Climate and Energy

Where We Have Been

Natural Environment

Geology

St. Louis Park's topography and soils were shaped by glaciers, which covered much of the North American continent as recently as 10,000 years ago. The city consists of two distinct landscapes. North of Minnetonka Boulevard, rolling uplands generally feature well-drained soils and intermittent wetland areas. South of Minnetonka Boulevard, the edge of a glacial outwash plain begins. It features relatively level topography with well drained, loamy sands underlain with gravel. The variable soils in both landscape areas of the city mean that particular attention must be paid to drainage patterns and construction types when development occurs.

Much of the original land form still exists in residential areas of the city, with some exceptions. Large cut and fill operations were undertaken by the railroad and for the construction of streets and major residential developments. There were also several gravel mines in the city. Gravel produced in St. Louis Park was used for concrete production and road construction, but mining in the city ceased in the 1960s. Further topographical change occurred as wetlands were filled throughout the city. Prohibited today, filling and construction on wetlands caused major changes for the city's drainage patterns, wildlife, and vegetation.

Trees and Vegetation

Trees and other vegetation throughout the city shape the spaces around us. Valued for aesthetic reasons, trees also serve a functional purpose in our landscape by reducing the urban heat-island effect. Trees shade hard surface areas, increase the energy efficiency of our buildings by shading them, cool the air with water that evaporates from leaf surfaces, absorb carbon dioxide to reduce the impact of greenhouse gas emissions, screen visual blight, and dampen noise coming from roadways and industrial properties. Other vegetation improves water quality of water flowing downstream and into aquifers underlying the city. More details about the city's programs and its substantial and growing urban forest and vegetation can be found in the Parks, Open Space, and Natural Resources section of this plan.

Wildlife

There is a diversity of wildlife in St. Louis Park. In addition to typical urban wildlife, there are also deer, fox, skunk, gophers, and raccoons present within the city. These species have a tendency to cluster around the city's major open space areas such as the Bass Lake Preserve wetland complex, Minnehaha Creek, or Hannon Lake. The desirability of these species depends on their characteristics; in some instances, they are welcomed into neighborhoods and viewed positively, while they are considered a nuisance in other neighborhoods. Further information about wildlife in the city can be found in the Parks, Open Space, and Natural Resources section of this plan.

Climate

St. Louis Park is located in a region that features a continental climate exhibiting wide seasonal variation. As a result, St. Louis Park experiences four distinct seasons that each have unique characteristics. For example, winter winds typically prevail from the north and northwest, while winds during the summer typically prevail from the south and southeast. St. Louis Park's climate has been changing more dramatically recently with increasing temperatures, humidity, average rainfall, frequency of heavy rainstorms, and flooding. Higher frequency of storm events results in more extreme wind conditions also. As a result, the region's growing season has gotten longer, the composition of trees is changing from North Woods species to trees that are better able to thrive in warmer weather, warmer lakes and rivers are changing fish habitats, and migration timing is impacted.

Temperature, precipitation, and wind extremes result in a need for site design that reflects the best practices currently available in the construction and design industries. Climate should be taken into account when addressing building orientation, window size and type, water and moisture management, and even material use.

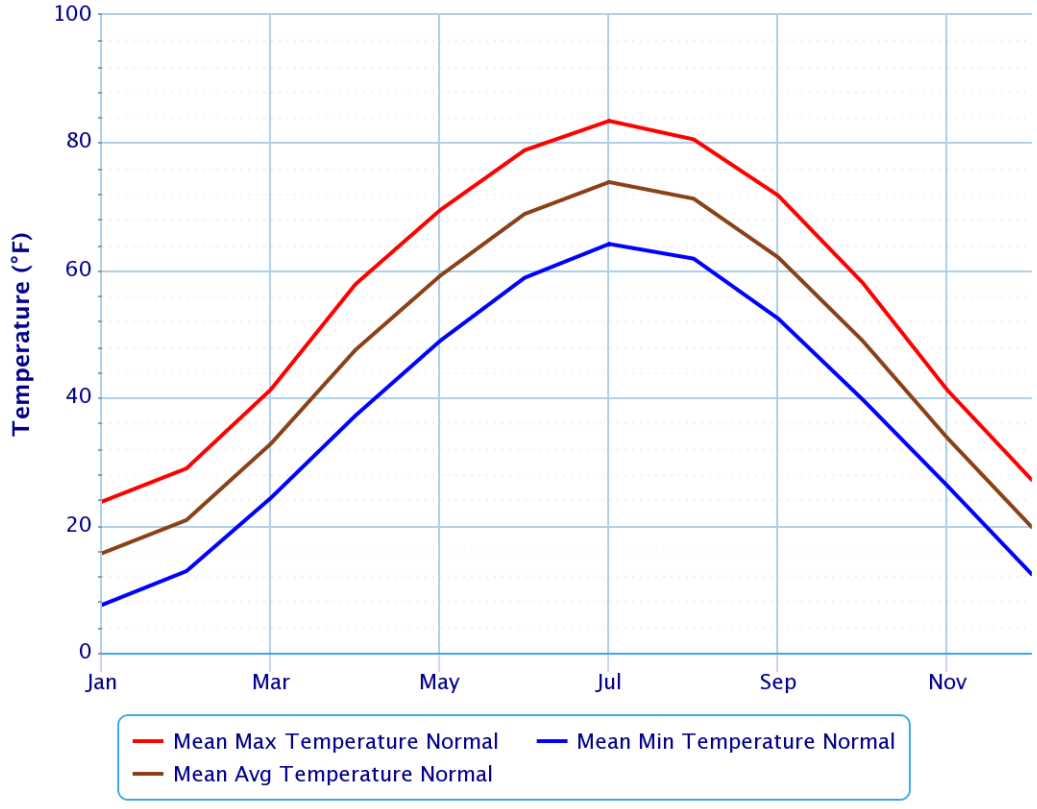
Temperature

Average and extreme temperature information, shown in Figure 4-1, reflects the region's cool winters and warm summers. Energy demand in St. Louis Park peaks during the parts of the year that have extreme temperature fluctuations, frequently during the winter and summer months.

