



The City That Soars!

REQUEST FOR PLANNING COMMISSION ACTION

Meeting Date	October 22, 2013
Agenda Item	1
Title	Ordinance amending the Falcon Heights zoning code to on solar installations
Submitted By	Deborah Jones, Staff Liaison

Description	An ordinance is proposed amending the City Code to make private solar energy installations a permitted accessory use and to establish zoning standards for solar installations.
Background	<p>Solar energy is one of the fastest growing industries in the United States. In the last twenty years the cost of solar power generation has dropped precipitously, falling 50% in the last two years alone. By 2016, solar power is projected be competitive with fossil fuel generated electricity. Homeowners are finding that solar installations on their homes are a smart investment with ever decreasing pay-back times and improved property values. (This information is from the Metropolitan Council's "Solar Powering Your Community Workshop," September 10, 2013)</p> <p>Falcon Heights should expect a growth in permit applications for household solar installations.</p> <p>Although the City code and the Comprehensive Plan address solar access as required by the State, the use is conditional in Falcon Heights - a significant barrier to adoption - and there are no guiding standards for setback, location, height, etc. The Minnesota Solar Energy Challenge provided grant-funded technical assistance in 2012-2013 to help cities modernize their solar energy ordinances. The City of Falcon Heights was able to take advantage of this assistance to construct the draft ordinance, presented here. The draft is based on a model ordinance provided by the program, adjusted by staff to fit conditions in Falcon Heights.</p> <p>The proposed ordinance eliminates the requirement for a Conditional Use Permit and makes solar energy a permitted accessory use in all zones. It provides comprehensive standards for height, setback, visibility, location and other zoning considerations, based on the "best practices" model recommended to Minnesota Cities by the Minnesota Solar Challenge.</p>
Budget Impact	None
Attachment(s)	<ul style="list-style-type: none"> • Proposed solar energy ordinance amending Chapter 113 • Introduction to the model ordinance - not included in the Falcon Heights draft, but it provides additional information. • Notice of the public hearing
Action(s) Requested	<ul style="list-style-type: none"> • Hold a public hearing on this matter and make a recommendation to the City Council

Existing Language in Section 113-393:

Sec. 113-393. Solar systems.

Access to sunlight for active and passive solar systems (for heating and cooling of buildings) shall be protected in accordance with applicable state statutes and regulations. All active solar systems proposed shall require a conditional use permit.

ORDINANCE NO. ____

CITY OF FALCON HEIGHTS
RAMSEY COUNTY, MINNESOTA

AN ORDINANCE AMENDING CHAPTER 113 OF THE
CITY CODE CONCERNING SOLAR ENERGY

THE CITY COUNCIL OF THE CITY OF FALCON HEIGHTS ORDAINS:

SECTION 1. Section 113-3 of the Falcon Heights City Code is amended by adding the following definitions:

Photovoltaic System means an active solar energy system that converts solar energy directly into electricity.

Renewable Energy Easement means an easement that limits the height or location, or both, of permissible development on the burdened land in terms of a structure or vegetation, or both, for the purpose of providing access for the benefited land to wind or sunlight passing over the burdened land.

Renewable Energy System means a solar energy or wind energy system. Passive systems that serve dual functions, such as greenhouses or windows, are not considered renewable energy systems.

Roof Pitch means the final exterior slope of a building roof typically but not exclusively expressed as a ratio of the distance, in inches, of vertical “rise” to the distance, in inches, of horizontal “run,” such as 3:12, 9:12, 12:12.

Solar Access means a view of the sun, from any point on the collector surface, that is not obscured by any vegetation, building, or object located on parcels of land other than the parcel upon which the solar collector is located, between the hours of 9:00 AM and 3:00 PM Standard time on any day of the year.

Solar Collector means a device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.

Solar Collector Surface means any part of a solar collector that absorbs solar energy for use in the collector’s energy transformation process. Collector surface does not include frames, supports and mounting hardware.

Solar Daylighting means a device specifically designed to capture and redirect the visible

portion of the solar spectrum, while controlling the infrared portion, for use in illuminating interior building spaces in lieu of artificial lighting.

Solar Energy means radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

Solar Energy Device means a system or series of mechanisms designed primarily to provide heating, to provide cooling, to produce electrical power, to produce mechanical power, to provide solar daylighting or to provide any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means. Such systems may also have the capability of storing such energy for future utilization. Passive solar systems shall clearly be designed as a solar energy device such as a trombe wall and not merely a part of a normal structure such as a window.

Solar Energy Easement See Renewable Energy Easement.

Solar Energy System means a device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generating, or water heating.

Solar Heat Exchanger means a component of a solar energy device that is used to transfer heat from one substance to another, either liquid or gas.

Solar Hot Water System means a system that includes a solar collector and a heat exchanger that heats or preheats water for building heating systems or other hot water needs, including residential domestic hot water and hot water for commercial processes.

Solar Mounting Devices means devices that allow the mounting of a solar collector onto a roof surface or the ground.

