



Solar Policy Paper

Position on Solar Arrays and Community Solar Farms

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The Environmental Defenders of McHenry County recognize the need for society to embrace clean energy and move away from energy production that causes pollution, contaminates water, and degrades the planet's environmental health. The installation of solar panels throughout McHenry County will provide a clean and renewable source of energy.

The Defenders strongly encourage solar panels on rooftops and over parking lots. We also support the establishment of Community Solar, Community Driven Community Solar, and Illinois Solar For All facilities in order to provide opportunities for those who cannot install solar on their own properties to be able to fulfill their energy needs from locally-produced solar power. Solar farms in McHenry County will provide multiple benefits to our community. These include a local, clean energy source for residents to purchase, and if planted with native prairie plants as we recommend below, they will also supply habitat for declining pollinators and other wildlife, will rebuild soil through their long root systems, will serve as infiltration areas to recharge our groundwater reserves, the sole source of our county's drinking water, and will reduce runoff from plowed fields, resulting in improvements in downstream water quality.

We recognize the current concerns regarding the loss of farmland and local culture associated with solar installation proposals before the County, but note that current estimates find that only 1% of all farmland in the United States is needed for solar to help power the entire country¹. McHenry County is primed as a "hot spot" for solar development secondary to our location near the Byron Nuclear Generating Station and our electrical grid infrastructure, flat landscape, and the few number of online solar facilities in our area. While it may seem like there are a number of proposed facilities in

¹ <https://betterenergy.org/blog/the-true-land-footprint-of-solar-energy/>

our County, given the current capacity of ComEd² infrastructure in the County, only approximately 12,000 acres would be needed to fully subscribe solar to existing infrastructure, which is about 5% of the actual farmland available in the County under 2023 Economic Development Corporation numbers³.

To this end, the Defenders welcome the opportunity for McHenry County to support all manner of solar energy installations and will continue 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 panels 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 assuming the up front costs associated with rooftop solar or the long term leases and liens associated with rooftop solar on leased buildings. It should also be noted that a community solar subscription for businesses and residents typically results in a 10-20% discount on energy supply costs while also providing access to clean energy for subscribers. The Defenders spent the last several several years researching, meeting with industry professionals, and educating the public and our membership about the benefits of solar, and we strongly believe that Community Solar Farms in all of their iterations under the Illinois Power Agency can benefit our community through decreased electricity rates and providing a supply of locally-produced clean energy.

We note that solar farms can come in many different shapes and sizes from a site plan perspective. In 2018, when we first started speaking out in favor of Community Solar, we hoped that every farm would include native plants and other land practices that would provide positive environmental, social, and economic benefits for McHenry County.

We recognize that the law has changed and that the County is subject to the provisions of 55 ILCS 5/5-12020. However, we also note that the County has some authority under the provisions of the new Solar and Wind Citing Act. We have recommendations that the Defenders expect Solar Developers to commit themselves to:

- Solar farms on agricultural land should be installed using driven piles or similar mounting systems 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

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<https://ipa.illinois.gov/content/dam/soi/en/web/ipa/documents/modified-2022-long-term-plan-for-reopening-full-2-dec-2022.pdf>

³ <https://betterenergy.org/blog/the-true-land-footprint-of-solar-energy/>

will result in the least amount of disturbance.

- To the extent possible, and after consultation with Township Road Districts and MCDOT, access roads and inverters 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 when needed. We recognize that many projects require adjustment due to specific land conditions and access concerns, but the minimization of gravel roadways should be prioritized.
- 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.
- 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.
- We recognize that agrivoltaics/agrovoltaics are becoming a popular site management plan due to the Illinois Power Agency’s point system. We recommend that any site wishing to employ agrivoltaics/agrovoltaics present a full and comprehensive plan for management of the site to the ZBA and County Board prior to approval of an application. Agrivoltaics/agrovoltaics are a burgeoning industry within Illinois and surrounding states and the Defenders recommend that the footprint be as small as possible and that plans be as developed as possible and re-evaluated and monitored frequently by the County often to ensure that the desired outcome is achieved.
- All solar farms must have a landscape monitoring and management plan to ensure proper establishment and continuing care of the site’s plant communities throughout the life of the project. The owner of the array must control nuisance and invasive species onsite to help maintain healthy native plant communities for the duration of the project. Particular attention should be exercised during the first five years after installation to ensure the establishment of the native plants and to mitigate the proliferation of invasive weeds. 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. In the event of an agrivoltaics/agrovoltaics operation, planting should be consistent with the health of the livestock to minimize the use of herbicides. Particular care should be paid to any pollinator friendly buffer

