

Position on Community Solar Farms

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The Environmental Defenders of McHenry County recognize the need for society to embrace clean forms of energy and move away from energy that produces pollution, contaminates water, and degrades the planet's environmental health. Installations of solar panels throughout our county will provide a clean, renewable source of energy. We strongly encourage the installation of solar panels on the rooftops of individual homes and businesses and over parking lots within our build landscape. We also support the establishment of community solar farms on agricultural lands in order to provide opportunities for those who cannot install solar on their own properties in order for our county's residents to be able to fulfill their energy needs from locally-produced solar power.

To this end, we welcome the opportunity for McHenry County to support community solar farms and hope to play a role in helping the projects provide the greatest environmental benefits. Just as agricultural crops convert energy from the sun into energy we consume as food, solar farms convert the sun's energy into a clean form of electrical energy we use to power our daily lives.

Local community solar farms provide opportunities for residents and businesses to access clean renewable energy without having to install solar power infrastructure on their own. Having spent the past year researching the subject and meeting with industry professionals, the Environmental Defenders strongly believe that community solar farms can include native plants and other practices that would provide positive environmental, social, and economic benefits for the county. To ensure that community solar farms provide the greatest benefits over their lifespan, we ask that county and municipal governments include the following requirements for future projects:

1. Solar farms on agricultural land must be installed using driven piles or similar mounting system to minimize disturbance of soils. To minimize soil compaction during construction, installations should be carried out using vehicles with tracks or low-pressure tires and under weather conditions that will result in the least amount of disturbance. The solar company must be responsible for repairing drain tiles broken during the period of their lease.
2. Access roads and inverter buildings shall be sited to minimize soil compaction on the property and kept to the minimum length and width necessary for safe travel. On agricultural properties, the use of gravel shall be limited to the access road and inverter building or for use as stormwater best management practices such as "rock check dams" to control erosion.
3. The solar farm must be stabilized with vegetation and employ stormwater best management practices to prevent erosion from occurring on-site, or causing erosion downstream of the development. Erosion must be controlled throughout the life of the project.
4. To the maximum extent possible, the entire area of the solar farm, except for the access road and the inverter building, shall be planted with "low-profile" native prairie species, using a mix appropriate for the region and soil conditions.
5. All solar farms must have a landscape monitoring and management plan to help ensure proper establishment and continuing care of the site's plant communities throughout the entire life of the project. The solar company must control nuisance and invasive species on-site to help maintain healthy native plant communities for the entire duration of the project. Particular attention will be required during the first five years after installation to ensure the establishment of the native plants.

After the native plant community has been established, only limited mowing should be allowed to prevent growth of woody or invasive species. Any mowing must be timed to prevent the disturbance of ground nesting birds.

6. Fencing that will allow viewing of the prairie plants and solar panels is suggested rather than a solid fence. Solid fencing is unnecessary and reduces the benefits of the solar farm's unobstructed viewshed. If a solid fence is required, then preference should be given to native plant species to be planted around the outside of the fence to create a more aesthetically pleasing view and environmentally-friendly habitat. One example would be planting a border that includes milkweed species to provide habitat for monarch butterflies.

If these minimum standards are implemented, we believe community solar farms will provide the following benefits:

Support local economies: Community solar farms will provide higher contributions to the local tax base than agricultural land use without raising population levels, increasing traffic, requiring new streets, or adding costs to schools and other public services.

Provide healthy restorative habitat: Native plants support local pollinators and have deep root systems that help to reduce stormwater runoff, prevent erosion, promote groundwater recharge, and restore soil health. When planted and maintained with appropriate low profile native plant species, community solar farms can provide healthy habitat, without the use of chemical inputs, that supports clean water and pollinators while rewarding the landowner with a positive revenue stream. Also, according to a multistate economic analysis on solar projects conducted by the National Renewable Energy Lab, increased yields for 10 major crops were reported as a result of nearby pollinator habitat.

Reduce pollution: The conventional energy we currently rely on produces a variety of contaminants including sulfur dioxide, airborne particulates, coal ash and slurry, greenhouse gasses and nuclear waste that will burden generations for 1000's of years. The mining and transport of the raw materials or waste products also come with extreme costs to the public health and the environment. Solar power harvests the sun's radiation that is naturally abundant without depleting resources or passing cleanup costs on to future generations.

Serve as clean, quiet neighbors: For the duration of the lease, community solar farms do not create dust, noise, or pollution. When stabilized and maintained with native plants, solar farms will also provide habitat for birds, small mammals, and pollinator species.

