



SOLAR ENERGY IN MICHIGAN

WHAT IS SOLAR ENERGY?

Using new and evolving technologies, we are able to harness the heat and light that reach the earth from the sun and make their energy useable as electricity. Solar energy can also be used to provide light and heat water. Solar is the cleanest and most abundant renewable energy source.

HOW IS SOLAR ENERGY PRODUCED?

Solar energy is produced by collecting the energy from the sun using special photovoltaic surfaces, and then converting that energy into useable electricity. Solar energy technologies include:

- **Photovoltaic (PV) Conversion:** This technology uses solar panels made up of solar or photovoltaic cells arranged in a grid. These cells, which are made of semiconducting materials, convert solar radiation into electricity.
- **Solar Thermal Conversion:** This technology uses mirrors or reflectors to focus sunlight onto containers full of liquid. The sun heats the liquid which in turn boils water, driving a steam turbine that generates electricity.

OTHER THINGS YOU SHOULD KNOW ABOUT SOLAR ENERGY

- Solar energy is an inexhaustible fuel source that is pollution-free.
- Solar energy is currently considered a less-reliable source of energy because it is not available at night without a storage device and is less effective on cloudy days.
- In the 1890s, solar water heaters were being used in many parts of the United States and were touted as a big improvement over wood and coal-burning stoves.
- Because of rapidly falling prices, as well as improved efficiency, solar energy use has surged by about 20 percent each year for the past 15 years.



PLUG INTO A BRIGHT FUTURE FOR MICHIGAN

SOLAR ENERGY POTENTIAL AND PROGRESS IN MICHIGAN

Michigan energy providers have obtained easement rights to locate large solar arrays on suitable property in southeastern Michigan, and have introduced a new program that makes installation of solar energy systems 50 percent more affordable.

Local energy providers partner with other Michigan businesses, industries, and organizations, such as Ford, General Motors, Monroe Community College, and Blue Cross Blue Shield of Michigan, enabling these non-residential customers to purchase and install photovoltaic solar energy systems that will generate electricity to meet their own needs, as well as extra electricity that they can sell back to the energy companies.

These PV systems are owned, installed, operated, and maintained by Michigan energy companies and the Michigan workers they employ. In return, customers that participate receive an annual credit on their energy bill, as well as a one-time, upfront construction payment to cover any inconvenience during installation.

One such PV system is located on a roofing structure of a visitor parking lot. The entire system covers 29 parking spaces. Six of those spaces are designated for plug-in electric vehicles and include fast chargers. The system comprises 336 solar panels and each panel produces 240 watts of electricity. That means the entire system could generate enough electricity for [INSERT COMPARISON HERE]. Over the next several years, local energy providers plan to invest more than \$100 million in solar energy partnerships with businesses and industries in southeastern Michigan.

RESOURCES

DTE Energy Background PDF

http://media.ford.com/article_display.cfm?article_id=34213

<http://dteenergy.mediaroom.com/index.php?s=26817&item=72210>

<http://www.dteenergy.com/dteEnergyCompany/environment/renewableEnergy/solar.html>

http://en.wikipedia.org/wiki/Solar_energy

<http://environment.nationalgeographic.com/environment/global-warming/solar-power-profile/>

<http://www.energyquest.ca.gov/story/chapter15.html>

<http://www.seia.org/about/solar-energy>

<http://solarenergyfactsblog.com/solar-energy-basics/>