



STAFF MEMO

Lead Department and Contact: Community Development – Kari Theisen	Meeting Date: July 24, 2023	Agenda Item No. 07a
Agenda Section: Public Hearing	Goal Area: Livable City	Item: Solar Ordinance

PREVIOUS COUNCIL REVIEW OR ACTION:

- The City Council approved a 3-month solar garden moratorium on May 8, 2023
- The City Council reviewed and held the first Public Hearing for the Solar Garden Ordinance on June 12, 2023

BOARD/COMMISSION/COMMITTEE RECOMMENDATION:

- The Planning Commission recommended approval of a solar garden moratorium on May 1, 2023.
- The Planning Commission conducted a workshop on June 5, 2023, on the topic of the solar ordinance.
- The Planning Commission reviewed the drafted ordinance and recommended approval with the discussed staff modifications on July 11, 2023.

DEPARTMENTAL REVIEW AND IMPACTS:

Administration: None.

Finance: None.

Community Development: Implementation and enforcement of Ordinance Amendments.

Public Works: None.

Public Safety: None.

RECURRING REQUEST: Zoning Ordinances are amended from time to time to address changes in regulations and upon direction from City Staff, Planning Commission and Council.

PROPOSED BUDGET/FISCAL IMPACT: None. Potential future revenue from permitting, development related fees, and taxes (Solar Gardens over 1 MW are classified as a Public Utility).

OPPORTUNITY COST IF APPROVED: N/A

BACKGROUND:

The Solar Ordinance was reviewed by the Planning Commission at a public special meeting where the definitions, requirements, setbacks, and ultimately the goal of the ordinance was reviewed at length. From the special meeting a few topics were discussed which resulted in modifications to the drafted ordinance which include the following:

- Ground mounted Solar Energy Systems shall be limited to a maximum area consistent with accessory structure limitations or not more than 25% of the rear yard, whichever is less.
- Removal of side and front yard ground mounted Solar Energy Systems in all zoning districts; this was listed as a conditional use – no CUP applied for or issued for this.
- Solar Gardens shall be an Interim Use within all zoning districts
- The maximum total amount of Solar Gardens shall not exceed 10 MW within the City (currently have 3 MW solar Garden located off Pinecone)
- Solar Garden Setback requirements:
 - o 200-foot setback from residential dwellings, measured at the property line (not measured at

- where the Solar array is located on the property)
- 1/4-mile setback from Minor or Principal Arterial roadways (Pinecone, County Road 120, County Road 4, Riverside/County Road 1, County Road 133, County Road 29, Highway 10, and Highway 15)
- 100-foot setback from all other public roadways, trails and/or sidewalks
- 200-foot setback from public parks
- Public Hearing at Council again for review of the drafted ordinance with the modifications from the Planning Commission special meeting and staff modifications from the July 11, 2023, regular Planning Commission meeting.
 - The first Public Hearing was held on May 22, 2023.

The drafted ordinance was sent to the city attorney with the only recommended modification would be to remove "...up to 5 MW" in the Solar Garden definition to ensure that our definition would satisfy the recently modified state statute under Legacy Program Subdivision. The Legacy Program refers to community solar gardens approved prior to the January 1, 2024, deadline per state Statute.

Due to the time limits of the solar moratorium expiring on August 8, 2023, if there would not be a motion and 2nd for approval of the ordinance; staff would recommend extending the solar moratorium to ensure the ordinance meets the current and future plans and goals for the City. If there would not be a motion and 2nd to approve the Solar Ordinance and the moratorium was not extended, it would expire, and the Solar Ordinance would reflect what is currently in place.

COUNCIL ACTIONS REQUESTED: Open the Public Hearing. Motion and 2nd to approve the revised Solar Ordinance.

ATTACHMENTS: Ordinance Draft and supporting documents.

illuminated by electric lights or luminous tubes as a part of the sign.

SIGN, INSTITUTIONAL:

A sign or bulletin board which identifies the name and other characteristics of a public or private institution on the site where the sign is located.

SIGN, SURFACE
AREA OF:

The entire area within a single continuous perimeter enclosing the extreme limits of the actual sign surface, not including any structure elements outside the limits of such sign and not forming an integral part of the display.

SOLAR ENERGY SYSTEM:

A solar array composed of multiple solar panels that convert sunlight to electricity, which is directly connected to the energy needs for the principal, permitted use of the property.

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SOLAR GARDENS:

A solar array composed of multiple solar panels that convert sunlight to electricity, which is not directly connected to the energy needs for a principal, permitted use of the property.

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SPECIFIED
ANATOMICAL AREAS:

As used herein, specified anatomical areas means and includes any of the following:

- A. Less than completely and opaquely covered human genitals, pubic region, buttocks, anus or female breasts below a point immediately above the top of the areolae; or
- B. Human male genitals in a discernibly turgid state, even if completely and opaquely covered.

SPECIFIED SEXUAL
ACTIVITIES:

As used herein, specified sexual activities means and includes any of the following:

- A. The fondling or other erotic touching of human genitals, pubic region, buttocks, anus or female breasts;
- B. Sex acts, actual or simulated, including intercourse, oral copulation or sodomy;
- C. Masturbation, actual or simulated; or
- D. Excretory functions as part of or in connection with any of the activities set forth in subsections A through C of this definition.

SPORT COURT:

An outdoor facility that typically includes a paved playing surface for one or more sport activities such as, but not limited to, tennis, basketball, hockey, or volleyball.

STAND, ROADSIDE:

A structure used only for the display and sale of products with no space for customers within the structure.

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9. Other uses deemed similar to the above by the Zoning Administrator.

E. Prohibited Home Occupations: Permitted home occupations shall not include any of the following:

1. Any manufacturing business;
2. Any schools, excluding nursery schools, with organized classes of more than one pupil at a time;
3. Repair of internal combustion engines, body shops, machine shops, welding or other services that require equipment other than that normally found in dwellings;
4. Animal hospital or pet shops;
5. Clinics, hospitals or mortuaries;
6. Renting or painting of vehicles, trailers or boats;
7. Short term rental of a room or home for a period less than 30 days;
8. Dismantling, junk, scrap, or storage yards;
9. Taxidermy;
10. Services which consist of more than one pupil, client, or customer at a time.

10-8-17: GEOTHERMAL, SOLAR, AND WIND ENERGY CONVERSION SYSTEMS.

A. Geothermal system.

1. Permitted accessory use in all zoning districts on the condition it meets the requirements of this section and other provisions of the Code.
2. Coils and piping may not cross lot lines without recorded easement from the effected property.
3. Upon determination by the city that encroachment of coils and piping into drainage and utility easements does not interfere with the city's use of the easement, coils and piping may cross into drainage and utility easements with the city's written permission subject to conditions determined by the city.
4. Systems shall meet Minnesota Department of Health Standards (Minnesota Rules chapter 47-25, part 18.31 and part 70.50 (2009) and any amendments thereto).

B. Solar Energy Systems and Solar Gardens.

1. Solar Energy Systems.

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a. Shall be a permitted accessory use in all zoning districts, if on a building, both principal and accessory buildings, provided they do not create glare for neighboring properties, or the public right of way. All ground mounted Solar Energy Systems shall be located in the rear yard and subject to the following standards:

1. Ground mounted Solar Energy Systems shall be limited to a maximum area consistent with the accessory structure limitations or not more than 25% of the rear yard, whichever is less.

2. All Ground mounted Solar Energy Systems shall meet the standards of the Minnesota Building Code and the owner and/or contractor shall receive a building permit prior to installation of the Solar Energy System.

3. Solar Energy Systems are subject to screening requirements as defined in 10-12-4 to the extent possible without reducing their efficiency.

4. Shall not exceed 15 feet in height at maximum design tilt.

5. Shall not be used to display advertising unless requested by the Fire Marshal.

6. As requested by the City, energy production reports shall be provided.

2. Solar Gardens.

a. Shall be an Interim Use within all zoning districts and subject to the following standards:

1. Setbacks:

a. All Solar Gardens shall meet the building setback requirements for the specific zone in which the property is located within.

b. 200-foot setback from any existing structure at the time the Interim Use Permit is used; measured at the property line.

c. 1/4-mile setback from Minor and Principal Arterial roadways.

d. 100-foot setback from all other public roadways, trails, and/or sidewalks.

e. 200-foot setback from public parks.

2. Shall not exceed 15 feet in height at maximum design tilt.

3. Shall be designed and located in such a way as to utilize existing lowland/wetland areas that are otherwise non-buildable in their current condition, and to avoid agricultural and otherwise developable areas.

4. Solar Gardens are subject to screening requirements as defined in 10-12-4 to the extent possible without reducing their efficiency.

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Deleted: must be properly screened to include a densely planted landscape buffer that includes a combination of evergreen trees and shrubs. All solar energy systems must include screening to reduce glare that may affect adjacent property owners....

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b. Conditional use if in front or side yard and must be screened from adjacent lots pursuant to 10-12-4.

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5. Solar Gardens shall not be used for the display of advertising unless requested by the Fire Marshal.

