Beneficial electrification is the process of replacing fossil fuels with electricity to reduce energy costs and greenhouse gas emissions. It can be applied to many sectors, including transportation, residential buildings, and commercial buildings.

Biogenic
Derived from the biological activities of living entities. The term "biogenic" exclusively pertains to recently formed biological materials. The IPCC suggests categorizing peat as fossil carbon due to its lengthy replacement cycle.

Biogeochemical Cycle
The continuous transfer of essential chemicals, crucial for life, within Earth's systems, including carbon, nitrogen, oxygen, and phosphorus.

Biomass
Refers either to (1) the combined weight of all living organisms within a designated area or species, usually represented as dry weight or (2) Organic substances originating from or recently derived from

living beings, excluding peat, and encompasses derived products and waste.

Biomass Waste
Biological, non-fossil substances of biological origin that are either residual or discarded. This definition includes biogenic municipal waste, landfill gas, and other forms of biomass but excludes certain fuels and biofuels. EIA's data on "biomass waste" also count energy crops produced specifically for power generation.

BIPOC
Defined as "Black, Indigenous, and people of color", this U.S.-specific term emphasizes the experiences of Black and Indigenous communities, showcasing or influencing the broader socio-economic dynamics encountered by all non-white individuals.

Black Carbon
A type of aerosol characterized based on its capacity to absorb light, its chemical reactivity, and/or thermal resistance; comprises elements like soot and charcoal.

Blue Carbon
Carbon that's absorbed and retained by coastal ecosystems and wetlands, aiding in countering climate change impacts.

British Thermal Unit (BTU)
A conventional measure of thermal energy, representing the energy needed to elevate the temperature of a pound of water by a single degree Fahrenheit.

Business As Usual Forecast (BAU)
The Intergovernmental Panel on Climate Change (IPCC) describes this as the predicted emission levels if upcoming trends emulate historical ones and no additional policy amendments are enacted. This projection presumes no further emission-curbing actions will be adopted beyond existing or committed measures. BAU forecasts do include anticipated reductions resulting from existing requirements or commitments, such as federal vehicle fuel efficiency standards and electric utility carbon-reduction commitments, which are outside the scope of this plan.

C

Carbon Cycle
The systematic flow and storage of carbon across different reservoirs. This involves four primary carbon storage areas: the atmosphere, the terrestrial environment (including freshwater systems), oceans, and sediments (which encompass fossil fuels). The carbon exchanges between these reservoirs are driven by a mix of chemical, physical, geological, and biological factors. Though the ocean holds a significant amount of near-surface carbon, its exchange with the atmosphere is relatively slow.

Carbon Dioxide (CO_2)
A gas found naturally in the environment, but also produced from burning fossil fuels, biomass, through land-use alterations, and various industrial activities. As the main human-induced greenhouse gas, it impacts the Earth's ability to reflect heat. Other greenhouse gases are often measured relative to CO_2, which has a Global Warming Potential set at 1.

Carbon Dioxide Equivalent (CO_2 e)
A standard for comparing the emissions from different greenhouse gases based on their potential to warm the planet. It's determined by equating the amount of a gas emitted to the amount of CO_2 that would have the same global warming impact.

Carbon Disclosure Project (CDP)
A global initiative allowing organizations and cities to publicly share their environmental impacts, notably related to climate risks. CDP stands as one of the recognized disclosure platforms endorsed by GCoM.

Carbon Emissions
The process of releasing carbon dioxide into the atmosphere, primarily through human activities like burning fossil fuels for energy.

Carbon Equivalent (CE)
A metric for comparing emissions from various greenhouse gases based on their capacity to influence global warming. Carbon equivalents are derived from carbon dioxide equivalents using a specific conversion factor related to molecular weights.

Carbon Free
Activities, systems, or products that don't emit carbon dioxide or other greenhouse gases. Often

associated with sustainable or renewable energy discussions, not every "carbon free" source is renewable. For instance, while both wind and nuclear energy are carbon-free, only wind is renewable.

Carbon Intensity
The ratio of carbon emitted for every unit of energy used. A typical measure of this is the carbon weight per British thermal unit (Btu) of energy. When considering a single fuel type, carbon intensity and the emission coefficient are the same. With multiple fuels, it's an aggregate value.

Carbon Neutral / Carbon Neutrality
Achieving a balance where the amount of CO_2 produced annually is equal to the amount removed or offset, leading to net-zero CO_2 emissions by a specific date. Carbon Neutrality is also sometimes applied to all greenhouse gas emissions. In those instances the term is sometimes used interchangeably with “Net Zero” or “Climate Neutral”

Carbon Offsets
Mechanisms to counterbalance carbon dioxide or other greenhouse gas emissions by funding equivalent reductions elsewhere. They are quantified in metric tonnes of CO_2 -equivalent and can be traded to neutralize emissions from an entity's operations.

Carbon Sinks
Natural environments, such as forests or oceans, recognized for their ability to absorb and store carbon dioxide from the atmosphere.

Carbon Sequestration
The process of capturing and storing CO_2, either in oceans, terrestrial environments like forests and soils, or in geological formations underground.

Chlorofluorocarbons (CFCs)
Gases, regulated under the 1987 Montreal Protocol, used in several applications like refrigeration and air conditioning. Since they don't break down in the lower atmosphere, they reach the upper atmosphere and can deplete ozone. Their usage is being phased out in favor of alternative compounds, some of which are greenhouse gases under the Kyoto Protocol.

Circular Economy
A sustainable economic model that deviates from the traditional linear approach (produce, use, discard) by focusing on reducing resource inputs and waste. It emphasizes durable product design, repair, reuse, and recycling to minimize waste.

Clean Energy
Clean, or “carbon-free,” energy is electricity produced by facilities that do not release greenhouse gases, like carbon dioxide, during the generation process.

Climate
Often described as the "typical weather" of an area, climate is a statistical representation of weather patterns over extended periods, typically 30 years as per World Meteorological Organization (WMO) standards. It encompasses averages and variability of factors like temperature and precipitation. On a broader scale, climate is the comprehensive state of the climate system, including statistics.

Climate Adaptation or Resilience
The ability of ecosystems or communities to anticipate, stand against, respond, and recover from disruptive events. It involves adjusting to changing climate conditions to lessen risks and vulnerabilities.

Climate Action Plan
A comprehensive strategy detailing steps that a municipality, business, or government will take to decrease greenhouse gas emissions and prepare for climate change, fostering sustainable and resilient growth.

Climate Change
Any significant, lasting change in the average or variability of climate conditions over extensive periods. It can stem from natural processes, persistent changes in atmospheric composition due to human activities, or alterations in land use.

Climate Hazard
A climate event or situation that can negatively affect human health, resources, or livelihoods, encompassing sudden shifts in climate systems like heavy rainfall or prolonged droughts.

Climate Migration
The relocation of individuals due to the effects of climate change impacting their way of life or degrading their living conditions. This can result from changing water supplies, altered agricultural yields, or factors like rising sea levels and increased storm intensity.

Climate Model
A mathematical representation used to simulate the key components of climate, including the atmosphere, oceans, land, and ice. These models are used to forecast potential future climate changes.

Climate Neutral / Climate Neutrality
Achieving a balance where the amount of all GHG emissions produced annually is equal to the amount removed or offset, leading to net-zero GHG emissions by a specific date. "Climate Neutral" is sometimes used interchangeably with "Carbon Neutral", however, "Carbon Neutral" often interpreted as addressing CO_2 emissions only, whereas "Climate Neutral" is intended to address all GHG gases.

Climate Scenario
A structured and logical narrative of potential future climatic conditions, built on a set of assumptions about potential future events.

Climate Risk
The potential negative outcomes due to climatic changes, where valuable assets are at risk. The risk is calculated based on the likelihood of certain climate events or changes happening and the potential impact of those changes. It is a product of the system's vulnerability and the climate hazards faced.

Climate Vulnerability
The extent to which a system is at risk from adverse climate changes, including climate variability and extremes. It depends on how exposed the system is to these changes, its inherent sensitivity, and its ability to adapt. Vulnerability can be described as the potential negative impact minus the system's adaptive capacity.

Climate Vulnerability Assessment
An analysis aiming to pinpoint and categorize the threats posed by climate change. It guides the creation of strategies to address these threats and can cover diverse areas like food security, socio-economic factors, and extreme weather patterns.

Co-Benefit
Additional advantages or benefits (e.g., health, economic, societal) that arise indirectly from climate adaptation and mitigation measures.

Co-generation
A facility or system that simultaneously and efficiently produces multiple forms of energy, usually heat and power, in an integrated manner.

Community Choice Aggregation (CCA)
CCA programs, or sometimes known as "Community Power Aggregation", empower local governments to source power for their citizens, businesses, and municipal facilities from alternative providers, while still utilizing the distribution services of their existing utilities. Setting up a CCA generally needs state-level legislation. For more details, one can visit EPA's dedicated CCA website: [EPA's CCA webpage https://www.epa.gov/green-power-markets/community-choice-aggregation]

Combined Heat and Power (CHP)
A system designed to concurrently generate electricity and useful heat, aiming for optimal energy use. Some utilities might sell the heat produced for public use, while certain industries might sell surplus electricity to other businesses or utility companies.

Community Power Aggregation
Refer to "Community Choice Aggregation"

Community Solar / Community Solar Garden (CSG)
Shared solar installations that allow community members to benefit from solar energy without installing panels on individual properties. Participants receive bill credits based on their share of the generated power. Generally, the electricity from community solar farms is priced lower than traditional utility rates.

Complete Streets
A street design concept that ensures streets are made to accommodate all users safely and efficiently, regardless of their mode of transportation or age.

Consistency
Ensuring that an inventory remains uniform in its methodologies and data over time. If the same methods and datasets are consistently applied over years, then the inventory is considered consistent.

Continuous Emission Monitor (CEM)
A monitoring system placed within smokestacks or other emission sources that continuously measures and reports air emissions.

Cool Roof
Roofing materials engineered to reflect more sunlight and absorb less heat, thereby reducing the heat transferred to the building or its surroundings.

Cool Pavement
Pavement materials designed to reflect sunlight and decrease heat absorption, minimizing heat transfer to the nearby environment.

Criteria Air Pollutant
Specific air pollutants for which permissible exposure levels are determined, and corresponding air quality standards are established. Examples include carbon monoxide, ozone, and various particulates. The term arises from the U.S. EPA's obligation to define these pollutants and their impacts on health and the environment. Standards can be reviewed and updated based on new scientific information.

D
Decarbonization
The transition towards reducing carbon emissions by adopting cleaner energy sources, enhancing energy efficiency, or capturing and storing released carbon. The ultimate aim is to minimize the climate impact and move towards a carbon-neutral society.

Deforestation
The conversion of forested areas into non-forest uses. Deforestation is often linked to the amplified greenhouse effect for two main reasons: the combustion or decay of wood releases carbon dioxide, and the removed trees no longer absorb atmospheric carbon dioxide through photosynthesis.

Demand Side Management (DSM)
Initiatives designed to modify consumer energy consumption patterns using methods like education and financial incentives. DSM seeks to reduce energy consumption, particularly during peak demand periods, and shift usage to times when demand is typically lower.

Direct Current Fast Charger (DCFC)
DCFC charging is designed to deliver more power at faster speeds than Level 2 chargers with outputs ranging from 50 kW to 350 kW. They can recharge an EV battery to 80% in anywhere from 15 minutes to 45 minutes, depending on the vehicle's voltage capacity. DCFC is also sometimes known as “Level 3 charging”, or “Rapid Charging”.

Distillate Fuel Oil
A category of petroleum products obtained through standard distillation processes. This encompasses diesel fuels and fuel oils, including types like No. 1, No. 2, and No. 4 diesel fuel. These products are used in various engines, from road vehicles to trains and agricultural equipment. Additionally, No. 1, No. 2, and No. 4 fuel oils are typically employed for heating spaces and generating electricity.

District Heating
A system that distributes heat, generated at a centralized point, via a network of pipes to provide heating for homes and businesses in a specified area or community.

E
Ecosystem Services
The benefits ecosystems offer to human welfare. These benefits range from tangible resources like water and food to services like air purification, flood control, and climate stabilization.

Electric Vehicle (EV)
A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source. An EV includes both a vehicle that can only be powered by an electric motor that draws electricity from a battery (all-electric vehicle) and a vehicle that can be powered by an electric motor that draws electricity from a battery and by an internal combustion engine (plug-in hybrid electric vehicle).

Electric Vehicle Supply Equipment (EVSE)
The infrastructure that allows electric vehicles to charge from an electricity source. It's also known as

an EV charging station, EV charger, or charging dock. EVSE takes electrical power from the grid and transfers it to the vehicle's battery.

Emissions
The act of discharging certain substances, often gases in the context of climate change, into the environment.

Emission Factor
A value that signifies the amount of a gas emitted or removed per unit of activity. This coefficient is usually derived from a collection of measurement data and provides a representative emission rate for a set of specific conditions.

Emission Inventory
A calculation of the total pollutants released into the atmosphere from various significant sources, measured over a defined period, such as daily or annually.

Emission Rate
The quantity of a specific pollutant released over a set duration, commonly expressed in units like tons per year.

Energy Burden
The fraction of a household's total income spent on energy costs. An "high" energy burden is identified when energy costs comprise 6% or more of the household income, while it's deemed "severe" if above 10%.

Energy Savings / Energy Efficiency
Refers to the sustainable reduction in the amount of energy consumed for the same level of output or performance. For instance, a modern heater that requires less energy to provide the same warmth results in energy efficiency improvements.

Energy Tariff
A pricing structure, or utility tariff, that dictates how consumers are charged by energy providers for their electric or gas consumption. Energy tariffs are subject to government approval and review.

Environmental Justice
The equitable treatment and active participation of all individuals, regardless of their race, ethnicity, income, or origin, in the processes related to environmental laws, policies, and regulations.

Equity
Being just and fair in treatment, acknowledging that people have diverse circumstances and providing them with the necessary resources and opportunities to achieve equal outcomes. In terms of climate change, equity encompasses both shielding from environmental hazards and ensuring access to environmental benefits, irrespective of socio-economic factors.

F

Federal Emergency Management Agency (FEMA)
A federal agency that leads the country's response to disasters, including natural disasters, man-made incidents, and terrorist events.

Fluorocarbons
Molecules made up of carbon and fluorine, which can also include elements like hydrogen, chlorine, or bromine. Some well-known types are chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

Flux
(1) Materials, like limestone and dolomite, used to moderate the heat or energy demands of mineral processing, like metal smelting. They can also function as agents to produce slag. (2) The rate or volume of a liquid or gas moving across a specific area over time, such as the " CO_2 absorption rate by forests".

Fossil Fuel
Deposits of hydrocarbons formed from ancient organic matter, including coal, oil, and natural gas.

Fuel Combustion
The intentional burning of materials in a device designed to provide heat or mechanical energy. This process can be for direct application or use elsewhere.

Fuel Switch (see also “Beneficial Electrification”)
The process of transitioning from one energy source to another, commonly from non-renewable sources

like fossil fuels to renewable ones like wind or solar, to reduce both costs and emissions.

Fugitive Emissions
Unintentional leaks of gases from surfaces such as seals or underground pipelines due to deterioration or faults.

G

Geologic Carbon Sequestration
The practice of capturing CO_2, often from sources like coal-powered plants, and injecting it deep underground for storage. With careful site selection and management, this approach has potential in reducing atmospheric CO_2 levels.

GHG
Refer to “Greenhouse Gas”

Global Environmental Change
Significant, accelerated alterations to Earth's natural systems, encompassing climate shifts, biodiversity loss, resource depletion, pollution, and other large-scale environmental disruptions.

Global Warming
The average rise in atmospheric temperature near the Earth's surface and within the troposphere, which can lead to shifts in global climate. This warming can arise from both natural phenomena and human activities. Typically, "global warming" is used to refer to the temperature increase resulting from the enhanced emissions of greenhouse gases due to human actions. See also Climate Change.

Global Warming Potential (GWP)
An index that calculates the radiative effects of greenhouse gases, considering their ability to trap heat compared to carbon dioxide over a specified timeframe. The GWP evaluates the cumulative effect of these gases in the atmosphere based on their longevity and their potential to absorb infrared radiation. The Kyoto Protocol uses GWPs derived from 100-year timespan emissions.

GCoM Global Covenant of Mayors
GCoM represents the world's largest alliance dedicated to urban climate leadership. Comprising over 10,000 city and local governments, GCoM's goal is to encourage and support action on climate and energy at the grassroots level globally.

Green Streets
An urban design approach that incorporates plant life, soil, and engineered structures to manage, slow, and purify stormwater runoff from surfaces that don't absorb water.

Greenhouse Effect
A natural process where specific gases in the atmosphere trap heat near the Earth's surface, leading to a warming effect. If concentrations of these greenhouse gases increase, this effect intensifies, leading to a gradual increase in the Earth's temperature.

Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories
A comprehensive and transparent framework adopted globally for cities and local governments to consistently measure, calculate, and report their greenhouse gas emissions.

Greenhouse Gas
A gas that can absorb and emit infrared radiation, contributing to the greenhouse effect. Some common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, and certain industrial gases like hydrofluorocarbons.

Greenhouse Gas Reduction
Efforts aimed at diminishing the amount of greenhouse gases released into the atmosphere, thereby mitigating potential adverse climate impacts.

Green Infrastructure
Green infrastructure encompasses a diverse array of green spaces and features, both in urban and rural areas, that serve to enhance the well-being of communities and provide environmental advantages. It extends beyond traditional open spaces like parks and playing fields to include a range of measures that use plant or soil systems, permeable pavement and surfaces, stormwater harvest and reuse, or landscaping to manage stormwater and reduce flows to sewer systems or to surface waters. This approach helps counter water pollution in urbanized areas caused by stormwater carrying contaminants.

Green Roof
A roof that incorporates vegetation over a waterproof layer. Green roofs can be categorized as extensive, intensive, or semi-intensive based on the depth of planting medium and amount of maintenance they require. They offer benefits like mitigating the heat island effect, managing stormwater, and enhancing green space in urban areas.

Green Wall
This is a vertical extension of the green roof concept, where vegetation is grown on building exteriors.

Gross Domestic Product (GDP)
The total value of goods and services produced within a country's borders in a specific timeframe, typically a year. It doesn't account for the depreciation of assets or depletion of natural resources.

Groundwater
Water located beneath the Earth's surface, filling the spaces between soils and rocks.

H
Halocarbons
A group of organic compounds composed partially of halogens. They encompass chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), halons, and more. Many halocarbons have significant Global Warming Potentials and some also contribute to ozone layer depletion.

Hazard
The potential for an event, whether natural or human-induced, to cause harm to people, property, infrastructure, or the environment.

Heat Island
An urban area that exhibits higher temperatures than its surrounding rural areas due to human activities. This phenomenon is attributed to factors like heat-absorbing surfaces and structures. See also “Micro Heat Island”.

Heating, Ventilation, and Air Conditioning (HVAC)
Systems that regulate and move heated and cooled air throughout buildings. HVAC systems are used to improve air quality and maintain a comfortable indoor climate.

Hydrocarbons
Compounds made up of only hydrogen and carbon atoms. The term can also refer to petroleum compounds which might contain elements like sulfur, nitrogen, or oxygen. Unsaturated hydrocarbons contain either double or triple carbon-carbon bonds.

Hydrofluorocarbons (HFCs)
Molecules made up of hydrogen, fluorine, and carbon. These were developed as replacements for ozone-depleting substances and are used in a variety of industrial processes. While HFCs don't deplete the ozone layer, they are potent greenhouse gases with varying Global Warming Potentials.

I
ICLEI Local Governments for Sustainability
An association of local governmental entities focused on reducing carbon emissions and fostering sustainable urban growth. ICLEI members, along with a team of specialists, collaborate through capacity building, partnerships, and peer interaction to effect change towards urban sustainability.

Impact
A consequence or effect that arises due to climate change on any system's structure or functioning. Examples include severe heatwaves, sea-level rise, or alterations in rainfall causing floods or droughts.

Indicator
A numerical representation highlighting a specific facet of vulnerability to climate change. For instance, a forecasted alteration in annual average temperature or the count of species at risk.

Internal Combustion Engine Vehicle (ICE)
Vehicles which ignite and combust fuel within an internal combustion engine. Fuels used in ICE vehicles are typically gasoline and diesel.

Intergovernmental Panel on Climate Change (IPCC)
Founded in 1988 by the World Meteorological Organization and the United Nations Environment Programme, the IPCC is tasked with evaluating scientific and technical information related to all aspects of climate change. The IPCC informs

governments about the state of knowledge of climate change by examining all the relevant scientific literature on the subject. The IPCC is scientific entity and is not a legislative body.

K

Kilowatt Hour (kWh)
A unit representing electrical energy consumption, equivalent to using 1,000 watts continuously for an hour.

Kyoto Protocol
A supplement to the United Nations Framework Convention on Climate Change (UNFCCC) ratified in Kyoto, Japan, in 1997. This protocol incorporates legally binding obligations to reduce greenhouse gas emissions. Countries listed in the Protocol's Annex B pledged to reduce their emissions of six major greenhouse gases by at least 5% from 1990 levels between 2008 and 2012. The Protocol became effective on February 16, 2005.

L

Land Use and Land Use Change
Land use pertains to the human activities performed on a certain type of land cover. Meanwhile, land use change denotes alterations in how land is managed or utilized by humans, which can influence land cover. Changes in land cover and land use can affect climate properties such as surface albedo and greenhouse gas sources/sinks, potentially influencing climate on various scales.

Leadership in Energy and Environmental Design (LEED)
LEED is a certification system for evaluating and promoting sustainable building and design practices. Developed by the U.S. Green Building Council (USGBC), LEED provides a framework for environmentally responsible construction, aiming to improve energy efficiency, reduce water usage, and decrease greenhouse gas emissions. Buildings can earn LEED certification at different levels (Certified, Silver, Gold, or Platinum) based on their performance across several criteria, including energy use, indoor environmental quality, and sustainable site development.

Level 1 Charger
An electric vehicle charging device that provides charging through a common residential 120-volt (120V) AC outlet. Level 1 chargers can take 40-50+ hours to charge a BEV to 80 percent from empty and 5-6 hours for a PHEV.

Level 2 Charger
An electric vehicle charging device with a higher AC charging capacity than Level 1 chargers. They typically operate at 240V for residential use or 208V for commercial use. Level 2 chargers can charge a BEV to 80 percent from empty in 4-10 hours and a PHEV in 1-2 hours.

LIDAC Communities
Low Income / Disadvantaged Communities (LIDACs): Communities where residents have low incomes, limited access to resources, and face disproportionate environmental or climate burdens.