- seed mixes to include species that are non-toxic to any animals that may be grazing between the panels to control any “creep” from pollinator friendly species into alfalfa fields and to minimize the use of herbicides.
- Although perhaps already ubiquitous in the industry, we recommend fencing that will allow viewing of the prairie plants and solar panels with a 6-9” gap for local wildlife at the bottom rather than a solid fence. Solid fencing is unnecessary and reduces the benefits of the solar farm’s unobstructed viewshed.

If these minimum standards are implemented, we believe 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. According to 35 ILCS 200/10-720, there are special state and local tax assessments for solar facilities amounting to \$218,000 per megawatt of nameplate capacity with a trending factor for assessment year of 2021 at 1.06. This means that local school districts, townships, libraries, road districts, the County itself, and other taxing bodies will realize substantial gains in revenue without population increases for each solar farm that is actually built within McHenry County. This is substantially higher than current agricultural rates for county land. If a facility is decommissioned, the increased rate applies for two years after a facility is removed.

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, solar farms can provide healthy habitats, without the use of chemical inputs, that support clean water, small wildlife including birds, 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 habitat⁴.

Reduce pollution: The conventional energy we currently rely on produces a variety of contaminants including sulfur dioxide, airborne particulates, coal ash and slurry,

⁴ <https://www.nrel.gov/news/features/2019/beneath-solar-panels-the-seeds-of-opportunity-sprout.html>

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, solar farms do not create dust, noise, or pollution. When fully planted and maintained, solar farms will provide habitat for birds, small mammals, and pollinator species.

Current regulations require that inverters are placed 325' away from residential homes. As of 2023, technology specifies that the inverters will make no more noise than a standard air conditioning condenser on a residential property (approx. 70 decibels). Many properties are spaced much more densely than 325' apart and these noise levels are considered innocuous in subdivision developments throughout McHenry County. Noise levels for surrounding properties will be no more troublesome than a neighbor who runs an AC unit within 325' of their residence.

Produce electricity locally: Solar arrays produce clean local energy and empower 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% - 20% on their electricity service charges without having to pay the upfront costs of installing solar panels on their own homes or businesses.

Provide temporary land use on agricultural properties: Solar farms are typically sited on land that is predominantly flat and therefore does not require grading or land modification. Current state law requires avoidance of wetlands and repair of broken or damaged drain tile. These 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 health will likely be improved during the lifetime of the solar farm, especially when native plants are properly established and maintained⁵. At the end of the lease or upon decommissioning, solar arrays can be removed, and the land can easily be converted back to an agricultural use if desired or retained as wildlife habitat because the topsoil will have been responsibly preserved.

Help preserve our farming heritage: Community solar farms placed on farmer owned land generate a steady income for the landowner. Solar farms can help farming continue to thrive in McHenry County by allowing landowners to lease a portion of the land while farming other parcels and using the steady income derived

⁵ <https://www.nrel.gov/news/features/2019/beneath-solar-panels-the-seeds-of-opportunity-sprout.html>

to continue the rich heritage of farming in McHenry County. Income generated from small 40-60 acre leaseholds can help landowners reliably navigate the uncertainty of volatile agricultural markets and challenges associated with climate change.

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 solar installations 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 that supports local economies and reduces electrical bills and, if planted with low profile native plants, provides habitat for declining pollinators and other wildlife with 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.

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