

Education

Congratulations on your new PV installation!

We hope your school will enjoy generating clean **renewable energy** for many years to come!

Here's some **helpful information** about how your **solar panels** work and some ideas for learning about solar energy in school.

What's inside...

- Fascinating facts about solar panels
- Activity ideas for Art, D&T, Science, Geography, Maths & History
- PV activity kit! Take it away with you and learn even more

What is PV?

Photovoltaic panels, also called photovoltaic (PV) systems, capture the sun's energy and convert it into electricity.

How do they work?

Solar panels are made up of many small solar cells linked together. Each solar cell is made of two layers of silicon. The top layer has a negative charge (electrons) and the bottom layer has a positive charge (protons). When sunlight hits the solar cells, it knocks the electrons loose and gives them enough energy to move. The electrons begin to flow through the silicon and create an electric current. This is how solar panels generate electricity. But how much electricity can they generate? It depends on the amount of sunlight they receive and the size of the solar panels. You can find out more about solar energy by visiting www.dorsetenergy.co.uk.

How much of our school's electricity will they generate?

Integrating solar into your curriculum and environment, electricity will be a key topic. The electricity generated by your solar panels is measured in kilowatt-hours (kWh). The same units as your electricity meter measure electricity consumption.

Key facts:

- 1 kWh is equal to 3,600,000 joules.
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What other types of solar power are there?

Solar thermal
Instead of using photovoltaic solar panels, solar thermal systems use the sun's energy to heat water. The heated water is then used to generate electricity. This is how solar thermal systems work.

Concentrated Solar Power (CSP)
CSP plants use mirrors to concentrate the sun's energy. The energy is then used to generate electricity. This is how CSP plants work.

Solar tower
Solar towers use mirrors to concentrate the sun's energy. The energy is then used to generate electricity. This is how solar tower plants work.

Do they only work in the summer?

Solar panels generate electricity all year round. They can generate electricity in winter, but the amount of electricity generated will be lower than in summer.

What's a PV system?

A PV system is a system that uses solar panels to generate electricity. It can be used to power a home, a business, or a school.

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Solar kits



- **Charminster First**
- **Lytchett Matravers Primary**
- **Salway Ash Primary**
- **Damers First**

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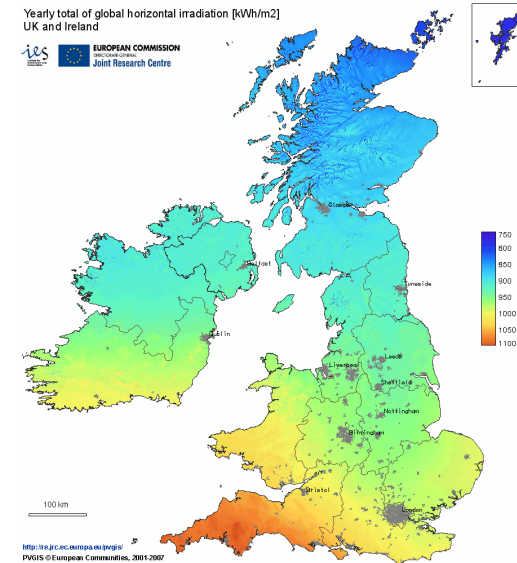
Thomas Hardy School Secondary Science Day



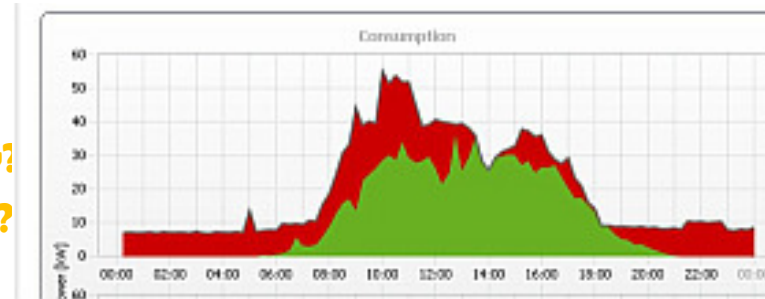
- **How electric current is generated**
- **Factors affecting positioning of solar panels**

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Workshops at Damers First School



- How is electricity made and transported?
- What makes solar energy 'green'?
- Can schools make a lot of solar energy?
- What are the pros and cons of solar energy?
- Is Dorset a good place to have solar panels?



6th Form Project at Westfield College



Education

Get involved.....

Resources in Dropbox folder: goo.gl/59OSpK

Contact: pete@dorsetcommunityenergy.org.uk

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