Living Streets
"Living streets" amalgamate the principles of green streets and complete streets while emphasizing the enhancement of residents' life quality in urban areas.

LULUCF
An abbreviation for "Land Use, Land Use Change, and Forestry," a category in greenhouse gas inventory documentation.

M

Megawatt Hour (MWH)
An electrical energy unit denoting the consumption of a million watts over an hour.

Methane (CH_4)
A hydrocarbon that acts as a greenhouse gas with a global warming potential estimated to be 28 times stronger than carbon dioxide. Methane arises from several sources, including decomposition in landfills, flooded rice fields, digestion in animals, and fossil fuel production. The GWP value is sourced from the IPCC's Fifth Assessment Report (AR5).

Metric Ton
Equivalent to a Megagram or 1,000 kilograms, a metric ton, sometimes referred to as a metric tonne, is a standard international unit for mass.

Micro Heat Island
Smaller localized zones within urban environments experiencing elevated temperatures in comparison

to surrounding areas. Such hotspots might include asphalt roads, non-green roofs, or barren parking lots. The microclimate and unique built environment conditions heavily influence these micro heat islands. Refer also to "Heat Island".

Million Metric Tons (MMT)
A standard measurement often utilized in greenhouse gas documentations, equivalent to a Teragram (Tg).

Mitigation
Efforts to reduce or curb the extent or speed of long-term climatic warming and its associated effects. Mitigation typically encompasses the reduction of human-induced greenhouse gas emissions.

Mobile Sources
Transportation means that emit pollutants, including cars, motorbikes, trucks, off-road vehicles, boats, and planes.

Mode Share
The proportion of travelers opting for a specific mode of transportation. Mode share serves as a vital metric when shaping sustainable transportation strategies in a city or region, as it highlights the prevalent use of different transport options. This metric showcases the effectiveness of infrastructures, policies, investments, and urban designs in facilitating various transport modes.

Model
A model serves as a numerically-based representation of real-world scenarios, often omitting or simplifying certain details to emphasize core elements.

Municipal Power Aggregation
Refer to “Community Choice Aggregation.”

Municipal Solid Waste (MSW)
Waste originating from homes and certain non-hazardous industrial, institutional, and commercial sources. Typically, this waste is directed to municipal disposal sites.

N

National Oceanic and Atmospheric Administration (NOAA)
A US agency responsible for weather forecasting, monitoring oceanic and atmospheric conditions, charting the seas, conducting deep-sea exploration, and managing fishing and protection of marine mammals and endangered species in the US exclusive economic zone.

Natural Sources
Emission sources that aren't human-induced, including biological, geological sources, wildfires, and dust carried by the wind.

Net Energy Metering (NEM)
Net Energy Metering, commonly referred to as Net Metering, enables residential and business consumers generating their own solar energy to sell their surplus electricity back to the grid. The rate schedule for NEM determines compensation for this electricity. While net metering laws exist in many states, in others, utilities may offer these programs either voluntarily or due to regulatory decisions.

Net Zero Emissions (NZE)
Pertains to a community, business, institution, or building that produces the same amount of energy it consumes through renewable and GHG emission-free sources, resulting in zero net emissions over a year. With a net zero target, only a small portion of residual emissions, no more than 5-10%, should be offset using high-quality carbon removal methods.

Nitrogen Fixation
The process where atmospheric nitrogen gas transforms into forms beneficial for plants and other organisms, achieved through lightning, bacteria, and blue-green algae. This process is integral to the nitrogen cycle.

Nitrogen Oxides (NOx)
Gaseous compounds comprising nitrogen and oxygen. These gases emerge from vehicle exhaust and power generation. As they can form photochemical ozone, impact visibility, and harm health, they're deemed pollutants.

Nitrous Oxide (N_2O)
A potent greenhouse gas with a warming potential 265 times greater than carbon dioxide. Key sources

encompass soil management practices, fossil fuel burning, and biomass combustion. Its global warming potential is derived from the IPCC's Fifth Assessment Report (AR5).

Non-Governmental Organization (NGO)
A group that works independently of governments to improve social conditions. NGOs are often non-profit institutions that are established at the community, national, or international level.

O

Ozone (O_3)
A gaseous compound composed of three oxygen atoms. In the troposphere, ozone forms naturally and through photochemical reactions involving human-produced gases. In the stratosphere, it forms when solar UV radiation interacts with diatomic oxygen. While tropospheric ozone is a greenhouse gas, stratospheric ozone is vital for blocking harmful UV radiation.

Ozone Depleting Substances (ODS)
Compounds causing the depletion of the stratospheric ozone layer. This category includes substances like CFCs, HCFCs, halons, and more. These substances, predominantly stable in the troposphere, degrade in the stratosphere under UV radiation, releasing ozone-depleting chlorine or bromine.

P

Perfluorocarbons (PFCs)
Man-made compounds solely composed of carbon and fluorine. Used as substitutes to ozone-depleting substances and emitted during certain industrial processes. Despite not depleting the ozone, they are formidable greenhouse gases. (IPCC's Fourth Assessment Report (AR4))

Phantom Load
Refers to the power consumed by electronic devices and appliances even when switched off. Devices drawing "phantom loads" constantly utilize electricity.

Photosynthesis
A biological process where plants absorb carbon dioxide to produce carbohydrates, releasing oxygen in the process. The mechanism varies based on different atmospheric carbon dioxide concentrations.

Plug-in hybrid electric vehicle (PHEV)
A type of vehicle that combines features of both gasoline-powered and electric vehicles. PHEVs use batteries to power an electric motor, and another fuel, such as gasoline or diesel, to power an internal combustion engine or other propulsion source. PHEVs can charge their batteries through charging equipment and regenerative breaking.

Plug Load
Refers to the energy consumption of devices plugged into electrical outlets. In offices, major plug loads include computers, printers, and copiers. As buildings become more energy efficient, the relative importance of plug loads increases.

POC
An acronym for “people of color” or “person of color”, encompassing all non-white demographic groups. See also “BIPOC.”

Point Sources
Specific locations emitting pollutants into the atmosphere, like industrial smokestacks.

Power Purchase Agreement (PPA)
A contract where one party, the generator, produces electricity, and the other, the buyer, agrees to purchase it. Individual or grouped customers can forge PPAs with energy developers. PPAs enable long-term renewable energy commitments and can serve as direct renewable energy investments.

Property-Assessed Clean Energy (PACE)
A financial structure allowing property owners to fund renewable energy and energy efficiency improvements. Eligible properties include residential, commercial, and industrial sites. Upgrades can be geared toward energy efficiency, renewable energy, and water conservation.

Process Emissions
These are emissions resulting from chemical transformations in industrial processes that are distinct from burning.

R

RCP 8.5
A Representative Concentration Pathway climate model frequently considered the climate model representing "business as usual" forecasts if global GHG emissions are not reduced and fossil fuels are continued to be used.

Radiative Forcing
A shift in equilibrium between incoming sunlight and outgoing infrared radiation. Ordinarily, the Earth's incoming and outgoing radiations are almost balanced. However, the introduction of greenhouse gases captures more infrared radiation, reflecting it back to Earth's surface, leading to a warming effect.

Reforestation
The act of reintroducing forests on lands that once held forests but were later repurposed.

Regeneration
The process of reestablishing young trees, either naturally or through human intervention, typically preserving the existing forest type after the previous forest has been removed.

Renewable Energy
Energy sourced from naturally renewable elements such as the sun, wind, water, and geothermal heat.

Renewable Energy Credits (RECs)
Certificates representing the benefits and attributes of electricity generated from renewable sources. Each REC represents one megawatt-hour (MWh) of renewable electricity dispatched to the grid. The largest reduction in Evanston's emissions is attributed to REC purchases.

Representative Concentration Pathway (RCP)
climate change scenarios to project future greenhouse gas concentrations. These pathways describe future greenhouse gas concentrations and have been formally adopted by the IPCC. There are a range of RCP climate models from RCP 2.6 to RCP 8.5 reflecting a range of potential human-made GHG emission scenarios. The numbers represent the expected change in radiative forcing through the end of the 21st century.

Residence Time
The typical duration a single atom or molecule remains in a particular storage area. In the context of greenhouse gases, it generally refers to the duration a molecule lingers in the atmosphere.

Resilience / Resiliency
The capacity to foresee, ready for, counteract, and promptly bounce back from climate-induced threats, ensuring minimal damage to society, economy, and natural settings.

Resilience Hub
A resilience hub is a community-serving facility that supports residents and communities before, during, and after emergencies. Resilience hubs can also provide resources to support communities in reducing greenhouse gas emissions.

Reservoir
Either (1) a part of the climate system where a greenhouse gas or its precursor is housed; or (2) human-manipulated water bodies where significant variations in water area might occur due to water regulation.

Respiration
A biological process where living entities transform organic substances into carbon dioxide, using up oxygen and releasing energy in the process.

Retro-commissioning
A comprehensive approach to enhance a building's operational efficiency by ensuring its control systems operate optimally and align with the building's intended and actual usage.

Ride-share
A system where individuals share transport means, usually through carpooling or joining a vanpool. Typically facilitated by a platform connecting drivers with potential riders.

S

Scope 1
Refers to emissions discharged directly within the city's boundaries due to fossil fuel combustion and the decomposition of waste in landfills and wastewater facilities.

Scope 2
Refers to emissions generated outside the city resulting from the city's consumption of electricity.

Scope 3
Pertains to emissions linked to local government functions that can be quantified and disclosed but don't fall under Scope 1 or 2. Examples include outsourced activities and commuting of employees.

Short Ton
A standard ton measurement in the U.S., equivalent to 2,000 lbs or about 0.907 metric tons.

Sink
Any activity, process, or mechanism responsible for removing a greenhouse gas, aerosol, or their precursor from the atmosphere.

Social Cost of Carbon
An estimation of the economic damage due to climate change effects, calculated as the monetary value of total damages arising from emitting a single ton of carbon dioxide.

Solar Radiation
The sun's emitted electromagnetic waves. This radiation, also known as shortwave radiation, has wavelengths mainly in the visible spectrum due to the Sun's temperature.

Solar Photovoltaic (PV)
A system that directly transforms sunlight into electricity using semiconductors, primarily silicon. Suitable for homes, businesses, and large-scale operations, solar PV systems can be roof-mounted, ground-based, or integrated into building structures to produce renewable energy.

Source
Any process or activity that introduces greenhouse gases, aerosols, or their precursors into the atmosphere.

Stationary Sources
Fixed locations like power stations, manufacturing plants, and refineries that emit pollutants into the air.

Strategy / Strategic Goal
Detailed directions built upon the foundation of the sustainability vision and GHG reduction objectives that guide future policy decisions, community investments, and initiatives.

Sulfur Dioxide (SO_2)
A molecule made of one sulfur atom and two oxygen atoms. Released both naturally and by human activity, it can transform into sulfate aerosols in the atmosphere. These aerosols can cool the Earth's surface, contribute to acid rain, and decrease visibility.

Sulfur Hexafluoride (SF_6)
A colorless gas that mixes well with alcohol and ether but less so with water. It's an extremely potent greenhouse gas, with a global warming potential much higher than carbon dioxide (CO_2). SF6 is predominantly used in electricity transmission and as an insulator in electronics. Its global warming potential is derived from the IPCC's Fourth Assessment Report (AR4). It is a potent greenhouse gas with a warming potential 23,500 times greater than carbon dioxide.

T

Terrestrial Carbon Sequestration
The process where trees, plants, and crops absorb carbon dioxide (CO_2) from the atmosphere through photosynthesis and store it as carbon in biomass (like tree stems, branches, and roots) and soil. This stored carbon creates "sinks" which counteract emissions when the absorbed carbon is greater than the released carbon over time.

Therm
A unit of energy equivalent to 100,000 British Thermal Units, roughly akin to the energy in 100 cubic feet of natural gas. Commonly used to gauge natural gas consumption for billing.

Total Organic Gases (TOG)
Organic gases that encompass both reactive and relatively non-reactive compounds, such as methane.

Transparency
Clear presentation of methodologies and assumptions used in an inventory so users can easily replicate and evaluate the inventory. Transparency is

crucial for effective communication and consideration of information.

Tree Bank
A designated location, such as a school or public park, where property owners or developers may donate and plant a portion of zoning ordinance-required trees if planting them within their own project site is not practical.

Trend
A measure of a quantity's change over time. A positive trend signifies growth, while a negative one indicates a decline. It's expressed in percentage or fractional terms concerning the quantity's initial value.

U
Urban Tree Canopy
The composition and traits of trees in urban settings.

U.S. Department of Energy (DOE)
A federal agency that oversees the nation's nuclear infrastructure, energy policy, and funds scientific research in the field.

U.S. Environmental Protection Agency (EPA)
A federal agency tasked with safeguarding human health and the environment. It offers technical support for recovery planning, long-term cleanup, and environmental surveillance. This includes assistance with public health infrastructure, such as wastewater treatment plants, and addressing threats through monitoring, assessment, and decontamination efforts.

V
Vehicle Miles Traveled (VMT)
Represents the distance traveled by vehicles, be it cars, trucks, or motorcycles. Each mile is counted as one vehicle mile, irrespective of the number of passengers.

Vision Zero
A strategy focused on eliminating severe injuries and fatalities from traffic accidents, aiming to provide safe and equal mobility for all individuals.

Vulnerability
The extent to which a system is exposed to, sensitive to, or unable to handle the adverse impacts of climate change. This encompasses:

- Exposure: The presence of assets or organisms in areas potentially adversely impacted by climate change.
- Sensitivity: The level at which assets or organisms are impacted by climate change.
- Adaptive capacity: The capability of systems, assets, or organisms to adjust to detrimental impacts.

W
Water Vapor
The predominant greenhouse gas present in the form of water in its gaseous state in the atmosphere. Water vapor is a natural part of the greenhouse effect. Its concentration is not significantly altered by human activities, but it amplifies the greenhouse effect due to positive feedback mechanisms. Water vapor also plays a vital role in climate regulation by forming clouds and precipitation.

Weather
Weather represents the immediate atmospheric conditions at a specific time and place, while climate refers to the long-term average of these conditions in a particular region over an extended period. In simpler terms, weather is what you experience outdoors on any given day, while climate describes the typical weather patterns you'd anticipate for a particular season and location.

Z
Zero Emission Vehicles (ZEV)
A vehicle that doesn't release harmful pollutants during its operation. Examples include electric cars, hydrogen-fueled vehicles, and bicycles. These emissions, when released, can have detrimental effects on both the environment and human health.

Zero Net Energy Building (ZNEB)
Also known as a Net-Zero Energy Building is one that is optimally efficient, and over the course of a year, generates renewable energy onsite equal to or greater than the total amount of energy consumed onsite.

Zero Waste
An approach focusing on the efficient utilization of resources through responsible production, consumption, and recovery. This means products, packaging, and materials are reused and recycled without causing harm to the environment or health, and without resorting to incineration or releases to land, water, or air.

Appendix D
Acknowledgements

Click here to return to TOC

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MINNESOTA POLLUTION CONTROL AGENCY

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FALCON HEIGHTS
THE CITY THAT SOARS

City of Falcon Heights Climate Action Plan

Implementation Matrix

Search Goals and Actions (use blue box below)

5/7/2025

Goal	Action	Goal / Action	Target Start Year	Lead City Department	Staff Lead	Progress At Review	Review Notes / Data	Examples and Resources	Sector	Combined "votes"	Team "votes"	Community "votes"
		Implementation Actions							**Implementation Actions**			
I 1-		**I 1: Organize for Climate Action Plan Implementation.**							**Implementation Actions**			
I 1-	1	Create a City "CAP Implementation Team" comprised of the Environment Commission with the Staff/Council liaisons to meet quarterly, prioritize and track progress, and develop two-year work plans outlining tasks, timelines, resources, and staffing needs. The team will provide annual progress updates to the Environment Commission and City Council.				Not Started			**Implementation Actions**	2		2
I 1-	2	Explore the potential and benefits of the Environment Commission forming a Falcon Heights Climate Action Collaboration Team with members from local government, nonprofits, community groups, and residents. The team could meet regularly to coordinate CAP implementation, pursue joint initiatives, share lessons, support cross-jurisdictional projects, and identify funding opportunities.				Not Started			**Implementation Actions**	10	8	2
I 1-	3	Create a process to review city policies and plans for consistency with the Climate Action Plan.				Not Started		Resource: paleBLUEdot example CAP Alignment Memo https://1drv.ms/b/s!AjXEmMthmWPLkO1DvClg6m_g081ggA?e=fb7SXF	**Implementation Actions**	4	2	2
I 1-	4	Implement a cohesive annual communication and education campaign that addresses the communication and educational needs of each CAP section. Enhance the City's Energy Action Hub to disseminate CAP resources and foster community action.				Not Started			**Implementation Actions**	1	1	
I 1-	5	Regularly evaluate CAP progress and impacts (every 1-2 years), including updated community-wide and municipal GHG inventories. Review strategies for effectiveness and relevance, adjusting actions as necessary.				Not Started			**Implementation Actions**	3	2	1
		Transportation and Land Use							**Transportation and Land Use**			
TL 1-		**TL 1: Decrease community-wide Vehicle Miles Traveled (VMT) by 5% by 2035.** (Note: VMT reduced an average of 2.2% annually from 2014 to 2023)							**Transportation and Land Use**			
TL 1-	1	Adopt and implement a Living Streets policy. (Note: Living Streets are green, multimodal streets that enhance walking and biking conditions, safety, and neighborhood livability while reducing environmental impacts and maintenance costs.)				Not Started		https://metrocouncil.org/Local-Planning-Handbook/Local-Planning-Highlights/Living-Streets-Maplewood.aspx	**Transportation and Land Use**	13	10	3
TL 1-	2	Create an Active Mobility Plan emphasizing multimodal transportation, transit access, bike/pedestrian safety, and infrastructure improvements. Prioritize protected bike lanes. Review Ramsey County's bike/pedestrian plan and partner with adjacent communities, the University of Minnesota and State Fair on connected routes.				Not Started			**Transportation and Land Use**	9	6	3
TL 1-	3	Establish a policy for a Transportation Demand Management (TDM) plan, which includes a transit component, applicable to all new developments and redevelopments projects.				Not Started			**Transportation and Land Use**	1		1
TL 1-	4	Collaborate with partners on a branded campaign and incentives to promote alternative transportation, focusing on short trips and equity-driven support for bike and eBike adoption.				Not Started			**Transportation and Land Use**	5	2	3
TL 1-	5	Develop and distribute a resident-focused brochure through landlords that highlights local parks, transit options, bike and walk routes, sustainability resources, waste and recycling programs, clean energy opportunities, and related incentives, including links to the current City information.				Not Started			**Transportation and Land Use**	8	1	2
TL 2-		**TL 2: Increase public transit commuter ridership 40% by 2035. (from 10.3% to 14.4% of commuters. Note: public transit ridership decreased from 14.3% in 2013 to 10.3% in 2023).**							**Transportation and Land Use**			
TL 2-	1	Collaborate with Metro Transit and partners to secure funding for free or reduced fares for Falcon Heights residents and expand transit access through fare reductions, Bus Rapid Transit, and other strategies.				Not Started			**Transportation and Land Use**	10	4	6
TL 2-	2	Collaborate with Metro Transit and partners to enhance bus stop infrastructure according to industry best practices, including pullouts, shelters, and safe pedestrian crossings.				Not Started			**Transportation and Land Use**	9	4	5
TL 2-	3	Partner with Metro Transit and others to develop and distribute educational materials about public transit options and resources				Not Started			**Transportation and Land Use**	1		1
TL 2-	4	Work with local businesses to promote and expand Metro Transit's Guaranteed Ride Home and Employer Sponsored Pass programs for employees and students				Not Started			**Transportation and Land Use**	0		
TL 3-		**TL 3: Increase average population per developed acre by 8% by 2035. (from 6 to 6.5 ppl/acre)**							**Transportation and Land Use**			
TL 3-	1	Amend zoning ordinances to support higher-density, walkable neighborhoods by increasing building heights, allowing approved densities, encouraging Accessory Dwelling Units (ADUs), promoting Transit-Oriented Development (TOD) near transit stations, and supporting mixed-use developments.				In Progress	**Added ADUs, reduced minimum parking requirements		**Transportation and Land Use**	5	3	2
TL 3-	2	Use the Comprehensive Plan process to identify vacant or underutilized land suitable for higher-density development, walkability improvements, transit access, or greenspace.				Not Started			**Transportation and Land Use**	1		1
TL 3-	3	Attract and support mixed-use, multimodal redevelopment projects on priority sites identified through the Comprehensive Plan.				Not Started			**Transportation and Land Use**	1		1
TL 4-		**TL 4: Increase battery electric vehicle (BEV) use to 15% of vehicles on the road by 2035.** (from approximately 87 vehicles to 470 vehicles citywide)							**Transportation and Land Use**			
TL 4-	1	Collaborate with Xcel Energy and partners to expand incentives for electric vehicles (EVs), residential chargers, and eBike adoption, including low-cost loan or bulk-purchase programs to reduce costs.				Not Started			**Transportation and Land Use**	17	9	8
TL 4-	2	Provide information to the community through workshops, an EV guide, and enhanced website content highlighting EV technology, incentives, and available programs.				Not Started	Could be a good option for the Sustainability Fair	Resource: https://www.falconheights.org/residents/resources-for-residents/environment-sustainability/electric-vehicles-charging-equipment	**Transportation and Land Use**	0		
TL 4-	3	Partner with Ramsey County Environmental Health to host and promote a Falcon Heights EV Fair, providing education, test drives, and vendor interaction.				Not Started	Could be a good option for the Sustainability Fair		**Transportation and Land Use**	1		1