6. All Solar Gardens shall be designed and located in order to prevent reflective glare toward inhabited buildings on adjacent properties and adjacent public roadways.

7. Solar Gardens shall include the establishment of ground cover meeting the beneficial habitat standards using native plant species and seed mixes consistent with the Department of Natural Resources and guidance as set by the Minnesota Board of Water and Soil Resources.

8. Power and communication lines running between banks of solar panels, electric substations or interconnections with buildings shall be buried underground. The City may grant exemptions to this requirement in instances where natural elements may interfere with the ability to bury lines.

9. As requested by the City, energy production reports shall be provided.

10. All Solar Gardens shall be in compliance with any applicable local, state, and federal regulatory standards.

11. All Interim Use Permit application for Solar Gardens shall include a site plan of existing conditions that include:

- a. Existing property lines and property lines extending one hundred (100) feet from the exterior boundaries, including the names of the adjacent property owners and current use of those properties;
- b. Existing public and private roads, showing widths of the roads and any associated easements;
- c. Existing buildings onsite;
- d. Topography at (2) foot intervals and source of contour interval. A contour map of surrounding properties may also be required;
- e. Existing vegetation (list type and percent of coverage: i.e., grassland, pasture, plowed field, wooded areas, etc.);
- f. Waterways, watercourses, lakes and public water and wetlands;
- g. Delineated wetland boundaries;
- h. The one hundred (100) - year flood elevation and Regulatory Flood Protection Elevation, floodway, flood fringe and/or general flood plain district boundary, if applicable;
- i. Drainage and grading plan;
- j. Location and spacing of solar panels;
- k. Planned location of underground or overhead electric lines connecting the Solar Garden to the building, substation or other electric load;
- l. Sketch elevation of the premises accurately depicting the proposed solar energy conversion system and its relationship to structures on adjacent lots (if any);
- m. Glare Study. Solar Projects utilizing a reflector system shall conduct a glare study (US Dept. of Energy's Solar Glare Hazard Analysis Tool) to identify the impacts of the system on occupied buildings and transportation rights-of-way within a half mile of the project boundary;

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n. A detailed landscaping plan;

o. Decommissioning Plan: A decommissioning plan shall be required for Solar Projects to ensure that facilities are properly removed after the expiration of the IUP, or, if earlier, after the useful life of solar panels and other facilities. Decommissioning of solar panels and related facilities must occur in the event the IUP expires or is terminated, and/or the solar panels are not in use for twelve (12) consecutive months. The plan shall include provisions for removal of all structures, foundations, equipment and power and communication lines, restoration of soil and vegetation to its pre-developed condition, and a financial guarantee ensuring that financial resources will be available to fully decommission the site. The City may require that the applicant provide a bond, letter of credit, escrow or other financial security in a form and amount set by the City, naming the City as obligee. In determining the financial security, the City shall require an inflationary escalator in determining the appropriate amount of security. If said decommissioning has not been completed within a six (6) month period after the IUP has expired or has been terminated and/or the solar panels are not in use for (12) twelve consecutive months, then the City shall provide written notice by certified mail to the landowner requiring that decommissioning be completed within thirty (30) calendar days of the receipt of said notice. If the decommissioning has not been completed within thirty (30) calendar days of the receipt of said notice, the City may either undertake the decommissioning and charge the landowner and/or facility owner and operator for all of the costs and expenses thereof, including reasonable attorney's fees, or take appropriate legal action to compel the decommissioning. All costs incurred by the City shall be billed to the landowner and if not paid within sixty (60) calendar days of billing, shall become a lien against the project or levied as an assessment against the property. In the event that the City chooses to undertake the decommissioning as stated above, the City shall have the right to draw on the bond, letter of credit, escrow or other financial security at its discretion.

11. For roof mounted Solar Garden installation, the site plan must include:

1. For all roof-mounted solar panels, other than solar panels installed on a flat roof, the site plan shall include:
 - a. The number of panels;
 - b. The highest finished slope of the solar panel and the slope of the finished roof surface on which it is mounted;
 - c. The shortest distance of the system from the street frontage edge of the residential building;
 - d. New electrical equipment other than at the existing building or substation that is the connection point for the solar farm;
 - e. Any proposed erosion and sediment control measures, if applicable;
 - f. Proposed stormwater management measures, as required, and
 - g. A sketch elevation of the premises accurately depicting the proposed solar energy conversion system and its relationship to structures on adjacent lots (if any).
2. For all roof-mounted solar panels mounted on a flat roof, applications of the site plan shall be submitted showing:
 - a. The number of panels;

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- b. The distance to the roof edge and any parapets on the residential building;
 - c. Shall identify the height of the residential building on the street frontage side;
 - d. The shortest distance of the system from the street frontage edge of the residential building;
 - e. The highest finished height of the solar panel above the finished surface of the roof;
 - f. New electrical equipment other than at the existing building or substation that is the connection point for the solar farm;
 - g. Any proposed erosion and sediment control measures, if applicable,
 - h. Proposed stormwater management measures, as required; and
 - i. A sketch elevation of the premises accurately depicting the proposed solar energy conversion system and its relationship to structures on adjacent lots (if any).
3. Ground mounted solar panels. For all ground mounted solar panels, the site plan must show:
- a. The number of panels;
 - b. The shortest distance of the system from the street frontage edge of the residential building;
 - c. New electrical equipment other than at the existing building or substation that is the connection point for the solar farm;
 - d. Any proposed erosion and sediment control measures, if applicable,
 - e. Proposed stormwater management measures, as required, and
 - f. A sketch elevation of the premises accurately depicting the proposed solar energy conversion system and its relationship to structures on adjacent lots (if any).

b. The maximum total amount of Solar Gardens shall not exceed 10MW within the City at any given time.

3. Requirements for all zoning districts.

a. Solar thermal piping shall match the roof or solar collector color.

b. Panels on buildings shall not hang over the edge of the roof.

C. Wind energy conversion systems.

1. Residential zoning districts.

a. Permitted accessory use for lots under two acres in size wind, energy conversion systems must be attached to a building.

b. Permitted accessory use on lots over two acres and under 20 acres in size wind energy conversion systems must be attached to a building or to a monopole in the rear yard that is under 45 feet in height.

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2. Residential zoning districts.¶
a. Permitted accessory use if on a building (both principal and accessory buildings) provided they do not create glare for neighboring properties or the public right of way Panels on buildings shall not hang over the edge of the roof.¶

¶
b. Conditional use if in a rear or side yard. Must be screened from adjacent lots pursuant to 10-12-4.¶

¶
c. Not permitted in front yard¶

¶
4. Business zoning districts.¶
a. Permitted accessory use if on a building, both principal and accessory buildings, provided they do not create glare for neighboring properties or the public right of way.¶

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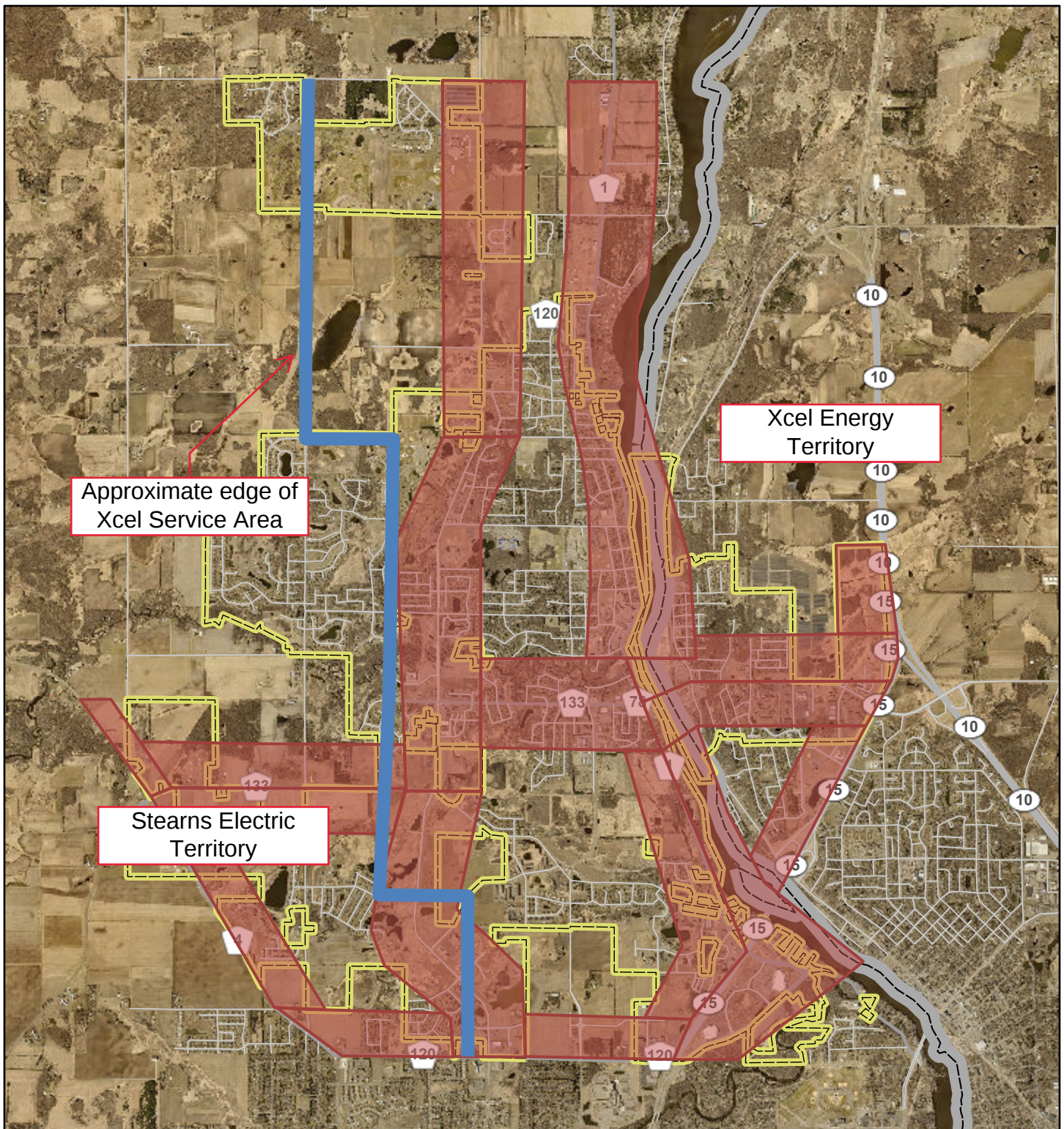
b. Solar Gardens 1-2 MW in Residential zones and 0-5 MW in Commercial and¶
Industrial zones are permitted by a conditional use permit and is subject to additional¶ screening requirements.