St. Louis Park is part of a larger metropolitan area; because of the city's proximity to Minneapolis, there is an urban heat island effect that impacts the city's temperature throughout the year. Large amounts of concrete and asphalt cause moderately higher temperatures than they would be in a less urban environment. Additional vegetation and a reduction in land devoted to parking and roads would reduce this effect.

Capital investment for energy production and delivery relates to peak demand. If equipment and facilities are not sized to meet peak requirements, brownouts (partial power loss) or blackouts (full power loss) can occur. By adopting policies to reduce energy demand, energy use could be reduced throughout the city.

Figure 4-1. Average Monthly Temperature Range MSP Region



Precipitation

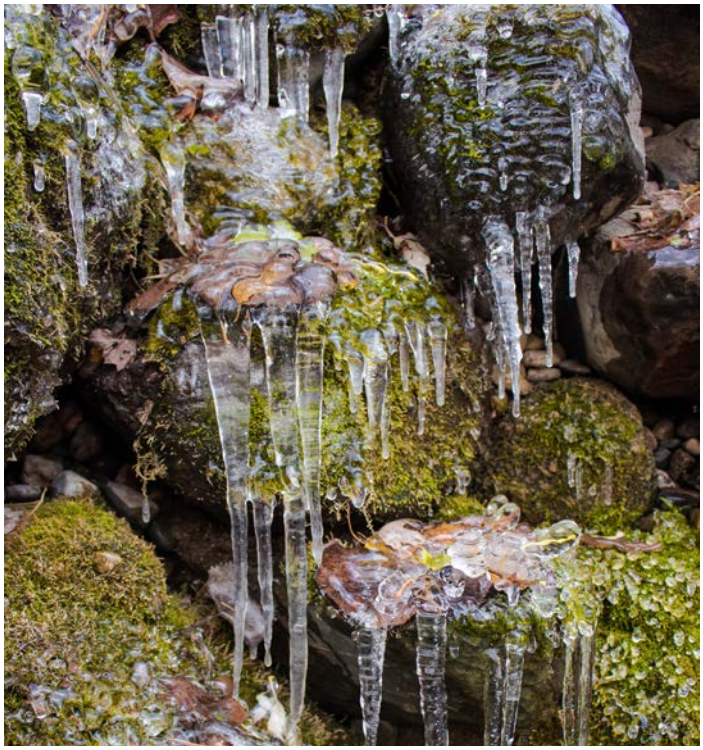
On average, St. Louis Park receives just over 32 inches of precipitation each year. Much of this falls as snow during the winter months.

Table 4-1. Monthly Average Snowfall

MONTH	AVERAGE SNOWFALL (INCHES)
January	13.5
February	8.2
March	10.4
April	3.1
October	0.6
November	10.0
December	10.0

Note: A typical conversion rate for snowfall to precipitation is 10" snow = 1" precipitation when the temperature is between 28-34 degrees Fahrenheit. The snowfall: precipitation ratio varies according to temperature, with lower temperatures resulting in a smaller ratio.

The amount of precipitation has a dramatic and obvious impact on the city's natural and built environment. With moderate amounts of rain and snow, vegetation thrives in our region and there is an adequate supply of water for drinking, industrial and irrigation purposes. On the other hand, even minor snow events in the winter can cause the city's transportation system to grind to a halt and result in substantial municipal expenditures to remove snow from roads and trails and melt ice buildup with road salt.



Prior to settlement, the predominant vegetation in the area was that of an Oak Savanna: scattered oak trees with a prairie understory. The landscape was punctuated by scattered wetlands, lakes and wet prairies. This landscape has been replaced by a vegetated urban environment surrounding the remaining wetlands and lakes. As found throughout Minnesota, an abundant water supply reflects a level of precipitation adequate to maintain a thriving urban forest, lakes, and numerous wetlands.

The city's Surface Water Management Plan explains what happens to precipitation occurring in the city and describes how water is collected and treated. (A summary of the plan can be found in the Surface Water Management section of this plan.)

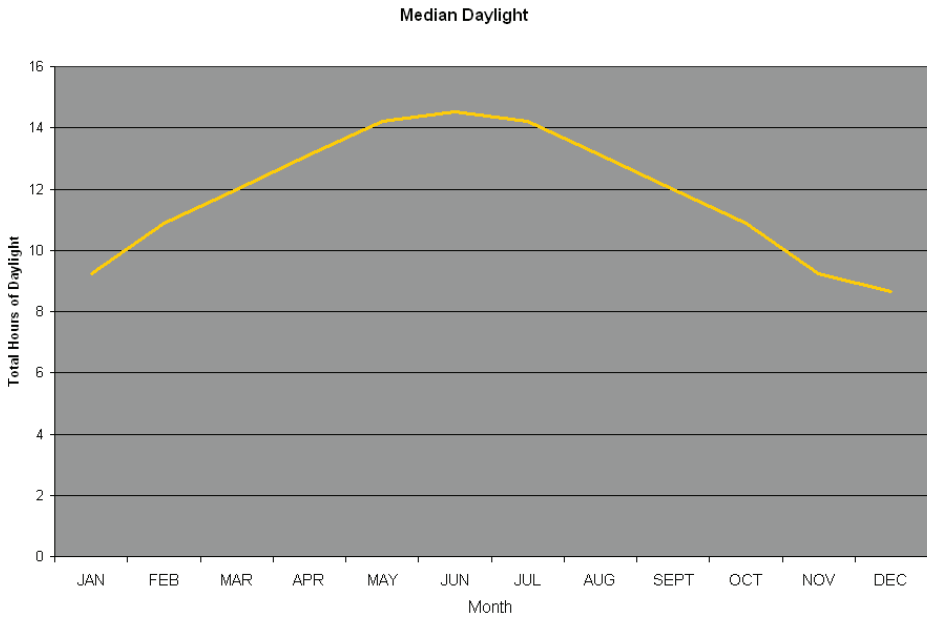
Wind

Driven by St. Louis Park's mid-continent location, wind speeds in the city average 10.5 miles per hour. The windiest times of the year are fall and spring with April being the windiest month of the year, when the average rises to 12.2 miles per hour. Gusting winds recorded in the area, however, have reached as high as 61 miles per hour. Winds tend to come from the north and northwest during the winter months and from the south and southeast during the summer months. Wind plays a major role in shaping the city's climate, with bone-chilling winds driving the apparent temperature down (wind chill) during the winter and bringing the warmest weather when the winds come from the south.