TL 4- 4	Through trash hauler permitting, promote or require fleet efficiency improvements such as fuel-efficient practices, optimized routing, zero-emission vehicles or low-emission fuels, and advanced technologies. Include a provision for annual reporting on progress.	Not Started			Transportation and Land Use	6	5	1
TL 5-	**TL 5: Make the community "EV-ready" with electric vehicle charging stations in every public and private parking lot or ramp by 2030.** (Aligns with Comprehensive Plan Goal).				Transportation and Land Use			
TL 5- 1	Implement an "EV Ready" building ordinance for new developments that includes EV charging infrastructure and dedicated parking.	Completed	We have updated City Code to allow EV spaces to count toward the minimum required parking.		Transportation and Land Use	11	4	7
TL 5- 2	Create an Electric Vehicle Infrastructure Readiness Plan that assesses current and future charging needs, maps existing stations, identifies expansion opportunities in public, commercial, and multi-family residential areas, and prioritizes equitable access in low/moderate-income neighborhoods.	Not Started		Resource: https://xcelenergycommunities.com/evtoolkit	Transportation and Land Use	2		2
TL 5- 3	Promote funding opportunities and resources for local businesses to provide electric vehicle charging stations.	Not Started			Transportation and Land Use	2		2
TL 5- 4	Identify an existing or develop and distribute an "EV Ready Guide" with building readiness standards and fleet conversion resources.	Not Started			Transportation and Land Use	1		1
TL 6-	**TL 6: Convert 100% of the municipal non-emergency fleet and equipment to EVs and improve remaining combustion vehicle fuel efficiency by 10% by 2035.**				Transportation and Land Use			
TL 6- 1	Conduct phased fleet analyses to transition to electric and alternative fuel vehicles and equipment. Identify replacements, infrastructure requirements, and facility upgrades.	In Progress	Purchasing a new electric truck; will likely be moving to electric leaf blowers, etc.		Transportation and Land Use	8	3	5
TL 6- 2	Adopt a policy for new City fleet vehicles to be electric or use low/no-carbon fuels by 2030 for light-duty and by 2040 for medium/heavy-duty vehicles.	Not Started			Transportation and Land Use	6	3	3
TL 6- 3	Implement and enforce a city operations anti-idling policy of combustion vehicles.	Not Started			Transportation and Land Use	5	3	2
TL 6- 4	Create an "Eco Driving Guide" to promote fuel efficiency, distribute it to City employees, include it in new employee training, and make it available to Falcon Heights residents and businesses.	Not Started			Transportation and Land Use	1		1
	Buildings and Energy				Buildings and Energy			
BE 1-	**BE 1: Improve total Citywide building energy efficiency 5% for electricity and 15% for natural gas by 2035.** (measured by total energy consumption)				Buildings and Energy			
BE 1- 1	Collaborate with partners to establish a program achieving deep energy retrofits for 80% of low/moderate-income households by 2030. Goal: 100 households annually, each achieving 15% energy reductions. (Comprehensive Plan)	Not Started			Buildings and Energy	9	9	
BE 1- 2	Offer and promote fully subsidized Home Energy Squad visits for income-qualified residents.	On-Going			Buildings and Energy	7	4	3
BE 1- 3	Adopt an energy benchmarking ordinance (Comprehensive Plan)	Not Started			Buildings and Energy	0		
BE 1- 4	Establish a policy for City-funded projects to meet energy efficiency standards (e.g., SB2030, LEED Gold, Enterprise Green Communities, ICC/ASHRAE 700). Encourage other developments needing PUD, CUP, and zoning approval to meet the same standard. (Comprehensive Plan)	Not Started			Buildings and Energy	5	5	
BE 1- 5	Consider establishing a Mayor's Home Energy Challenge to encourage and incentivize residential energy-efficiency upgrades.	Not Started		Example: City of La Crosse https://focusonenergy.com/success-stories/city-of-la-crosse-honored-for-commitment-to-energy-efficiency	Buildings and Energy	5		5
BE 1- 6	Adopt and promote a voluntary net-zero energy code through the building permit process (Comprehensive Plan)	Not Started			Buildings and Energy	2	2	
BE 1- 7	Consider adopting a "Dark Sky" lighting ordinance to promote ecosystem and human health and reduce exterior lighting energy consumption.	Not Started		https://darksky.org/what-we-do/advancing-responsible-outdoor-lighting/darksky-recognized-codes-and-statutes/	Buildings and Energy	2	2	
BE 2-	**BE 2: Achieve 30% building "fuel switching" from on-site fossil fuel combustion to electrification or renewable fuels by 2035.** (28% of existing households use electric heat according to census and natural gas utility data. Goal would result in 50% of households using electric heat)				Buildings and Energy			
BE 2- 1	Coordinate an annual group purchase campaign for residents and small businesses to reduce costs of electrification, energy efficiency, and weatherization upgrades (e.g., air and ground source heat pumps). Prioritize equity in program design, support local contractors, and consider integration with clean energy purchase programs. Goal: 30 households and 10 businesses annually.	Not Started			Buildings and Energy	6	5	1
BE 2- 2	Collaborate with partners to expand and promote incentives for low-income residents to electrify their homes. Goal: 15 households annually.	Not Started			Buildings and Energy	5	2	3
BE 2- 3	Address misconceptions and promote new technologies through educational materials and City communications.	On-Going	Trying to address this through Nature Newsflash		Buildings and Energy	5	1	4
BE 3-	**BE 3: Increase customer-owned or purchased clean electricity to 22% of total building electricity use citywide by 2035.** (10% on-site and 12% green source purchase - existing is 5% on-site and 6% green source purchase. Aligns with Comprehensive Plan Goal)				Buildings and Energy			
BE 3- 1	Collaborate with partners to implement and promote an annual Residential Solar Group Purchase program, supported by a program administrator such as the Midwest Renewable Energy Association or others experienced in solar group purchase programs. Goal: 15 participants and 100 KW installed Annually.	Not Started			Buildings and Energy	7	6	1
BE 3- 2	Establish a policy to incorporate clean energy standards into the PUD ordinance. (Comprehensive Plan)	Not Started			Buildings and Energy	7	7	
BE 3- 3	Identify top privately-owned sites for Solar PV installations (rooftop, ground, carport) and develop site assessments detailing estimated costs, energy generation, and 20-year economic payback. Provide assessments to additional property owners biennially through 2032 to maximize solar incentives. Coordinate with the Commercial property and Industrial property Solarize program.	Not Started			Buildings and Energy	5	2	3
BE 3- 4	Organize an annual group solar purchase program for commercial and industrial properties, coordinating with the City's "Top Solar Potentials" initiative. Goal: 5 participants installing 150 kW annually.	Not Started			Buildings and Energy	1		1
BE 3- 5	Organize education and outreach promoting net-zero energy development, clean energy rebates, and tax credits; provide resources on the City's Energy Hub website. (Comprehensive Plan)	Not Started			Buildings and Energy	2	1	1
BE 4-	**BE 4: Improve total municipal building energy efficiency by 5% for electricity and 15% for natural gas by 2035.** (measured by total energy consumption)				Buildings and Energy			

BE 4- 1	Establish a policy for City-owned buildings to achieve and maintain ENERGY STAR ratings of 75 or higher, meet or exceed IGCC standards, and publicly report energy use. All facility design and construction RFPs for new or major renovation projects must also evaluate opportunities to achieve Net Zero Energy.	Not Started			Buildings and Energy	2	1	1
BE 4- 2	Conduct energy audits of all City facilities, including Dark Sky LED outdoor lighting guidance. Use audit results to prioritize facility improvements in the Capital Improvement Plan, with implementation within 5 years.	Not Started			Buildings and Energy	8	6	2
BE 5-	**BE 5: Achieve 100% municipal building clean electricity use and "fuel switching" from on-site fossil fuel combustion to electrification by 2035. (on-site and green source purchase, aligns with Comprehensive Plan Goal)**				Buildings and Energy			
BE 5- 1	Identify and assess City facilities to prioritize for electrification and schedule improvements.	Not Started			Buildings and Energy	2		2
BE 5- 2	Establish a policy for all new City-owned buildings to be 100% electric (or have zero onsite fossil fuel combustion).	Not Started			Buildings and Energy	8	5	3
BE 5- 3	Conduct a City Facility Solar and Clean Energy Master Plan study assessing on-site solar feasibility, options for achieving 100% clean electricity including ownership options, community solar, RECs, and solar+storage microgrids. Establish an implementation timeline. (Comprehensive Plan)	Not Started			Buildings and Energy	4	2	2
	Waste Management				Waste Management			
WM 1-	**WM 1: Decrease total annual municipal solid waste generated by 10% by 2035.** (from 6160 tons/year to 5,544 tons/year).				Waste Management			
WM 1- 1	Establish a Zero Waste policy for City operations with clear annual waste reduction targets to achieve Zero Waste. External users of City facilities to comply with the Zero Waste policy, and event permit applications must be updated to mandate recycling and composting at events.	Not Started			Waste Management	6	5	1
WM 1- 2	Explore waste hauling improvements to support CAP goals, including updates to the City's licensing process and the implementation of organized waste hauling strategies.	Not Started			Waste Management	10	5	5
WM 1- 3	Establish a policy for all construction and demolition projects to submit waste management plans demonstrating how they will meet specific waste diversion targets aligned with the City's Climate Action Plan goals	Not Started			Waste Management	3	2	1
WM 1- 4	Collaborate with partners such as Reuse MN to promote material reuse and waste reduction, including community events like swaps and garage sales.	Not Started			Waste Management	12	3	9
WM 1- 5	Collaborate with partners to create a comprehensive communication campaign to provide standardized information and communications on waste reduction, recycling, and organics collection options to reach the residential sector.	Not Started			Waste Management	2		2
WM 2-	**WM 2: Increase organics and compostable diversion from 19.9% to 22% of total MSW handled by 2035.** (from 1,224 tons/year to 1,344 tons/year).				Waste Management			
WM 2- 1	Promote participation in the Ramsey/Washington Recycling and Energy Center's Food Scraps Pickup Program when available for Falcon Heights residents. Goal 75% household participation by 2035.	Not Started		https://recyclingandenergy.org/food-scraps-pickup/	Waste Management	7	5	2
WM 2- 2	Incorporate zoning standards for commercial and multi-family buildings that ensure convenient organics and recycling collection, making diversion as easy as garbage disposal.	Not Started			Waste Management	4	4	
WM 2- 3	Collaborate with partners to promote backyard composting by providing residents with low-cost or free compost bins and educational materials.	Not Started		Resource: https://www.recycleminnesota.org/2025-rain-barrel-and-compost-bin-sale.html	Waste Management	10	6	4
WM 2- 4	Collaborate with partners such as Ramsey County Urban Agriculture Coordinator to promote use of the community compost drop off site for residents unable or unwilling to compost at home.	Not Started			Waste Management	0		
WM 3-	**WM 3: Increase recycling diversion from 31.4% to 35% of total MSW handled by 2035** (from 1,936 tons/year to 2,150 tons/year).				Waste Management			
WM 3- 1	Collaborate with partners on a comprehensive communication campaign providing standardized education and guidance on waste reduction, recycling, organics collection, hazardous waste management, and available waste diversion programs for residential and commercial sectors.	Not Started			Waste Management	3		3
WM 3- 2	Partner with Ramsey County and the Recycling Ambassador program to reduce barriers to recycling participation at multifamily and commercial properties.	Not Started			Waste Management	7	5	2
WM 3- 3	Through waste hauler permitting or organized waste collection processes, incentivize or include conditions for haulers to educate customers on recycling, waste reduction, and diversion.	Not Started			Waste Management	2		2
WM 3- 4	Adopt an ordinance that ensures all "to-go" packaging is recyclable, compostable, or reusable.	In Progress	EC working on this.		Waste Management	19	9	10
	Water and Wastewater				Water and Wastewater			
W 1-	**W 1: Promote a 5% reduction in water use and wastewater generation Citywide by 2035.**				Water and Wastewater			
W 1- 1	Collaborate with regional partners, including Saint Paul Regional Water Services, Capitol Region, Rice Creek Watershed Districts, and Met Council, to help Falcon Heights' largest water users reduce consumption through an opt-in program. Offer technical resources or grants for water-efficient equipment to assist large institutions and businesses in conserving water internally.	Not Started		Resources: Met Council water efficiency grant: https://metrocouncil.org/Wastewater-Water/Planning/Water-Supply-Planning/Grants/Water-Efficiency-Grant-Program.aspx City example: https://www.cityofroseville.com/3599/Water-Efficiency-Rebate-Program	Water and Wastewater	7	6	1
W 1- 2	Promote community-wide adoption of WaterSense fixtures by accelerating installation in homes and expanding to commercial properties. Goal: achieve 30 households and 10 businesses upgraded annually.	Not Started			Water and Wastewater	1	1	
W 1- 3	Evaluate adopting a Lawn and Landscaping watering policy that provides clear irrigation guidelines and promotes water conservation.	Not Started		Examples : City of Woodbury https://www.woodburymn.gov/1056/Lawn-Landscape-Watering-Policy City of Oakdale: https://www.oakdalemn.gov/FAQ.aspx?QID=273	Water and Wastewater	10	9	1
W 1- 4	Implement a policy establishing rainwater collection systems and WaterSense fixtures and appliances as standard for all City facility projects, including modeling best practices in the anticipated new park building. Encourage projects receiving City financing or public funds to adopt similar practices and offer technical support as needed.	Not Started			Water and Wastewater	3	1	2

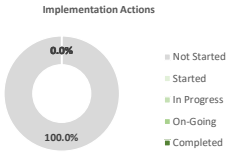
W 1- 5	Partner with Ramsey County, Saint Paul Regional Water Services, and others to establish a reduced-cost or giveaway program for rain barrels.	Not Started		Examples and resources: https://stormwater.pca.state.mn.us/index.php?title=MS4_fact_sheet_-_Rainwater_Harvesting_/_Stormwater_Reuse_%26_Rain_Barrel_Programs https://www.recycleminnesota.org/2025-rain-barrel-and-compost-bin-sale.html	Water and Wastewater	2	1	1
W 2-	**W 2: Identify flood-prone areas and develop plans to address future stormwater and climate-related impacts.**				Water and Wastewater			
W 2- 1	Incorporate anticipated increases in precipitation and extreme weather into the City's stormwater management plans, including addressing redevelopment of currently exempt properties. Collaborate with Capitol Region and Rice Creek Watershed Districts.	Not Started			Water and Wastewater	7	3	4
W 2- 2	Conduct a pavement analysis and permeable pavement conversion study, prioritizing flood-vulnerable areas identified in the City's 2024 Ground Cover Study. Develop an implementation master plan and replacement schedule. (Consider integration with the Land Conversion Opportunity Study.)	Not Started			Water and Wastewater	18	15	3
W 2- 3	Explore zoning adjustments to reduce impervious surfaces citywide, emphasizing pavement removal, permeable pavement installation, floodplain preservation, and green stormwater infrastructure. Collaborate with Capitol Region and Rice Creek Watershed Districts.	Not Started			Water and Wastewater	3	2	1
W 2- 4	Partner with Capitol Region and Rice Creek Watershed Districts to create or expand incentive programs encouraging rain garden installations, prioritizing areas vulnerable to stormwater impacts.	Not Started			Water and Wastewater	3		3
W 3-	**W 3: Increase groundwater, stream, river and wetland water quality protection and restoration.**				Water and Wastewater			
W 3- 1	Partner with Capitol Region and Rice Creek Watershed Districts to assess the percentage of impervious surface runoff treated by Best Management Practices (BMPs) and set a 2035 improvement goal.	Not Started			Water and Wastewater	6	3	3
W 3- 2	Strengthen ordinances and enforcement to protect riparian areas, streams, and wetlands that store and filter floodwaters.	Not Started			Water and Wastewater	5		5
W 3- 3	Adopt a no-synthetic-fertilizer, no-pesticide policy for all City-owned or managed properties and encourage reduced fertilizer and pesticide use by residents and businesses.	Not Started			Water and Wastewater	18	10	8
W 3- 4	Collaborate with partners to educate residents on environmentally safer alternatives to road and sidewalk salt for ice control.	On-Going		Resource: https://minnesotawaterstewards.org/	Water and Wastewater	13	10	3
	Local Food and Agriculture				**Local Food and Agriculture**			
LF 1-	**LF 1: Enhance access to local food, especially for low-income and food-insecure individuals.**				Local Food and Agriculture			
LF 1- 1	Collaborate with the Saint Paul–Ramsey County Food and Nutrition Commission to complete a Food Security Assessment, identify underserved areas, and develop strategies to improve food access—especially for vulnerable populations.	Not Started			Local Food and Agriculture	5	2	3
LF 1- 2	Partner with organizations like Good Acre, the University of Minnesota, Gibbs Farm, and St. Paul Farmer's Market to create or expand farmers market access in Falcon Heights. Pursue grant opportunities to support these efforts.	Not Started			Local Food and Agriculture	8	3	5
LF 1- 3	Work with partners to promote subsidy programs that provide local produce at reduced prices for qualifying residents.	Not Started			Local Food and Agriculture	1		1
LF 1- 4	Offer City facilities or parking lots as pickup sites for Community Supported Agriculture (CSA) programs that accept SNAP and EBT payments.	Not Started			Local Food and Agriculture	3	1	2
LF 2-	**LF 2: Increase production of local food, particularly serving low-income and food-insecure individuals.**				Local Food and Agriculture			
LF 2- 1	Identify and map potential sites for community gardens or farms, prioritizing underserved populations and food-insecure areas. Include parks and public lands, and collaborate with partners to implement garden locations.	Not Started			Local Food and Agriculture	13	9	4
LF 2- 2	Plant fruit and nut trees on City-owned land, boulevards, and rights-of-way. Partner with groups like Every Meal to collect and distribute the harvest.	Not Started			Local Food and Agriculture	6	3	3
LF 2- 3	Establish a "Grow Falcon Heights" program to expand community garden plots and create a market garden that offers youth training and internships. Collaborate with local restaurants, food shelves, and organizations to distribute produce to food-insecure residents.	Not Started		Example: https://burnsvillemn.gov/2271/Grow-Burnsville	Local Food and Agriculture	8	6	2
LF 3-	**LF 3: Reduce food waste and hunger, achieve a 50% decrease in food insecurity Citywide by 2035.**				Local Food and Agriculture			
LF 3- 1	Collaborate with the Saint Paul–Ramsey County Food and Nutrition Commission to complete a Food Security Assessment. Identify food-insecure areas, especially vulnerable populations, and develop strategies to improve food access in the city.	Not Started			Local Food and Agriculture	5	1	4
LF 3- 2	Work with Ramsey County, the University of Minnesota, and the State Fair to explore creating a Food Recovery Network that improves surplus food collection and distribution from large events and facilities to food-insecure and elderly populations.	Not Started			Local Food and Agriculture	14	11	3
LF 3- 3	Coordinate with local food banks to support edible food donations from City and community events. Expand partnerships with food retailers and restaurants, and share food bank resources on the City's website.	Not Started			Local Food and Agriculture	2	1	1
	Greenspace and Ecosystems				**Greenspace and Ecosystems**			
GE 1-	**GE 1: Increase tree cover, particularly in the priority neighborhoods, from 22.5% to 25% by 2035** (an increase of 10% over existing tree canopy area).				Greenspace and Ecosystems			
GE 1- 1	Adopt a No Net Loss policy that ensures every removed public street or space tree is replaced with a seedling or sapling. If replanting on-site isn't feasible, a tree should be planted in a nearby space or within a tree bank established by or designated by the City.	In Progress		http://phytosphere.com/treeord/treebank.htm Example: https://www.knoxvilletn.gov/government/city_departments_offices/public_service/urban_forestry/tree_mitigation_bank	Greenspace and Ecosystems	16	7	9
GE 1- 2	Partner to create or expand an annual tree giveaway or discount program for residents. Example: grow and distribute 400 seedlings or saplings each year.	In Progress			Greenspace and Ecosystems	12	6	6
GE 1- 3	Update the City's Landscape Ordinance to establish minimum tree and native/pollinator planting coverage standards based on lawn or impervious surface area. Ensure planting islands are included in parking lots for new or expanded developments. Promote diversity in native trees, shrubs, and pollinator-friendly groundcovers.	In Progress			Greenspace and Ecosystems	16	10	6

GE 1- 4	Collaborate with partners to share educational resources on climate-adaptive trees, promotion of tree and plant diversity, carbon gardening, tree care, and other sustainable greenspace practices such as reducing fertilizer use, biochar amendments, and polyculture lawns. Post resources on the City website.	In Progress		Greenspace and Ecosystems	16	8	8
GE 2-	**GE 2: Enhance pollinator habitats and replace 15% of turf with native grasses and wildflowers citywide by 2035.** (approximately 6 acres annually).			Greenspace and Ecosystems			
GE 2- 1	Complete a Land Conversion Opportunity Study to identify turf and impervious areas suitable for conversion to native grasslands, wetlands, shrubs, or forests. Develop an implementation plan by census tract, explore incentives, and launch outreach to promote turf conversion.	Not Started		Greenspace and Ecosystems	20	12	8
GE 2- 2	Establish a policy for City properties to reduce impervious surfaces and enhance natural diversity by incorporating pavement reduction, permeable pavement, green roofs, and replacing turf with native wildflowers and prairie grasses to support pollinators.	Not Started		Greenspace and Ecosystems	13	5	8
GE 2- 3	Collaborate with partners like the University of Minnesota Bee Lab, Capitol Region and Rice Creek Watershed Districts to develop and share resources on selecting appropriate native and pollinator-friendly plants.	Not Started		Greenspace and Ecosystems	20	5	15
GE 2- 4	Partner with the University of Minnesota Master Gardeners to create a greenspace ambassador and education program.	Not Started		Greenspace and Ecosystems	18	3	15
GE 3-	**GE 3: Reduce heat island effect by decreasing dark impervious surfaces 10% citywide by 2035, prioritizing high-impact neighborhoods** (approximately 4.6 acres annually).			Greenspace and Ecosystems			
GE 3- 1	Collaborate with partners to create an incentive program supporting the conversion of underutilized paved and turf areas into sustainable green spaces, following the City's Land Conversion Opportunity Study.	Not Started		Greenspace and Ecosystems	8	5	3
GE 3- 2	Encourage or require commercial developments receiving City funding, PUD approval, or Conditional Use Permits to implement heat island reduction strategies, including cool surfaces, solar-friendly shading, impervious surface reduction, and breeze capture.	Not Started		Greenspace and Ecosystems	4	3	1
GE 3- 3	Collaborate with partners to develop and promote best practices for reducing heat island effects on commercial properties.	Not Started		Greenspace and Ecosystems	6	4	2
GE 3- 4	Collaborate with partners to create a cool roofs and pavements incentive program and develop a Falcon Heights demonstration project featuring a cool roof, green roof, green/live wall, or vertical garden.	Not Started		Greenspace and Ecosystems	13	9	4

Progress of

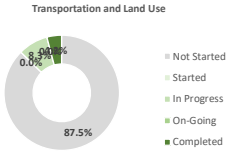
Implementation Actions

Progress category	%	Action by Progress
Not Started	100.0%	5
Started	0.0%	0
In Progress	0.0%	0
On-Going	0.0%	0
Completed	0.0%	0
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	5



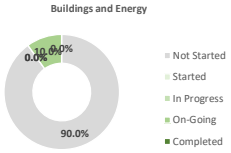
Transportation and Land Use

Progress category	%	Action by Progress
Not Started	87.5%	21
Started	0.0%	0
In Progress	8.3%	2
On-Going	0.0%	0
Completed	4.2%	1
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	24