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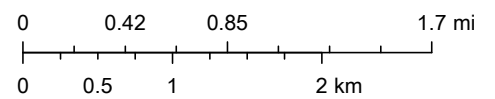
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1/4 Mile Setback



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Enterprise Energy
2925 Dean Parkway, Executive Suite 300
Minneapolis, MN 55416
(952) 212-0824

I'm Evan Carlson, the owner of Enterprise Energy. I'm the City's solar tenant and development partner for the Lagoon Wastewater Treatment site. Enterprise Energy is a small business and I'm the company's only employee. Prior to starting Enterprise Energy, I ran the real estate department for large solar development company, where I developed hundreds of large-scale ground mounted solar developments called "Community Solar" or "Shared Solar" developments. About nine months ago I ventured out on my own and started Enterprise.

As a small (and new) business owner I need to avoid risky projects. I'm particularly risk averse because I have a newborn at home and family that I need to provide for. However, solar developments require a lot of early-stage development costs, and as a new company I need to pay these costs from my personal savings.

To avoid risk, I intentionally focus on being a good communicator with City staff. I reach out to them early in the development process to gather feedback before I invest money in a project. This collaborate process allows me to select sites that satisfy the land use ordinance, are a good fit for the City, won't be controversial with surrounding property owners, and don't come as an unwanted surprise to Planning Commission or result in a moratorium or text amendment. In short, I want to pick sites that are winners, and sites that are winners are sites that the land use authority likes.

However, despite my early engagement of City staff, a moratorium on solar was enacted after I invested considerable resources in a project, including submitting a complete CUP application. I was not permitted to participate in the meeting at Planning Commission that resulted in the moratorium, and I've been told by staff that I won't be permitted to participate in the Joint Planning Committee either. This is particularly concerning since the moratorium was predicated on incorrect information. So I'm writing to you directly to correct things and provide valuable information about solar development.

First, I'm the only developer with a real project in the City; meaning that I have a lease, a site plan, and have engaged in meaningful discussion with City staff about obtaining permits. Other developers might have contacted the City to learn more about the land use code, but they haven't put in the work.

Second, there is no project on 27th street and there never was. I want to be a good development partner for the City, and I don't want to waste time and money on projects that aren't going anywhere. I've shown staff several potential development sites to gather feedback and screen out bad projects. One such site was on 27th street. Staff advised me that it would not be a good fit and would probably not result in a conditional use permit being granted. I value that feedback and I haven't pursued it since.



Enterprise Energy
2925 Dean Parkway, Executive Suite 300
Minneapolis, MN 55416
(952) 212-0824

It was stated at Planning Commission and City Council that the project on 27th street was the catalyst for discussion on enacting a moratorium and interim ordinance. I don't know why this was discussed as a potential development site since I've made it clear that I don't intend to pursue it, and staff has made it clear that it is unlikely to receive a CUP under the current ordinance.

The reality is that there are only two projects currently under development in the City. One lease is with the City itself and the other lease was brought to staff's attention a long time ago. Furthermore, I've confirmed with Xcel Energy's queue that I have the only complete interconnection application in the City or township.

Wetland Restoration Site: I've been working in close coordination with city staff on this project since mid 2022. Staff initially provided positive feedback and support for the project because 1) it's not visible to surrounding property owners, 2) it involves the restoration of farmed hydric soils to wetlands, creating new wetland wildlife habitat, and 3) the land is not suitable for any other type of development due to the presence of hydric soils. Solar is the highest best use of the property and highest tax benefit that the City can get from the property.

In reliance upon staff's positive feedback, I have invested about \$130,000 into this project to date, including engaging City engineering staff to design the project in a way that creates wetlands and improves soil quality. When staff informed me of the possibility of a potential moratorium, they said that they would recommend excluding this project from it, but only for this project and not another potential site. In reliance upon this information, I submitted a CUP application for this site only. However, staff ultimately did not make a recommendation for excluding this project. Now the CUP application is complete *and* the moratorium is in effect.

Lagoon Wastewater Treatment Site: I have a lease with the City to develop the Wastewater Treatment Site. The lease has an escalation provision. The longer it takes to break ground on this project the higher the rent amount is, so delays in development are frustrating. The site is wet, so a solution needs to be reached to either drain or fill part of the lagoon to facilitate the project. It might not be possible, and it will take a large investment on my part to figure it out. I'm looking forward to resuming these conversations with the City engineer once the moratorium is lifted.

Interim Ordinance: I'm asking you to reject the interim ordinance and engage in meaningful land use planning. First, an interim ordinance is unnecessary because a moratorium is in effect. Second, the Planning Commission requested a committee to address a new ordinance, not have staff draft one on their own. Third, the proposed interim ordinance is effectively a blanket ban of solar, including the Wetland Restoration Site and the Wastewater Treatment Sites that I've been working



Enterprise Energy
2925 Dean Parkway, Executive Suite 300
Minneapolis, MN 55416
(952) 212-0824

on. It does allow for solar on Industrial zoned properties, and although the Wastewater Treatment Facility is currently zoned Industrial, it is guided for Park, and therefore solar on that site would conflict with the comprehensive plan.

Land Use Planning (Location): Land use authorities typically prefer solar to be located in low density districts like Rural Residential and Agricultural since it's less visible there, since it generates more tax revenue without requiring infrastructure investment by the city or township, and since it does not interfere with city expansion.

Land use authorities often limit the duration of conditional use permits by imposing a durational condition or using an interim use permit. Also, it's not uncommon to see buffer setbacks from existing residences and certain roads. For example, a ¼ mile setback from existing homes, Pine Cone Road, and Riverside Ave would eliminate visibility and restrict development to one part of the Township. A map of what this would look like is attached. The circles are ¼ mile radiuses from homes. The dark gray bars are ¼ mile buffers from Pine Cone and Riverview. In addition to meeting the Zoning Code, community solar gardens must also be located in Xcel Energy's service territory, which is indicated in gray. They must also be near a distribution level power line that has the capacity to handle the power produced by the solar array. The blue line an Xcel's distribution line called GRC312, which has a capacity of 27.5 MW of solar (220 Acres). Xcel's other distribution lines are not near land that meet the above-mentioned land use criteria. A map of Xcel's distribution lines is available.

The area in yellow is not Encompassed Land as defined by the Orderly Annexation Agreement. It's at least ¼ mile from all existing homes. It's at least 1.4 mile from the major road corridors. It's in Xcel territory, and it's close to a distribution level Xcel line that can hold 27.5 MW of solar, which could be an enormous source of unused tax revenue for the township.

A variance might be appropriate on the Wastewater Treatment Site or landfill since that land might not be suitable for any other type of use, and although it is within ¼ mile of surrounding residences, solar wouldn't be visible there.

Land Use Planning (Tax Revenue): The city and township should account for solar in their long-term land use planning process because farmland generates way more tax revenue when it has solar on it. Also, solar is a temporary use, meaning that it can be used to generate additional tax revenue on farmland now, and still be developed in 25-35 years when the City is ready to expand into the area. Solar installations typically only have a planned life of 25-35 years, so this wouldn't be problematic for the solar development.



Enterprise Energy
2925 Dean Parkway, Executive Suite 300
Minneapolis, MN 55416
(952) 212-0824

Tax Revenue: Solar developments pay taxes in three different ways: 1) Property Taxes, 2) Solar Production Tax, 3) Developer Contributions such as Payment in Lieu of Taxes, beautification fees, or other fees. Below are estimates of total tax revenue over 35 years from these three sources as a factor of different parcel sizes devoted to solar.