Solar Storage Unit means a component of a solar energy device that is used to store solar generated electricity or heat for later use.

Solar System, Active means a solar energy system that transforms solar energy into another form of energy or transfers heat from a collector to another medium using mechanical, electrical, or chemical means.

Solar System, Building-Integrated means an active solar system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include but are not limited to photovoltaic or hot water solar systems that are contained within roofing materials, windows, skylights, and awnings.

Solar System, Grid-Intertie means a photovoltaic solar system that is connected to an electric circuit served by an electric utility company.

Solar System, Off-Grid means a photovoltaic solar system in which the circuits energized by the solar system are not electrically connected in any way to electric circuits that are served by an electric utility company.

Solar System, Passive means a solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the energy via a heat exchanger.

SECTION 2. Chapter 113 of the Falcon Heights City Code is amended by adding section 113-254 to provide as follows:

(a) **Purpose and Scope.** The City of Falcon Heights has adopted this Section to meet the Comprehensive Plan goal of becoming a sustainable, energy efficient community and to preserve the health, safety and welfare of the community's citizens by promoting the safe, effective and efficient use of solar energy systems to reduce consumption of fossil fuels. This Section applies to all solar energy installations in the City of Falcon Heights.

(b) **Permitted Accessory Use** - Active solar energy systems are an accessory use in all zoning districts, subject to the following requirements:

1. **Height** - Active solar energy systems must meet the following height requirements:

a. Building- or roof- mounted solar energy systems shall not exceed the maximum allowed height in any zoning district. For purposes for height measurement, solar energy systems other than building-integrated systems shall be considered to be mechanical devices and are restricted consistent with other building-mounted mechanical devices.

b. Ground- or pole-mounted solar energy systems shall not exceed *[number of feet to be determined: 15 or 20]* feet in height when oriented at maximum tilt.

2. **Set-back** - Active solar energy systems must meet the accessory structure setback for the zoning district in which the system is located.

a. **Roof-mounted Solar energy systems** - In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure.

b. Ground-mounted Solar energy systems - Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at minimum design tilt.

3. Visibility - Active solar energy systems shall be designed to blend into the architecture of the building or be screened from routine view from public right-of-ways other than alleys. The color of the solar collector is not required to be consistent with other roofing materials.

a. Building Integrated Photovoltaic Systems - Building integrated photovoltaic solar energy systems shall be allowed regardless of whether the system is visible from the public right-of-way, provided the building component in which the system is integrated meets all required setbacks and regulations for the district in which the building is located.

b. Solar Energy Systems with Mounting Devices - Solar energy systems using roof mounting devices or ground-mount solar energy systems shall not be restricted if the system is not visible from the closest edge of any public right-of-way other than an alley. Roof-mount systems that are visible from the nearest edge of the street frontage right-of-way shall not have a highest finished pitch steeper than the roof pitch on which the system is mounted, and shall be no higher than twelve (12) inches above the roof.

c. Coverage - Roof or building mounted solar energy systems, excluding building-integrated systems, shall not cover more than 80% of the south-facing or flat roof upon which the panels are mounted. The surface area of pole or ground mount systems shall not exceed half the building footprint of the principal structure.

d. Lot Coverage – The surface area of pole of ground mount systems shall be treated as impervious coverage as regulated for each zoning classification. Allowed impervious coverage may be increased by up to 10% above maximum lot coverage for the zone provided 100% of the excess is accounted for by an approved solar ground or pole mounted solar energy system.

4. Approved Solar Components - Electric solar energy system components must have a UL listing and solar hot water systems must have an SRCC rating.

(c) Plan Approval Required - All solar energy systems shall require administrative approval by the Zoning and Planning Administrator.

1. Plan Applications - Plan applications for solar energy systems shall be accompanied by a site plan and by to-scale horizontal and vertical (elevation)

drawings. The drawings must show the location of the system on the building or on the property for a ground-mount system, including the property lines.

- 2. Pitched Roof Mounted Solar Energy Systems** - For all roof-mounted systems other than a flat roof the elevation must show the highest finished slope of the solar collector and the slope of the finished roof surface on which it is mounted.
- 3. Flat Roof Mounted Solar Energy Systems** - For flat roof applications a drawing shall be submitted showing the distance to the roof edge and any parapets on the building and shall identify the height of the building on the street frontage side, the shortest distance of the system from the street frontage edge of the building, and the highest finished height of the solar collector above the finished surface of the roof.
- 4. Compliance with Building Code** - All active solar energy systems shall require a building permit.
- 5. Compliance with State Electric Code** - All photovoltaic systems shall comply with the Minnesota State Electric Code.
- 6. Compliance with State Plumbing Code** - Solar thermal systems shall comply with applicable Minnesota State Plumbing Code requirements.
- 7. Utility Notification** - No grid-intertie photovoltaic system shall be installed until evidence has been given to the Planning and Zoning Department that the owner has submitted notification to the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement.
- 8. Plan Approvals** - Applications that meet the design requirements of this ordinance shall be granted administrative approval by the Zoning and Planning Administrator. Plan approval does not include Building, Electric, or Plumbing Code approval. If applicable, such approvals must also be obtained.