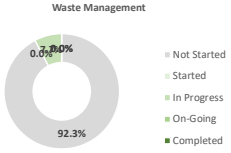
Buildings and Energy

Progress category	%	Action by Progress
Not Started	90.0%	18
Started	0.0%	0
In Progress	0.0%	0
On-Going	10.0%	2
Completed	0.0%	0
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	20



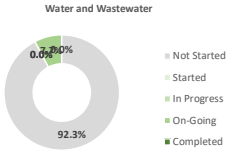
Waste Management

Progress category	%	Action by Progress
Not Started	92.3%	12
Started	0.0%	0
In Progress	7.7%	1
On-Going	0.0%	0
Completed	0.0%	0
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	13



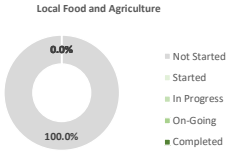
Water and Wastewater

Progress category	%	Action by Progress
Not Started	92.3%	12
Started	0.0%	0
In Progress	0.0%	0
On-Going	7.7%	1
Completed	0.0%	0
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	13



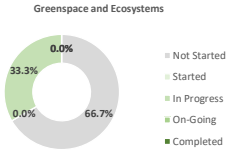
Local Food and Agriculture

Progress category	%	Action by Progress
Not Started	100.0%	10
Started	0.0%	0
In Progress	0.0%	0
On-Going	0.0%	0
Completed	0.0%	0
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	10



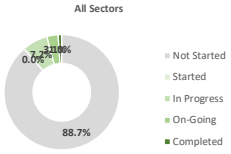
Greenspace and Ecosystems

Progress category	%	Action by Progress
Not Started	66.7%	8
Started	0.0%	0
In Progress	33.3%	4
On-Going	0.0%	0
Completed	0.0%	0
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	12

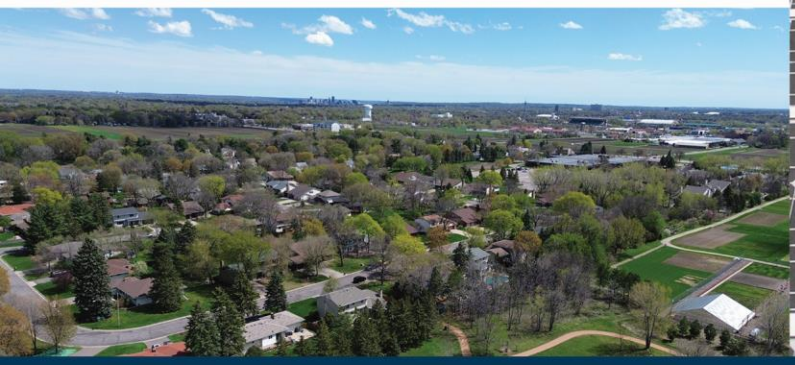


All Sectors

Progress category	%	Action by Progress
Not Started	88.7%	86
Started	0.0%	0
In Progress	7.2%	7
On-Going	3.1%	3
Completed	1.0%	1
(Open Category 1)	0.0%	0
(Open Category 2)	0.0%	0
(Open Category 3)	0.0%	0
	100.0%	97

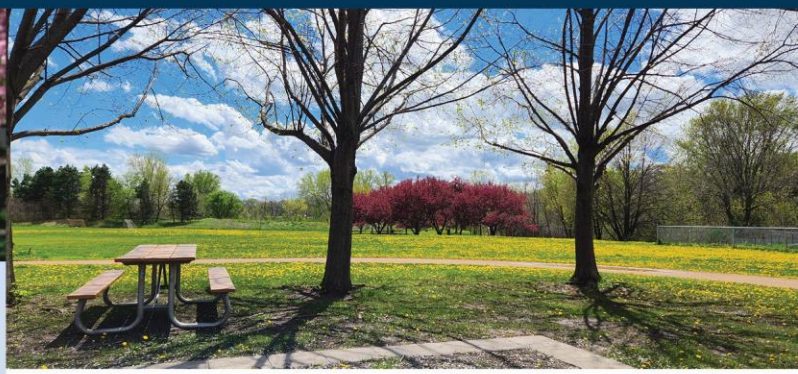


FALCON HEIGHTS
THE CITY THAT SOARS



An Energy Action Plan for Falcon Heights

October 2024



Xcel Energy®

PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

ACKNOWLEDGEMENTS

Thank you to the following individuals who contributed to developing this Energy Action Plan. The content of this plan is derived from a series of planning workshops hosted by Xcel Energy's Partners in Energy. Partners in Energy is a two-year collaboration to develop and implement a community's energy goals. For information about the planning workshops, see Appendix D.

Energy Action Team

Name	Organization
Lois Braun	Resident
Amy Christiansen	Environment Commission
Pedro De Filippo Vannucci	Environment Commission and University of Minnesota Student
Les Everett	Resident
Adam Keester	Environment Commission
Emma Kostecki	Environment Commission and University of Minnesota Student
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Hannah Lynch	Community Development Coordinator/Planner, City of Falcon Heights
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Beth Mercer-Taylor	Environment Commission Chair
Paula Mielke	City Council Liaison, City of Falcon Heights
Bruce Mielke	Resident
John Pellegrini	Environment Commission Vice Chair
Shubhechchha Sharma	Resident
Michael Tracy	Resident
Dean Walczak	Resident
Partners in Energy Utility and Facilitation Team	
Marcus Baker	Partners in Energy Community Facilitator
Deirdre Coleman	Partners in Energy Community Facilitator
Kelsey Poljacik	Partners in Energy Data Lead
Paolo Spiern	Partners in Energy Community Facilitator
Sofia Troutman	Program Manager, Xcel Energy's Partners in Energy

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GLOSSARY OF TERMS

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

Beneficial Electrification: Xcel Energy defines beneficial electrification (BE) as the replacement of fossil fuel use with electricity that results in either lower costs, reduced emissions, or more effective use of the power grid.

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

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

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

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

Energy Conservation and Optimization Programs (ECO): Portfolio of approved utility energy efficiency and demand management programs. Minnesota electric utilities have a goal of saving 1.5% of their total energy sales each year via customer conservation efforts. Minnesota natural gas utilities have a goal of saving 0.5% of their total energy sales each year via customer conservation efforts. ECO programs help Minnesota households and businesses use electricity and natural gas more efficiently, lessening the need for new utility infrastructure. The Minnesota Department of Commerce, Division of Energy Resources (DER) oversees ECO to ensure that ratepayer dollars are used effectively in achieving those goals and that energy savings are reported as accurately as possible.

Decatherm (Dth): Quantity of energy that is equivalent to ten therms.

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.

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

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

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

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

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

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

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

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

Metric Tons of Carbon Dioxide Equivalent ($MTCO_2e$): A unit of measure for greenhouse gas emissions. The unit "CO_2e" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO_2), based on the global warming potential (GWP) of the gas.

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

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

Renewable Energy: For the purposes of this Energy Action Plan, renewable energy refers to solar and wind energy. Residents and businesses currently have the opportunity to subscribe to programs offered by Xcel Energy limited to these two renewable energy sources. Other forms of clean energy may be considered when programs become available to the community.

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

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

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

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

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

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

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

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

FALCON HEIGHTS
Energy Action Plan

Community Commitment

In the heart of Falcon Heights, a community nestled amongst the State Fair grounds and the University of Minnesota, citizens and City leaders embarked on a transformative journey to prioritize energy strategies that lead to a sustainable and equitable future.

Our Vision

Falcon Heights prioritizes energy strategies that lead to a sustainable and equitable future.

Focus Areas

Alleviating the Energy Burden

Enhancing Energy Efficiencies in Buildings

Embracing Clean, Renewable Energy

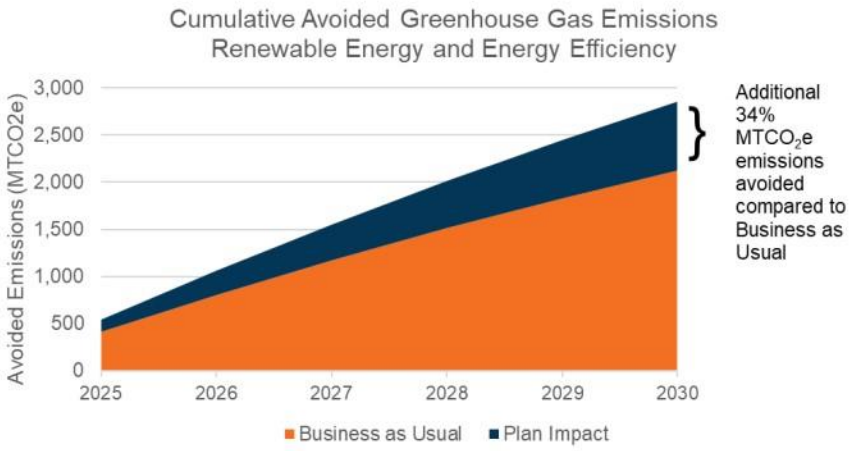
The Energy Action Plan guides the city of Falcon Heights by outlining actions that connect the community through engaging residents, schools, businesses, and community organizations. The actions help connect people to resources to meet their energy needs while reaching the energy goals of the community as a whole.

THE CONTENT OF THIS PLAN IS DERIVED FROM A SERIES OF PLANNING WORKSHOPS AND EVENTS HOSTED BY XCEL ENERGY'S PARTNERS IN ENERGY AND THE CITY OF FALCON HEIGHTS. THANK YOU TO THE FALCON HEIGHTS ENERGY ACTION TEAM WHO CONTRIBUTED MANY HOURS OF SERVICE TO CREATING OUR VISION, GOALS, AND STRATEGIES FOR THIS PLAN.

Energy Action Plan Goal

Falcon Heights will increase our energy savings by 50% and avoid and additional 34% of community-wide greenhouse gasses by 2030 through additional participation in energy efficiency programs and on-going renewable energy participation.

This will result in a substantial 65% increase in dollars saved in our community.



Achieving the goal

Some of the strategies in the plan that will help reach our goal include

Partner

Work alongside the University of Minnesota and the Minnesota State Fair to collectively achieve greenhouse gas reduction in our community.

Engage

Host community workshops on energy topics and program opportunities.

Conduct outreach to building owners and managers with energy information.

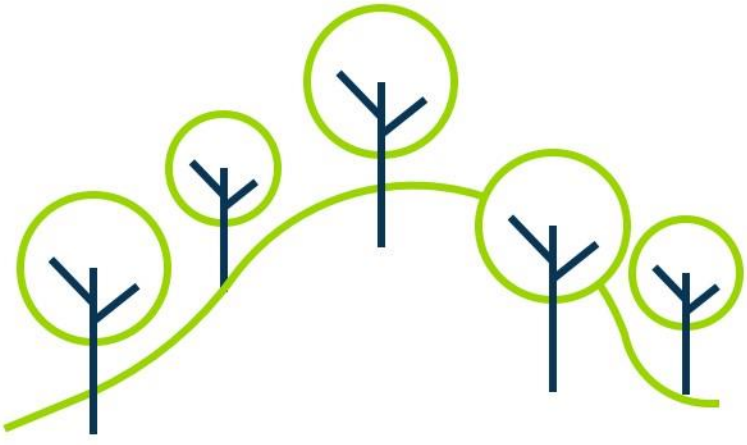
Support

Connect residents and businesses with resources to meet their energy needs.

Create incentives for the community to take energy actions.

Impact and Results of Plan Implementation

This is the equivalent of avoiding over 11 million pounds of coal or 1,125,000 gallons of gasoline being burned, and the equivalent sequestering of carbon from 165,351 trees seedlings grown for 10 years!



INTRODUCTION

Falcon Heights has made great progress toward their energy goals in our 2020 Comprehensive Plan through the creation of an Environmental Commission, GreenStep city participation, EV Smart Cities Program, SolSmart city participation, and renewable energy commitments. With an eye toward climate planning, an energy plan will advance and accelerate these efforts.

Our Engagement & Outreach Process

The creation of this Energy Action Plan was a six-month process to help support our community by characterizing its energy use, identifying our energy-related goals, and developing engaging strategies to guide change toward our energy future. Starting in January 2024, the Energy Action Plan was driven by a series of open houses and planning workshops held in the community with a planning team committed to representing local energy priorities in collaboration with City of Falcon Heights and Xcel Energy Partners in Energy. By the numbers, we engaged the community through 3 surveys, 3 workshops, 2 open houses, 17 Energy Action Team participants, 63 community energy survey respondents and over 100 people at open houses. See Appendix D for more information about the planning process and Xcel Energy Partners in Energy.

Figure 1. Photographs from Falcon Height's Spring Together event in Curtis Park, May 2024

Why We Want An Energy Action Plan

The City of Falcon Heights recognizes the urgency of addressing climate change and has committed to taking action by signing a resolution in January 2023 that declares a climate crisis. This commitment involves developing a City Climate Action Plan with input from residents, businesses and nonprofit organizations, in collaboration with other entities working on climate action in the community.

As a GreenStep City, Falcon Heights aims to contribute to Minnesota's goal of achieving net-zero emissions by 2040. A key aspect of this effort is addressing the energy inefficiency of the city's older homes and multi-family buildings. Partners in Energy can provide valuable expertise to assess the current energy situation and guide the City in implementing effective measures.

The Energy Action Plan is crucial for addressing several pressing issues, including inefficient housing, emissions from the State Fair, idling vehicles, potential redevelopment of the University of Minnesota golf course, and gaining a comprehensive understanding of the city's current energy landscape. By identifying and focusing on the most significant concerns, Falcon Heights can ensure that its efforts are strategic and impactful.

WHERE WE ARE NOW

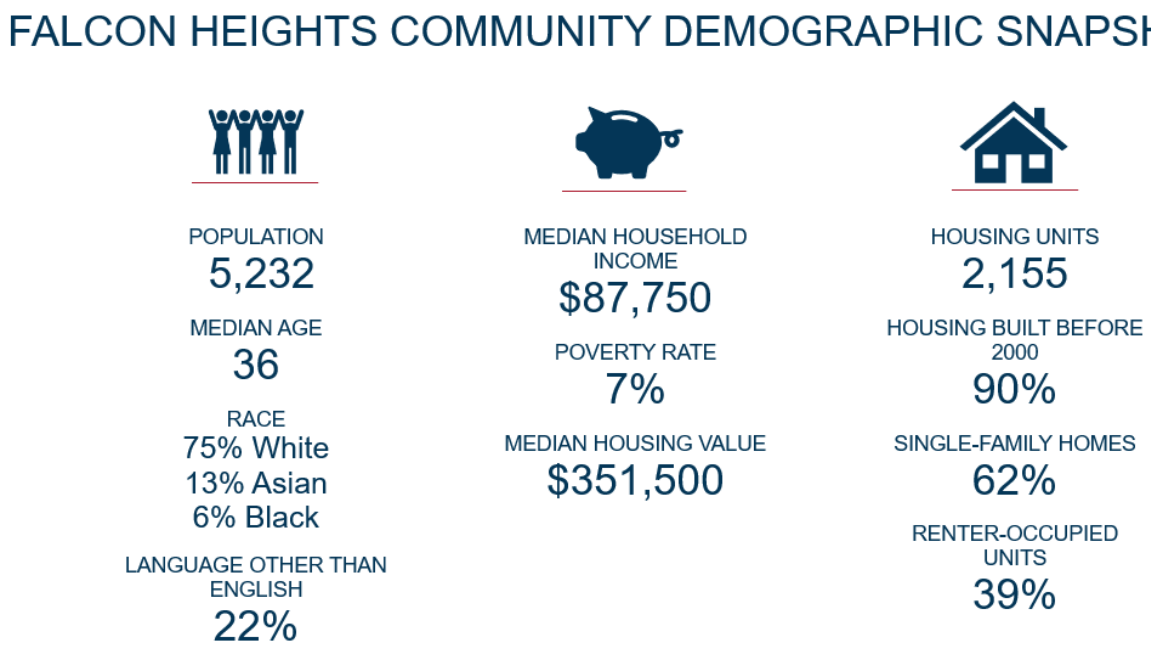
An integral part of the Partners in Energy planning process is reviewing historical energy data to inform our community's energy baseline. Xcel Energy provided data on energy use, participation counts and utility energy conservation program savings for Falcon Heights, as detailed in the following sections. See *Appendix A: Baseline Energy Analysis* for a comprehensive picture of Falcon Heights baseline energy data.

Community Demographics

As of 2022, Falcon Heights had a population of just over 5,200 people living in approximately 2,200 housing units.[1] Falcon Heights residents identify as White (75%), Asian (13%) and Black (6%), and 22% of residents speak a language other than English. Falcon Heights has a poverty rate of 7%, with a median household income of $87,750. With 90% of its housing built before 2000, most Falcon Heights residents live in housing stock with significant opportunity for energy efficiency improvements because of aging buildings and equipment. Additionally, 39% of the housing units in Falcon Heights are renter-occupied, presenting unique opportunities for energy efficiency measures targeted at renters and property owners. *Figure 1* shows a community demographic profile for Falcon Heights.

[1] Data source: U.S. Census Bureau American Community Survey, 2022 5-year estimates

Figure 1. Overview of Falcon Heights community demographics

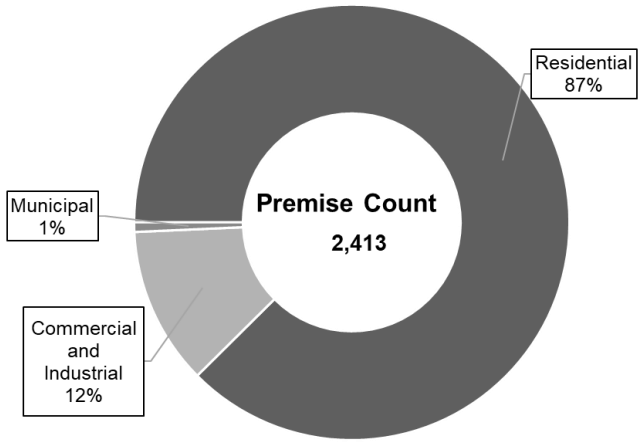


Energy Use and Savings

Premises

Xcel Energy provides electricity and natural gas to Falcon Heights residents and businesses. In 2023, Falcon Heights consisted of 2,413 distinct utility premises, which are a unique combination of service address and meter. For residential customers, this is the equivalent of an individual house or dwelling unit in a multi-tenant building. For business customers, it is an individual business, or for a larger business, a separately metered portion of the business' load at that address. Most Falcon Heights premises are residential, followed by a portion of commercial and industrial premises, and finally a small number of City-owned municipal premises (Figure 2).

Figure 2. Total premises by sector, 2022

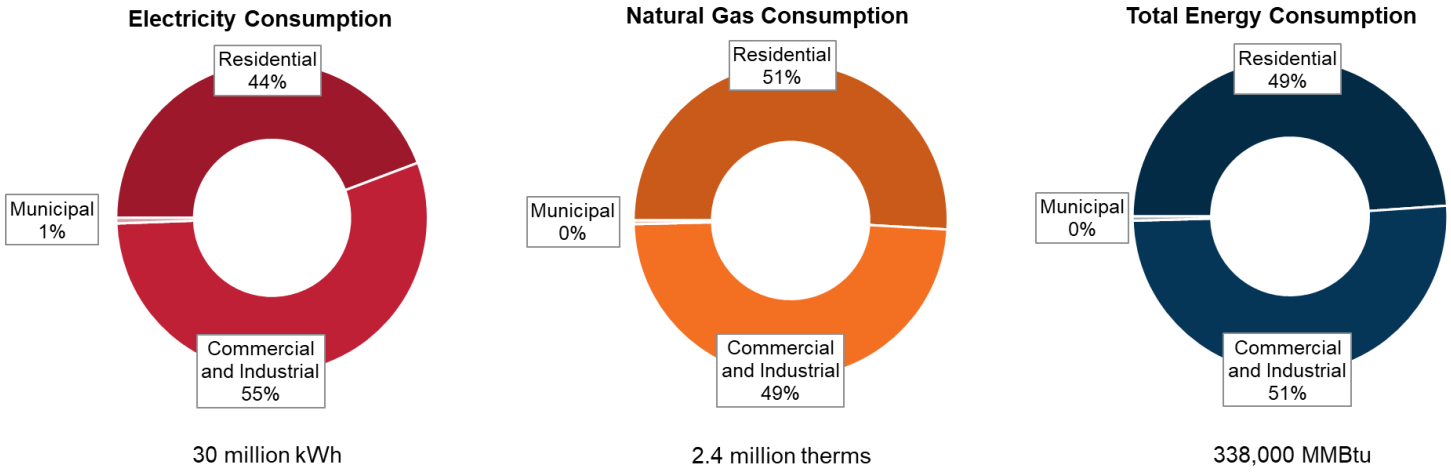


Grid Energy Use

On average over the baseline period (2021–2023), the Falcon Heights community consumes nearly 30 million kWh and about 2.4 million therms of natural gas each year across all sectors (Figure 3). To compare electricity and natural gas consumption on a common measure of energy, total energy consumption can be calculated by converting both electricity and natural gas into British thermal units, displayed here as million British thermal units (MMBtu).

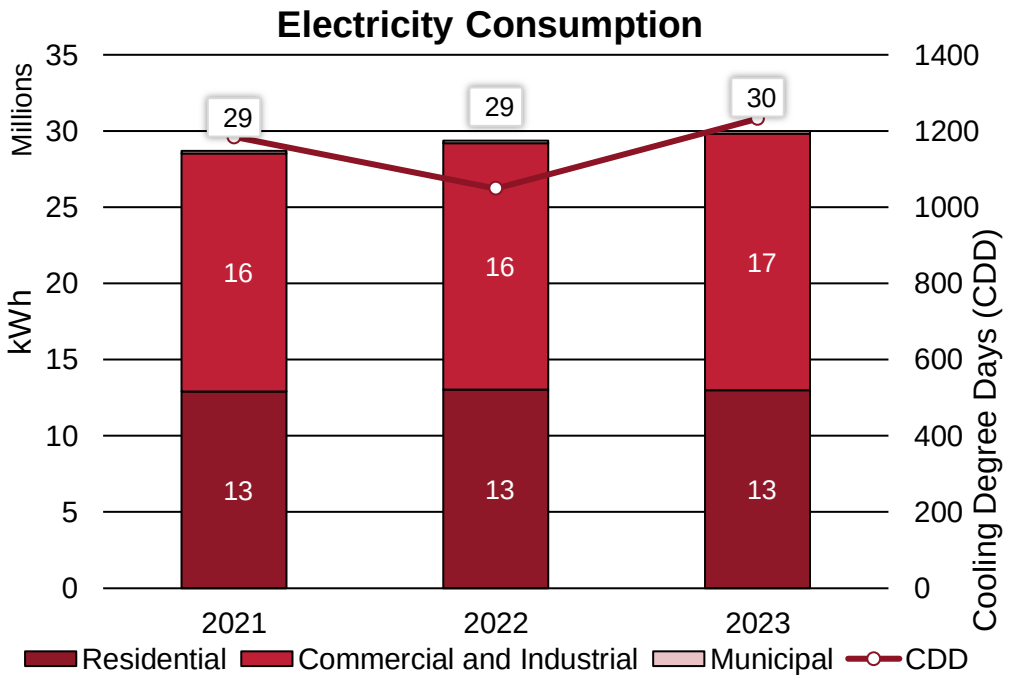
Although the commercial and industrial sector only makes up 12% of total premises in Falcon Heights, it accounts for over half the total energy consumption. Commercial and industrial premises use significantly more energy on average per premise than residential premises, a typical pattern for cities like Falcon Heights.