220 Acres for 35 Years (Max Capacity of Power Line)	\$9,113,745.61
80 Acres for 35 Years	\$2,954,089.31
20 Acres for 35 Years	\$705,417.73

Property Taxes: Adding solar to a property changes the tax *usage* classification of the property. It does not change the zoning classification or property valuation. However, there is an enormous increase in tax revenue from changing use from Agricultural to Commercial. Below are some examples of revenue increases that are based on data from the County assessor. They do not take into account additional tax revenue that would be realized by virtue of annexation into the City.

Property Tax Revenue			
Tax Value Annual Escalation	3.00%		
	20 Acre (2MW)	80 Acre (10MW)	220 Acres (27.5MW) Full Line Capacity
Parcel Tax ID Number	17.09018.0004 92.57044.0342	17.08950.0000	TBD
Year 1 Current Taxes (Ag Use)	\$1,614.00	\$1,694.00	\$4,658.50
Year 1 Revised Taxes (With Solar) (Commercial Use)	\$6,500.00	\$25,909.00	\$71,249.75
Year 1 Increase	\$4,886.00	\$24,215.00	\$66,591.25
1	\$4,886.00	\$24,215.00	\$66,591.25
2	\$5,032.58	\$24,941.45	\$68,588.99
3	\$5,183.56	\$25,689.69	\$70,646.66



Enterprise Energy
2925 Dean Parkway, Executive Suite 300
Minneapolis, MN 55416
(952) 212-0824

4	\$5,339.06	\$26,460.38	\$72,766.06
5	\$5,499.24	\$27,254.20	\$74,949.04
6	\$5,664.21	\$28,071.82	\$77,197.51
7	\$5,834.14	\$28,913.98	\$79,513.43
8	\$6,009.16	\$29,781.40	\$81,898.84
9	\$6,189.44	\$30,674.84	\$84,355.80
10	\$6,375.12	\$31,595.08	\$86,886.48
11	\$6,566.38	\$32,542.94	\$89,493.07
12	\$6,763.37	\$33,519.22	\$92,177.86
13	\$6,966.27	\$34,524.80	\$94,943.20
14	\$7,175.26	\$35,560.54	\$97,791.50
15	\$7,390.51	\$36,627.36	\$100,725.24
16	\$7,612.23	\$37,726.18	\$103,747.00
17	\$7,840.60	\$38,857.97	\$106,859.41
18	\$8,075.81	\$40,023.71	\$110,065.19
19	\$8,318.09	\$41,224.42	\$113,367.15
20	\$8,567.63	\$42,461.15	\$116,768.16
21	\$8,824.66	\$43,734.98	\$120,271.20
22	\$9,089.40	\$45,047.03	\$123,879.34
23	\$9,362.08	\$46,398.44	\$127,595.72
24	\$9,642.94	\$47,790.40	\$131,423.59
25	\$9,932.23	\$49,224.11	\$135,366.30
26	\$10,230.20	\$50,700.83	\$139,427.29
27	\$10,537.10	\$52,221.86	\$143,610.11
28	\$10,853.22	\$53,788.51	\$147,918.41
29	\$11,178.81	\$55,402.17	\$152,355.96
30	\$11,514.18	\$57,064.23	\$156,926.64
31	\$11,859.60	\$58,776.16	\$161,634.44
32	\$12,215.39	\$60,539.45	\$166,483.48



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33	\$12,581.85	\$62,355.63	\$171,477.98
34	\$12,959.31	\$64,226.30	\$176,622.32
35	\$13,348.09	\$66,153.09	\$181,920.99
Sum	\$295,417.73	\$1,464,089.31	\$4,026,245.61
Green Acres Buyout	\$6,500.00	\$25,000.00	TBD

Solar Production Tax: Solar developments larger than 1MW AC in size pay a special type of tax called a Solar Production Tax. The tax equals \$1.20 per Megawatt Hour produced by the development. A 1MW Solar Array can produce about 2,500 MWH of solar per year. The following table does not include potential annual escalation in Production Tax.

Production Tax			
Production Tax \$ / MWH	\$1.20		
	20 Acres (2MW)	80 Acre (10MW)	220 Acres (27.5MW) Full Line Capacity
	17.09018.0004 92.57044.0342	17.08950.0000	TBD
Production MWH / Year https://pvwatts.nrel.gov/pvwatts.php	5,000.00	25,000.00	68,750
Annual Production Tax	\$6,000.00	\$30,000.00	\$82,500.00
35 Year Production Tax	\$210,000.00	\$690,000.00	\$2,887,500.00

Developer Contributions: In other jurisdictions that I've worked in, developers have volunteered or been required to contribute some sort of additional fee at groundbreaking of the project. These developments are potentially very profitable, so a developer may be able to pay around \$10,000 per acre. This fee often bypasses the County and goes directly to the City or Township.

Developer Y1 Contribution (PILOT or Similar)		
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\$10,000/acre		
20 Acres (2MW)	80 Acre (10MW)	220 Acres (27.5MW) Full Line Capacity
\$200,000	\$800,000	\$2,200,000

The City could enjoy the tax revenue from solar on undeveloped farmland while growing into an area that isn't going to be developed in the next 35 years, and even if it were developable, the amount of tax revenue generated by solar is enormous, especially when considering that it has zero infrastructure cost to the City. It's a profitable way to temporarily hold future development land. When the area is ready for development, the owner of the land underneath a solar array will be eager to realize a higher land value by developing the land into other uses.

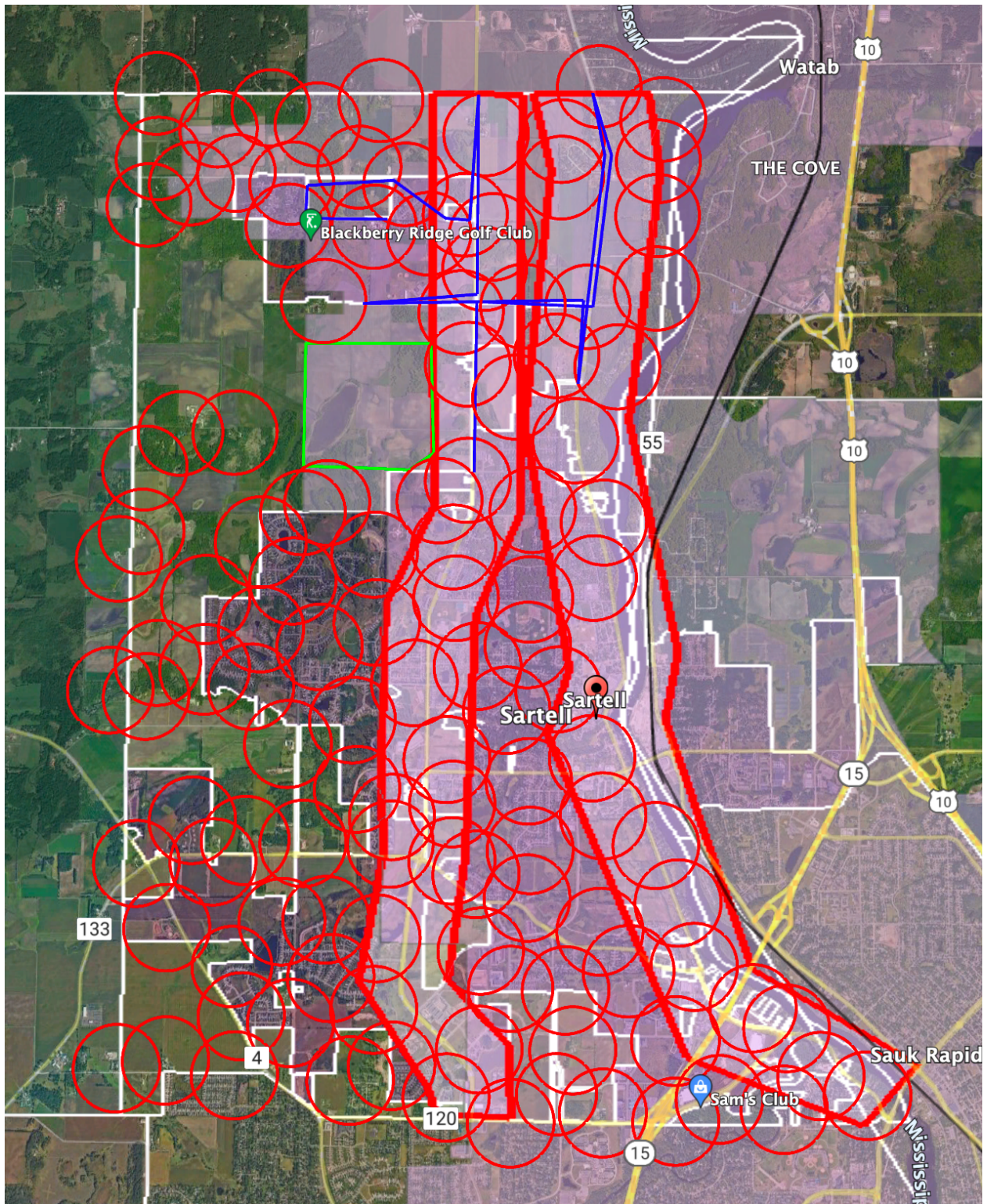
I've been informed that stakeholders such as myself will not have an opportunity to participate in the Joint Committee, However I'd like to offer to help again. I've participated in several advisory committees on moratoriums before, and I've been told that my presence has been helpful. Regardless, thank you for the opportunity to clarify the above-mentioned items.

