

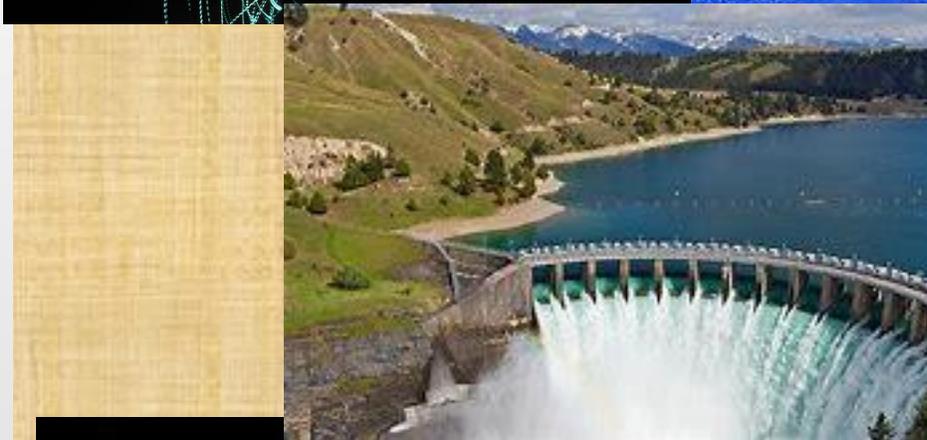
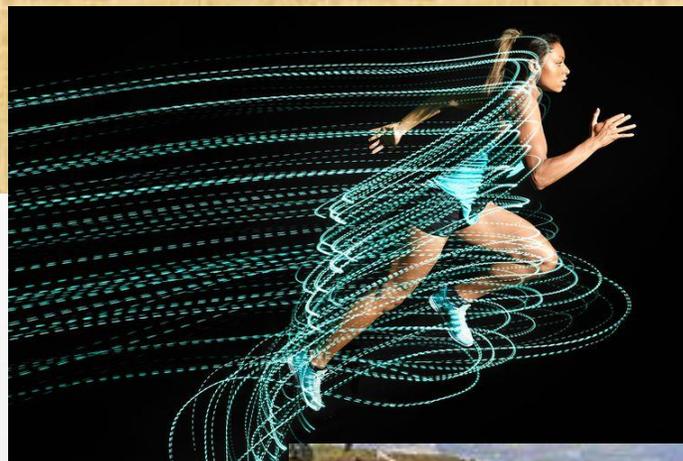
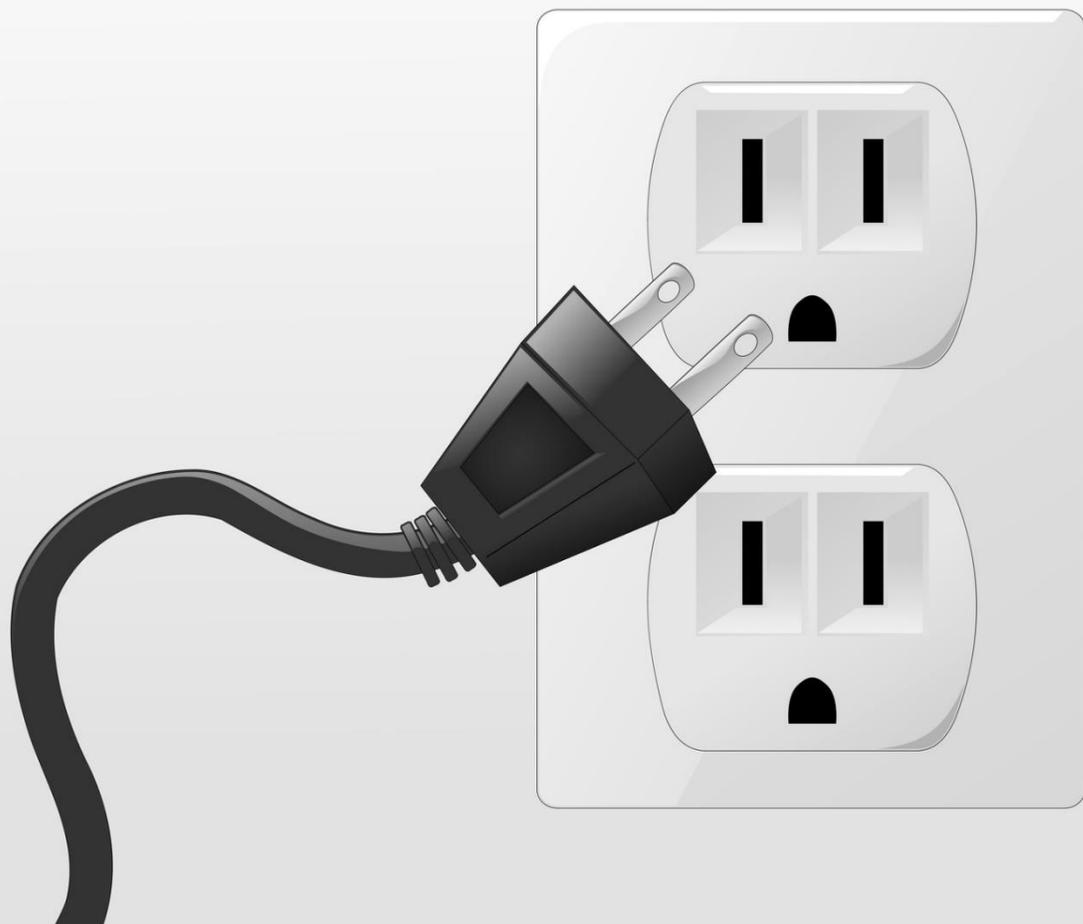
Energy and our Earth-