Sunlight

Despite the wide variation in temperature, precipitation, and wind, the region has a fairly solid amount of regular sunlight. According to records at the National Weather Service, the sun will shine 58% of all days in any given year – equating to about 212 sunny days each year. The amount of daylight, on the other hand, varies widely: in December, there is daylight for just over 8.5 hours each day, while June's longest days have over 14.5 hours of daylight.

Figure 4-2. Median Daylight by Month



Plans and Programs

Vision St. Louis Park (2005 – 2007)

In 2005-2006, the city engaged in a community-wide visioning process. Eight focus areas were identified and eight corresponding citizen-based Vision Action Teams were assembled for the visioning process, including an Environment action team. In 2007, the St. Louis Park Council developed and adopted four Strategic Directions to start carrying out the Vision St. Louis Park recommendations. One of the four Strategic Directions was "St. Louis Park is committed to being a leader in Environmental Leadership. We will increase environmental consciousness and responsibility in all areas of city business."

City Environmental Leadership

The city established an intradepartmental staff Environmental Group (E Group) to ensure that environmental activities are coordinated across all departments. In 2013, the city established a new 13-member Environment and Sustainability Commission also called Sustainable SLP. In 2015, the city added a full-time Environment and Sustainability Coordinator staff position.

Minnesota GreenStep Cities Program

In 2012, the council adopted a resolution authorizing the city to participate in the Minnesota GreenStep Cities Program. In 2017, the city fulfilled Step 3 of the program's five steps.

Xcel Energy's Partners in Energy Program and the St. Louis Park Energy Action Plan

Xcel Energy, the city's electrical utility, offers a program called Partners in Energy (PiE), helping communities create energy action plans. In 2015, St. Louis Park was the fourth city in Minnesota to take advantage of PiE, which resulted in a community-wide energy action plan with a goal of achieving carbon neutrality by 2040, and 100% renewable electricity by 2025. The Energy Action Plan was started in 2015, finished in 2016, and implementation of strategies began in 2016 and finished in early 2018. Many of the goals and strategies in this plan were carried forward into the city's Climate Action Plan, adopted February 2018.

Ready & Resilient: A Guide to Extreme Weather

This weather guide aids in educating residents about climate conditions already being experienced in the region, resources the city offers, and actions individuals can take to mitigate the impacts of extreme weather and be better prepared for extreme weather. This guide is provided in every new resident welcome packet.

St. Louis Park Climate Inheritance Resolution

In 2016, the council adopted a climate inheritance resolution to establish the city's commitment to creating a St. Louis Park Climate Action Plan. This plan is intended to reduce St. Louis Park's greenhouse gas emissions to levels that will protect the community's children and grandchildren from the risk of climate destruction.

Where We Are Today

Discussions about changes in the region's climate currently represent an ongoing political debate about how man-made activity, including energy use, may or may not be impacting long-term climactic issues like growing season, temperature minimums and maximums, and precipitation characteristics. Regardless of the cause, long term climate change could impact the type of species that thrive in the city, the amount of irrigation required to maintain current vegetation, or the level of pest control necessary in the city's parks. Gradual changes in climate could also have substantial long-term impacts on the city's character and service delivery.

The city has made tremendous progress in its analysis, planning and implementation efforts related to climate and energy issues. Since the completion of the 2030 Comprehensive Plan, the city has adopted major policies that address climate and energy, including Green Buildings, Complete Streets, Environmentally Preferable Purchasing, and Zero Waste Packaging Policies. The city also initiated its Urban Reforestation Program and has been a committed participant in the following environmental programs: MN GreenStep Cities, MN Regional Indicators Initiative, and MN LoGoPep Pilot Cities.

The city reinforced its commitment to environmental stewardship in 2017 with the city's new vision, ***St. Louis Park Vision 3.0***, which includes as one of the five Strategic Directions – "St. Louis Park will continue to lead in environmental stewardship." In 2018, the city adopted its 2040 Climate Action Plan, which focuses on moving the city toward carbon neutrality by 2040.

Regional Indicators Initiative

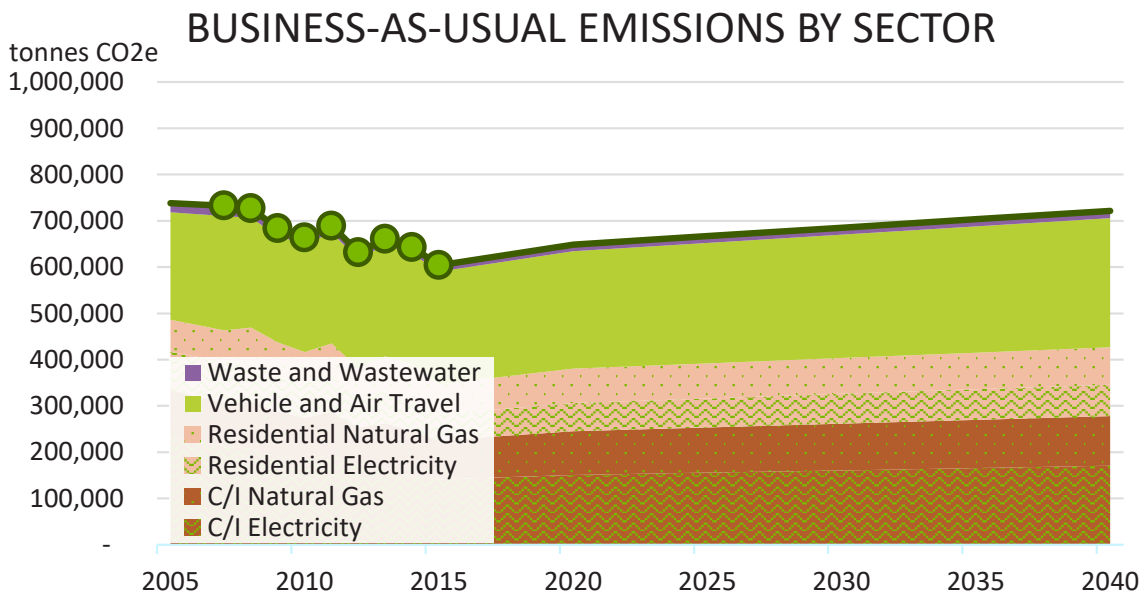
The Regional Indicators Initiative (RII) was created as a way to track the progress of cities involved in the GreenStep Cities Program. St. Louis Park was one of the first three cities to sign on as a pilot city for this study. Falcon Heights, Edina and St. Louis Park provided funding and agreed to release their resource consumption data for the 2008-2010 time period. This pilot study was successful in determining that data for city-wide sustainability indicators can be gathered, measured and analyzed annually in a relatively short time period and at a relatively low cost. The RII provides annual performance measurements for St. Louis Park for energy, water, travel, waste, and greenhouse gas emissions.