- Evan Carlson



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Minneapolis, MN 55416
(952) 212-0824





City of Sartell/ US Solar Residential Sunscription Partnership

US Solar Residential Community Solar Sunscription

Help your residents save money on their electricity bills, your community support local renewable energy projects, support a local non-profit organization and help your town establish or meet sustainability goals. Partnering with US Solar allows all of these to be accomplished at the same time. We want to make it as easy as possible.

What's in it for residents?

- * Easy to use customized partnership sign-up link.
- * US Solar will offer virtual and/or in-person education/enrollment event options
- * No upfront costs to join
- * Guaranteed savings rate on bill credit rate
- * \$100 sign-up bonus (Sunscription account credit)
- * No panels on their roof/property
- * Direct impact on reduction of use of fossil fuels by switching to locally produced clean energy
- * Support local solar projects

What's in it for the Town?

- * A partner that will handle all the details
- * No financial requirement from the city
- * Support local non-profit organization through US Solar donation- decided on by the city
- * Reporting on aggregated residential carbon impact
- * Customized partner marketing materials to promote the program
- * US Solar participation in local events promoting the partnership/program

US Solar builds and maintains the solar gardens, customizes the sign-up process, provides exclusive benefits and manages your resident's accounts. Residents simply need to subscribe.

EFFECTIVE DATE. This section is effective the day following final enactment.

Sec. 14. Minnesota Statutes 2022, section 216B.1641, is amended to read:

216B.1641 COMMUNITY SOLAR GARDEN.

Subdivision 1. Legacy program. (a) The public utility subject to section 116C.779 shall file by September 30, 2013, a plan with the commission to operate a community solar garden program which shall begin operations within 90 days after commission approval of the plan. Other public utilities may file an application at their election. The community solar garden program must be designed to offset the energy use of not less than five subscribers in each community solar garden facility of which no single subscriber has more than a 40 percent interest. The owner of the community solar garden may be a public utility or any other entity or organization that contracts to sell the output from the community solar garden to the utility under section 216B.164. There shall be no limitation on the number or cumulative generating capacity of community solar garden facilities other than the limitations imposed under section 216B.164, subdivision 4c, or other limitations provided in law or regulations.

(b) A solar garden is a facility that generates electricity by means of a ground-mounted or roof-mounted solar photovoltaic device whereby subscribers receive a bill credit for the electricity generated in proportion to the size of their subscription. The solar garden must have a nameplate capacity of no more than one megawatt. Each subscription shall be sized to represent at least 200 watts of the community solar garden's generating capacity and to supply, when combined with other distributed generation resources serving the premises, no more than 120 percent of the average annual consumption of electricity by each subscriber at the premises to which the subscription is attributed.

(c) The solar generation facility must be located in the service territory of the public utility filing the plan. Subscribers must be retail customers of the public utility located in the same county or a county contiguous to where the facility is located.

(d) The public utility must purchase from the community solar garden all energy generated by the solar garden. The purchase shall be at the rate calculated under section 216B.164, subdivision 10, or, until that rate for the public utility has been approved by the commission, the applicable retail rate. A solar garden is eligible for any incentive programs offered under section 116C.7792. A subscriber's portion of the purchase shall be provided by a credit on the subscriber's bill.

(e) The commission may approve, disapprove, or modify a community solar garden program. Any plan approved by the commission must:

339.1 (1) reasonably allow for the creation, financing, and accessibility of community solar
339.2 gardens;

339.3 (2) establish uniform standards, fees, and processes for the interconnection of community
339.4 solar garden facilities that allow the utility to recover reasonable interconnection costs for
339.5 each community solar garden;

339.6 (3) not apply different requirements to utility and nonutility community solar garden
339.7 facilities;

339.8 (4) be consistent with the public interest;

339.9 (5) identify the information that must be provided to potential subscribers to ensure fair
339.10 disclosure of future costs and benefits of subscriptions;

339.11 (6) include a program implementation schedule;

339.12 (7) identify all proposed rules, fees, and charges; and

339.13 (8) identify the means by which the program will be promoted.

339.14 (f) Notwithstanding any other law, neither the manager of nor the subscribers to a
339.15 community solar garden facility shall be considered a utility solely as a result of their
339.16 participation in the community solar garden facility.

339.17 (g) Within 180 days of commission approval of a plan under this section, a utility shall
339.18 begin crediting subscriber accounts for each community solar garden facility in its service
339.19 territory, and shall file with the commissioner of commerce a description of its crediting
339.20 system.

339.21 (h) For the purposes of this section, the following terms have the meanings given:

339.22 (1) "subscriber" means a retail customer of a utility who owns one or more subscriptions
339.23 of a community solar garden facility interconnected with that utility; and

339.24 (2) "subscription" means a contract between a subscriber and the owner of a solar garden.

339.25 (i) This subdivision applies to a community solar garden that was approved before
339.26 January 1, 2024.

339.27 Subd. 2. Definitions. (a) For purposes of subdivisions 3 to 14, the following terms have
339.28 the meanings given.

339.29 (b) "Backup subscriber" means an individual or entity that temporarily assumes all or a
339.30 portion of a community solar garden subscription in the event a subscriber exits the
339.31 community solar garden or is delinquent in paying the subscriber's utility bill.

340.1 (c) "Community solar garden" means a facility (1) that generates electricity by means
 340.2 of a ground-mounted or roof-mounted solar photovoltaic device, (2) that is owned and
 340.3 operated by a subscriber organization, and (3) for which subscribers receive a bill credit for
 340.4 the electricity generated in proportion to the size of the subscriber's subscription.

340.5 (d) "Low- to moderate-income subscriber" or "LMI subscriber" means a subscriber that,
 340.6 at the time the community solar garden subscription is executed, is: (1) a low-income
 340.7 household, as defined under section 216B.2402, subdivision 16; or (2) a household whose
 340.8 income is 150 percent or less of the area median household income.

340.9 (e) "Public interest subscriber" means a subscriber that demonstrates status as a public
 340.10 or Tribal entity, school, nonprofit organization, house of worship, or social service provider.

340.11 (f) "Subscribed energy" means electricity generated by the community solar garden that
 340.12 is attributable to a subscriber's subscription.

340.13 (g) "Subscriber" means a retail customer who owns one or more subscriptions of a
 340.14 community solar garden interconnected with the retail customer's utility.

340.15 (h) "Subscriber organization" means a developer or owner of a community solar garden.

340.16 (i) "Subscription" means a contract between a subscriber and subscriber organization.

340.17 (j) "Utility" means the public utility subject to section 116C.779.

340.18 Subd. 3. **Applicability; scope; limitation.** (a) Subdivisions 2 to 13 apply to community
 340.19 solar gardens approved for the program beginning January 1, 2024.

340.20 (b) Except as otherwise modified, replaced, or superseded by subdivisions 2 to 13, any
 340.21 commission order that applies to the legacy program under subdivision 1 applies to
 340.22 subdivisions 2 to 13.

340.23 (c) Notwithstanding any other law, a subscriber organization or a subscriber must not
 340.24 be deemed a utility solely as a result of the subscriber organization's or subscriber's
 340.25 participation in a community solar garden.

340.26 Subd. 4. **Community solar garden program administration.** (a) The commissioner
 340.27 must administer the community garden program. The commissioner must:

340.28 (1) collect and evaluate community solar garden applications from subscriber
 340.29 organizations;

340.30 (2) audit or verify that project eligibility criteria have been met, as necessary;

341.1 (3) pursuant to subdivision 7, allocate community solar garden capacity to approved
 341.2 community solar gardens, subject to the annual capacity limit;

341.3 (4) develop procedures to carry out the duties under this section, including establishing
 341.4 procedures and a timeline to allocate community solar garden capacity under subdivision
 341.5 7; and

341.6 (5) enforce the consumer protections under subdivisions 9 to 11.

341.7 (b) The commissioner is authorized to access information regarding a subscriber's net
 341.8 electricity bill savings or any charges that the subscriber pays.

341.9 Subd. 5. **Application; registration.** (a) A subscriber organization must submit an
 341.10 application to the commissioner, on a form prescribed by the commissioner, to receive
 341.11 approval for a proposed community solar garden project.

