

DTE's Solar Energy Portfolio

Producing the most solar energy in Michigan

DTE Energy is the largest producer of solar energy in Michigan, with 31 solar arrays generating enough clean energy to power 14,000 homes. DTE has invested more than \$170 million in solar energy to date. DTE commissioned its first solar project in November 2010, and our most recent solar array was commissioned in July 2017. Solar energy currently makes up 7 percent of DTE's renewable energy generation portfolio.

DTE's newest solar projects

Lapeer Solar Park (48 MW)

The Lapeer Solar Park is the largest utility-scale park in Michigan and one of the largest east of the Mississippi River. The park's 200,000 panels spread across 250 acres generate enough clean energy to power 11,000 homes.



O'Shea Solar Park (2 MW)

The O'Shea Solar Park, located in Detroit, is one of the largest urban solar arrays our region. It's 7,400 panels situated on 10 acres of previously vacant land produce enough clean energy to power 450 homes.

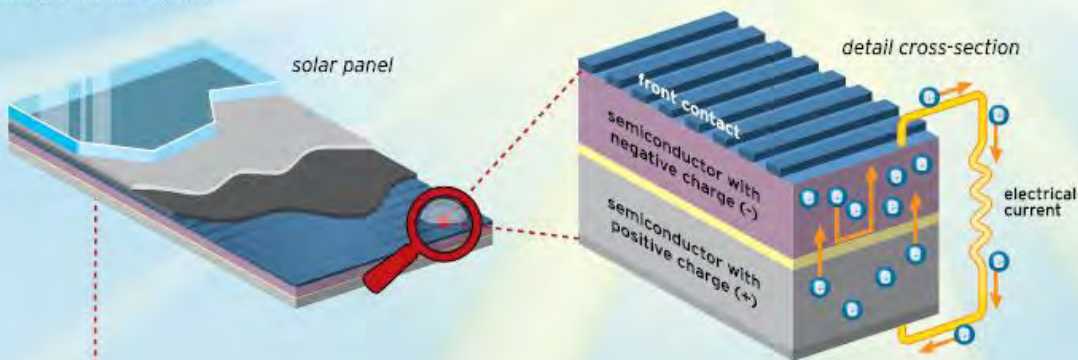
Part of the public-private partnership with the City of Detroit, the park will generate more than \$1 million in tax revenue for the city over the life of the project.



How solar energy works

FROM SUN TO SOCKET

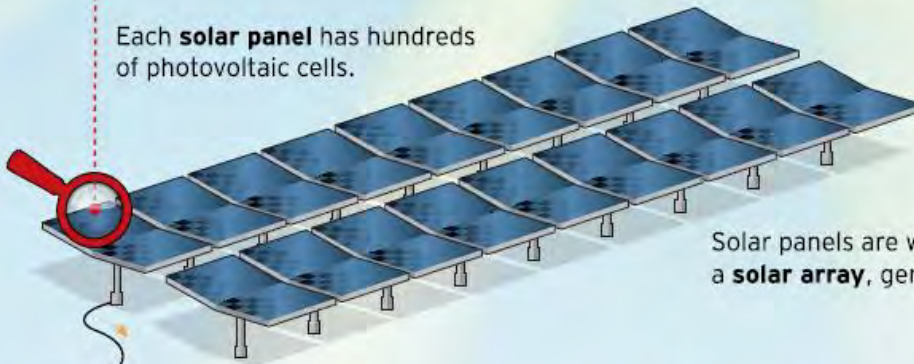
Each **photovoltaic cell** includes two layers of semiconductor material with opposite charges. In between is a layer that allows electrons to flow in only one direction.



The sun's energy frees up electrons in the top and bottom layers. They start crowding into the top (negative) layer.

The only way electrons can get back to the bottom (positive) layer is to move through a **circuit**, creating an **electrical current**.

Each **solar panel** has hundreds of photovoltaic cells.



Solar panels are wired together to create a **solar array**, generating direct current (DC).

An **INVERTER** turns direct current (DC) into alternating current (AC), which can be transmitted long distances.

A **STEP-UP TRANSFORMER** increases the voltage for transmission across the grid.

Electricity is transmitted across **HIGH-VOLTAGE POWER LINES**.

A **STEP-DOWN TRANSFORMER** reduces voltage so it can be used in homes and businesses.

The Lapeer Solar Array generates 48 megawatts of clean solar power—enough to power **11,000 HOMES**.