Greenhouse Gas Emissions

Through St. Louis Park's participation in the RII since 2009, an annual greenhouse gas emissions inventory has been completed for the city for 2007-2015. In addition, Figure 4-3 illustrates "business-as-usual" emissions projections through 2040. These projections reflect anticipated emissions if the city were to take no action to reduce its future emissions.

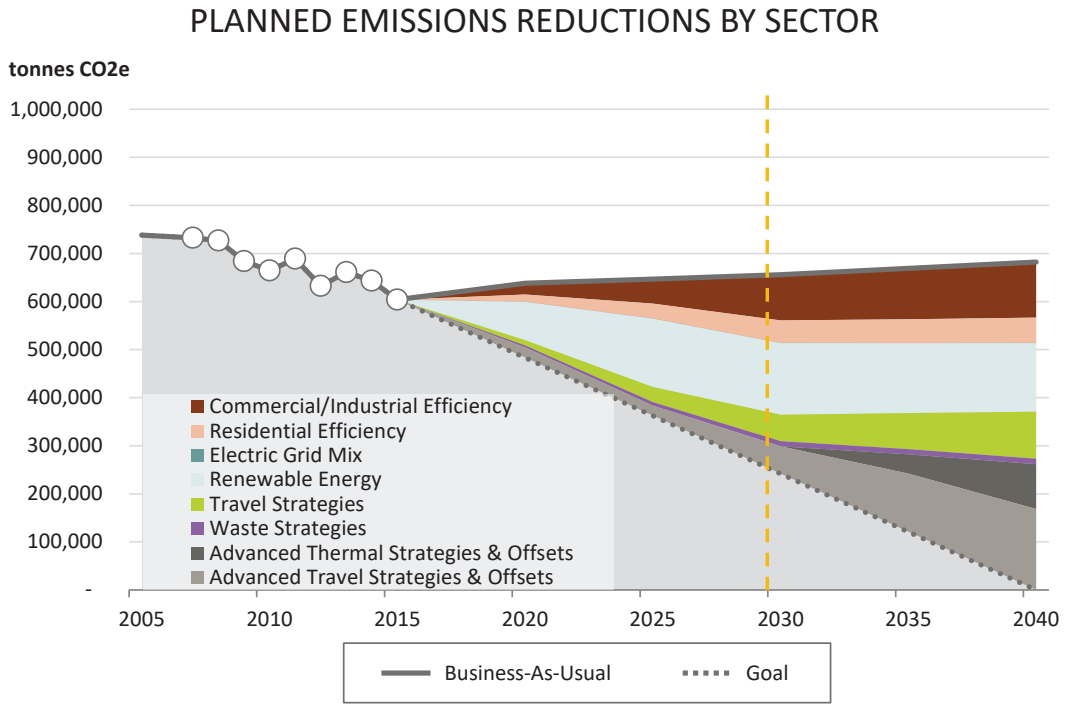
The LoGoPEP program developed the wedge diagram tool as a planning tool for communities to calculate and visualize strategies for reducing greenhouse gas emissions. Using the wedge diagram tool, St. Louis Park has been able to relate its baseline greenhouse gas emissions from each sector (building energy, transportation, solid waste, wastewater) with the impact of planned emission reduction strategies by sector. Figure 4-4 shows which emission reduction strategies are likely to have the most impact.

Figure 4-3. Business as usual emissions by sector.



Data from the Regional Indicators Initiative

Figure 4-4. Total emissions reductions by sector resulting from CAP implementation.



Climate Action Plan (CAP)

Climate change is altering the way communities think about their public and private infrastructure, operations, local resources, and social norms. The City of St. Louis Park adopted its Climate Action Plan (CAP) in 2018. The CAP's key overarching goal is for the city to achieve carbon neutrality by 2040, which means that the community's net greenhouse gas emissions are equal to zero. Carbon neutrality or net zero emissions is achieved by a combination of greenhouse gas emission reductions and the purchase of carbon offsets in an amount equivalent to the greenhouse gas emissions not eliminated through reductions. The CAP is a bold and inspiring, yet achievable, plan that provides a road map for achieving the city's climate action goals. With the CAP, St. Louis Park is leading the way in rethinking how local energy resources are used and how to leverage new opportunities for residents and businesses to reduce their impact on climate change.

The CAP establishes seven climate action goals to reduce greenhouse gases either emitted within the city's boundary (Scope 1 emissions), or emitted indirectly through the purchase of electricity or other energy sources (Scope 2 emissions) by 2030. These goals in general focus on reducing energy consumption in buildings, increasing renewable energy use, and reducing vehicle emissions, and reducing solid waste as compared to the CAP's business-as-usual forecast. Specific reduction targets for each goal and corresponding strategies were calculated using the LoGoPEP wedge diagram tool. These higher level goals and strategies are supported by more detailed initiatives and actions.

In order to help the community transition into the CAP and create momentum, the CAP identifies three kick-start projects:

1. Youth-led initiative to increase energy efficiency and renewable energy in the community.
2. Develop a climate action plan resource hub.
3. Install electric vehicle charging infrastructure in public parking lots.