Figure 3. Average annual energy consumption by sector, 2021–2023



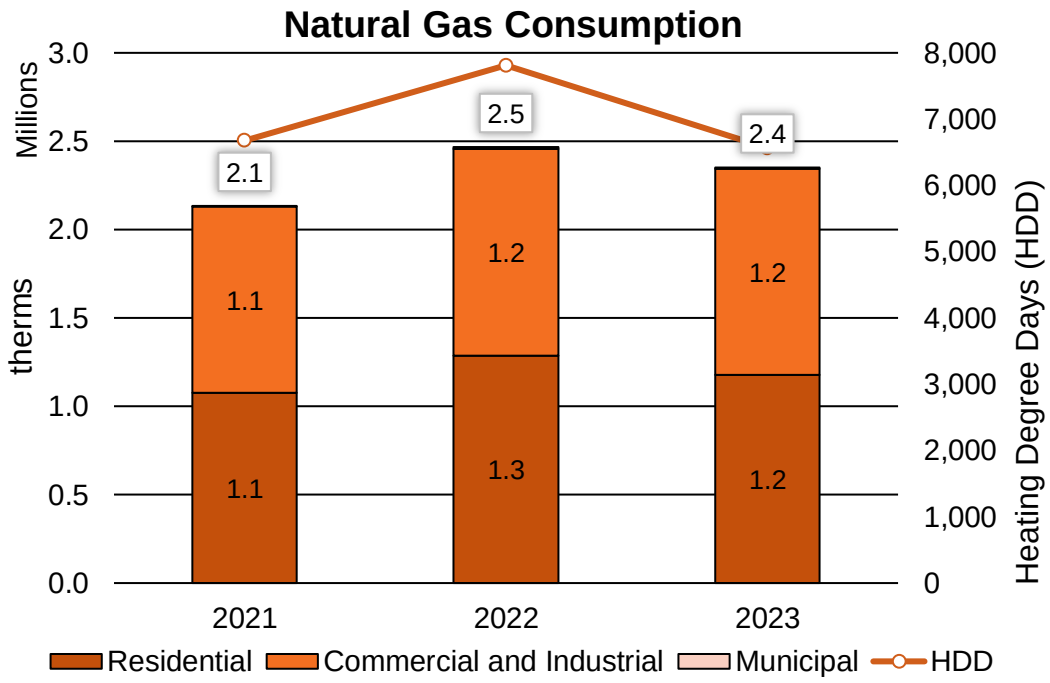
During the three-year baseline period, Falcon Heights saw an overall increase in electricity consumption, with a 5% increase in electricity consumption in 2023 compared to 2021. Electricity use in the residential sector increased slightly by 1% between 2021 and 2023, while the commercial and industrial sector increased by 8% over the same period; the municipal sector in Falcon Heights increased by 15% (Figure 4).

Figure 4. Electricity consumption by sector and cooling degree days, 2021–2023



Similarly, natural gas consumption in Falcon Heights was greater in 2023 compared to 2021, with an overall increase of 10% in community-wide usage. Natural gas consumption in the residential sector increased by 9% between 2023 and 2021, and 11% in the commercial and industrial sector over this period; the municipal sector saw an increase of nearly 50%, though the municipal sector makes up only a small portion of community-wide consumption (Figure 5). The fluctuations in natural gas consumption between 2021 and 2023 correlate with cooler temperatures, measured by heating degree days (HDD), as shown in the figure below.

Figure 5. Natural gas consumption by sector and heating degree days, 2021–2023



Energy Costs and Energy Burden

During an average year, Falcon Heights spends a total of about $6.2 million on energy fuel costs for electricity and natural gas (Figure 6). More than half (54%) of these costs are spent by the commercial and industrial sector, with total annual average fuel costs at just over $3.3 million. The remaining 46% is spent primarily by the residential sector, with an annual total of $2.8 million, and the municipal sector, spending about $30,000 annually on average.

Figure 6. Total average annual electricity and natural gas fuel costs by sector, 2021–2023

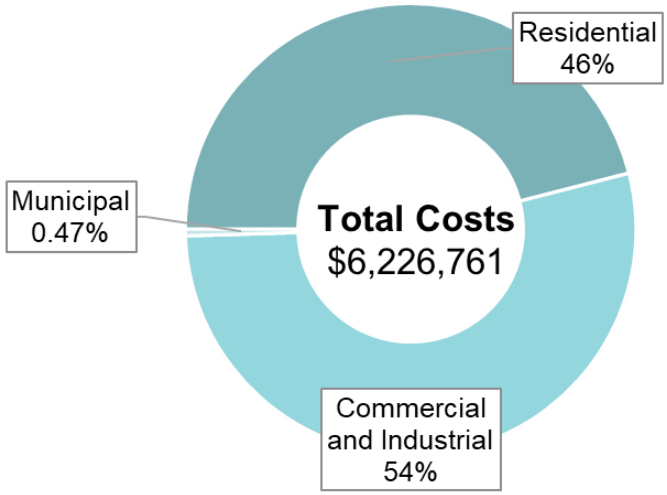


Table 1. Annual fuel costs by sector and fuel type, 2021–2023

Sector	Annual Electricity Costs	Annual Natural Gas Costs	Annual Cost per Premise
Residential	$1,820,262	$1,044,552	$1,384
Commercial & Industrial	$2,403,249	$929,222	$11,873
Municipal	$22,055	$7,421	$1,734
Total	$4,245,566	$1,981,195	-

Energy burden is the percentage of income that a resident spends on energy bills. A high energy burden is defined as spending 6% or more of household income on energy costs, while a severe energy burden is 10% or greater of household income.[2] In Falcon Heights, the residents with the highest energy burden are those living in owner-occupied housing with incomes between 0–30% of area median income (AMI), with an estimated energy burden of 24% (Figure 7).[3] Approximately **52** owner-occupied housing units fall within this category. Energy burden remains high for owner-occupied residents even as household income increases, until AMI is met. In renter-occupied housing, energy burden is highest for those with the lowest incomes but alleviated at higher rates of household income. *Figure 8* shows the distribution of households across these ranges of AMI, by owner status.

[2] ACEEE: *How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burdens across the U.S.* https://www.aceee.org/research-report/u2006
[3] Energy burden data sourced from Department of Energy Low-Income Energy Affordability Data (LEAD) tool. https://www.energy.gov/scep/slsc/lead-tool

Figure 7. Average energy burden by owner status and median income

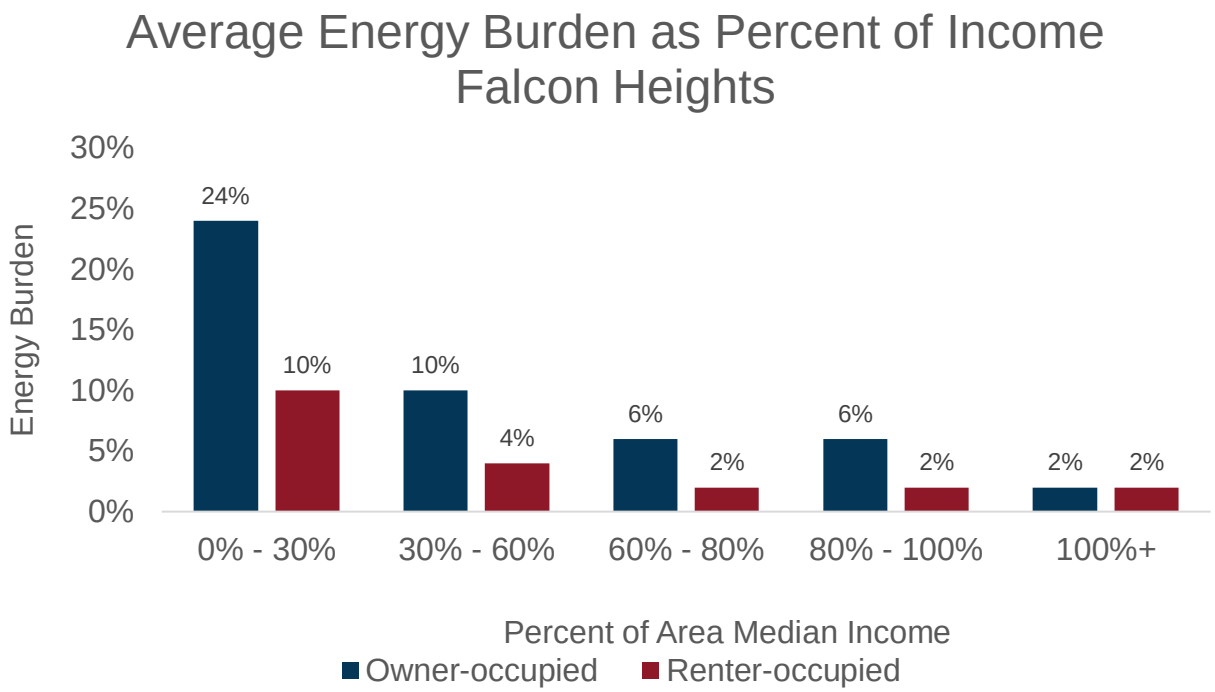
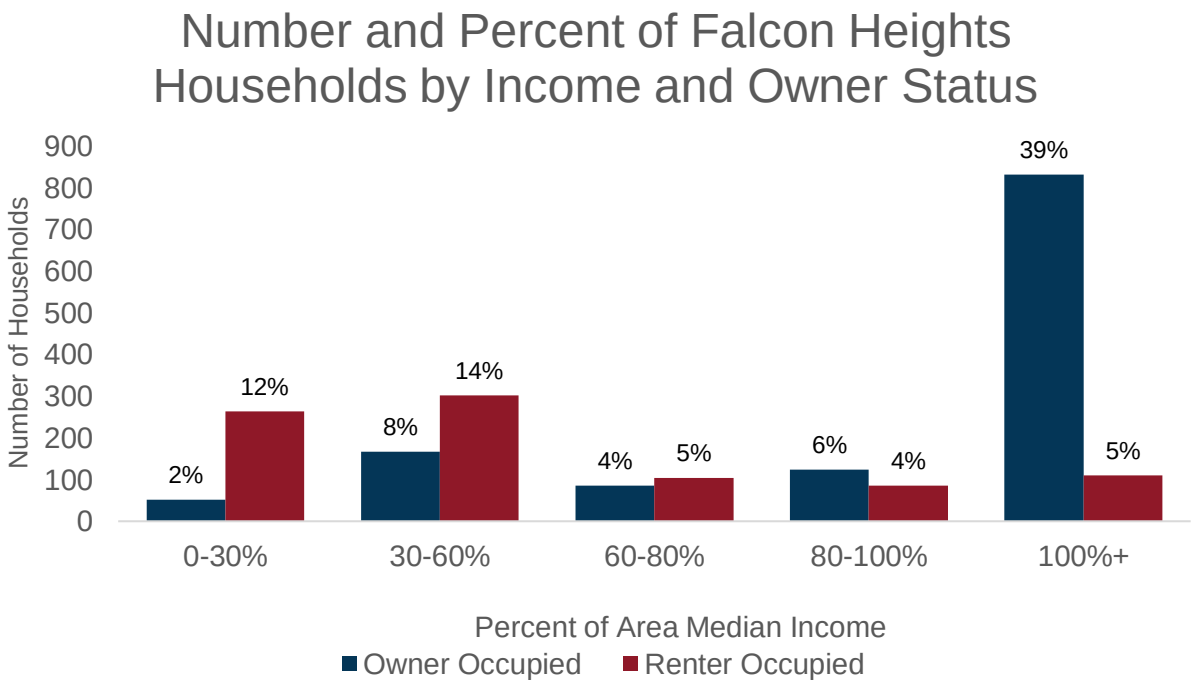


Figure 8. Household count and percent of total households by income and owner status in Falcon Heights



Greenhouse Gas Emissions

Greenhouse gas emissions are calculated for both electricity and natural gas consumption for all sectors in Falcon Heights (Figure 9). Energy-related greenhouse gas emissions in Falcon Heights in 2023 totaled to over 20,000 metric tons of carbon dioxide equivalent ($MTCO_2e$). In 2023, the commercial and industrial sector accounted for 52% of the total emissions, the residential sector made up about 47% of total emissions, and the municipal sector was responsible for the remaining nearly 1%.

Figure 9. Energy-related greenhouse gas emissions, 2021–2023

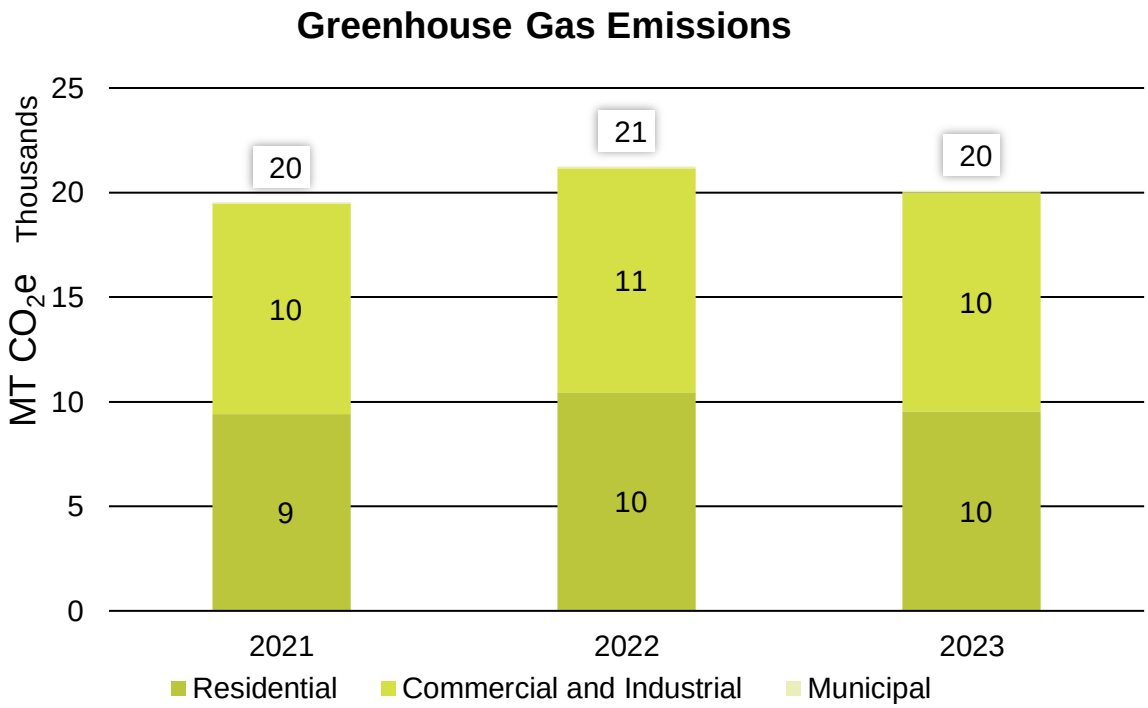
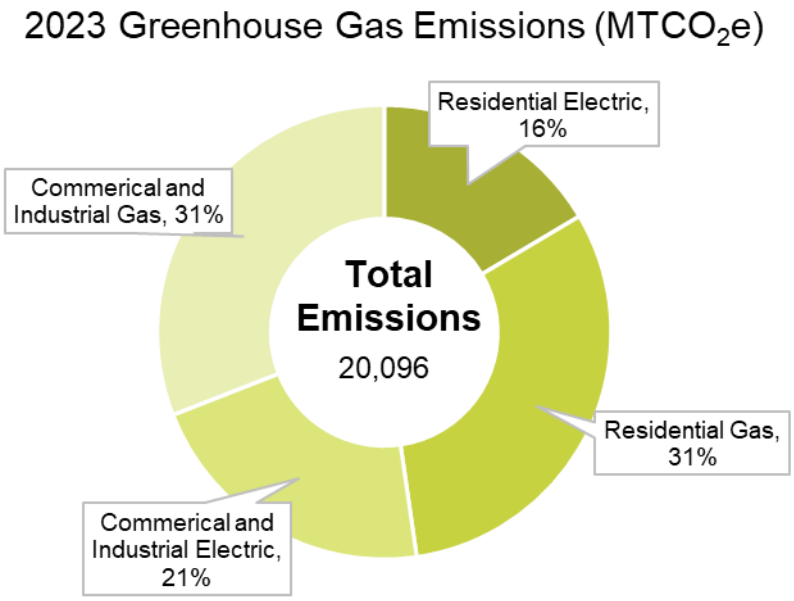


Figure 10 shows the breakdown of greenhouse gas emissions by both sector and fuel type in 2023. The largest proportion of greenhouse gas emissions (62%) came from natural gas consumption, with an even split between the commercial and industrial and residential sectors. The remaining energy-related emissions were from electricity emissions, where the commercial and industrial sector accounted for about 21% of community-wide electricity emissions and the residential sector accounted for 16%. As Xcel Energy decarbonizes its grid, the overall proportion of electricity emissions is expected to decrease over time, which will make natural gas emissions higher as a proportion of total energy-related emissions.

Figure 10. Energy-related greenhouse gas emissions by sector and fuel type, 2021–2023



Renewable Energy

Falcon Heights residents and businesses support renewable energy through Xcel Energy subscription programs, community solar gardens and on-site offerings (Table 2). In Falcon Heights, most renewable energy support comes from the residential sector, where 180 residents subscribe to Renewable*Connect and Renewable*Connect Flex amounting to a total of 818,449 kWh subscribed in 2022. Additionally, as of 2023, 36 residents have on-site solar and 25 residents participate in Solar*Rewards Community, which allows residents and businesses to subscribe to community solar gardens without needing equipment installed.

Table 2. Participation and kWh subscriptions in Xcel Energy renewable energy offerings, 2022 and 2023[4]

	Residential	Commercial & Industrial	Municipal
Renewable*Connect & Renewable*Connect Flex® (2022)			
Subscriber Count	180	0	0
Total Annual Electricity Subscribed (kWh)	818,449	0	0
Community Solar Gardens – Solar*Rewards® Community (2023)			
Subscriber Count	25	5	6
Total Annual Electricity Subscribed (kWh)	169,924	180,904	55,508
On-Site Solar – Solar*Rewards® and Net-Metering (2023)[5]			
Subscriber Count	44	8	-
Total Electricity Capacity (kW)	316	742	-

In addition to renewable energy program participation from residents, as of 2023, five commercial and industrial customers in Falcon Heights have on-site solar, one of those installations is on the City Hall building. Five commercial and industrial customers subscribe to Solar*Rewards Community along with six municipal subscribers.

Energy Efficiency Program Participation & Savings

Both residential and commercial and industrial premises in Falcon Heights are already participating in Xcel Energy's efficiency offerings for which they can receive rebates for upgrading equipment, receiving a building audit or managing their demand through rate savings programs, among other opportunities. Participation in these programs results in energy savings for participants. In Falcon Heights, residents and businesses saved an annual average of 222,000 kWh of electricity per year over the three-year baseline period, and 39,000 therms of natural gas (Table 3).

[4] 2023 metrics for Renewable*Connect and Renewable*Connect Flex program participation in Falcon Heights were not available at the time of energy action planning.
[5] Source: Xcel Energy 2023 Community Energy Report for Falcon Heights

Table 3. Falcon Heights average program participation and savings by sector in Xcel Energy DSM offerings, 2021–2023

Program Sector	Average Annual Participation	Average Electricity Savings (kWh)	Average Natural Gas Savings (therms)
Residential	200	35,374	15,660
Income-Qualified	2	517	63
Commercial & Industrial	32	186,183	23,326
Total	233	222,074	39,049

Program participation in Falcon Heights occurs most in select Xcel Energy efficiency offerings for each sector. Residents participated in and saw the most energy savings from Residential Heating and Cooling, where residents receive rebates for upgrading to more efficient equipment (Table 4). In the income-qualified sector, residents are participating in Home Energy Savings Program and the low-income version of Home Energy Squad (Table 5). In the commercial and industrial sector, businesses are already participating in numerous programs, with the highest participation in HVAC+R Efficiency, the highest electricity savings from the Lighting Efficiency program and the greatest natural gas savings from Efficiency Controls (Table 6).

Table 4. Average program participation and savings in Xcel Energy residential DSM programs, 2021–2023

Residential Program	Average Annual Participants	Average Annual Electricity Savings (kWh)	Average Annual Natural Gas Savings (therms)
Home Energy Audit	18	-	-
Home Energy Squad	11	5,894	388
Insulation Rebate	7	1,515	2,524
Refrigerator Recycling	7	6,237	-
Residential Heating and Cooling	87	20,551	12,201
Residential Saver's Switch	22	24	-
Smart Thermostat	39	1,074	380

Table 5. Average program participation and savings in Xcel Energy income-qualified residential DSM programs, 2021–2023

Income-Qualified Program	Average Annual Participants	Average Annual Electricity Savings (kWh)	Average Annual Natural Gas Savings (therms)
Home Energy Savings Program	1	381	52
Low-Income Home Energy Squad	1	136	11

Table 6. Average program participation and savings in Xcel Energy commercial and industrial DSM programs, 2021–2023

Commercial & Industrial Program	Average Annual Participants	Average Annual Electricity Savings (kWh)	Average Annual Natural Gas Savings (therms)
Efficiency Controls	2	0	9,207
HVAC+R Efficiency	19	13,419	3,817
Lighting Efficiency	1	27,060	-
Multi-Family Building Efficiency	2	21,091	1,044
Small Business Lighting	1	4,428	0
Smart Thermostats for Business	5	1,294	257

WHERE WE ARE GOING

Energy Vision Statement

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

Vision Statement

Falcon Heights prioritizes energy strategies that lead to a sustainable and equitable future.

