



Energize Ohio

Building Ohio's Energy Future

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On-Farm Solar Energy Development

Many agricultural businesses are taking advantage of policy incentives for substituting part of their energy needs with fixed cost solar energy (Xiarchos, et al., 2011). While the economic payback for solar PV may not be attractive for every farm, given the right circumstances solar PV can provide benefits including:

- Solar energy helps farmers hedge the risk of future volatility of energy costs
- Photovoltaic (PV) solar has low maintenance costs
- The fuel (sunlight) is free once the higher initial cost of the system is recovered.
- Solar provides farmers a value added appeal to their customers as an alternative that reduces their greenhouse gases and environmental footprint.

Data Source: Xiarchos, I. M., Vick, B., & United States. (2011). Solar energy use in U.S. agriculture: Overview and policy issues. Washington, DC: U.S. Department of Agriculture, Office of the Chief Economist, Office of Energy Policy and New Uses.

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Common On-Farm Solar Definitions

- **Photovoltaics (PV):** A device that generates electricity directly from sunlight via an electronic process.
- **On-Grid PV System:** A PV system connected to the utility grid. It powers electrical loads at the location but also connects to the grid as needed. When excess electricity is generated, it feeds the excess electricity back into the grid; when insufficient electricity is generated by the sun, electricity is drawn from the grid.
- **Bi-Directional Meter:** Used in net metering to record both electricity drawn from the grid (the meter spins forward) and the excess electricity fed back into the grid (the meter spins backwards).
- **Renewable Energy Certificate (REC):** Represents the environmental attributes of one megawatt hour of electricity generated from an eligible renewable energy resource and can be sold unbundled from the electricity.
- **Renewable Portfolio Standard (RPS):** Policy adopted by a number of States that imposes a minimum amount of renewable energy generation or capacity that electricity providers must meet, driving the installation of renewable energy systems.

Data Source: U.S. Department of Agriculture, 2011



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