What's new with Solar Energy in Will County?



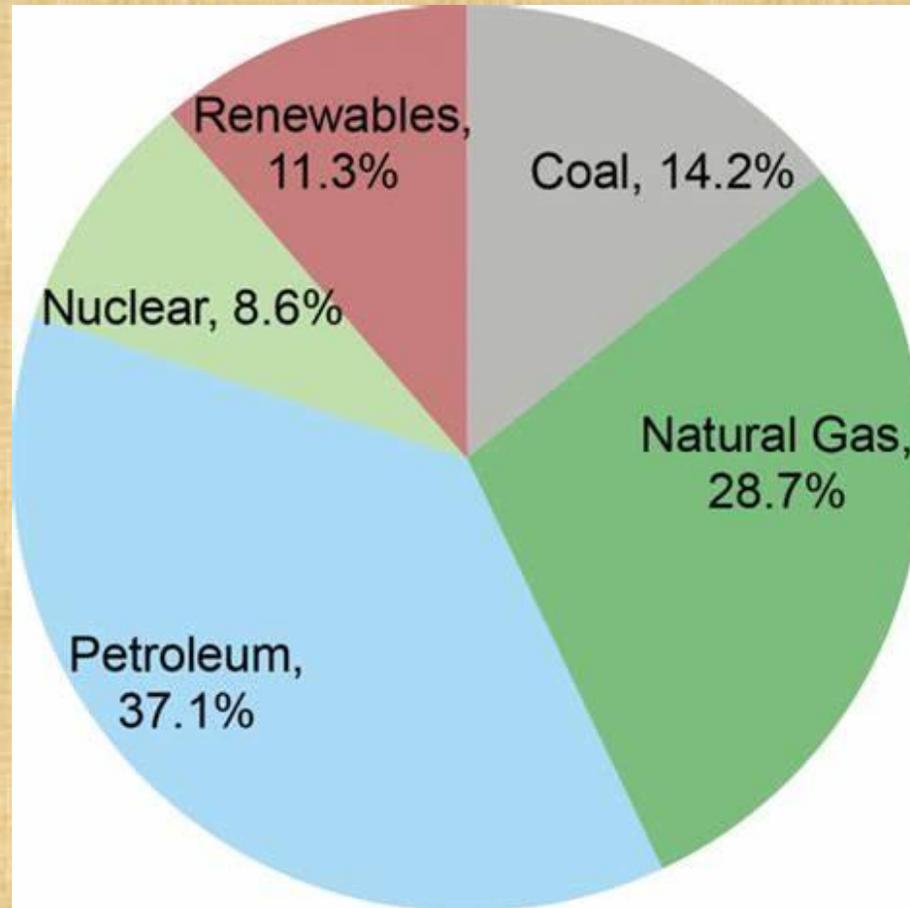
What is energy ?





Sources of energy are turned to power or electricity. The electricity is then shared back and forth on a grid. The grid can cover a single building or spread nationally or internationally.

Energy Mix of Grid



The Chicago museums are exploring the idea of combining energy systems into a micro grid.



energynews.us/2019/01/03/midwest/sharing-systems-could-help-building-owners-get-more-from-microgrids/

Renewables vs Fossil Fuels

- Solar
- Wind
- Geothermal

- Petroleum
 - Coal
- Natural Gas



Fossil fuels are formed by the decomposition of buried dead organisms over millions of years. Petroleum, coal, natural gas and (sometimes) methane gas are considered fossil fuels.



Illinois has a lot of coal buried underground, but burning coal for energy creates air pollution and heats up our planet's air and water.

