

Commercial & Industrial Solar Photovoltaic Systems

Applications



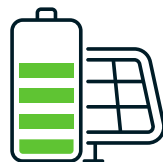
Rooftop solar systems

Ground mounted systems



Solar carports

Benefits



Environmental sustainability

Using solar energy can reduce reliance on fossil fuels, thus reducing carbon footprint and other environmental impacts.



Lower Energy Costs

Solar panels can reduce the amount of electricity purchased from the utility company, which can lower consumers' monthly bills.



Energy Resilience

Solar panels installed with battery systems allow commercial and industrial buildings to continue to function during power outages.



Potential tax credits

Businesses might be eligible for the federal solar tax credits, which includes expenses of solar panels, labor costs, and balance-of-systems.

DISTRIBUTED GENERATION PROGRAM



In 2016, Michigan Public Service Commissions (MPSC) adopted a distributed generation (DG) program based upon the inflow/outflow billing mechanism. The distributed generation program is for customers who install certain on-site, grid-connected, renewable generation.

Size limit:

**≤ 550 kW, or 110%
of annual electricity
consumption**

SYSTEM DESIGN



PV Only

- ✓ Lower upfront costs
- ✓ Cost-effective if electricity is used mostly during daytime
- ✗ Curtailment if generated electricity cannot be exported back to the grid

PV + Battery

- ✓ Back up power
- ✓ Maximum electric bill savings by avoiding using grid during on-peak time
- ✗ Higher upfront costs



FEDERAL SOLAR TAX CREDITS

Two tax credits are available for entities that purchase solar energy systems.



Investment Tax Credits (ITC)

A tax credit that reduces the federal income tax liability for a percentage of the cost of a solar system that is installed during the tax year.

✓ Base credit: 30%

Production Tax Credits (PTC)

A per kilowatt-hour (kWh) tax credit for electricity generated by solar and other qualifying technologies for the first 10 years of a system's operation.

✓ Base credit: 2.75 ¢/kWh

Generally, project owners cannot claim both ITC and PTC for the same property. Check with your tax provider if the tax credit is applicable.

Additional Resources

DSIRE[®]

DTE **CE**

LANSING **BWL**

**INDIANA
MICHIGAN
POWER**

NREL's PVWatts[®]
Calculator

REopt

Rebates and Incentives:

- [Overview of the Federal Solar Tax Credits by DOE](#)
- [Database of State Incentives for Renewables & Efficiency \(DSIRE\)](#)

Resources from Michigan Utility Companies:

- [DTE Rooftop Solar and Private Generation](#)
- [Consumers Energy Distributed Generation](#)
- [Lansing Board of Water and Light Distributed Generation](#)
- [Indiana Michigan Power Renewable Energy With Create Green](#)

Tools of PV system calculations or designs:

- [PVWatts Calculator by NREL](#)
- [REopt Web Tool by NREL](#)