Focus Areas

To achieve a community-wide commitment to energy stewardship, the Energy Action Team identified the following focus areas to prioritize strategies and resources. They used the data to guide the selection of the following focus areas and stress the importance that these focus areas have in engaging and connecting the community.

Energy Burden
- Renters
- Homeowners

Building Energy
- Multi-family buildings
- Large and small business
- Municipal Energy

Clean Energy
- Electrification
- Renewables
- EVs

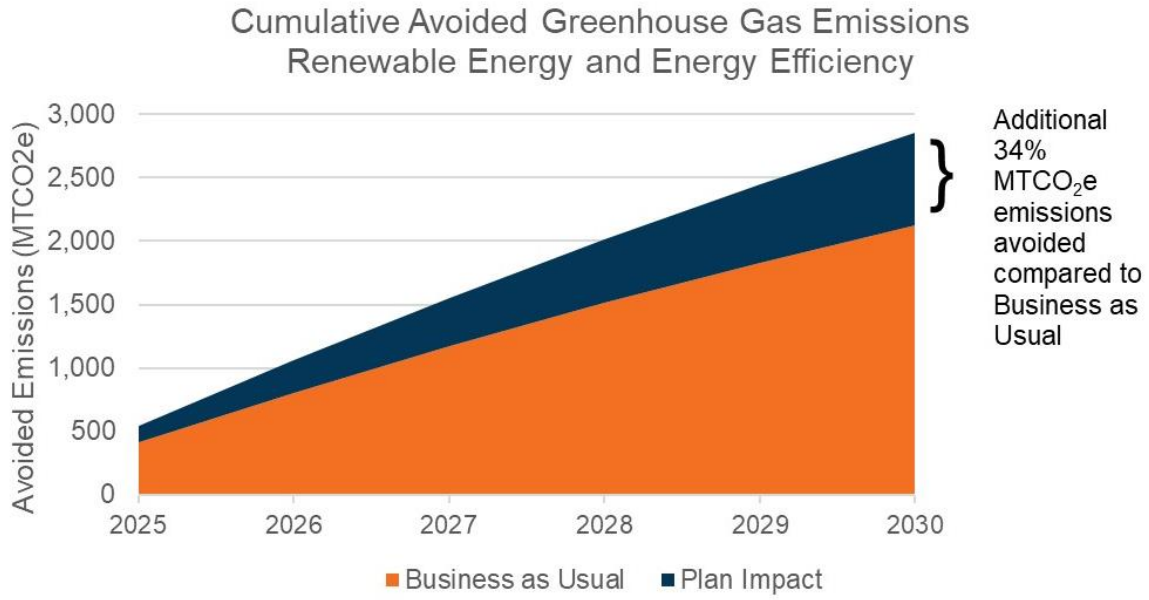
These focus areas were chosen to provide a holistic approach to energy stewardship and aid in meeting the community's energy needs and goals.

Community Goal

The Energy Action Team set goals that complement the existing energy and climate goals using the utility data, a feel for the community's ambition level and a feasible timeline.

Goal: Falcon Heights will increase energy savings by 50% and avoid an additional 34% of community-wide greenhouse gas emissions by 2030.

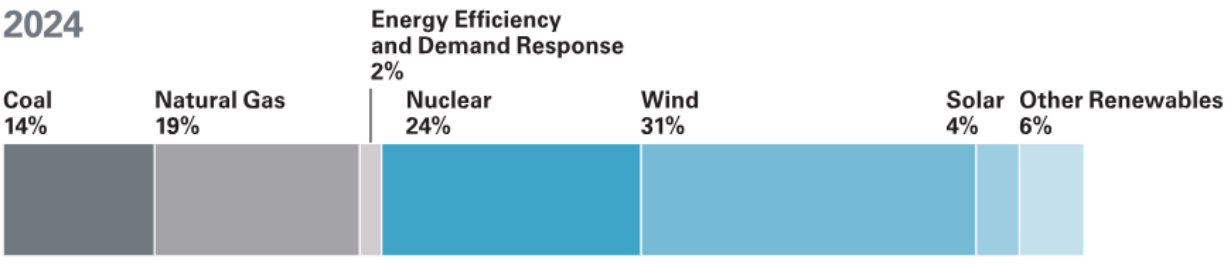
Figure 11. Cumulative Avoided Greenhouse Gas Emissions (Xcel Energy Data)



Xcel Energy Fuel Mix, Certified Renewable Percentage and Goals

Falcon Heights is served by Xcel Energy for the community's electric and natural gas needs. Community members can understand their own fuel mix by understanding the utilities current mix and goals for the future. An energy portfolio can be found on the Xcel Energy website, as well as the Certified Renewable Percentage and future energy goals.

Figure 12. Xcel Energy 2024 Power Generation in the Upper Midwest



HOW WE ARE GOING TO GET THERE

The following strategies, organized by focus area, have timelines that help prioritize the work into short, medium and long-term actions. The timeframes associated with these categories are meant to fit within the Partners in Energy implementation period for the program to best support these actions as Falcon Heights continues to implement this plan in subsequent years. The Energy Action Team also identified specific communication tools, financing options and community partners as a part of this plan. These potential partners and communication organizations have not yet agreed to be a part of this work but are mentioned in each strategy to be considered.

Our community also intends to consider the full lifespan of any product or program that might be a part of these strategies, with the intent to create a more circular economy as a part of our goal to reduce greenhouse gasses.

A Connected and Educated Community

Through these comprehensive high-level strategies, Falcon Heights will foster a more connected and more educated community. By addressing energy burdens, enhancing building efficiencies and embracing clean and renewable energy, the city will create a sustainable and resilient environment for all its residents. United by a common goal, the people of Falcon Heights will not only improve their own lives but also set an inspiring example for communities everywhere.

Focus Area 1:
Alleviating Energy Burden on Homeowners and Renters

The City of Falcon Heights understands that energy costs can be a significant burden, especially for those with limited incomes and inefficient homes. The City will launch a series of strategic actions aimed at easing high energy burden and ensuring that all residents can afford to keep their homes warm and lights on.

Strategy 1: Conduct Energy Outreach in Schools

Falcon Heights Elementary School will be encouraged to integrate energy education into their curriculum, teaching students about conservation and efficiency. These young ambassadors can take their knowledge home, sharing energy-saving tips and resources with their families.

Actions:	Partnerships / Resources:
A) Identify school and teacher partnerships and work with those partners to understand classroom needs.	Teachers, School Board, City of Falcon Heights, Empowered Schools (see action 1D)
B) Develop materials and activities that support appropriate energy engagement according to school partners.	Partners in Energy, City of Falcon Heights, Xcel Energy student toolkit
C) Ask school library or other entities to host educational events regarding energy efficiency and clean energy.	Elementary school library and University of Minnesota libraries
D) Encourage partnering with EmPowered Schools program to Neighboring School Districts	Empowered Schools, Falcon Heights Elementary School, Roseville School District
E) Utilize the Minnesota GreenStep School Program to show students that their school is leading the way in energy conservation and reducing environmental impacts.	MN GreenStep School Program, Falcon Heights Elementary School, City of Falcon Heights
Communication:	Direct communication with elementary school and City of Falcon Heights
Timeline:	1–6 months

Strategy 2: Develop Neighborhood Energy Liaisons

Local liaisons, equipped with energy knowledge, will play a crucial role in bridging the gap between resources and residents. These trusted neighborhood figures will provide personalized guidance on energy-saving practices and available support programs, focusing on equity and inclusion.

Actions:	Partnerships / Resources:
A) Call for community volunteers by the City.	Community Engagement Commission (CEC), Environment Commission, City of Falcon Heights
B) Provide Xcel Energy and supporting energy resources to the volunteers to share with their neighbors / associations.	Neighborhood Liaisons at CEC, Homeowner Associations, City of Falcon Heights, Partners in Energy
C) Develop resources for volunteers to share with neighbors (e.g., template emails, National Night Out activities, NextDoor posts, website content, etc.).	Neighborhood Liaisons at CEC, City of Falcon Heights, Partners in Energy, Falcon Heights GreenCorps Member
Communication:	City of Falcon Heights website / newsletter, handouts, emails, social media
Timeline:	1–6 months

Strategy 3: Increase Access to Renter Resources

To support renters, the City will promote access to various Xcel Energy programs and resources, including assistance programs for energy bills and weatherization services. The City will ensure that renters are well-informed and can easily access the help they need.

Actions:	Partnerships / Resources:
A) Provide renters with information about applicable energy rebates	Xcel Energy, City of Falcon Heights, resident groups, Multi-family building owners/managers, Falcon Heights GreenCorps Member
B) Raise awareness of assistance programs for those renters who are affected by a higher energy burden or lower-income household.	Xcel Energy, City of Falcon Heights, census data, resident advocacy groups, food shelves
Communication:	City of Falcon Heights direct to renter community
Timeline:	1–6 months

Strategy 4: Promote Home Energy Assessments

An emphasis on free home energy audits will empower residents to identify inefficiencies in their homes. Armed with this information, they will be able to take steps to reduce their energy consumption and costs. They may also become more aware of available rebates and other incentives.

Actions:	Partnerships / Resources:
A) Promote home energy assessments	Partners in Energy, City of Falcon Heights, Xcel Energy
B) Showcase residents who have had home energy assessments and made improvements in their home as a result.	City communications, Partners in Energy
Communication:	Events, CEC, Environment Commission, NextDoor website or other websites
Timeline:	6-12 months

Strategy 5: Provide Accessible Energy Communication

Developing clear and accessible communication channels will be vital. The City of Falcon Heights will establish partnerships with local media and/or community organizations to disseminate information about energy resources, ensuring that all residents are aware of the support available to them.

Actions:	Partnerships / Resources:
A) Create an Energy Action Hub on the City of Falcon Heights' website to disseminate information about energy resources.	Partners in Energy, City of Falcon Heights, Falcon Heights GreenCorps Member
B) Establish partnerships with community organizations and/or Falcon Heights specific publications to bring awareness to residents.	Park Bugle (nonprofit community newspaper), City of Falcon Heights, Falcon Heights Church
C) Include energy educational resources on the City of Falcon Heights email newsletter.	City of Falcon Heights
Communication:	City communications
Timeline:	1-6 months

Strategy 6: Highlight Energy Saving and Clean Energy Testimonials

Promoting positive experiences that residents have had with the home assessments and other energy projects could increase their demand. The City of Falcon Heights will encourage residents to share their testimonials and experiences publicly to inspire more residents and business owner to participate.

Actions:	Partnerships / Resources:
A) Showcase positive testimonials in the City's newsletter, blog and articles in local media.	Park Bugle, Partners in Energy, City of Falcon Heights
B) Postcard mail out campaign of testimonials from residents to other residents,	Partners in Energy, City of Falcon Heights
C) Postcard mail out campaign of testimonials from business owners to other businesses.	Partners in Energy, City of Falcon Heights
D) Share testimonials at St Paul Chamber of Commerce meetings.	Energy Action Team members, St Paul Chamber of Commerce, Environment Commission
Communication:	Post card mail outs, newsletters, emails, blogs, and presentation
Timeline:	6–12 months

Strategy 7: Develop and Sustain Partnerships that Support Community Energy Equity Goals

Developing relationships with key partners will help reach Falcon Heights energy and equity goals while helping community members thrive.

Actions:	Partnerships / Resources:
A) Connect with Commonwealth Terrace Cooperative (CTC) to Improve Living Conditions through energy projects for Student Housing	CTC, Xcel Energy, U of MN,
B) Form partnership with neighboring city councils to coordinate energy equity projects that are mutually beneficial	City of Falcon Heights, St. Paul, Roseville, Lauderdale
Communication:	Energy Action Team, City Communications
Timeline:	12-24 months

Focus Area 2:

Enhancing Energy Efficiencies in Buildings

Improving energy efficiency in buildings will be another cornerstone of Falcon Heights' strategy. The City's approach will combine regulatory measures, incentives, and outreach to create a culture of energy efficiency across all types of buildings.

Strategy 1: Support Energy Improvements

To encourage landlords to invest in energy efficient upgrades, the City will tie energy improvements in rental properties to deductions in rental license fees. This will make it financially beneficial for landlords to improve living conditions for tenants.

Actions:	Partnerships / Resources:
A) Create and promote City incentives and/or recognition for energy efficient multi-family buildings.	City of Falcon Heights, Partners in Energy
B) Review and revise City code to remove barriers to more energy efficient multi-family buildings.	City of Falcon Heights, Planning Commission, Environment Commission, City Council
C) Encourage multi-family buildings to periodically re-invest in energy efficient improvements that have a reasonable payback period.	City of Falcon Heights, City Council
D) Support incentives for retrofits and redevelopment of existing multi-family buildings to improve energy while respecting the historic integrity of buildings and communities.	City of Falcon Heights, City Council
Communication:	City communications
Timeline:	12–24 months

Strategy 2: Incentivize and Recognize Energy Efficiency Projects

The City of Falcon Heights will introduce creative motivations to motivate residents and businesses to reduce their energy consumption. E.g. Monthly drawings for gift cards, yard signs recognizing energy efficient homes and public acknowledgments

Actions:	Partnerships / Resources:
A) Be present at community events with resources and tips to encourage businesses and residents to reduce energy consumption.	City of Falcon Heights, Falcon Heights Elementary School, Senior Center, State Fair, Falcon Heights Farmers' Market
B) Request that homeowners who have made significant energy efficiency improvements temporarily display an energy conservation yard sign.	Partners in Energy, City of Falcon Heights
C) Publicly acknowledge homeowners and business owners in the City's email newsletter for energy conservation efforts.	Falcon Heights' Email Newsletter, Partners in Energy
Communication:	City website and e-newsletter, in-person community events
Timeline:	6-12 months

Strategy 3: Partner with the State Fair to Encourage Energy Projects

The annual State Fair can become a platform for promoting energy projects. Interactive exhibits and demonstrations could showcase innovative energy solutions, inspiring residents and visitors alike to adopt more sustainable practices.

Actions:	Partnerships / Resources:
A) Draft proposal to partner with State Fair to encourage joint energy projects.	Minnesota State Fair, City of Falcon Heights, Environment Commission
Communication:	City communications
Timeline:	6-12 months

Strategy 4: Encourage Efficient Electric Heating Technologies

To further enhance energy efficiency, Falcon Heights will encourage the adoption of electric heating options in buildings. Incentive programs and educational campaigns will highlight the long-term savings and environmental benefits of switching to cold climate heat pumps and heat pump rooftop units.

Actions:	Partnerships / Resources:
A) Create targeted outreach programs to educate business owners and owners of multi-family buildings about the benefits of electric heating options.	City of Falcon Heights, Partners in Energy, Falcon Heights GreenCorps Member
B) Host workshops and informational sessions to highlight benefits of adopting efficient electric heating technologies.	Owners/managers of multi-family buildings, City of Falcon Heights, Partners in Energy
C) Encourage building owners who have already installed air source heat pumps to share their success stories with other building owners through presentations, open houses and business networking events.	Owners/managers of multi-family buildings, City of Falcon Heights, Chamber of Commerce
D) Assist businesses and workforce to keep up to date on technological advances in building energy. Provide outreach to local businesses to assist in these educational efforts.	Owners/managers of multi-family buildings, City of Falcon Heights, Chamber of Commerce, Partners in Energy
E) Recommend energy improvements for rental properties during annual inspections. Provide an opportunity to educate building owners about energy improvements annually, giving updates on electrification technology and available incentives.	Owners/managers of multi-family buildings, City of Falcon Heights
Communication:	City communications, City e-newsletter
Timeline:	6–12 months

Strategy 5: Form Climate Action Partnership with the University of Minnesota

Partnering with the University of Minnesota could reduce carbon emissions. The City will seek collaboration with the University to reduce carbon in the atmosphere and add electric vehicle (EV) chargers.

Actions:	Partnerships / Resources:
A) Draft a proposal for collaboration between the City Council and the University of Minnesota and find a way forward.	City Council, University of Minnesota, Energy Action Team
B) Advocate for increasing EV charging infrastructure on and off campus.	University of Minnesota, Partners in Energy, EV toolkit, City of Falcon Heights
C) Encourage charging infrastructure on new developments and retrofits, especially multi-family buildings and businesses. Support the continued development of charging infrastructure for EVs.	University of Minnesota, Partners in Energy, EV toolkit, MF building owners/managers, City of Falcon Heights, Environment Commission, Planning Commission
Communication:	City communications to University of Minnesota
Timeline:	6-12 months

Strategy 6: Collaborate with Metro Transit

Work with Metro Transit to have electric buses on the Rapid Transit A Line and Route 121 to reduce GHG emissions. The City will make official requests and inquiries to Metro Transit to help make this possible.

Actions:	Partnerships / Resources:
A) Draft, send and follow up on a request to Metro Transit to have electric buses on routes.	City Council, Metro Transit, and Energy Action Team
Communication:	City communications to Metro Transit
Timeline:	12-24 months

Strategy 7: Reduce Costs of Home Energy Assessments for Residents

Create a program that would pay for residents to have complimentary or reduced cost home energy assessment visits. The City could eliminate any financial objection for residents.

Actions:	Partnerships / Resources:
A) Address economic barriers for residents who may be hard to reach or under-represented in the community and increase home energy assessment visits by promoting free visits.	Community Engagement Commission (CEC), Environment Commission, City of Falcon Heights
Communication:	City communications through CEC, City newsletter
Timeline:	6-12 months

Strategy 8: Showcase Existing Energy Projects in Homes and Businesses

Provide opportunities for tours of voluntary residents' homes or local businesses who have exemplary energy efficient integrations. These could also be showcased at a local energy fair. The City will encourage and support events like these to increase the adoption of energy efficient technologies.

Actions:	Partnerships / Resources:
A) Identify homes and businesses that have already undergone energy projects.	City of Falcon Heights, Partners in Energy
B) Recognize those who would wish to participate in open house tours and set up tour dates for groups to visit.	City of Falcon Heights, Resident volunteers
C) Host a local energy fair in Falcon Heights and encourage citizen and local business participation.	City of Falcon Heights, Partners in Energy, Business Partners
Communication:	City e-newsletter to residents
Timeline:	1–6 months

Focus Area 3:

Embracing Clean, Renewable Energy

In our quest for a sustainable future, Falcon Heights residents will also focus on clean, renewable energy. Our strategies will aim to make renewable energy accessible and practical for everyone in our community. For the purposes of this plan, renewable energy is focused on solar and wind programs as that is what is available to residents through the utility. Should other clean energy programs become available, those will also be considered in these strategies.

When a resident or business participates in an Xcel Energy renewable energy program, renewable energy credits (RECs) may be kept by the customer or delegated back to Xcel Energy depending on the program. To learn more about RECs and how they work, visit https://mn.my.xcelenergy.com/s/renewable/renewable-energy-claims

Strategy 1: Support a Group-Buy Solar Option

The City of Falcon Heights will support or organize a group-buy solar option, making it easier and more affordable for residents to install solar panels. By pooling their purchasing power, residents may access significant discounts on solar installations.

Actions:	Partnerships / Resources:
A) Explore a collaboration with solar groups to help residents and businesses bulk buy solar.	City of Falcon Heights
B) Pursue grants to assist with the installation of solar panels on homes and businesses. This financial support will make renewable energy a viable option for more residents, reducing the City's overall carbon footprint.	City of Falcon Heights
Communication:	City communications to SUN
Timeline:	12-24 months

Strategy 2: Solar Arrays on Future Buildings

The City will continue to lead by example, installing solar panels on future public buildings like what was done for City Hall as well as promote future buildings in the city to accommodate arrays where feasible.

Actions:	Partnerships / Resources:
A) Request proposals for solar installations on any future municipal buildings.	City of Falcon Heights
B) Partner with one or more solar installation companies to recommend to buildings in the City.	City of Falcon Heights and solar installation companies
C) Explore grants for installation of solar for businesses and buildings.	City of Falcon Heights, State and Federal grant programs
Communication:	City Staff to Solar Installation companies
Timeline:	12-24 months

Strategy 3: Promote Renewable Subscription and On-site Options for Residents

Existing Xcel Energy programs allow residents to install on-site solar as well as subscribe to wind and solar energy programs to support renewable energy. These programs can be especially helpful to renters and homeowners with shaded roofs families who cannot, or don't want to invest in on-site options.

Actions:	Partnerships / Resources:
A) Encourage subscription and on-site opportunities to residents during events and on the City website.	City of Falcon Heights, Partners in Energy, Xcel Energy
B) Share incentives for renewable energy options with renters though email and mailing campaigns.	Partners in Energy, Multi-family building owners/managers, resident groups
Communication:	City e-newsletter to residents, workshops, events, etc.
Timeline:	6-12 months

Strategy 4: Partner with the University of Minnesota to Encourage Clean Energy

A partnership with the University will bring cutting-edge research and innovation to the community. Collaborative energy projects will benefit the City, providing new solutions and technologies to enhance sustainability.

Actions:	Partnerships / Resources:
A) Reach out to the University of Minnesota to form a collaboration centered on clean energy technologies.	City of Falcon Heights, University of Minnesota, Partners in Energy
B) Partner with the University of Minnesota to help share incentives for clean energy programs to multi-family building owners, residents and students.	University of Minnesota, Multi-family building owners/managers, Partners in Energy
Communication:	City communications to University of Minnesota
Timeline:	6-12 months

Strategy 5: Establish a Reliable Workforce in Clean Energy Applications

Falcon Heights will establish support systems to help residents enter and access skilled workforce versed in current energy technologies that support the City's growing energy initiatives.

Actions:	Partnerships / Resources:
A) Host workshops to educate the community on clean and renewable energy topics and resources while connecting professionals with residents and residents with training options.	Partners in Energy, Xcel Energy, public spaces/hosts, resident and business partners
B) Support and promote workforce opportunities in the clean energy industry	Xcel Energy, City of Falcon Heights, Partners in Energy, workforce partners
Communication:	City e-newsletter to residents, workshops, events
Timeline:	12-24 months

Energy Action Plan Impact

Achieving the energy efficiency and renewable energy targets laid out in this plan will result in increased energy efficiency program participation, greater electricity and natural gas savings, and an increase in avoided greenhouse gas emissions compared to a business as usual (BAU) scenario. Compared to the BAU scenario of 1,352 program participants between 2025 and 2030, the goal scenario projects an additional 384 participants in Xcel Energy DSM offerings over this time for a total of 1,736 participants (Table 7).