Also, the ash from burning coal is highly toxic and must be stored somewhere as waste.



Solar, Wind, and Geothermal are considered “clean energy”.

These types of energy are being promoted by new rules passed in 2007 --and strengthened in 2009.

Electric companies in Illinois must use 25% clean energy by 2025%.



Solar panels were put on 6 Troy Schools in Joliet, Plainfield and Shorewood.

**The IKEA
Warehouse in
Joliet has the
largest solar
rooftop in Illinois.**





Valley View School District, in Romeoville and Bolingbrook, has 5 solar schools.



One panel is a photovoltaic cell (PV cell).

A group of PV cells are called an array.

VVSD

Director of Facilities Mike Lopez introduced solar energy to the Schoolboard, and it became a reality.

Superintendent James A. Mitchem Jr. accepted a rebate check for \$478,528 from ComEd for the solar installation.

The solar panels produce about half of the needed electricity there.

VVSD has seen an energy savings of approximately \$600,000 since the solar panels became operational.



How Solar Works



1

The sun bathes the earth with enough energy in one hour to satisfy the entire world's energy needs for a year!



2



Solar panels capture the sunlight and create Direct Current (DC) electricity.



3



A solar inverter takes the DC electricity and converts it to Alternating Current (AC), which can be used to power a building.

4



The AC power is directed from the inverter into the building's electrical panel. The utility tracks the net energy produced with the utility electric meter.



Solar users can store excess energy in a special battery, or credit it back to the grid.



Some solar panels can sit on the open ground.

Some solar panels move with the sun.



“Off-The-Grid” refers to a lifestyle independent of one or more public utilities.

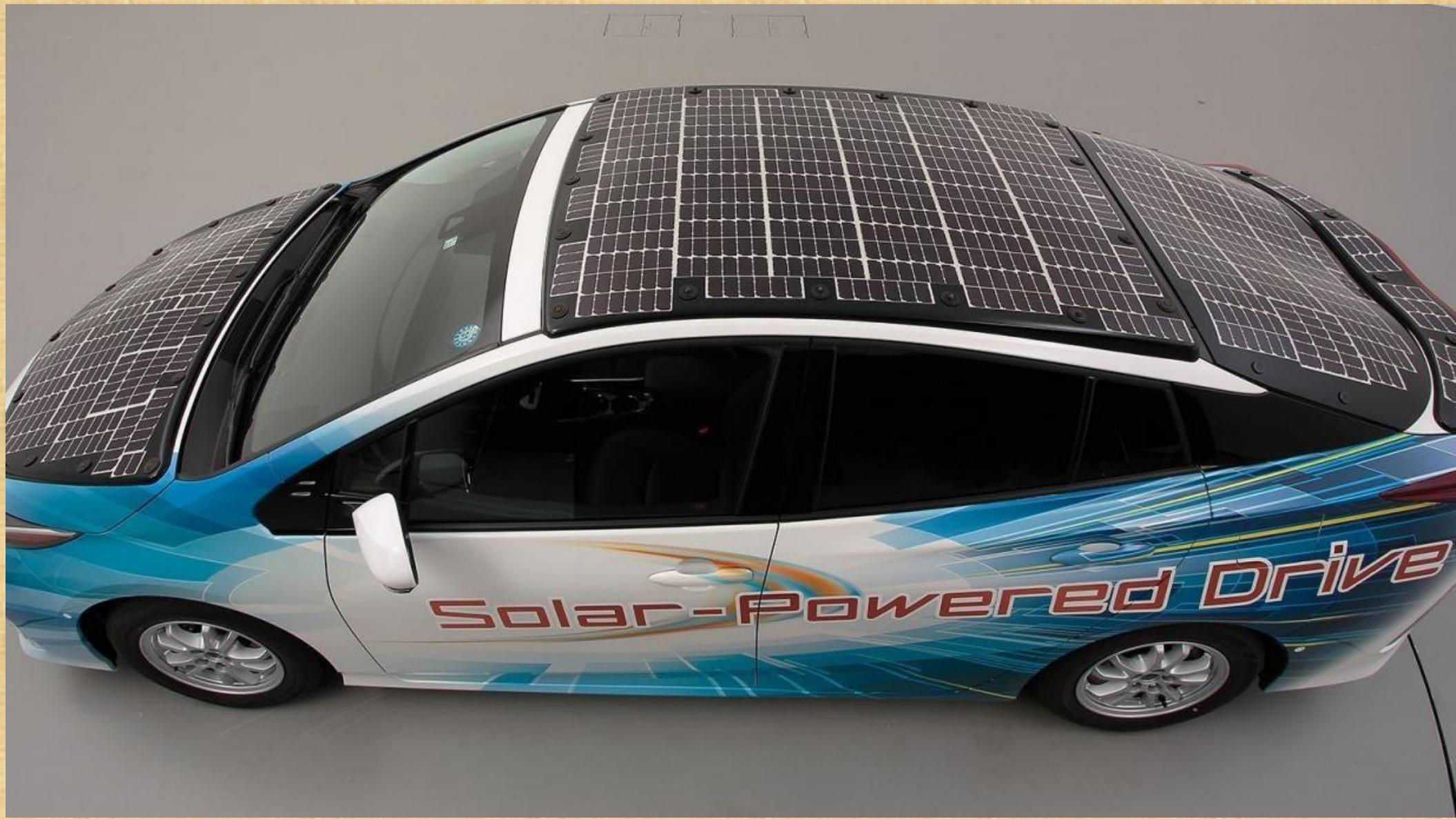
- **Solar Panels**
- **Water Collection**
- **Vegetable Gardens**