CLIMATE ACTION PLAN GOALS

- CAP Goal 1 – Reduce energy consumption in large commercial and industrial (C/I) buildings by 30% by 2030, as compared to the business-as-usual forecast.
- CAP Goal 2 - Reduce energy consumption in mid-size commercial buildings by 30% by 2030, as compared to the business-as-usual forecast.
- CAP Goal 3 – By 2030, design all new construction to be net-zero energy.
- CAP Goal 4 - Reduce energy consumption in residential buildings by 35% by 2030, as compared to the business-as-usual forecast.
- CAP Goal 5 – Achieve 100% renewable electricity by 2030.
- CAP Goal 6 – Reduce vehicle emissions by 25% by 2030, as compared to the business-as-usual forecast.
- CAP Goal 7 – Achieve a 50% reduction in waste by 2030.

The CAP's seven climate action goals could achieve an estimated 62% reduction in greenhouse gases from the business-as-usual forecast. In order to address the remaining 38% of greenhouse gases, six advanced long-term strategies have been identified in the CAP. For the final push to achieving carbon neutrality in 2040, these six strategies are more aggressive measures for addressing greenhouse gases from natural gas use in buildings as well as emissions from both vehicle and air travel. These advanced strategies are listed on page 4-44.

The CAP also includes recommendations for how the city's operations can be improved to help achieve carbon neutrality by 2040. The city has an opportunity to serve as leaders and provide visible examples for the community on how these climate action goals can be achieved.

St. Louis Park Vision 3.0

In 2017, the city completed its Vision 3.0, which involved a major community input process, and identifies residents' top five values, which includes "care for the natural environment," and five recommendations, including "Continue to lead in environmental stewardship." Based on the recommendations of Vision 3.0, the council adopted five Vision Strategic Directions in 2018, including:

St. Louis Park will continue to lead in environmental stewardship:

- Supporting Climate Action Plan strategies and goals through planning, education, communication and implementation of programs and initiatives;
- Increasing opportunities to connect with nature in the city;
- Continuing to protect and improve the quality of natural resources, parks, lakes, creek, wetlands and surface water planning, and using green spaces effectively;
- Continuing to provide quality water to residents.

Metropolitan Council's Thrive MSP 2040 Resilience Plan

In 2015, the Metropolitan Council adopted Thrive MSP 2040 as its new regional development plan, which includes seven policies to guide regional land use and development. One of these policies is ***Building in Resilience: Promote sensitive land use and development patterns to contribute toward achieving Minnesota's adopted greenhouse gas emission goals at the regional scale, and to develop local resiliency to the impacts of climate change.*** The plan also recommends communities' roles related to achieving this policy, which include:

- Addressing climate change mitigation and adaptation;
- Reducing water use, energy consumption, and greenhouse gas emissions;
- Protect and enable the development of solar resources (cities are required to address as a goal, policy or strategy);
- Consider the development or use of community solar gardens;
- Address impacts to local economies, resources, and infrastructure systems;
- Identify local cost-saving measures that could result in reducing waste, conserving water, and improving energy efficiency;
- Participate in programs such as MN GreenStep Cities and the Regional Indicators Initiative.

Programs

Urban Reforestation Program (2009)

Urban Reforestation is the ongoing program of planting and maintaining trees in the city with the goal to provide a healthy and diverse tree population and support the city's vision regarding environmental stewardship. Urban reforestation will be achieved by replacing past, current, and future tree losses along corridors and in parks with a diverse selection of trees, prioritizing native species where possible.

Green Step Cities

In 2017, St. Louis Park achieved Step 3 of the state sustainability program used by over 120 cities, counties, and tribal communities across Minnesota. To achieve Step 3 status, the city was required to implement a minimum of 16 best practices and complete a minimum of 27 actions across GreenStep Cities' five best practices areas: Buildings and Lighting, Land Use, Transportation, Environmental Management, Resilient Economic and Community Development.

Minnesota LoGoPEP Pilot City (2016)

LoGoPEP (Local Government Project for Energy Planning) is a program that provides energy related planning tools for local governments in conjunction with the MN Regional Indicators Initiative. In 2016, St. Louis Park was one of five cities that helped inform and test energy planning tools designed to help city and county staff with regards to energy planning for updating their comprehensive plans. As part of this program, a wedge diagram tool was created for energy and greenhouse gas reduction planning. St. Louis Park was the first to apply the tools in its 2017 climate action planning process to help set goals and strategies. Using the wedge diagram tool enabled the city to identify specific strategies for reducing greenhouse gas emissions in the Climate Action Plan.

Policies

Green Building Policy (2010)

The city adopted its Green Building Policy in 2010 with the goal of promoting buildings that are energy efficient, economical to operate, environmentally responsible, and healthy places to live and work that further enhance the community's quality of life. Development projects subject to the Green Building Policy are required to complete a Green Building Review to ensure that buildings, equipment, and sites meet energy efficiency and water conservation targets. Compliance with this policy is applicable to all new building projects of 15,000 sq. ft. or greater and renovations of 50,000 sq. ft. or greater that receive at least $200,000 in financial assistance from the EDA or the city, and to all new and renovated multifamily residential buildings and all renovations of detached single-family or owner-occupied housing receiving financial assistance from the EDA or the city.

Complete Streets Policy (2013)

The city adopted its Complete Streets Policy in 2013. Complete Streets consists of the planning, scoping, design, construction, operation, and maintenance of roads in order to reasonably address the safety and accessibility needs of users across all ages, abilities, and transportation modes. In order to develop and maintain a safe, efficient, balanced, and environmentally sound transportation system for people of all ages and abilities, the City of St. Louis Park aims to incorporate a Complete Streets philosophy that expands transportation choices for all transportation and development projects.

Complete Streets will help St. Louis Park reduce greenhouse gas emissions as more people choose an alternative to the single occupant vehicle, thereby improving air quality and alleviating public health concerns.