341.12 (b) A community solar garden application must contain, at a minimum:

341.13 (1) a copy of a signed interconnection agreement between the subscriber organization
 341.14 and the utility, except that information that the subscriber organization cannot reasonably
 341.15 determine without approval of the proposed community solar garden is not required;

341.16 (2) a copy of any required nonministerial permits that have been approved by the local
 341.17 authority that has jurisdiction over the project;

341.18 (3) a copy of the community solar garden's subscription contract, including: (i) the
 341.19 information provided to potential subscribers that discloses future costs and benefits of
 341.20 subscriptions; and (ii) any rules, fees, and charges;

341.21 (4) information regarding the community solar garden's program design with respect to
 341.22 potential subscribers, itemized by subscriber type;

341.23 (5) proof of legally binding site control of the community solar garden's proposed
 341.24 location;

341.25 (6) any information necessary for the commissioner to allocate annual community solar
 341.26 garden program capacity under subdivision 7, paragraph (b); and

341.27 (7) any other information the commissioner deems necessary to administer the community
 341.28 solar garden program.

341.29 (c) The commissioner must approve a community solar garden that submits the
 341.30 information required under paragraph (b), unless the total annual capacity threshold has
 341.31 been met or the commissioner determines approving the community solar garden is not in
 341.32 the public interest. An application that is deemed in the public interest, but not allocated

342.1 capacity in a particular program year, must be held in queue for the program year and
 342.2 allocated capacity if any capacity becomes available during the program year.

342.3 **Subd. 6. Eligible project; other requirements.** (a) In order to be eligible for
 342.4 compensation under subdivision 8, a community solar garden must: (1) be connected to the
 342.5 utility's distribution system; (2) have a capacity, as defined under section 216B.164,
 342.6 subdivision 2a, paragraph (c), of no more than five megawatts; and (3) have at least 25
 342.7 individual subscribers per megawatt of generation capacity, provided that a single subscriber
 342.8 does not possess more than a 40 percent interest in the community solar garden's total
 342.9 capacity.

342.10 (b) A community solar garden subscriber must be located within the Minnesota service
 342.11 territory of the utility.

342.12 (c) A contractor or subcontractor that constructs or installs a community solar garden
 342.13 that has a capacity of at least 1 megawatt: (1) must pay no less than the prevailing wage
 342.14 rate, as defined in section 177.42; and (2) is subject to the requirements and enforcement
 342.15 provisions under sections 177.27, 177.30, 177.32, 177.41 to 177.435, and 177.45.

342.16 **Subd. 7. Annual capacity limit; allocation.** (a) Each program year the commissioner
 342.17 must allocate the community solar garden program's annual new capacity to eligible
 342.18 community solar gardens. The maximum cumulative annual capacity of new community
 342.19 solar gardens approved each program year under this subdivision is:

342.20 (1) 100 megawatts in 2024, 2025, and 2026;

342.21 (2) 80 megawatts in 2027, 2028, 2029, and 2030; and

342.22 (3) 60 megawatts in 2031 and each year thereafter.

342.23 (b) When allocating capacity to eligible community solar gardens, the commissioner
 342.24 must evaluate and prioritize capacity allocation to community solar garden applicants based
 342.25 on information provided in the community solar garden application regarding:

342.26 (1) the degree to which subscribers, utility ratepayers, or the community surrounding
 342.27 the project receive the financial benefit of tax benefits and other incentives resulting from
 342.28 the community solar garden;

342.29 (2) the scale of financial benefits the community solar garden delivers to LMI subscribers,
 342.30 affordable housing residents, and public interest subscribers, as well as the number of, and
 342.31 project capacity attributable to, LMI subscribers, affordable housing residents, and public
 342.32 interest subscribers;

343.1 (3) community solar garden project ownership and financing arrangements that deliver
 343.2 benefits to public, nonprofit, cooperative, and Tribal entities;

343.3 (4) whether the community solar garden uses nongreenfield locations, especially rooftops,
 343.4 carports, or sites that contain a hazardous substance, pollutant, or contaminant;

343.5 (5) whether the community solar garden provides workforce development and
 343.6 apprenticeship opportunities, especially for workers who are Black, Indigenous, or Persons
 343.7 of Color; and

343.8 (6) the resiliency benefits the community solar garden provides to the electrical grid or
 343.9 the local community.

343.10 (c) The commissioner may allocate capacity to a community solar garden under this
 343.11 subdivision only if the application includes a subscription plan that ensures:

343.12 (1) at least 30 percent of the community solar garden's capacity is subscribed to by LMI
 343.13 subscribers; and

343.14 (2) at least 55 percent of the community solar garden's capacity is subscribed to by
 343.15 subscribers that are:

343.16 (i) LMI subscribers;

343.17 (ii) public interest subscribers; or

343.18 (iii) an affordable housing provider, as determined by the commissioner.

343.19 (d) A backup subscriber may subscribe to and receive bill credits for up to 15 percent
 343.20 of a community solar garden's annual capacity. In the event a community solar garden
 343.21 subscriber exits the community solar garden or is delinquent on the subscriber's utility bill,
 343.22 the backup subscriber may be automatically subscribed to up to 40 percent of the community
 343.23 solar garden's capacity for up to one year at the rates provided under subdivision 8, paragraph
 343.24 (b), clause (7).

343.25 Subd. 8. **Community solar garden compensation.** (a) A utility must purchase electricity
 343.26 generated by a community solar garden approved for a period of 25 years from the date the
 343.27 community solar garden begins operations. A utility must compensate a community solar
 343.28 garden using a bill credit on each individual subscriber's bill, in an amount proportional to
 343.29 the subscriber's share in the community solar garden.

343.30 (b) Beginning January 1, 2024, the utility must purchase energy generated by a
 343.31 community solar garden at the following rates provided for each subscriber type, as
 343.32 determined by the commission:

- 344.1 (1) for a LMI subscriber, the average retail rate for residential customers;
- 344.2 (2) for a residential subscriber that is not a LMI subscriber, 85 percent of the average
 344.3 retail rate for the applicable residential class customers;
- 344.4 (3) for master-metered affordable housing, 80 percent of the average retail rate for
 344.5 residential customers;
- 344.6 (4) for a public interest subscriber that is a small general commercial customer, 75
 344.7 percent of the average retail rate for the customer's rate class;
- 344.8 (5) for a public interest subscriber that is a general service commercial customer, 100
 344.9 percent of the average retail rate for the customer's rate class;
- 344.10 (6) for other commercial subscribers, 70 percent of the average retail rate for the
 344.11 customer's rate class;
- 344.12 (7) for a community solar garden with at least 50 percent total capacity subscribed to
 344.13 by LMI subscribers:
- 344.14 (i) up to one backup subscriber may receive 90 percent of the average retail rate for the
 344.15 regular commercial subscriber's customer class, plus additional compensation for demand
 344.16 charges based on 50 percent of the comparable photovoltaic demand credit rider; and
- 344.17 (ii) a backup subscriber that subscribes to more than 15 percent of a community solar
 344.18 garden's total capacity for more than 12 consecutive months, the rate provided for other
 344.19 commercial subscribers under clause (6); and
- 344.20 (8) for unsubscribed energy generated that is credited to the subscriber organization, the
 344.21 utility's avoided cost.

344.22 **Subd. 9. Subscriber organizations; prohibitions; requirements. (a) A subscriber**
 344.23 **organization and a subscriber organization's marketing representatives are prohibited from,**
 344.24 **with respect to a community solar garden:**

- 344.25 (1) checking the credit score or credit history of a new or existing residential subscriber;
- 344.26 (2) charging an exit fee to a residential subscriber;
- 344.27 (3) enrolling a subscriber without the subscriber's prior, voluntary consent;
- 344.28 (4) engaging in misleading or deceptive conduct; and
- 344.29 (5) making false or misleading representations.
- 344.30 (b) A subscriber organization must preserve the privacy of subscribers. Except as
 344.31 otherwise authorized under subdivision 4, paragraph (b), a subscriber organization must

345.1 not publicly disclose a subscriber's account information, energy usage, energy data, or bill
 345.2 credits, unless (1) the subscriber provides express, written, informed consent that authorizes
 345.3 disclosure of the subscriber's information, or (2) the subscription contract otherwise
 345.4 authorizes disclosure of the information.

345.5 (c) A subscriber organization and a subscriber organization's marketing representatives
 345.6 must make reasonable efforts to provide subscribers with timely and accurate information
 345.7 regarding the community solar garden. The information must be provided in writing and in
 345.8 plain language, and must include but is not limited to information regarding rates, contract
 345.9 terms, termination fees, and the right to cancel a community solar garden subscription.

345.10 (d) Beginning one year after a community solar garden begins operations and annually
 345.11 thereafter, a subscriber organization must publish a signed and notarized report that details
 345.12 the community solar garden's operations for the previous 12-month period. The report must
 345.13 contain, at a minimum: (1) the energy produced by the community solar garden; (2) financial
 345.14 statements, including a balance sheet, income statement, and a sources and uses of funds
 345.15 statement; and (3) a list of the individuals that currently own and manage the subscriber
 345.16 organization. The report under this paragraph must be provided to the commissioner, on a
 345.17 form prescribed by the commissioner, and to each of the community solar garden's
 345.18 subscribers.