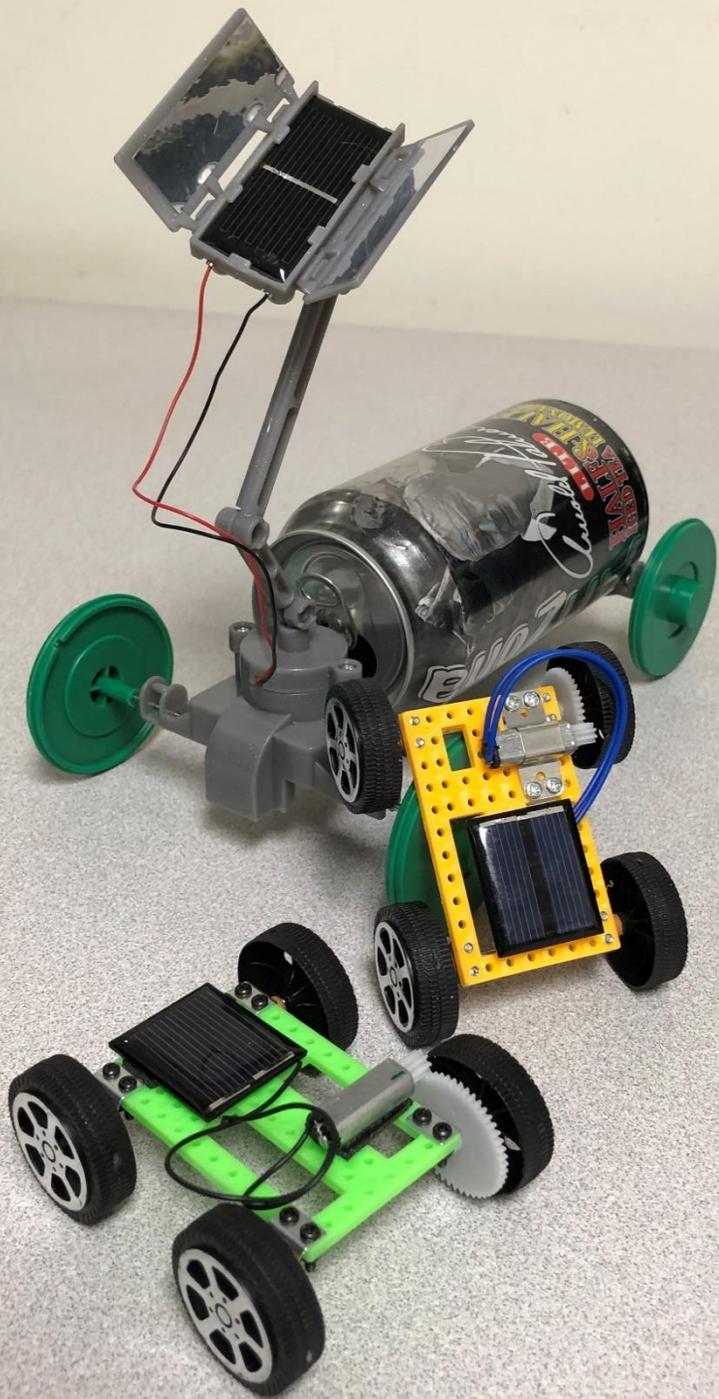




More Solar Applications

Toyota Testing a Solar Car





**Solar
powered
cars
and
phone
chargers**



In real life, the types of energy we use can depend on:

- **Availability**
- **Costs**
- **Pollution**
- **Profits**
- **Jobs**
- **Technology**
- **Politics**
- **Conservation**





**For more on solar energy, contact the
Will County Land Use Dept. RR & E Div.
or email**

jokeefe@willcountygreen.com