Produce electricity locally: Community solar produces clean local energy and empowers residents to meet their electricity needs within a more balanced energy budget, while reducing their carbon footprint.

Reduce electrical bills: Community solar subscribers save approximately 5% - 15% on their electricity bills without having to pay the upfront costs of installing solar panels on their own homes or businesses.

Provide temporary land use on agricultural properties: Community solar farms are typically sited on land that is predominantly flat and therefore does not require grading or land modification. Such projects cause minimal land disturbance and maintain the land and soils in a healthy condition throughout the life of the solar farm. In fact, the soil's health will likely be improved during the lifetime of the solar farm, especially when native plants are properly established and maintained. At the end of the lease, the solar arrays can be removed, and the land can easily be converted back to an agricultural use if desired or retained as wildlife habitat.

Help preserve our farming heritage: Community solar farms placed on farmer-owned land generate a steady income for the landowner. Income from the solar farm, in the form of a lease, can provide a reliable

and stable source of income to buffer against the uncertainties of agricultural markets. Solar farms can help farming continue to thrive in McHenry County.

Increase McHenry County's energy sustainability: By producing clean, renewable energy here, residents are less dependent on energy that is subject to market price fluctuations or power plant disruptions. As a county we can be proud that through these community solar farms we are moving toward a more sustainable energy future.

In summary, properly designed community solar farms in McHenry County will provide a stackable set of benefits to our community. These include a local, clean energy source, habitat for declining pollinators and other wildlife, the rebuilding of our soil, infiltration areas to recharge our vital groundwater reserves, reductions in runoff from plowed fields, and improvements in downstream water quality. Prairie solar farms will also be peaceful, quiet, odorless neighbors.

Community Solar Farms in McHenry County Bibliography

1. Environmental Benefits of Solar Energy <https://www.svssolutions.com/blog/three-environmental-benefits-solar-energy>
2. The Health and Environmental Benefits of Solar Energy <https://news.energysage.com/health-environmental-benefits-of-solar-energy/>
3. What are the Environmental Benefits of Solar Energy? <https://brighteyesolar.com/blog/environmental-benefits-solar-energy/>
4. Solar Farming Brings Benefits – and Concerns – to the Land <https://civileats.com/2017/03/20/solar-farming-brings-benefits-and-concerns-to-the-land/>
5. Prairie Establishment & Maintenance Technical Guidance for Solar Projects https://files.dnr.state.mn.us/publications/ewr/prairie_solar_tech_guidance.pdf
6. Pollinator-Friendly Solar Resources <https://www.uvm.edu/extension/agriculture/pollinator-friendly-solar>
7. Solar PV Farm Projects Near Airports: Is Glare an Issue? <https://www.solarchoice.net.au/blog/solar-panels-near-airports-glare-issue>
8. Electromagnetic Fields Associated with Commercial Solar <https://www.ncbi.nlm.nih.gov/pubmed/26023811>
9. Save the Monarch Butterfly- Get Involved as an Agricultural Producer <https://www.fws.gov/savethemonarch/agriculture.html>
10. Farmers for Monarchs <http://farmersformonarchs.org/>
11. Co-location of Solar and Agriculture – You Tube <https://www.youtube.com/watch?v=VVapBZUCiw8>
12. 188-2: Minnesota Sets Standard for Land Use on Solar Sites <https://fresh-energy.org/mn-votes-beeslovesolar/>

13. Introducing the Center for Pollinators in Energy <https://fresh-energy.org/beeslovesolar/>
14. Solar Sites Serve Up the Tesla of Honey <https://fresh-energy.org/solar-sites-serve-up-the-tesla-of-honey/>
15. Solar Developers are Transforming Vast Energy Farms into Pollinator Habitats <https://earthier.com/solar-developers-are-transforming-vast-energy-farms-int-1818990>
16. Top Five Large-Scale Solar Myths <https://www.nrel.gov/technical-assistance/blog/posts/top-five-large-scale-solar-myths.html>
17. Union of Concerned Scientists: Large Scale Solar Farms <https://www.ucsusa.org/clean-energy/renewable-energy/solar-power-plants-large-scale-pv#.WrEv1CjwZaQ>
18. Audubon: Solar Energy <http://www.audubon.org/news/why-solar-power-good-birds>
19. Video about Solar Sanctuaries for Birds, Bees, and Pollinators <http://www.prairieresto.com/solar-sites-native-prairie-plants.shtml>