345.19 (e) A subscriber organization must annually publish a signed and notarized report that
 345.20 details the community solar garden's capacity allocated to relevant subscriber categories,
 345.21 including but not limited to: (1) LMI subscribers; (2) other residential subscribers; (3)
 345.22 affordable housing providers; (4) public interest subscribers, by type; (5) small subscriptions
 345.23 of up to 25 kilowatts; and (6) other subscribers, by type.

345.24 Subd. 10. **Subscriber protections.** (a) A community solar garden subscription is
 345.25 transferable and portable, but only within the utility's Minnesota service territory.

345.26 (b) The cost of a subscriber's community solar garden subscription must not exceed the
 345.27 value of the subscriber's community solar garden bill credit. For a LMI subscriber, the cost
 345.28 of the community solar garden subscription must not exceed 90 percent of the LMI
 345.29 subscriber's community solar garden bill credit and must not include any fees at the time
 345.30 the subscription is executed.

345.31 (c) A utility must offer consolidated billing for community solar garden subscribers so
 345.32 that a subscriber receives only one bill for both the subscribers's monthly electric service
 345.33 and the community solar garden subscription. A utility must offer consolidated billing under
 345.34 this paragraph for community solar garden subscribers no later than January 1, 2024. The

346.1 commission may modify the date required by this paragraph if the utility demonstrates to
 346.2 the commission that implementing consolidated billing by January 1, 2024, is unreasonably
 346.3 burdensome. A subscriber may elect, but is not required, to use consolidated billing under
 346.4 this paragraph.

346.5 (d) A subscriber must be provided an opportunity to submit comments to the subscriber
 346.6 organization regarding the annual report submitted under subdivision 9, paragraph (d),
 346.7 regarding the accuracy and completeness of the report.

346.8 **Subd. 11. Nonsubscriber protections.** (a) A utility must exclude from the fuel adjustment
 346.9 charged to a utility customer the net cost of community solar garden generation under this
 346.10 section if the utility customer (1) receives or is eligible for bill payment assistance, and (2)
 346.11 does not subscribe to a community solar garden under this section.

346.12 (b) The commission must determine the net cost of community solar garden generation
 346.13 under this section for purposes of paragraph (a).

346.14 **Subd. 12. Noncompliance.** A community solar garden that has begun commercial
 346.15 operation must notify the commissioner in writing within 30 days if the community solar
 346.16 garden is not in compliance with subdivision 6, 7, 9 or 10, and must comply within 12
 346.17 months or the commissioner must revoke the solar garden's participation in the program.
 346.18 Nothing in this subdivision prevents a subscriber organization from reapplying to participate
 346.19 in the program after revocation.

346.20 **Subd. 13. Report.** No later than January 31 each year beginning in 2025, the
 346.21 commissioner must prepare and submit to the legislative committees having primary
 346.22 jurisdiction over energy and climate policy a report that aggregates the information received
 346.23 in the reports under subdivision 9, paragraphs (d) and (e).

346.24 **Subd. 14. Transition from legacy program.** (a) From the effective date of this section
 346.25 to the date the commissioner begins allocating capacity under subdivision 7, but no later
 346.26 than December 31, 2023, a subscriber organization may submit a community solar garden
 346.27 project application to the utility for the legacy program under subdivision 1 or to the
 346.28 commissioner for the program under subdivisions 3 to 12.

346.29 (b) The utility administering the legacy program under subdivision 1 must act in good
 346.30 faith to continue processing applications for the legacy program until December 31, 2023.
 346.31 An application for the legacy program that is approved on or before December 31, 2023, is
 346.32 eligible to become a community solar garden under subdivisions 3 to 12, provided the
 346.33 proposed community solar garden complies with subdivisions 3 to 12.



Minnesota's Community Solar Program

BY MARIA MCCOY | DATE: 1 JUN 2023 | [f](#) [t](#) [r](#) [e](#)

Minnesota was one of the first states to enable community solar and became an early leader as its program flourished. The original policy, passed in 2013, established a community solar program bound to the state's largest investor-owned electric utility, Xcel Energy, and was noteworthy for allowing for unlimited development. A 2023 policy (**HF 2310**) has expanded the program, while also introducing new rules and limitations. Community solar is still only available to customers of Xcel and will be administered by the Minnesota Department of Commerce.

Under **the new rules**, a qualifying community solar garden may have no more than five megawatts of generation capacity, must have at least 25 subscribers per megawatt, and no consumer may subscribe to over 40 percent of a garden's capacity. A new set aside requires that 30 percent of each garden's

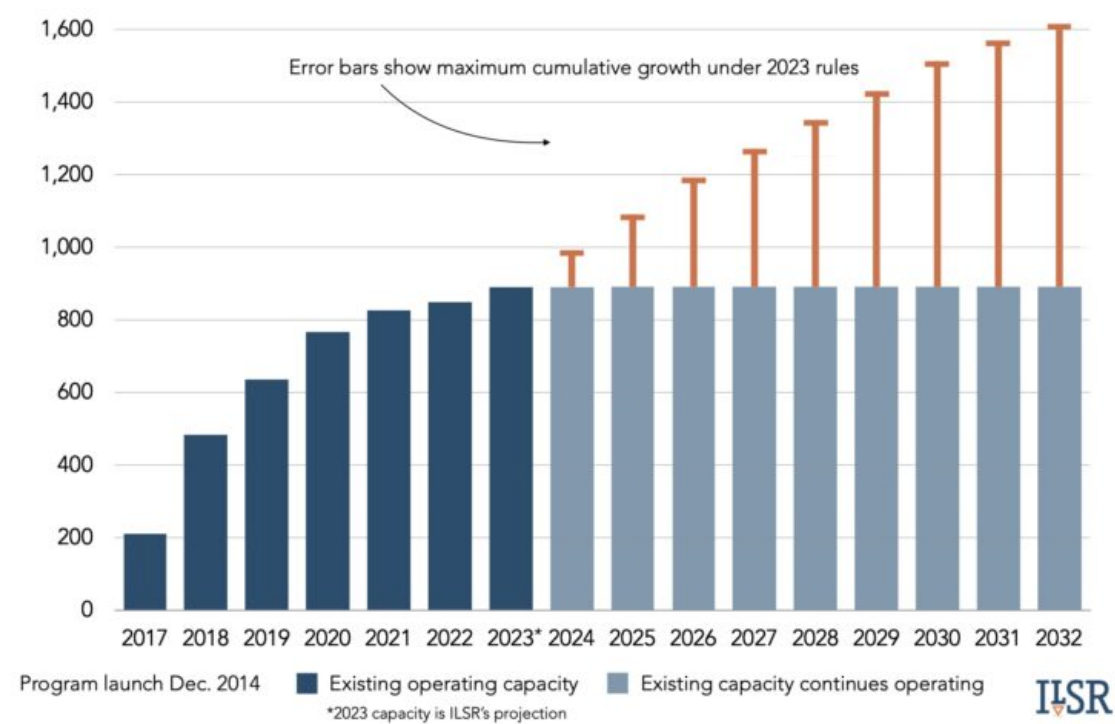
each garden’s capacity, including the 30 percent LMI carveout, must be subscribed by affordable housing, and ‘public interest’ groups (such as nonprofits and libraries). The subscribers receive on their bill is tiered based on customer class and defined subscriber maximum compensation set at the customer’s average retail rate.

Compare Minnesota’s community solar growth to the other top state programs in our [National Community Solar Programs Tracker](#) and [click here](#) to find more state community solar program pages.

The 2023 policy also introduced annual growth caps: 100 megawatts in 2024, 2025, and 2026; 80 megawatts in 2027, 2028, 2029, and 2030; and 60 megawatts in 2031 and each year thereafter. Minnesota’s program stimulated over 800 megawatts of community solar in its first eight years.

Minnesota Community Solar: Historical and Projected Growth

Community solar generation capacity in Minnesota could nearly double by 2032 under the annual capacity limits adopted in 2023.



The Minnesota Public Utilities Commission will allocate capacity to solar developers who meet the program requirements.

What’s in It For Subscribers?

ENERGY

Proof in the Public
Takeover Pudding
— Episode 1...

Xcel Energy customers who subscribe to community solar will sign a contract with the solar garden for a certain monthly rate. The electric utility will then credit the subscriber’s bill for an amount proportional to their share in the solar garden minus the subscription rate, with the balance going to the solar garden owner. Including both the subscription fee and bill credits on the same bill is called ‘consolidated billing’ and is **a best practice for equitable community solar** and a positive subscriber experience.

The bill credit paid by the utility will be a certain rate per kilowatt-hour — a rate that depends on subscriber type (see table below). The maximum credit, 100 percent of the average retail rate, will go to LMI subscribers. The 2023 residential retail rate was \$0.13979 per kilowatt hour, for reference.

The idea is that community solar developers, especially given **new federal incentives**, can install solar economically and offer subscriptions at prices that will save subscribers money on their utility bill. The 2023 amendment requires that LMI subscribers save at least 10 percent between their bill credits and the subscription rate.