SECTION 3. Section 113-393 of the Falcon Heights City Code is amended to provide as follows:

Sec. 113-393. - Solar systems.

Access to sunlight for active and passive solar systems shall be protected in accordance with the City Code and all applicable state statutes and regulations.

ADOPTED this _____ day of _____, 2013, by the City Council of Falcon Heights, Minnesota.

CITY OF FALCON HEIGHTS

BY: _____
Peter Lindstrom, Mayor

ATTEST:

Justin Miller, City Administrator/Clerk

Solar Energy Standards: Introduction

Excerpt from: From Policy to Reality
Updated Model Ordinance for Sustainable Development
Minnesota Pollution Control Agency, 2012

In spite of its cold and dark reputation, Minnesota has good solar potential, as good as Houston, Texas and many parts of Florida. As solar energy system components have become more efficient and less costly an increasing number of solar energy installations have been installed in Minnesota. Since 2005, the interest in solar energy has rapidly increased such that many communities have had to address solar installations as a land use issue. Solar energy components continue to improve in efficiency and decline in price; the U.S. Department of Energy forecasts that solar energy will start to reach cost parity with retail electric costs by 2016.

But solar energy is much more than an alternative (or supplement) to utility power. Solar energy has become a symbol of energy self-sufficiency and environmental sustainability. The growth in solar installations is attributable more to the non-economic benefits than as an economic substitute for the electric utility. Households and businesses wanting to reduce their carbon footprint see solar energy as a strong complement to energy efficiency. Volatility in natural gas prices makes free solar fuel look attractive as a price hedge.

Solar energy issues

Local governments will need to address solar energy installations in their development regulation in the near future. Three primary issues tie solar energy to development regulations:

- 1) Climate protection goals. Local governments that have committed to meeting climate protection goals can meet some of their commitment by removing regulatory barriers to solar energy and incorporating low or no-cost incentives in development regulations to spur solar investment.
- 2) Nuisance and safety considerations. Solar energy systems have few nuisances, but visual impacts and safety concerns by neighbors sometimes create opposition to solar installations. Good design and attention to aesthetics can answer most concerns. But the misperception that solar energy systems are ugly and unsafe, rooted in poorly designed 1970s solar installations, have resulted in unnecessary regulation or outright prohibitions.
- 3) Solar access considerations. In fully built-out communities and large lot suburban or exurban areas, solar access is of limited concern. Solar access is, however, an important consideration in zoning districts that allow tall buildings or in developing communities where subdivisions should incorporate solar access provisions.

Components of a solar standards ordinance

Solar energy standards should consider the following elements:

- Remove regulatory barriers and create a clear regulatory path to approving solar energy systems.
- Limit aesthetic objections by setting reasonable design standards for solar energy in urban neighborhoods, historic districts, and new subdivisions.
- Address solar access issues in subdivisions and zoning districts that allow taller buildings on smaller (urban density) lots.
- Encourage solar-ready subdivision and building design.
- Incorporate regulatory incentives that can spur private-sector solar investment.

Urban and rural communities

The model ordinance language addresses concerns that are primarily in cities rather than counties or townships. Issues of solar access and nuisances associated with solar energy systems are generally of little consequence outside urban density areas, where lot sizes are almost always greater than one acre. Counties and townships can address most barriers by simply stating in their development regulations that solar energy systems are an allowed accessory use in all districts. Aesthetic issues or solar access issues might come into play in lakeshore areas or conservation development areas, where homes are closer together or protected trees might limit solar access. The incentive portion of the model ordinance can also be applied in rural areas. However, most of the language in this model ordinance is directed to situations seen in cities.

Primary and accessory uses

This ordinance addresses solar energy as an accessory use to the primary residential or commercial use in an urban area. Solar energy systems are also sometimes the primary use, on “solar farms” that are large arrays of hundreds or thousands of kilowatts of ground or pole-mounted systems, or in the case of solar thermal power plants, such as seen in the desert southwest. These land uses have different issues and need to be addressed in a substantially different manner than discussed in this model.

CITY OF FALCON HEIGHTS, MINNESOTA

PUBLIC HEARING NOTICE

NOTICE IS HEREBY GIVEN, that the Falcon Heights Planning Commission will meet on October 22, 2013 at approximately 7:00 p.m. at the Falcon Heights City Hall, 2077 Larpenteur Avenue West, Falcon Heights, Minnesota 55113, to consider amendments to Chapter 113, the zoning ordinance, of the Falcon Heights City Code concerning solar energy.

All persons who desire to speak on this issue are encouraged to attend and will be given an opportunity to be heard at this meeting. Additional information can be obtained by contacting the City of Falcon Heights at (651) 792-7600.

Dated: October 3, 2013.



Bart Fischer, City Administrator/Clerk
City of Falcon Heights, Minnesota