



## Office of the Ohio Consumers' Counsel

Your Residential Utility Consumer Advocate

# CONSUMERS' FACT SHEET

### Office of the Ohio Consumers' Counsel

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# RENEWABLE ENERGY SOURCES SOLAR POWER



Courtesy: Dayton Power & Light

### What is solar power?

There are several ways electricity can be produced. An environmentally friendly and renewable option is to use the sun's energy. Solar power can be created when sunlight is captured by a photovoltaic system. This solar panel system is made of tightly woven cells which absorb sunlight. When the sun's rays hit the photovoltaic cells, electrons become excited and can be used as electricity to power our everyday lives.

The sun's rays are so powerful that even though only a small percentage of energy actually reaches Earth, it can be used to run a powerful electric thermal generation power plant. In this case, heat energy is collected from the sun using parabolic mirrors to evaporate water into steam to operate turbines that release electricity.

Individual buildings can be heated by the sun through passive solar heating. A building's structure is used to generate heat through a process called direct gain. The collected heat is then released throughout the building at night.

### Solar power in Ohio

Ohio currently ranks 11th among states generating solar power, according to statistics provided by the U.S. Department of Energy. In 2014, data from the Solar Energy Industry Association (SEIA) shows Ohio produced 15 megawatts of solar energy. That is enough energy to provide electricity to as many as 12,000 homes per year.

This improvement is the result of renewable energy standards requiring 12.5 percent of all electricity sold by investor-owned electric utilities in the state to come from renewable energy. This includes 0.5 percent set aside specifically for solar energy. Ohio has taken major strides to increase its solar energy. Campbell Soup constructed a 50 MW solar facility to provide energy for its operations in Napoleon, Ohio. The city of Columbus installed solar parking meters in 2011. In Northern Ohio, Xunlight and First Solar have provided solar panels for a \$1.5 million research project at the Veterans' Glass City Skyway in Toledo.

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The Office of the Ohio Consumers' Counsel (OCC), the residential utility consumer advocate, represents the interests of 4.5 million households in proceedings before state and federal regulators and in the courts.

The state agency also educates consumers about electric, natural gas, telephone and water issues.

For more information, please visit the OCC website at [www.occ.ohio.gov](http://www.occ.ohio.gov).



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Many homeowners across the state also utilize the benefits of solar power to offset some or all of their electricity needs. In fact, many of these homes are featured in the annual Solar Homes Tour hosted by Green Energy Ohio.

The state is also heavily involved with the production of solar panels and other materials needed to use solar power. Between 2003 and 2010, Ohio's solar panel production was one of the fastest growing segments of its economy, increasing at an average annual rate of 18.4 percent. At the beginning of 2011, Ohio ranked second nationally in solar panel production.

### National solar power outlook

Currently in the United States, solar power represents about 4 percent of energy used from renewable resources. The industry continues to grow and prices for solar panels have fallen in recent years. At the end of 2014, the United States had approximately 20,000 megawatts of installed solar power, according to SEIA.

Continued growth in solar industries is expected as more renewable energy standards are adopted in the United States and incentives continue to make solar power attractive to consumers and businesses alike. Twenty-one states, including Ohio, have adopted Property Assessed Clean Energy legislation that allows homeowners to obtain financing for solar projects and pay it back through property taxes over a number of years. The federal government also offers a 30 percent tax credit for solar installations, which is available through 2016.

### Pros and cons of solar power

As with many of the renewable energy resources, solar power is an environmentally friendly electricity option that does not emit any pollutants. Using solar power:

- ▶ Reduces Ohio's dependence on fossil fuels for electricity;
- ▶ Can help offset the monthly electricity provided by a local utility;
- ▶ Improves property value;
- ▶ Allows the environmental benefits to be sold on the market for financial gain; and
- ▶ May allow a home's electricity to keep running while others may experience an outage.

A solar system can be expensive. A typical installed solar panel system costs on average between \$7,000 and \$12,000. But as prices fall, demand increases and financial incentives continue, solar power may be a feasible investment for some consumers.

### Additional resources

**For additional information on solar power, visit these websites:**

[http://development.ohio.gov/bs/bs\\_renewenergy.htm](http://development.ohio.gov/bs/bs_renewenergy.htm)

[www.seia.org](http://www.seia.org)

[www.solarelectricpower.org](http://www.solarelectricpower.org)

[www.eere.energy.gov](http://www.eere.energy.gov)

[www.greenenergyohio.org](http://www.greenenergyohio.org)