

Renewable & non-renewable energy



By Marcus

Renewable Energy

What is renewable energy?



Renewable energy is made from natural resources such **wind, water (hydro) and sunshine (or solar)**. Renewable energy is also called "clean energy" or "green power" because it doesn't pollute the air or the water.

Wind

Positives:

Wind is a very useful source of electricity. A machine is required called a “wind turbine” or “windmill” which is designed to harness or ‘catch’ the wind and make energy through the rotation of the blades. This is a very special way to produce electricity. Unlike non-renewable electricity the wind can be used as an environmentally friendly source of power.

Negative:

One of the disadvantages of renewable energy is that we cannot store wind and sunshine like that of non-renewable sources such as gas, oil and coal. If the wind doesn't blow or the sun hides behind clouds, there sometimes isn't enough power for everyone.

Renewable Energy



Solar (sunshine)

"Solar" is the Latin word for "sun" and it's a powerful source of energy. We can use solar power in two different ways; as a heat source and as an energy source.

Positives:

Solar panels are fitted to the rooftops and transfer heat from the sun into electricity that we can put to good use. Amazingly, the sunlight that shines on the Earth in just one hour could meet world energy demand for an entire year! This proves how useful this source of energy can be.

Negative:

Solar panels are expensive to fit so only wealthy people have the luxury of solar energy. However, as technology improves and costs go down, energy companies are installing more solar energy gardens to generate clean, renewable energy.

One other problem the sun isn't out 24 hours a day.

Renewable Energy

Hydro (water)



"Hydro" means "water" in Greek - so "hydro energy" is made from water.

The water flowing down a river is used to spin turbines inside the generator to create power.

Positives:

People have used water power for more than 2,000 years. Ancient Egyptians used water wheels for grinding grain, and early Americans learned how to use them for sawing wood.

Falling or flowing water from a big river has a lot of energy. We can harness this by forcing the water through a pipe. As the water flows through the pipe it turns the blades of a turbine which spins an electric generator. As long as the water is flowing, the generator will be able to provide electricity.

Negative:

One drawback is the loss of land and the damage to the local ecosystem caused when a lake is created by a dam. This can also cause people to have to relocate and leave their homes. Another disadvantage is pollution generated by the reservoirs. Dams and turbines can also hurt fish and disrupt their migration to spawning grounds.

Non- renewable Energy

Oil



Oil is a **non-renewable** source. It is made up from the remains of animals and plants, that develop over millions of years, deep beneath the ground into fossil fuels. Fossil fuels are pumped out of the ground and are burned by power stations to generate electricity.

Positives:

Oil is used to power many things, such as: cars; planes and steam trains. Therefore it is a very useful resource for mankind. Power stations fuelled by fossil fuels or nuclear fuels are reliable sources of energy. This means they can provide power whenever it is needed.

Negative:

Fossil fuels took millions of years to form in the Earth's crust, and can never be replaced once they have been used. If we keep using them they will eventually run out. When fossil fuels burn, they release carbon dioxide into the atmosphere which causes green-house gases that increase global warming.

Non-renewable Energy

Coal



Coal is a form of rock that is usually black and hard, or black-brown.

Over millions of years they were changed into coal by pressure from the layers of rock above them. Coal is burned to heat water and produce steam. This steam propels the blades of a turbine. This is attached to a generator, which produces electricity.

Positives:

Coal is relatively cheap and it can be found in many places around the world.

Negative:

Coal is non-renewable. This means that one day we will run out of coal. Burning coal produces carbon dioxide gas; a greenhouse gas that contributes towards climate change as it causes air pollution.