Environmentally Preferable Purchasing Policy (2015)

This policy was adopted in 2015 in order to promote environmentally responsible practices such as conserving energy and other natural resources, reducing the impacts of pollution, supporting strong recycling markets, reducing materials that need to be landfilled or incinerated, and more. Additional language in the policy supports sourcing locally, ethical business practices, responsible treatment of workers, child labor prevention, human rights, safety and wellness, fair trade, transparency, economic equality and social justice.

Zero Waste Packaging Policy (2017)

Adopted in 2017, this policy requires all licensed food establishments to use reusable, returnable, recyclable or compostable single-use food packaging. If the packaging is used to serve food on-site, appropriate recycling and/or organics recycling receptacles and hauling service must be in place.

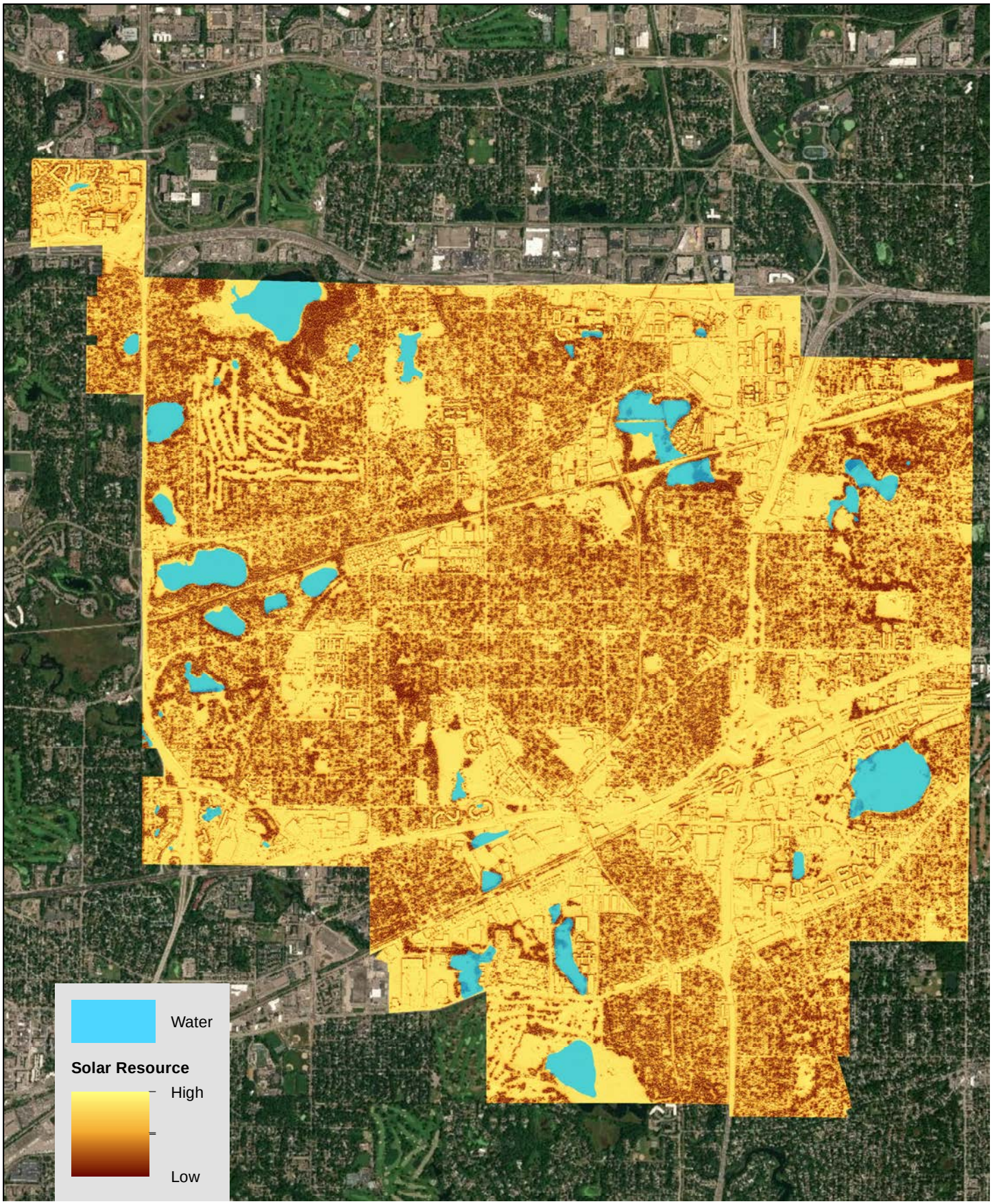
Renewable Energy Access

Solar Access

Increasing interest in the use of solar heating, passive solar design, and solar power makes access to direct sunlight increasingly important. However, due to the city's relatively flat topography and extensive urban forest, there are many locations where solar access is already limited. Future changes to city ordinances could include provisions to guarantee solar access in some form. It is anticipated that the use of and interest in solar power will increase by 2040.

The University of Minnesota has developed a high-resolution statewide solar resource map that allows cities to calculate how much electricity they could potentially receive from locally installed solar energy systems. This data (see Figure 4-5) was used to calculate the solar resource or "solar reserves" in St. Louis Park. The solar reserves are how much solar energy is reasonably economically available for development, similar to the way in which oil or gas reserves are measured. The solar map shows the good sites for solar installations and helps identify where there may be land use conflicts with solar development.

Figure 4-5. Gross Solar Potential. Data from MN LoGoPEP Program.



St. Louis Park MINNESOTA

Table 4-2 shows the amount of solar energy reasonably available for development in St. Louis Park. The gross potential includes the total available resource, regardless of location; rooftop capacity and generation include only the resource available on the rooftops of commercial buildings located in the city.

