Solar and Prime Farmland

Minnesota is home to about 25.5 million acres of farmland, about 16.7 million acres of which are considered “prime.”¹

- Wind and solar are compatible and profitable ways farmers can grow their business as the stewards of their own land.
- Limiting use of prime farmland is unnecessary, and doing so infringes upon private property rights. All possible sites should be evaluated to best serve the community, the environment and our clean energy needs.

For Perspective...

We could power 70% of Minnesota's electrical load by 2050 with 22 GW of solar, requiring approximately 220,000 acres of land. If all of this energy were to be sited exclusively on prime farmland, it would still only use 1.32% of the land considered “prime.”²

Solar Land Use

Land used for solar remains versatile, coexisting with a variety of conservation efforts.

- An average of between 7 and 10 acres of land are required to produce one megawatt (MW) of electricity from solar energy.³
- Some community garden and utility-scale solar projects pair beehives with pollinator-friendly native plants and flowers in and around the project area.
- Pollinator-friendly solar can recharge groundwater and reduce soil erosion, at the same time increasing yield of pollinator-dependent crops, such as soybeans.⁴

Agricultural Impact Mitigation Plans: A Farm Friendly Practice

Minnesota solar developers must write an Agricultural Impact Mitigation Plan (AIMP)⁵

Solar developers submit AIMPs in order to identify measures they will take to avoid, correct, or mitigate potential adverse impacts to agricultural land resulting from construction, operation, and decommissioning of the project. These plans are flexible to accommodate the needs of the site and surrounding environment.

Altogether, conservation and vegetation plans amidst renewables lead to healthier soil, improved water storage and filtration, sequestration of carbon, erosion reduction, habitat preservation and lower local energy costs.⁶
In 2021, MN solar projects generated over 1.6 million MWh of electricity. At a value of $58.08 per MWh, Minnesota’s existing solar footprint has an annual production value of over $94 million.

American Clean Power Estimates

MN Farmers, Ranchers, & Landowners Receive $8.5 Million in annual land-lease payments from solar

Property Rights
A landowner has the right to make decisions about how their land is used.

Renewables...
- Help diversify income portfolios.
- Are harvested all year long.
- Are drought-proof, high-yield land outputs that can produce for decades at a time without expensive inputs like fertilizers, pesticides, and irrigation.

Current Solar Crop Values in Minnesota
Minnesota has 1,141 MW of solar, occupying approximately 10,000 acres of land.
- In 2021, MN solar projects generated over 1.6 million MWh of electricity.
- At a value of $58.08 per MWh, Minnesota’s existing solar footprint has an annual production value of over $94 million.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Production Value per 10,000 Acres</th>
<th>Harvested Acreage Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>$94,881,811</td>
<td>10,000*</td>
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<tr>
<td>Potatoes</td>
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<tr>
<td>Corn</td>
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<td>Sweet Corn</td>
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<td>Soybeans</td>
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<td>Canola</td>
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<td>Sunflower</td>
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<tr>
<td>Wheat</td>
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<tr>
<td>Hay</td>
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<tr>
<td>Oats</td>
<td>$2,582,100</td>
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</tr>
</tbody>
</table>

*Approximate
Note: Crop values calculated using data from USDA NASS

Sources
5. Minnesota Statutes 2022, Section 216E.10, Subdivision 3 (b). https://www.revisor.mn.gov/statutes/cite/216E.10
9. Calculated average MISO wholesale price of electricity based on EIA 2021 data.