Table 7. Business as usual and goal scenario target participation in Xcel Energy DSM offerings, by sector, 2025–2030

Sector	Participation Count – Business as Usual	Participation Count – Goal Scenario	Plan Impact (Count)
Residential	1,164	1,524	360
Commercial & Industrial	188	211	24
Total	1,352	1,726	384

As a result of additional participation in Xcel Energy efficiency program offerings, residents and businesses will save energy. Electricity and natural gas savings can be compared by converting each fuel to the common denominator of million British thermal units (MMBtu). As a result of the energy action plan implementation, energy savings in Falcon Heights are modeled to increase by 52% in the goal scenario as compared to the BAU scenario (
Table 8).

Table 8. Business as usual and goal scenario target first-year energy savings in Xcel Energy DSM offerings, by sector, 2025–2030

Sector	MMBtu Savings – Business as Usual	MMBtu Savings – Goal Scenario	Plan Impact (MMBtu Savings)
Residential	10,168	13,878	3,719
Commercial & Industrial	17,807	28,591	10,783
Total	27,975	42,469	14,493

These energy savings may translate into dollar savings for residents and businesses, which are estimated using sector-specific rates per kWh of electricity and per therm of natural gas. The projected increase in energy efficiency programs would result in an estimated 65% increase in dollar savings community-wide from first-year energy savings.

Table 9. Business as usual and goal scenario target dollar savings from first-year energy efficiency savings, by sector, 2025–2030

Sector	Dollar Savings – Business as Usual	Dollar Savings – Goal Scenario	Plan Impact (Dollar Savings)
Residential	$92,256	$126,290	$34,034
Commercial & Industrial	$179,622	$321,424	$141,803
Total	$271,878	$447,715	$175,837

Taken together, this increase in program participation for energy efficiency offerings, as well as ongoing participation in renewable energy offerings, will result in a 34% increase in avoided greenhouse gas emissions community-wide compared to BAU (Table 10).

Table 10. Business as usual and goal scenario greenhouse gas emissions avoidance from energy efficiency and renewable energy program participation, by sector, 2025–2030

Sector	Greenhouse Gas Avoided – Business as Usual ($MTCO_2e$)	Greenhouse Gas Avoided – Goal Scenario ($MTCO_2e$)	Plan Impact ($MTCO_2e$)
Residential	1,229	1,414	194
Commercial & Industrial	907	1,439	532
Total	2,126	2,853	726

Greenhouse Gas Community Goal Equivalencies

The greenhouse gas goal number equivalencies are equal to the following according to estimates from the EPA[6]:

[6] US EPA, OAR. *Greenhouse Gas Equivalencies Calculator*. 28 Aug. 2015, https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

HOW WE STAY ON COURSE

This Energy Action Plan is a living document. Goals and strategies will be assessed and refined as needed based on data and community staff capacity.

Data and Reporting

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

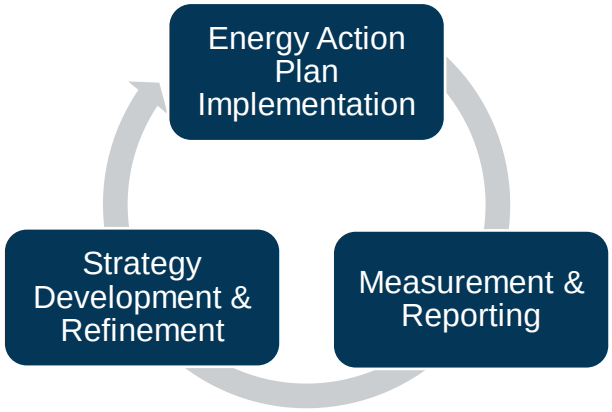


Figure 13. Actions and Tracking

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

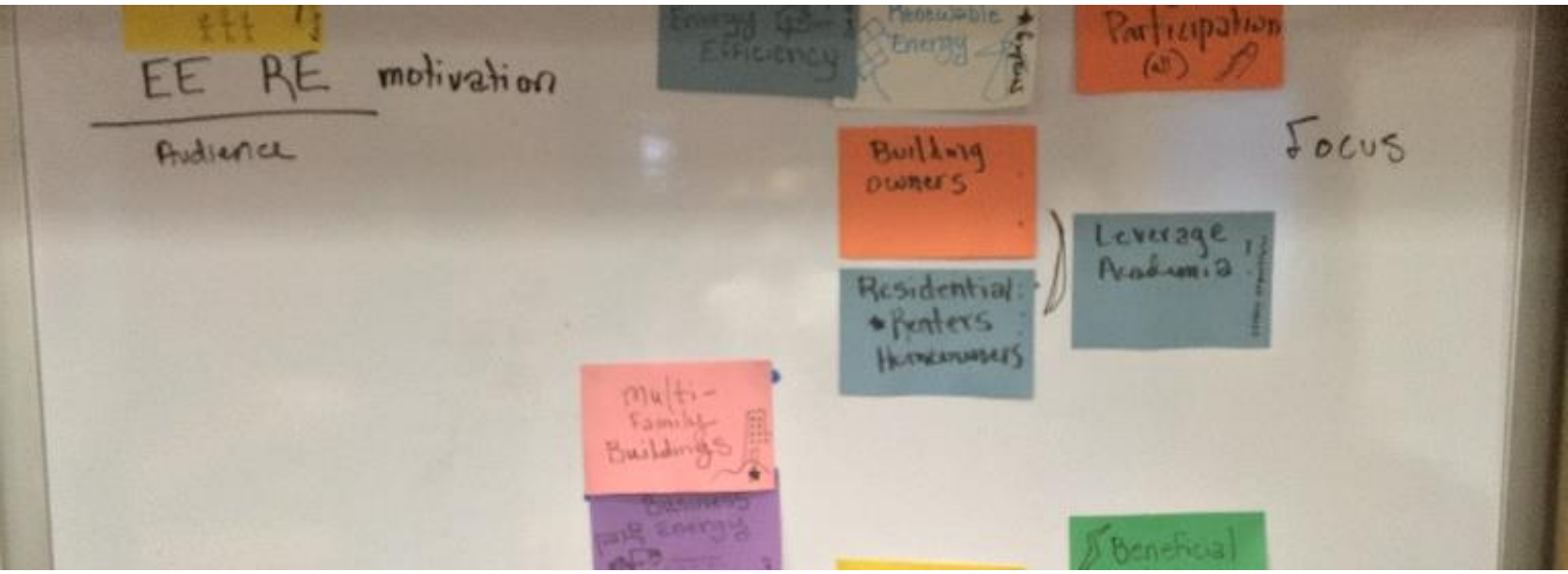
Project Management and Tracking

Partners in Energy will host regular project management check-in calls with staff to ensure we stay on course to achieve our strategies.

If necessary, an implementation check-in meeting with the Energy Action Team can be convened to assess progress toward goals and discuss strategy refinement.

Energy Action Team Commitment

The Energy Action Team formed to create this plan will support implementation by participating in the strategies that they are passionate about and by connecting the City to networks and resources that they uniquely have access to.



APPENDIX A: IMPLEMENTATION WORK PLAN

This appendix gives additional detail for each strategy, including the implementation team and tasks, timeline, and goals. This appendix will serve as a work plan for the Energy Action Team and Partners in Energy.

Focus Area	Strategy	Action Items		2024 Q4	2025 Q1	2025 Q2	2025 Q3	2025 Q4	2026 Q1
Alleviating energy burden for homeowners and renters	1) Conduct Energy Outreach in Schools	A	Identify school and teacher partnerships and work with those partners to understand classroom needs.						
		B	Develop materials and activities that support appropriate energy engagement according to school partners						
		C	Ask school library or other entities to host educational events regarding energy efficiency and clean energy						
		D	Encourage partnering with "EmPowered Schools" program to Neighboring School Districts						
		E	Utilize the Minnesota GreenStep School Program to show students that their school is leading the way in energy conservation and reducing environmental impacts						
	2) Develop Neighborhood Energy Liaisons	A	Call for community volunteers by the City						
		B	Provide Xcel Energy and supporting energy resources to the volunteers to share with their neighbors / associations						
		C	Develop resources for volunteers to share with neighbors (e.g., template emails, National Night Out activities, NextDoor posts, website content, etc.)						
	3) Increase Access to Renter Resources	A	Provide renters with information about applicable energy rebates						
		B	Raise awareness of assistance programs for those renters who are affected by a higher energy burden or lower-income household						
	4) Promote Home Energy Assessments	A	Promote home energy assessments						
		B	Showcase residents who have had home energy assessments and made improvements in their home as a result						
	5) Provide Accessible Energy Communication	A	Create an Energy Action Hub on the City of Falcon Heights' website to disseminate information about energy resources						
		B	Establish partnerships with community organizations and/or Falcon Heights specific publications to bring awareness to residents						
		C	Include energy educational resources on the City of Falcon Heights email newsletter						
	6) Highlight Energy Saving and Clean Energy Testimonials	A	Showcase positive testimonials in the City's newsletter, blog and articles in local media						
		B	Postcard mail out campaign of testimonials from residents to other residents						
		D	Postcard mail out campaign of testimonials from business owners to other businesses						
		D	Share testimonials at St Paul Chamber of Commerce meetings						
	7) Develop and Sustain Partnerships that Support Community Energy Equity Goals	A	Connect with Commonwealth Terrace Cooperative (CTC) to Improve Living Conditions through energy projects for Student Housing						
		B	Form partnership with neighboring city councils to coordinate energy equity projects that are mutually beneficial						

Enhancing Energy Efficiencies in Buildings	1) Support Energy Improvements	A	Create and promote City incentives and/or recognition for energy efficient multi-family buildings						
		B	Review and revise City code to remove barriers to more energy efficient multi-family buildings						
		C	Encourage multi-family buildings to periodically re-invest in energy efficient improvements that have a reasonable payback period						
		D	Support incentives for retrofits and redevelopment of existing multi-family buildings to improve energy while respecting the historic integrity of buildings and communities						
	2) Incentivize and Recognize Energy Efficiency Projects	A	Be present at community events with resources and tips to encourage businesses and residents to reduce energy consumption						
		B	Request that homeowners who have made significant energy efficiency improvements temporarily display an energy conservation yard sign						
		C	Publicly acknowledge homeowners and business owners in the City's email newsletter for energy conservation efforts						
	3) Partner with the State Fair to Encourage Energy	A	Draft proposal to partner with State Fair to encourage joint energy projects						
	4) Encourage Efficient Electric Heating Technologies	A	Create targeted outreach programs to educate business owners and owners of multi-family buildings about the benefits of electric heating options						
		B	Host workshops and informational sessions to highlight benefits of adopting efficient electric heating technologies						
		C	Encourage building owners who have already installed air source heat pumps to share their success stories with other building owners through presentations, open houses and business networking events						
		D	Assist businesses and workforce to keep up to date on technological advances in building energy. Provide outreach to local businesses to assist in these educational efforts						
		E	Recommend energy improvements for rental properties during annual inspections. Provide an opportunity to educate building owners about energy improvements annually, giving updates on electrification technology and available incentives						
	5) Form Climate Action Partnership with U of M	A	Draft a proposal for collaboration between the City Council and the University of Minnesota and find a way forward						
		B	Advocate for increasing EV charging infrastructure on and off campus						
		C	Encourage charging infrastructure on new developments and retrofits, especially multi-family buildings and businesses. Support the continued development of charging infrastructure for Evs						
	6) Collaborate with Metro Transit	A	Draft, send and follow up on a request to Metro Transit to have electric buses on Route 121 and on the Rapid Transit A Line						
	7) Reduce Costs of Home Energy Assessments for Residents	A	Address economic barriers for residents who may be hard to reach or under-represented in the community and increase home energy assessment visits by promoting free visits						
	8) Showcase Existing Energy Projects in Homes and Businesses	A	Identify homes and businesses that have already undergone energy projects						
		B	Recognize those who would wish to participate in open house tours and set up tour dates for groups to visit						
		C	Host a local energy fair in Falcon Heights and encourage citizen and local business participation						
Embracing Clean and Renewable Energy	1) Support a Group-Buy Solar Effort	A	Explore a collaboration with solar groups to help residents and businesses bulk-buy solar						
		B	Pursue grants to assist with the installation of solar panels on homes and businesses. This financial support will make clean energy a viable option for more residents, reducing the City's overall carbon footprint						
	2) Solar Arrays on Future Buildings	A	Request proposals for solar installations on future municipal buildings						
		B	Partner with one or more solar installation companies to recommend to buildings in the City.						
		C	Explore grants for installation of onsite solar on businesses and buildings						
	3) Promote Renewable Subscription and On-site Options for Residents	A	Encourage subscription and on-site opportunities to residents during events and on the City website						
		B	Share incentives/benefits for clean energy options with renters though email and mailing campaigns						
	4) Partner with the University of Minnesota to Encourage Clean Energy	A	Reach out to the University of Minnesota to form a collaboration centered on clean energy technologies						
		B	Partner with the University of Minnesota to help share incentives for clean energy programs to multi-family building owners, residents and students						
	5) Establish a Reliable Workforce in Clean Energy Applications	A	Host workshops to educate the community on clean energy topics and resources while connecting professionals with residents and residents with training options						
		B	Support and promote workforce opportunities in clean energy industry						

APPENDIX B: BASELINE ENERGY ANALYSIS

Data were provided by Xcel Energy for all Falcon Heights premises for 2021–2023. Xcel Energy provides electric and natural gas service to the community. The data helped the Energy Action Team understand energy use and opportunities for energy conservation and renewable energy in Falcon Heights. Data included in this section establishes a baseline against which progress toward goals will be compared in the future.

Electricity and Natural Gas Premises

As of 2023, there were 2,413 distinct premises in Falcon Heights (Table 11). Most premises are residential (2,113), followed by commercial and industrial (283) and finally municipal buildings (17).

Table 11. Premise counts by sector, 2021–2023

Sector	2021	2022	2023	Average
Residential	1,985	2,113	2,113	2,070
Commercial & Industrial	280	279	283	281
Municipal	17	17	17	17
Total	**2,282**	**2,409**	**2,413**	**2,368**

Electricity and Natural Gas Consumption and Trends by Sector

In an average year, Falcon Heights consumes about 29 million kWh of electricity and 2.3 million therms of natural gas community-wide

Table 12). Total energy consumption increased by 8.4% over the baseline period, stemming from a 4.6% increase in electricity consumption and 10.2% increase in natural gas consumption over the baseline period.

Table 12. Annual energy consumption by sector and fuel type, 2021–2023

Fuel Type	Sector	2021	2022	2023	Average
Electricity (kWh)	Residential	12,936,232	13,060,714	12,989,092	12,995,346
	Commercial & Industrial	15,591,597	16,149,072	16,827,067	16,189,245
	Municipal	156,347	172,349	179,618	169,438
	Total	28,684,176	29,382,135	29,995,777	29,354,029
Natural Gas (therm)	Residential	1,076,235	1,287,519	1,177,128	1,180,294
	Commercial & Industrial	1,052,794	1,170,143	1,165,722	1,129,553
	Municipal	6,088	10,494	9,110	8,564
	Total	2,135,117	2,468,156	2,351,960	2,318,411
Total (MMBtu)	Residential	151,762	173,315	162,032	162,370
	Commercial & Industrial	158,478	172,115	173,986	168,193
	Municipal	1,142	1,637	1,524	1,434
	Total	311,382	347,067	337,542	331,997

Electricity and natural gas consumption often vary in accordance with weather patterns. Hotter summers indicate a greater need for cooling, which may correlate with increased electricity use for space cooling. The need for cooling is measured in cooling degree days (CDD). Colder winters indicate a higher need for heating, which may correlate with increased natural gas usage for space heating. The need for heating is measured in heating degree days (HDD). The coldest winter over the baseline period occurred in 2022, which correlated with the highest annual natural gas consumption in the community (Table 13).

Table 13. Degree days in Falcon Heights, 2021–2023

	2021	2022	2023
Cooling Degree Days	1,184	1,049	1,232
Heating Degree Days	6,678	7,812	6,565

Greenhouse Gas Emissions and Trends

In Falcon Heights, overall energy-related greenhouse gas emissions, as measured in metric tons of carbon dioxide equivalent ($MTCO_2e$), increased in 2023 compared to 2021 by about 3%

Table 14). To calculate energy-related emissions in Falcon Heights, preliminary and third-party verified emissions factors from Xcel Energy's Upper Midwest Fuel Mix were used, as well as a standard emissions factor for natural gas consumption (Table 15). As Xcel Energy completes third-party verification for its latest grid emissions factors, the emissions factors used to estimate greenhouse gas emissions may change slightly.

Table 14. Energy-related greenhouse gas emissions in $MTCO_2e$ by sector and fuel type, 2021–2023

Fuel Type	Sector	2021	2022	2023	Average
Electricity emissions ($MTCO_2e$)	Residential	3,703	3,626	3,299	3,543
	Commercial & Industrial	4,463	4,483	4,274	4,407
	Municipal	45	48	46	46
	Total	8,210	8,157	7,619	7,995
Natural Gas emissions ($MTCO_2e$)	Residential	5,712	6,833	6,247	6,264
	Commercial & Industrial	5,587	6,210	6,187	5,995
	Municipal	32	56	48	45
	Total	11,331	13,099	12,482	12,304
Total Energy-Related Emissions ($MTCO_2e$)	Residential	9,414	10,459	9,547	9,806
	Commercial & Industrial	10,050	10,693	10,461	10,401
	Municipal	77	104	94	92
	Total	19,541	21,255	20,101	20,299

Table 15. Emissions factors used to calculate energy-related greenhouse gas emissions, 2021–2023[7]

Fuel Type	2021	2022	2023
Electricity Emissions Factor (lbs/MWh)	631	612	560
Natural Gas Emissions Factor ($MTCO_2e$/Dth)	0.05307	0.05307	0.05307

[7] Xcel Energy 2022. Carbon Dioxide Emission Intensities, https://www.xcelenergy.com/staticfiles/xe-responsive/Environment/Carbon/Carbon-Emission-Intensities-Info-Sheet.pdf

Energy Costs

In an average year, all premises in Falcon Heights spent a collective total of $6.2 million on fuel costs for both electricity and natural gas (Table 16). Falcon Heights residents accounted for 46% of the total spend in an average year ($2.9 million), business customers made up more than half of the total at 53.5% ($3.3 million), while the municipal sector made up the remaining 0.5% ($30,000). Residential premises spent an annual average of $1,384 per premise on fuel costs; commercial and industrial premises spent $11,973 per premise; and municipal premises spent $1,734 on average.

Table 16. Annual energy costs by sector and fuel type, 2021–2023

Fuel Type	Sector	2021	2022	2023	Average	Average Annual Cost Per Premise
Electricity	Residential	$1,666,640	$1,850,931	$1,943,769	$1,820,447	$879
	Commercial & Industrial	$1,942,398	$2,569,858	$2,697,491	$2,403,249	$8,634
	Municipal	$18,354	$23,584	$24,226	$22,055	$1,297
	Total	$3,627,392	$4,444,373	$4,665,486	$4,245,750	-
Natural Gas	Residential	$711,950	$1,300,086	$1,121,104	$1,044,380	$504
	Commercial & Industrial	$607,201	$1,131,086	$1,049,379	$929,222	$3,339
	Municipal	$3,451	$9,968	$8,843	$7,421	$437
	Total	$1,322,602	$2,441,140	$2,179,326	$1,981,023	-
Total	Residential	$2,378,590	$3,151,017	$3,064,873	$2,864,827	$1,384
	Commercial & Industrial	$2,549,599	$3,700,944	$3,746,870	$3,332,471	$11,973
	Municipal	$21,805	$33,552	$33,069	$29,475	$1,734
Total		**$4,949,994**	**$6,885,513**	**$6,844,812**	**$6,226,773**	

Energy Burden

Energy burden is the percentage of income that residents spend on energy. In Falcon Heights, residents who own their homes and make 30% or less of the area median income (AMI) spend up to 24% of their household income on energy costs (Table 17). In the same AMI group, residents who rent their homes are estimated to spend up to 10% of their household income on energy costs. Energy burden is higher for residents in owner-occupied housing compared to renters in Falcon Heights.

Table 17. Energy burden by unity occupancy and area median income[8]

	Energy Burden		Household Count	
Percent of Area Median Income	Own	Rent	Own	Rent
0–30%	24%	10%	52	263
30–60%	10%	4%	166	301
60–80%	6%	2%	86	104
80–100%	6%	2%	123	86
100%+	2%	2%	831	110
Total	2%	1%	1,258	864

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

Program Participation and Savings

Residents and businesses in Falcon Heights are already participating in energy efficiency offerings from Xcel Energy, which result in energy savings for residents and commercial customers. While fewer commercial and industrial premises participated in these programs during the baseline period, their participation resulted in larger overall savings per premise.

Over the baseline period, the residential sector saved an average of 35,374 kWh annually and 15,660 therms from 200 participants on average annually (Table 18). The income-qualified residential sector saved an average of 517 kWh and 63 therms from two participants on average.

Table 19). Finally, the commercial and industrial sector saved an average of 186,183 kWh and 23,326 therms from 32 participants on average (Table 20).

Table 18. Annual residential sector participation in and savings from Xcel Energy efficiency offerings, 2021–2023

Residential Program	2021			2022			2023		
	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)
Home Energy Audit	5	0	0	19	0	0	29	0	0
Home Energy Squad	5	3258	318	10	6368	275	19	8056	571
HomeSmart	6	0	0	8	0	0	8	0	0
Insulation Rebate	10	1801	3384	4	474	1104	8	2269	3085
Refrigerator Recycling	15	12260	0	4	4305	0	3	2147	0
Residential HVAC	89	26492	11058	93	16619	13888	80	18543	11657
Residential Saver's Switch	21	24	0	43	45	0	3	3	0
Smart Thermostat	34	1674	920	36	598	165	47	950	55
Whole Home Efficiency	0	0	0	1	235	499	0	0	0
Total	**185**	**45,509**	**15,680**	**218**	**28,644**	**15,931**	**197**	**31,968**	**15,368**

Table 19. Annual income-qualified participation in and savings from Xcel Energy residential efficiency offerings, 2021–2023

Income-Qualified Residential Program	2021			2022			2023		
	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)
Home Energy Savings Program	1	1,065	0	0	0	0	2	79	156
Low-Income Home Energy Squad	0	0	0	1	408	18	1	0	15
Multi-Family Energy Savings Program	0	0	0	0	0	0	0	0	0
Total	**1**	**1,065**	**0**	**1**	**408**	**18**	**3**	**79**	**171**

Table 20. Annual commercial and industrial program participation in and savings from Xcel Energy efficiency offerings, 2021–2023

Commercial & Industrial Program	2021			2022			2023		
	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)	Count	Savings (kWh)	Savings (therms)
Custom Efficiency	0	0	0	0	0	0	1	0	8,430
Data Center Efficiency	0	0	0	0	0	0	0	0	0
Energy Design Assistance	0	0	0	1	356,667	17,820	0	0	0
HVAC+R Efficiency	2	1,761	142	6	0	6,741	49	38,496	4,568
Lighting Efficiency	2	76,608	0	1	682	0	1	3,891	0
Multi-Family Building Efficiency	5	63,274	3,133	0	0	0	1	0	0
Saver's Switch for Business	1	2	0	0	0	0	0	0	0
Small Business Lighting	2	8,181	0	0	0	0	1	5,104	0
Smart Thermostats for Business	6	1,933	385	10	1,950	385	0	0	0
Total	**18**	**151,759**	**3,660**	**18**	**359,299**	**24946**	**53**	**47,491**	**12,998**

Renewable Energy Support

There is existing support for renewable energy in Falcon Heights, with 241 residents, 10 commercial and industrial customers and 6 municipal buildings supporting renewable energy through either subscriptions or on-site solar (Table 21, Table 22). At the time of the planning process, 2023 Renewable*Connect and Renewable*Connect Flex data were not available.