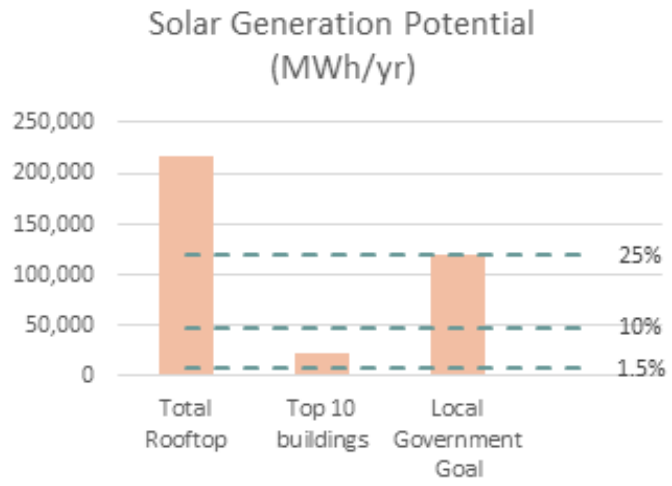
Table 4-2. St. Louis Park Rooftop Solar Resource

GROSS POTENTIAL	ROOFTOP POTENTIAL	GROSS GENERATION POTENTIAL	ROOFTOP GROSS GENERATION POTENTIAL
12,028,048 MWh/yr	2,167,135 MWh/yr	1,202,804 MWh/yr	216,713 MWh/yr
ROOFTOP CAPACITY	**TOP 10 ROOFTOP POTENTIAL**		
167 MW	22,495 MWh/year		

Data from Metropolitan Council and MN LoGoPEP Program.

The total capacity of the economic rooftop solar resource in St. Louis Park is 167 MW, equal to approximately 55% of all the electricity consumed in the city. This means that if the city wanted to maximize its entire rooftop solar resource, it could set a solar generation goal of up to 45% on-site solar generation (note: this is an upper limit and does not consider individual site limitations due to roof structure, ownership, or local regulations that might limit solar installations). The State mandates 1.5% of electricity must be generated from solar by 2020; St. Louis Park could achieve this goal if solar were installed on the ten buildings with the greatest solar potential.

Figure 4-6. Example of Solar Potential and Community Goal.



Data from MN LoGoPEP Program.

If buildings undergo high levels of energy efficiency investment, the solar resource could meet a higher percentage of electric needs. The energy efficiency and solar resources are, in this analysis, calculated independently of each other.

Solar installations are not limited to rooftop applications. This analysis does not include ground-mount systems, but the city will want to develop criteria for where they would and would not allow solar installations. For instance, commercial parking lots or public right of ways may make good solar resources, while areas planned for future development or park space may not. These criteria can be used to recalculate potential solar generation and redefine future solar goals for local development.

Xcel Energy's Community Energy Report states that 11 businesses and 12 residences have solar installations. The business installation has a capacity of 253 kW, and the residential installations combine for 79 kW. In 2016, these residential installations reported a total 5,711 kWh of production.

The City of St. Louis Park is helping lead the way toward carbon neutrality with its own buildings. In 2017, solar arrays were installed on the Municipal Service Center and on Fire Station 2. Four city buildings are now 100 percent electrically powered by renewable energy—City Hall, the Police Station and both fire stations—through the Renewable Connect program offered by Xcel Energy.

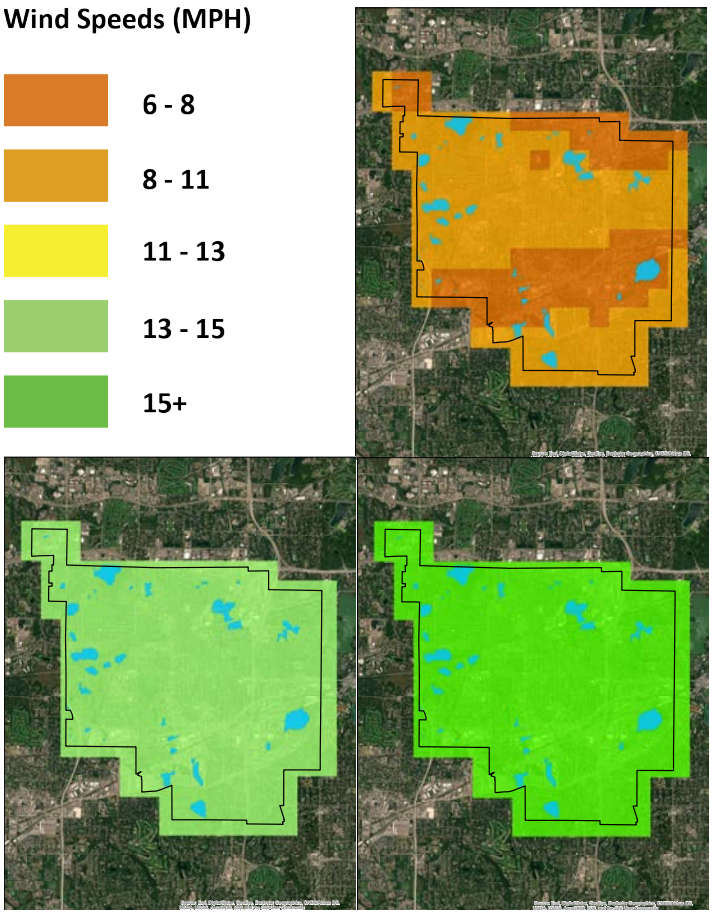
Wind Access

Wind direction and speed play an important role in the design of our community. Although much of the city is already laid out, redevelopment occasionally provides an opportunity to make modifications to better accommodate the wind. Windbreaks can reduce wind speed by up to 80 percent, dramatically improving conditions for people walking outdoors during the winter months. Design elements like windbreaks can also improve the energy efficiency of homes and commercial properties throughout the city.

St. Louis Park is a suburban community with some urban characteristics and varying suitability for towers above a certain height. The Minnesota Department of Commerce developed wind speed maps at a 500-meter resolution to give a general sense of the wind resource at various tower heights, these are not adequate for a specific site assessment (Figure 4-7).

A good rule of thumb is that 12 mph is typically the minimum average annual wind speed for a good wind resource. At 30 meters, much of St. Louis Park has an average wind speed of less than 11 miles per hour, below the optimal speed needed for a productive wind energy system, suggesting that taller towers would be necessary from a production standpoint. At 80 meters, wind speeds are between 13 and 15 mph, above the minimum windspeed recommendations. At 100 meters, wind speeds are up to 15 mph and higher. While there may be some opportunity to capture the resource at taller tower heights, it may not be feasible in St. Louis Park; the taller towers may run into resistance if residents do not agree that tall wind turbines fit the community's character.

