

Solar and Prime Farmland

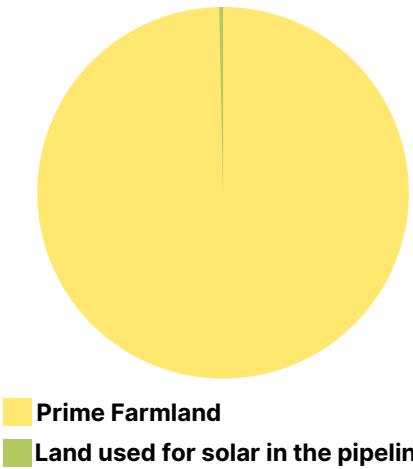
Michigan is home to about 9.8 million acres of farmland, about 5.7 million acres of which are considered “prime.”¹

- 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...

There are 2,272 MW of solar under construction and in advanced development across Michigan,² requiring approximately 19,300 acres of land. If every solar farm were sited on prime farmland, only 0.33% of Michigan's prime farmland would be used.

Michigan Prime Farmland¹



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

prime·farm·land

NOUN

Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses.

Agrivoltaics: A Value-Added Farmer Friendly Solution

Combining traditional farming and solar technology is called agrivoltaics.⁵

Agrivoltaics have a wide range of benefits for farmers, both immediate and long-term. 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

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.

Production Value Comparison - MI Top Crops

Crop	Production Value per 4,000 acres	Harvested Acreage Actual
Apples	\$34,937,500	30,500
Potatoes	\$28,165,000	45,000
Blueberries	\$25,650,000	16,200
Squash	\$25,000,000	8,100
Cabbage	\$24,700,000	4,600
Solar	\$24,614,594	4,000*
Peaches	\$23,450,000	2,400
Corn	\$5,098,200	1,990,000
Soy	\$3,570,000	2,140,000

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

American Clean Power Estimates

**MI Farmers, Ranchers,
& Landowners Receive
\$2.5 million
in annual land-lease
payments from solar**

Current Solar Crop Values in Michigan

Michigan has 473 MW of solar,² occupying approximately 4,000 acres of land.

- In 2021, MI solar projects generated 423,805 MWh of electricity.⁷
- At a value of \$58.08 per MWh,⁸ Michigan's existing solar footprint has an annual production value of over \$24 million, placing it among the most valuable crops in the state.

Sources

1. U.S. Department of Agriculture. 2020. Summary Report: 2017 National Resources Inventory, Natural Resources Conservation Service. https://www.nrcs.usda.gov/sites/default/files/2022-10/2017NRISummary_Final.pdf
2. American Clean Power Association, 2022. Data Search, Clean Power IQ.
3. Birkholz, D. et al. 2020. "Solar Energy Production and Prime Farmland," Minnesota Department of Commerce and Minnesota Department of Agriculture. <https://mn.gov/eera/web/doc/13929/>
4. Siegner, K. et al. 2019. "Maximizing Land Use Benefits from Utility-Scale Solar," Yale Center for Business and the Environment. <https://cheb.yale.edu/research/maximizing-land-use-benefits-from-utility-scale-solar>
5. Lane, C. 2022. "Agrivoltaics: How Solar and Farmland Can Fight Climate Change." Solar Reviews Blog. <https://www.solarreviews.com/blog/all-about-agrivoltaics>
6. Benage, Megan, et al. "Guidance for Developing a Vegetation Establishment and Management Plan for Solar Facilities." Environmental Review of Energy Projects, MN Commerce Department; Division of Energy Resources, Mar. 2021, <https://apps.commerce.state.mn.us/eera/web/page/home>
7. EIA, 2021. "State Electricity Profiles." <https://www.eia.gov/electricity/state/michigan/>
8. Calculated average MISO wholesale price of electricity based on EIA 2021 data.