Table 21. Xcel Energy renewable energy subscription program participation and electricity subscribed in Falcon Heights, 2022 and 2023

	Residential	Commercial & Industrial	Municipal
Renewable*Connect & Renewable*Connect Flex® (2022)			
Subscriber Count	180	0	0
Total Annual Electricity Subscribed (kWh)	818,449	0	0
Community Solar Gardens – Solar*Rewards® Community (2023)			
Subscriber Count	25	5	6
Total Annual Electricity Subscribed (kWh)	169,924	180,904	55,508
Total Xcel Energy Subscription Renewable Energy Support			
Subscriber Count	205	5	6
Total Annual Electricity Subscribed (kWh)	988,373	180,904	55,508

Table 22. Xcel Energy on-site solar program support in Falcon Heights, 2023

On-Site Solar – Solar*Rewards® and Net-Metering (2023)[9]	Residential	Commercial & Industrial
Subscriber Count	44	8
Total Electricity Capacity (kW)	316	742

[9] Source: Xcel Energy 2023 Community Energy Report for Falcon Heights

APPENDIX C: METHODOLOGY FOR MEASURING SUCCESS

As part of implementation support, Partners in Energy will provide biannual progress reports for Xcel Energy participation and savings data for Falcon Heights. All goals will be measured against the Falcon Heights three-year baseline of 2021–2023 data unless otherwise noted.

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

Community-Wide Goal

Falcon Heights will increase energy savings by 52% and avoid an additional 34% of community-wide greenhouse gas emissions by 2030 through additional participation in energy efficiency programs and on-going renewable energy participation. This amounts to an additional 14,000 MMBtu of energy savings and 700 additional $MTCO_2e$ of greenhouse gas emissions avoided.

Focus Area Goals

Alleviating Energy Burden on Homeowners and Renters: Residential Energy Efficiency

- Engage 248 residents annually in Xcel Energy's energy efficiency programs.
- Save 2,292 MMBtu of energy annually, for a total of 13,751 MMBtu saved through residential energy efficiency program participation between 2025 and 2030.

This goal will be measured by comparing actual program participation against the business as usual (BAU) scenario. Total goal progress will be measured from January 2025 through December 2030. *Table 23* identifies annual program participation targets and total energy efficiency savings to meet this goal. These targets are based on current Xcel Energy programs and estimated savings. If Xcel Energy offers new programs for residents, these will be included in this calculation at the discretion of the City of Falcon Heights and Partners in Energy.

Table 23. Annual residential energy efficiency participation and total savings from select Xcel Energy offerings, 2025–2030

Program	Annual BAU Participation	Annual Participation Target	Total Participants, 2025–2030	Total Energy Savings, 2025–2030 (MMBtu)
Efficient New Home Construction	0	1	6	86
Home Energy Audit	18	23	136	-
Home Energy Squad	11	21	128	665
Insulation Rebate	7	12	74	2,599
Residential Heating and Cooling[10]	87	112	674	9,957
Refrigerator Recycling	7	7	44	128
Residential Saver's Switch	22	22	134	0
Smart Thermostat	39	49	294	314

Alleviating Energy Burden on Homeowners and Renters: Income-Qualified Residential Energy Efficiency

- Engage 6 income-qualified residents annually in Xcel Energy energy efficiency programs.
- Save a total of 116 MMBtu through income-qualified residential energy efficiency program participation between 2025 and 2030.

This goal will be measured by comparing actual program participation against the BAU scenario. Total goal progress will be measured from January 2025 through December 2030. *Table 24* identifies annual program participation targets and total energy efficiency savings to meet this goal. These targets are based on current Xcel Energy income-qualified programs and estimated savings. If Xcel Energy offers new income-qualified programs for residents, these will

[10] Xcel Energy filed a new Triennial DSM plan in 2021, which resulted in some programs being reorganized and renamed. The Residential HVAC group now includes Residential Cooling, Residential Heating, Residential Heating and Cooling, and Water Heater Rebate.

be included in this calculation at the discretion of the City of Falcon Heights and Partners in Energy.

Table 24. Annual income-qualified residential energy efficiency participation and total savings from select Xcel Energy offerings, 2025–2030

Program	Annual BAU Participation	Annual Participation Target	Total Participants, 2025–2030	Total Energy Savings, 2025–2030 (MMBtu)
Home Energy Savings Program	1	2	12	78
Low Income Home Energy Squad	1	3	16	38
Low Income Multi-family Building Efficiency	0	1	6	-

Enhancing Energy Efficiencies in Buildings: Business Energy Efficiency

- Engage 42 commercial & industrial customers annually in Xcel Energy energy-efficiency programs.
- Save 4,765 MMBtu annually for a total of 28,591 MMBtu saved through commercial & industrial energy efficiency program participation between 2025 and 2030.

This goal will be measured by comparing actual program participation against the BAU scenario. Total goal progress will be measured from January 2025 through December 2030.

Table 25 identifies annual program participation targets and total energy efficiency savings to meet this goal. These targets are based on current Xcel Energy commercial and industrial programs and estimated savings. If Xcel Energy offers new commercial and industrial programs for businesses, these will be included in this calculation at the discretion of the City of Falcon Heights and Partners in Energy.

Table 25. Annual commercial and industrial energy efficiency participation and total savings from select Xcel Energy offerings, 2025–2030[11]

Program	Annual BAU Participation	Annual Participation Target	Total Participants, 2025–2030	Total Energy Savings, 2025–2030 (MMBtu)
Business Energy Assessments	0	1	6	4,816
Custom Efficiency	0	1	2	1,686
Energy Design Assistance	0	1	4	10,496
Efficiency Controls	2	2	10	5,524
HVAC+R Efficiency	19	23	138	3,105
Lighting Efficiency	1	3	20	1,385
Multi-Family Building Efficiency	2	2	12	1,058
Saver's Switch for Business	0	0	2	0
Small Business Lighting	1	3	18	272
Smart Thermostats for Business	5	7	44	248

Embracing Clean, Renewable Energy

- Retain residential participants in Xcel Energy's renewable energy subscription programs, Renewable*Connect and Renewable*Connect Flex.
- Save 687 $MTCO_2e$ of greenhouse gas emissions.

This focus area will be measured by comparing actual program participation in Renewable*Connect and Renewable*Connect Flex against the BAU scenario. No increase in participation was projected for this goal between January 2025 and December 2030.

Table 26 identifies the 2030 participation and kWh target to meet this goal. These targets are based on current participation and subscriptions to Renewable*Connect and Renewable*Connect Flex. If Xcel Energy offers renewable subscription programs for

[11] The sum of total Custom Efficiency and Energy Design Assistance participants does not add to the annual participation target over the goal period due to rounding.

residents, these will be included in this calculation at the discretion of the City of Falcon Heights and Partners in Energy.

Table 26. Annual renewable energy subscription participation and total GHG savings 2025–2030

Program	Baseline Residential Participants	Baseline kWh Subscribed	Target Residential Participants in 2030	Total Greenhouse Gas Emissions Saved, 2025–2030 (MTCO2e)
Renewable*Connect Flex	189	733,692	189	646
Renewable*Connect[12]	14	46,650	14	41
Total	203	780,342	203	687

[12] As of 2024, Renewable*Connect is at capacity and not accepting new subscribers

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

About Xcel Energy's Partners in Energy

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

Plan Development Process

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.

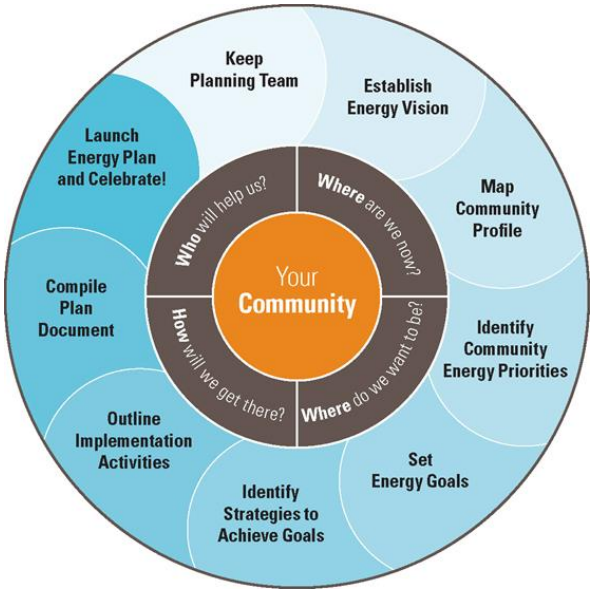
The planning process **began with an open house** at City Hall where the people came to give input into the plan's vision and strategy. The open house also served as a place for residents to ask questions about the Partners in Energy Program, Xcel Energy's goals, and what resources and support will be provided for the plan. There was also a community energy survey in English, Spanish, and Somali that launched at that time to seek similar input into the plan.

The Energy Action Team, made up of Environment Commission members, residents, and city staff, then met for a **workshop** to digest the community's input, survey responses, and look at the community's energy baseline data. They also shaped the vision and focus areas of the plan.

The team then met for a **virtual meeting** to hear about utility programs and more community energy survey results and review workshop outcomes.

A **second open house** set at the Falcon Heights Spring Together Event, showcased the community energy data, invited community input while engaging families, youth, and the business community.

Finally, the Energy Action Team came together for a **workshop** that rounded out the planning effort by bringing together a full picture of the community's input, developed strategies, and discussed the implementation of the plan.



Partners in Energy Process for Success

Resources from Xcel Energy for Implementation

Falcon Heights – Energy Action Plan Work Plan – EC Actions

Focus Area 1: Alleviating Energy Burden on Homeowners and Renters

Strategy 2: Develop Neighborhood Energy Liaisons

Local liaisons, equipped with energy knowledge, will play a crucial role in bridging the gap between resources and residents. These trusted neighborhood figures will provide personalized guidance on energy-saving practices and available support programs, focusing on equity and inclusion.

Actions: Partnerships / Resources:

A) Call for community volunteers by the City. Community Engagement Commission (CEC), **Environment Commission**, City of Falcon Heights

B) Provide Xcel Energy and supporting energy resources to the volunteers to share with their neighbors / associations. Neighborhood Liaisons at CEC, Homeowner Associations, City of Falcon Heights, Partners in Energy

C) Develop resources for volunteers to share with neighbors (e.g., template emails, National Night Out activities, NextDoor posts, website content, etc.). Neighborhood Liaisons at CEC, City of Falcon Heights, Partners in Energy, Falcon Heights GreenCorps Member

Communication: City of Falcon Heights website / newsletter, handouts, emails, social media

Timeline: 1–6 months No action has been taken on this.

Strategy 4: Promote Home Energy Squad Visits

An emphasis on free home energy audits will empower residents to identify inefficiencies in their homes. Armed with this information, they will be able to take steps to reduce their energy consumption and costs. They may also become more aware of available rebates and other incentives.

Actions: Partnerships / Resources:

A) Promote home energy assessments Partners in Energy, City of Falcon Heights, Xcel Energy

B) Showcase residents who have had home energy assessments and made improvements in their home as a result. City communications, Partners in Energy

Communication: Events, CEC, **Environment Commission**, NextDoor website or other websites

Timeline: 6-12 months Home Energy Squad has been heavily promoted and will continue to be. This has been via the Sustainability Fair, weekly newsletter, and in person events. Testimonials from residents have been featured online and in the weekly newsletter, but could be pushed for again.

Strategy 6: Highlight Energy Saving and Clean Energy Testimonials

Promoting positive experiences that residents have had with the home assessments and other energy projects could increase their demand. The City of Falcon Heights will encourage residents to share their testimonials and experiences publicly to inspire more residents and business owner to participate.
Actions:

Partnerships / Resources:

A) Showcase positive testimonials in the City's newsletter, blog and articles in local media. Park Bugle, Partners in Energy, City of Falcon Heights

B) Postcard mail out campaign of testimonials from residents to other residents, Partners in Energy, City of Falcon Heights

C) Postcard mail out campaign of testimonials from business owners to other businesses. Partners in Energy, City of Falcon Heights

D) Share testimonials at St Paul Chamber of Commerce meetings. Energy Action Team members, St Paul Chamber of Commerce, **Environment Commission**

Communication: Post card mail outs, newsletters, emails, blogs, and presentation

Timeline: 6–12 months Testimonials from residents have been featured online and in the weekly newsletter, but could be pushed for again. No mailing campaigns have been done and there has not been any sharing at Chamber of Commerce meetings.

Focus Area 2: Enhancing Energy Efficiencies in Buildings

Strategy 1: Support Energy Improvements

To encourage landlords to invest in energy efficient upgrades, the City will tie energy improvements in rental properties to deductions in rental license fees. This will make it financially beneficial for landlords to improve living conditions for tenants.

Actions: Partnerships / Resources:

A) Create and promote City incentives and/or recognition for energy efficient multi-family buildings. City of Falcon Heights, Partners in Energy

B) Review and revise City code to remove barriers to more energy efficient multi-family buildings. City of Falcon Heights, Planning Commission, **Environment Commission**, City Council

C) Support the adoption of standards requiring buildings larger than 5 units to periodically re-invest in energy efficient improvements that have a reasonable payback period. City of Falcon Heights, City Council

D) Support incentives for retrofits and redevelopment of existing multi-family buildings to improve energy while respecting the historic integrity of buildings and communities. City of Falcon Heights, City Council

Communication: City communications

Timeline: 12–24 months No action has been taken on this.

Strategy 3: Partner with the State Fair to Encourage Energy Projects

The annual State Fair can become a platform for promoting energy projects. Interactive exhibits and demonstrations could showcase innovative energy solutions, inspiring residents and visitors alike to adopt more sustainable practices.

Actions: Partnerships / Resources:

A) Draft proposal to partner with State Fair to encourage joint energy projects. Minnesota State Fair, City of Falcon Heights, **Environment Commission**

Communication: City communications

Timeline: 6-12 months No action has been taken on this.

Strategy 5: Form Climate Action Partnership with the University of Minnesota

Partnering with the University of Minnesota could reduce carbon emissions. The City will seek collaboration with the University to reduce carbon in the atmosphere and add electric vehicle (EV) chargers.

Actions: Partnerships / Resources:

A) Draft a proposal for collaboration between the City Council and the University of Minnesota and find a way forward. City Council, University of Minnesota, Energy Action Team

B) Advocate for increasing EV charging infrastructure on and off campus. University of Minnesota, Partners in Energy, EV toolkit, City of Falcon Heights

C) Encourage charging infrastructure on new developments and retrofits, especially multifamily buildings and businesses. Support the continued development of charging infrastructure for EVs. University of Minnesota, Partners in Energy, EV toolkit, MF building owners/managers, City of Falcon Heights, **Environment Commission**, Planning Commission

Communication: City communications to University of Minnesota

Timeline: 6-12 months No action has been taken on this.

Strategy 7: Reduce Costs of Home Energy Assessments for Residents

Create a program that would pay for residents to have complimentary or reduced cost home energy assessment visits. The City could eliminate any financial objection for residents.

Actions: Partnerships / Resources:

A) Address economic barriers for residents who may be hard to reach or under-represented in the community and increase home energy assessment visits by promoting free visits. Community Engagement Commission (CEC), **Environment Commission**, City of Falcon Heights

Communication: City communications through CEC, City newsletter

Timeline: 6-12 months We do pay down the cost of Home Energy Assessments for residents in Falcon Heights.

Focus Area	Strategy		Action Items	2024	2025	2025	2025	2025	2026
				Q4	Q1	Q2	Q3	Q4	Q1
Alleviating energy burden for homeowners and renters	1) Conduct Energy Outreach in Schools	A	Identify school and teacher partnerships and work with those partners to understand classroom needs.						
		B	Develop materials and activities that support appropriate energy engagement according to school partners						
		C	Ask school library or other entities to host educational events regarding energy efficiency / conservation and renewable energy						
		D	Encourage partnering with “EmPowered Schools” program to Neighboring School Districts						
		E	Utilize the Minnesota GreenStep School Program to show students that their school is leading the way in energy conservation and reducing environmental impacts						
	2) Develop Neighborhood Energy Liaisons	A	Call for community volunteers by the City						
		B	Provide Xcel Energy and supporting energy resources to the volunteers to share with their neighbors / associations						
		C	Develop resources for volunteers to share with neighbors (e.g., template emails, National Night Out activities, NextDoor posts, website content, etc.)						
	3) Increase Access to Renter Resources	A	Provide renters with information about applicable energy rebates	✓					
		B	Raise awareness of assistance programs for those renters who are affected by a higher energy burden or lower-income household	✓					
	4) Promote Home Energy Assessments	A	Promote home energy assessments	✓					
		B	Showcase residents who have had home energy assessments and made improvements in their home as a result	✓					
	5) Provide Accessible Energy Communication	A	Create an Energy Action Hub on the City of Falcon Heights’ website to disseminate information about energy resources	✓					
		B	Establish partnerships with community organizations and/or Falcon Heights specific publications to bring awareness to residents						
		C	Include energy educational resources on the City of Falcon Heights email newsletter	✓					
	6) Highlight Energy Saving and Clean Energy Testimonials	A	Showcase positive testimonials in the City’s newsletter, blog and articles in local media	✓					
		B	Postcard mail out campaign of testimonials from residents to other residents						
		D	Postcard mail out campaign of testimonials from business owners to other businesses						
		D	Share testimonials at St Paul Chamber of Commerce meetings						
	7) Develop and Sustain Partnerships that Support Community Energy Equity Goals	A	Connect with Commonwealth Terrace Cooperative (CTC) to Improve Living Conditions through energy projects for Student Housing						
		B	Form partnership with neighboring city councils to coordinate energy equity projects that are mutually beneficial						
Enhancing Energy Efficiencies in Buildings	1) Support Energy Improvments	A	Create and promote City incentives and/or recognition for energy efficient multi-family buildings						
		B	Review and revise City code to remove barriers to more energy efficient multi-family buildings						
		C	Support the adoption of standards requiring buildings larger than 5 units to periodically re-invest in energy efficient improvements that have a reasonable payback period						
		D	Support incentives for retrofits and redevelopment of existing multi-family buildings to improve energy while respecting the historic integrity of buildings and communities						
	2) Incentivize and Recognize Energy Efficiency Projects	A	Be present at community events with resources and tips to encourage businesses and residents to reduce energy consumption	✓					
		B	Request that homeowners who have made significant energy efficiency improvements temporarily display an energy conservation yard sign						
		C	Publicly acknowledge homeowners and business owners in the City's email newsletter for energy conservation efforts	✓					
	3) Partner with the State Fair to Encourage Energy	A	Draft proposal to partner with State Fair to encourage joint energy projects						
	4) Encourage Efficient Electric Heating Technologies	A	Create targeted outreach programs to educate business owners and owners of multi-family buildings about the benefits of electric heating options						
		B	Host workshops and informational sessions to highlight benefits of adopting efficient electric heating technologies						
		C	Encourage building owners who have already installed air source heat pumps to share their success stories with other building owners through presentations, open houses and business networking events						
		D	Assist businesses and workforce to keep up to date on technological advances in building energy. Provide outreach to local businesses to assist in these educational efforts						
		E	Recommend energy improvements for rental properties during annual inspections. Provide an opportunity to educate building owners about energy improvements annually, giving updates on electrification technology and available incentives						
	5) Form Climate Action Partnership with U of M	A	Draft a proposal for collaboration between the City Council and the University of Minnesota and find a way forward						
		B	Advocate for increasing EV charging infrastructure on and off campus						
		C	Encourage charging infrastructure on new developments and retrofits, especially multi-family buildings and businesses. Support the continued development of charging infrastructure for Evs	✓					
	6) Collaborate with Metro Transit	A	Draft, send and follow up on a request to Metro Transit to have electric buses on Route 121 and on the Rapid Transit A Line						
	7) Reduce Costs of Home Energy Assessments for Residents	A	Address economic barriers for residents who may be hard to reach or under-represented in the community and increase home energy assessment visits by promoting free visits						
	8) Showcase Existing Energy Projects in Homes and Businesses	A	Identify homes and businesses that have already undergone energy projects	✓					
		B	Recognize those who would wish to participate in open house tours and set up tour dates for groups to visit						
		C	Host a local energy fair in Falcon Heights and encourage citizen and local business participation	✓					
Embracing Clean, Renewable Energy	1) Support a Group-Buy Solar	A	Contact and form a collaboration with Solar United Neighbors (SUN) to help residents and businesses bulk buy solar						
		B	Pursue grants to assist with the installation of solar panels on homes and businesses. This financial support will make renewable energy a viable option for more residents, reducing the City's overall carbon footprint						
	2) Solar Arrays on Future Buildings	A	Request proposals for solar installations on future municipal buildings						
		B	Partner with one or more solar installation companies to recommend to buildings in the City.						
		C	Explore grants for installation of onsite solar on businesses and buildings						
	3) Promote Renewable Subscription and On-site Options for Residents	A	Encourage subscription and on-site opportunities to residents during events and on the City website						
		B	Share incentives for renewable energy options with renters though email and mailing campaigns	✓					
	4) Partner with the University of Minnesota to Encourage Renewable Energy	A	Reach out to the University of Minnesota to form a collaboration centered on renewable energy technologies						
		B	Partner with the University of Minnesota to help share incentives for renewable energy programs to multi-family building owners, residents and students						
	5) Establish a Reliable Workforce in Renewable Energy Applications	A	Host workshops to educate the community on renewable energy topics and resources while connecting professionals with residents and residents with training options						
		B	Support and promote workforce opportunities in renewable energy industry						