Figure 4-7. Wind speeds at different tower heights: 30 meters, 80 meters, and 100 meters



Source: MN Department of Commerce

Residents and businesses also have the opportunity to participate in Xcel Energy's Windsource® or Renewable*Connect programs. These programs provide the clean energy benefit of having local wind (and solar) energy, although the economic benefits of clean energy development are realized elsewhere. According to Xcel Energy, five (5) businesses are subscribed to a total of 28,310 kWh of wind energy, 1,149 residences are subscribed to a total of 2,898,297 kWh of wind energy.

Where We Are Headed

St. Louis Park is committed to environmental stewardship and community sustainability.

Climate Action Plan Implementation

Implementation of the Climate Action Plan (CAP) has begun with the plan's recommended kick-start projects, which include the following:

- Youth-led initiative to increase energy efficiency and renewable energy in the community.
- Develop a Climate Action Plan resource hub.
- Install electric vehicle (EV) charging infrastructure in public parking lots.

The city will use the CAP's Appendix C, which outlines the implementation schedule for all of the CAP's 2030 goals and initiatives through 2040 as well as the 2040 advanced strategies. Implementation will include making changes to and/or adding the city's policies, ordinances, programs, practices, and communication methods.

GreenStep Cities

The city plans to continue to work towards achieving Steps 4 and 5 over the next few years. To achieve Step 4 status, the city is required to gather data or metrics for a minimum number of environmental elements in order to create a baseline by which the city can compare itself over time. Core elements include: Buildings & Lighting; Transportation Modes & Miles; Open Space, Parks & Trees; Stormwater; Waste Water; Renewable Energy; and Climate. Step 4 status requires measurement of these seven core elements along with five additional elements of the city's choice. St. Louis Park's participation in the Regional Indicators Initiative and LoGoPep and its completion of the Climate Action Plan provide a base of data for pursuing Step 4.

SolSmart

The city plans to participate in the SolSmart program, which is a national designation program recognizing cities, counties, and towns that foster the development of mature local solar markets by making it faster, easier and more affordable to go solar. Their national team of experts provides no-cost technical assistance to help local governments address solar barriers and become "open for solar business." In recognition of their achievements, communities receive designations of SolSmart Gold, Silver, and Bronze.

Living Streets Policy

To support neighborhood livability, the city believes that streets must be vital, healthy places. The city is working on a Living Streets Policy that will include building integrated public rights-of-way that will enhance the livability of the city's neighborhoods. The Living Streets Policy will inform decision-making throughout all phases of transportation projects. Some of the Living Streets principles include:

- Invest in neighborhood livability.
- Promote travel by walking or bicycling.
- Enhance the safety and security of streets.
- Improve the quality of stormwater runoff.
- Support the urban forest.
- Improve the aesthetics of streets

Community-Wide Sustainability Awareness and Understanding

Using the CAP Resource Hub as a foundation, the city is working to broaden and diversify its communications regarding community sustainability. Since the concept of sustainability encompasses such a broad range of community elements, topics, issues, and stakeholders, the city's approach to building community awareness and understanding will need to include a variety of communication methods.

Community-Wide Sustainability Plan

Using the CAP as a foundation, the city has a goal to develop a 2040 Sustainability Plan that addresses the broader elements of making a community sustainable. Sustainability encompasses the city's natural environment, built environment, transportation, utilities, economic conditions, education, public health, recreation and social systems. A sustainability plan could address resiliency and adaptation to potential changes and challenges in the future such as climate, changing energy resources, technology, and demographics.

Climate and Energy Goals and Strategies

1. **Pursue the 2040 Climate Action Plan (CAP) goals to reduce greenhouse gases that are either emitted within the city's boundary (Scope 1 emissions) or emitted indirectly though the purchase of electricity or other energy sources (Scope 2 emissions).**

Strategies

Pursue the 2040 Climate Action Plan (CAP) goals by carrying out the following strategies (partial list from CAP):

A. Develop a Climate Action Plan Resource Hub to provide people with information about energy efficiency and renewable energy.
B. Promote and support retrofitting existing buildings to increase energy efficiency.
C. Promote and support updating of building operations to use best management practices for increasing building energy efficiency.
D. Engage building occupants and homeowners in sustained behavior changes that increase energy efficiency.
E. Strengthen the city's Green Building Policy and expand the number of new and renovated buildings that are constructed to achieve the Green Building Policy standards.
F. Protect solar access in new developments to enable potential development of solar energy systems.
G. Encourage and incentivize community stakeholders to purchase solar power or other renewable purchasing options offered by utilities or developers or to install on-site solar energy systems.
H. Grow environment and sustainability awareness/ outreach for residents and businesses.
I. Reduce vehicle miles traveled (VMT) by encouraging residents and businesses to replace existing vehicles with more fuel-efficient models, including electric vehicles (EVs), and by expanding EV charging infrastructure.

2. **Pursue the 2040 Climate Action Plan (CAP) Advanced Strategies to reduce remaining greenhouse gases from natural gas use in buildings as well as emissions from both vehicle and air travel.**

Strategies

A. Explore opportunities for combined heat and power or using thermal energy grids as power supplies.
B. Encourage fuel switching from fossil fuels to renewable sources or buying carbon offsets.
C. Consider including Scope 3 emissions in future emissions inventories and plan revisions, such as emissions from travel by residents and employees occurring outside the city (vehicle and air travel), emissions from products brought into the city, emissions from the use of products sold in the city, emissions from third-party distribution and logistics, and others.

3. **Develop a 2040 Sustainability Plan that broadens the scope of the Climate Action Plan.**

Strategies

A. Conduct a sustainability assessment of the city's existing natural environment, built environment, economic and social systems' conditions, policies/ programs, and interconnections.
B. Establish the city's sustainability vision, guiding principles, and goals.
C. Identify key sustainability indicators and measures.
D. Create a sustainability plan as a stand-alone plan or integrated into the Comprehensive Plan that establishes sustainability policies/strategies and actions.