Subscriber type	Compensation rate
Low- to moderate-income residential	The average retail rate for residential customers
Residential (not LMI)	85 percent of the average retail rate for residential customers
Master-metered affordable housing	80 percent of the average retail rate for residential customers
Public interest subscriber that is a small general commercial customer	75 percent of the average retail rate for the customer’s rate class
Public interest subscriber that is a general service commercial customer	100 percent of the average retail rate for the customer’s rate class
Other commercial subscribers	70 percent of the average retail rate for the customer’s rate class
Unsubscribed energy	Credited to the subscriber organization at the utility’s avoided cost



There is an additional rate specific to ‘backup subscribers,’ or entities that temporarily garden (or increase their existing subscription) when a different subscriber cancels. This is an important backstop for projects with many residential subscribers.

Community solar gardens approved before January 1, 2024 are grandfathered into Minnesota’s **Solar** rate. Minnesota developed the Value of Solar as a more comprehensive estimate than traditional **net metering** — but the Value of Solar was only used for community solar. From 2014 to 2023, the Value of Solar was calculated by adding the many components in community solar’s “value stack,” including its avoided environmental cost and the utility’s avoided generation capacity and fuel costs.

ENERGY

Proof in the Public
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— Episode 1...

Minnesota Adopts Long-Sought Equity Provisions

As written in 2013, Minnesota’s policy **lacked consideration for groups that have traditionally been left out** of the solar energy transition, including low-income residential subscribers and historically burdened or frontline communities. The 2023 community solar amendment introduces specific opportunities to advance equity. In addition to the tiered compensation rates, which will distribute more benefits to the most energy burdened, 30 percent of each solar garden’s capacity must be set aside for low- and moderate-income (LMI) subscribers (LMI is defined as 150 percent or less of the area’s median household income).

Beginning in 2024, 55 percent of each community solar garden’s capacity must be reserved for LMI households, public interest subscribers, or affordable housing providers. A public interest subscriber can be a municipal or Tribal subscriber, school, non-profit organization, house of worship, or other public service provider. Developers must have a plan to meet these carve-outs to secure Commission approval and, crucially, may not check credit scores when seeking subscriptions.

Minnesota’s 2023 community solar amendment also requires that developers pay installers prevailing wages if the community solar garden has more than one megawatt of generation capacity.

Read our report on **Designing Community Solar Programs that Promote Racial and Economic Equity**.

Learning From a Decade of Program Negotiation

Minnesota’s community solar program has come up against many hurdles and barriers. These challenges — including an annual battle over the value of solar — have been worked out in a regulatory docket started in 2013: Docket No. E002/M-13-867. A Commission-facilitated working group also discusses various problems as they arise in Minnesota’s distributed solar landscape more broadly.

Minnesota’s failure to reach residential solar subscribers was a widely-known flaw — provided no mandate or incentive for developers to do the extra work. As a remedy, the Public Utilities Commission **introduced a 2018 Residential Adder**. The adder boosted compensation for residential subscribers by 1.5 cents per kilowatt-hour for projects started in 2019 or 2020. The Commission later **extended the adder** (at the same rate) through 2022.

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Beyond the policy itself, many of the program’s troubles boil down to Xcel Energy’s hostility toward community solar. As ILSR cautioned the Minnesota Public Utilities Commission in **a 2021 filing**, “the distribution system operator has a financial interest in preserving its own market share.” The utility’s profit motive is fundamentally misaligned with community solar, which the company views as competition to stifle. The program’s **devastating interconnection delays** are a symptom of this condition, including a frustrating ‘on hold’ status that the company implemented without limit. The Commission ended up **charging Xcel a one million dollar fine for the interconnection delays** (significant in that it happened, but insignificant by comparison to the company’s annual revenue).

The utility has (predictably) petitioned each year for a lower value of solar and made claims that non-subscribing customers are subsidizing the community solar program. ILSR analysis, meanwhile, found that **Minnesota community solar saved all utility customers money**, including non-subscribing customers. Still, legislators were moved by the cost-shift argument and implemented program caps in the 2023 amendment. They will revisit the program and its costs in 2030.

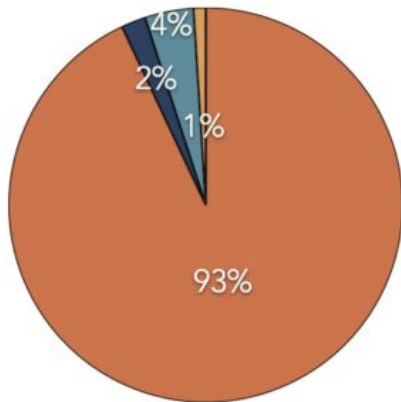
Finally, Minnesota’s community solar program has suffered from a lack of transparent data regarding **grid hosting capacity**. Xcel Energy has improved its data reporting in recent years, but where the data shows that capacity is limited, there are not good options for resolving it. Distributed solar stakeholders have advocated for measures like interconnection queue transparency and sharing grid upgrade costs among multiple community solar projects. The 2023 community solar amendment may ease some of congestion, as it removes the rule that community solar gardens must be in counties adjacent to their subscribers, but many areas are still constrained.

Participation and Impact to Date

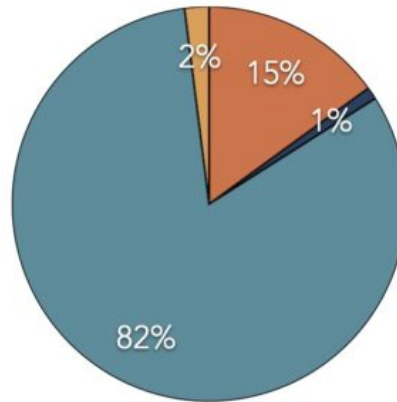
As Xcel Energy publishes **data on the mix of subscribers**, we can report that more than 24,861 residential customers (93% of all subscribers) are saving money with a shared solar subscription. Most of the program’s total capacity serves commercial customers (82%), but much of that capacity may serve public entities. These public entities include schools, colleges, hospitals, and county and local governments, as outlined in Xcel Energy’s **2018 Annual Operations Report** (April 2019). In other words, community solar helps broaden those who benefit from solar by enabling individuals and public institutions to save money with solar!

MINNESOTA'S COMMUNITY SOLAR SUBSCRIBERS XCEL ENERGY TERRITORY, NOVEMBER 2022

PERCENT OF SUBSCRIBERS



PERCENT OF SUBSCRIPTION CAPACITY



● Residential
 ● Small General Service
 ● Commercial
 ● Other



data from Xcel Energy, Quarterly Compliance Report, Jan. 2023

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As the impacts of the 2023 community solar amendment begin to show, we'll report them on our [National Community Solar Programs Tracker](#) page.

For more on community solar in Minnesota, check out these ILSR resources:

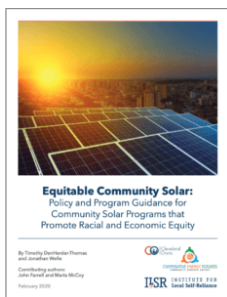
- [What Is the Value of Solar? — Episode 148 of Local Energy Rules](#) (2022)
- [Targeting Subscriber Inequities in Minnesota's Community Solar Program](#) (2021)
- [Minnesota Regulators Give Boost to Residential Community Solar](#) (2018)
- [Small Minnesota Community Faces David v. Goliath Negotiation for Community Solar — Episode 69 of Local Energy Rules Podcast](#) (2019)
- [Minnesota Community Solar Saves All Utility Customers Money](#) (2019)
- [Why Does One Minnesota Utility Have a Love / Hate Relationship with Community Solar?](#) (2019)
- [Community Solar With an Equity Lens: Generating Electricity and Jobs in North Minneapolis](#)

- **Minnesota Has the Best Community Solar Program — Here's Why** (2017)
- **Sunshine and Ownership: A Cooperative Solar Garden Blooms in North M**
Episode 34 of Local Energy Rules Podcast (2016)
- **Why (Else) is Xcel Energy Trying to Axe Minnesota's Community Solar pro**
- **Community Solar Gardens Sprouting in Minnesota** (2014)
- **A Deep Dive on Value of Solar and the Future of Solar Energy – Episode 22 of Local Energy Rules Podcast** (2014)

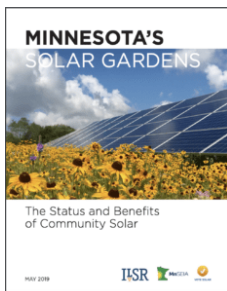
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Learn more about community solar in one of these ILSR reports:



Designing Community Solar Programs that Promote Racial and Economic Equity



Minnesota's Solar Gardens: the Status and Benefits of Community Solar



Beyond Sharing — How Communities Can Take Ownership of Renewable Power

For podcasts, videos, and more, see ILSR’s **community renewable energy archive**.

This article was originally posted at **ilsr.org**. For timely updates, follow John Farrell on **Twitter** and **Democracy weekly** update.

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► community solar, distributed solar, Electricity, homepage feature, Minnesota, solar energy, utility

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Maria McCoy

Maria McCoy is a Researcher with the Energy Democracy Initiative. In this role, she contributes to blog posts, podcasts, video content, and interactive features.

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