

Green Energy

Task 1 Green facts – true or false?

True or false?

- 2 billion people in the world have no access to electricity.
- The earth receives more energy from the sun in one hour than the world uses in a year.
- Having a shower uses a third of the hot water of having a bath.
- Leaving televisions and computers on 'stand-by' wastes a lot of energy.

Task 2 How much energy have you used today?

- Think of all the activities you have done today that have used energy. Write your list of activities here:

- Now, compare with your classmates. Who do you think has used the most energy today?

Task 3 Energy options

How much do you know about the different energy sources? Match the definitions on the right with the energy source on the left.

a) Fossil fuels	1) comes from the heat of the sun. You can use panels to trap the energy and it can be saved for cloudy days.
b) Nuclear energy	2) comes from the heat inside the earth. It is good for places with volcanic activity.
c) Solar energy	3) takes energy from flowing water such as rivers, streams and ocean currents.
d) Wind energy	4) are extracted from the earth such as coal, oil and natural gas. When they are burned to make energy they produce carbon dioxide which contributes to global warming.
e) Geothermal energy	5) produces energy by moving blades on a turbine or mill. It is clean energy but it can make a lot of noise.
f) Biomass energy	6) is produced from plant or human waste. Wood is the most common source but now methane gas or vegetable oils are being used to create energy.
g) Hydroelectric energy	7) is produced by splitting atoms. There is a risk of accidents and this form of energy produces dangerous waste that is difficult to dispose of.

- Which of the sources are renewable?
- Where does the energy you use come from?

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Task 4 Reading - How green is your energy?

Student A

Solar lit handbag

There are many uses for a portable solar panel. You can recharge a number of things such as computer notebooks, torches, even water pumps, with them. The latest design, however, features the handbag. Noticing how often her friends searched for keys and other items at the unseen bottom of their bags, Rosanna Kilfedder, a student at Brunel University, had a bright idea. She designed a handbag with its very own inside light. She called it the Sun Trap, and it works by having a solar cell fitted on the outside. The cell stores solar energy to a battery which lights up the inside of the bag whenever the zip, acting as a switch, is used. What's more, the handy battery is friendly enough to act as an emergency charger for your mobile phone and other small gadgets

Student B

Sun and wind pair up for radio show

Two radio presenters in Wales will be relying on eco-friendly power to keep their small community radio station going. Broadcasting from a small church in north Pembrokeshire, Preseli FM will use power generated from the wind and the sun to broadcast 24 hours a day for a month-long experiment. Preseli FM is designed for the local community with topics of interest for all ages, including 'talk show' spots. But, if all goes well, it is hoped that the signals may have enough puff to reach listeners in other parts of the UK.

Student C

World's 'greenest' football stadium

Manchester wants to become the UK's most environmentally friendly city. It is planning to introduce the first sports stadium in the world that is powered by renewable energy. The designs feature several renewable systems from wind turbines, to water recycling, and storage of enough solar energy to supply 4,000 homes. All of this is due to be ready by the 2006/ 07 football season. It's not just the sports fans who will benefit: 'People across Manchester will be able to buy into the 100 per cent renewable energy produced' says Pete Bradshaw, Social Responsibility Manager for Manchester City Football Club.

- Which invention do you think is the most useful?
- Do you think any of the inventions would be successful in your country?

Task 5 Our Green invention

You are working as part of a design team. You have to think of a new invention that works from a renewable energy source.

Brainstorm ideas with your group and then make notes about your new product. Consider the following questions:

- What is it used for?
- Who would use it?
- How would it work?
- Would people buy it?

Then present your ideas to the other groups.

Task 6 Going green: Role play

A - You want to convince your school to use more renewable energy. You think that global warming is a big problem and you want to try and reduce the effect your school has on the environment. Try to convince your school's director that he / she should invest in renewable energy.

B - You are the director of the school. You think it would be a good idea to change to renewable energy but you are worried that changing to renewable energy is very expensive. You want to spend the school's money on other things.