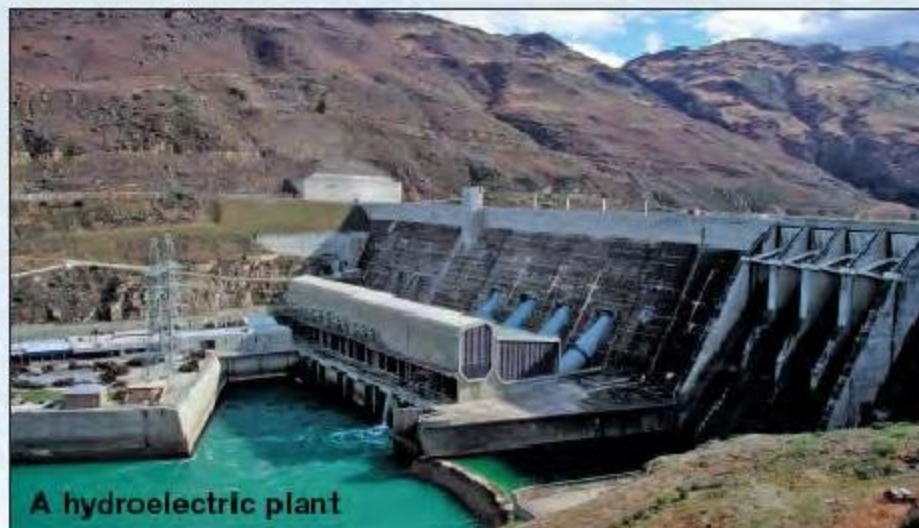


Section 2: Reading

Alternative Energy Sources

For centuries, humankind has used the fossil fuels of coal, oil and gas to provide energy, but these sources of energy will run out because they are not renewable. There are other renewable sources in nature. In this article we look at three, and the advantages and disadvantages of each one.



A hydroelectric plant

Wind power

Wind is one of the oldest sources of energy. Modern wind turbines typically are 60–90 metres high and make electricity directly. A ‘farm’ of wind turbines can provide enough power for a small city. However, if you try to build wind farms on the land, people complain because of the noise and the effect on the landscape. If you try to put them out at sea, people complain because of the damage to fish and birds.

Water power

People have for centuries used the power of rivers and streams to operate efficiently, but modern hydroelectric plants (HEP) need huge reservoirs. These plants could meet 30–40% of world energy needs. However, HEPs destroy the rivers that supply them because they take the oxygen out of the water that is returned to the rivers.

Solar power

In solar cells, sunlight pushes electrons out of atoms and leaves holes which are filled by other electrons. The movement of electrons is electricity. Solar cells are reliable and do not need a lot of maintenance. There is no shortage of sunshine; however, only about half of the sun’s energy reaches the Earth. Solar power is not the answer for some areas because they do not get enough sunshine.



Solar cells/panels

A wind farm

A Read the text on page 38. Choose the best answer in each case.

- 1 This text is about:
 - a wind power.
 - b water power.
 - c renewable energy sources.
 - d solar power.
- 2 Fossil fuels are energy sources that:
 - a have run out.
 - b will never run out.
 - c are renewable.
 - d are not renewable.
- 3 How many renewable sources are mentioned?
 - a three
 - b four
 - c five
 - d six
- 4 What is one disadvantage of HEPs?
 - a They need a large reservoir.
 - b They could meet 30–40% of energy needs.
 - c HEPs destroy the rivers.
 - d They need oxygen.
- 5 What is the disadvantage of solar power?
 - a It pushes electrons out of atoms.
 - b In cloudy areas solar power is impractical.
 - c Solar cells do not need a lot of maintenance.
 - d There is a lot of sun in the US.

B Study the Grammar Box.

Joining ideas

We can join ideas in the same sentence with **because** or **so**.

Examples:

*HEPs destroy the rivers **because** they take the oxygen out of them.*

*Fossil fuels won't last for ever, **so** it's a good idea to use alternative energy sources.*

We can also join ideas in the same sentence with **and**, **but**, and **or**. We often omit the subject from the second idea in this case.

Examples:

*Solar cells are reliable **and** do not need a lot of maintenance.*

*These energy sources have many advantages, **but** they also have disadvantages.*

*We need to use more renewable sources **or** we'll never stop global warming.*

We can join ideas in a paragraph with **however**.

Example:

*A modern wind farm can provide enough power for a small city. **However**, some people complain about them.*

C Choose a suitable word or phrase from the Grammar Box above to join the ideas.

- 1 Man has used fossil fuels to provide energy. _____, these sources will run out.
- 2 People complain _____ of the effect on the landscape.
- 3 Modern wind turbines are typically 60–90 metres high _____ make electricity directly.
- 4 People have used the power of rivers for centuries _____ modern HEPs need huge reservoirs.
- 5 Solar power is not right for some areas _____ they do not get enough sunshine.