

Renewable energy

Renewable energy is an alternative to fossil **fuels** and nuclear power. It comes from natural **sources** that are naturally replenished. These sources include:

Biomass, Hydropower, Wind, Geothermal, Solar energy.

A. Read the text and complete it with the headings given above.

1. This type of energy is produced by tall wind towers. It is a clean type of energy because it doesn't produce water or air pollution. Unfortunately it is **unpredictable** and some people think it degrades the scenery as well as making a noise. However, measurements of wind turbine noise taken in the UK, Denmark, Germany and the USA show that the levels of low frequency noise are very low. Recently there has been evidence that wind farms may negatively affect bird migration **patterns** as well as interfering with radar **therefore** posing a national security risk. Wind turbines usually have 3 **blades** with an **average** length that ranges from 20 to 40 metres or more. The tubular steel towers can be over 100 metres high. Wind turbines usually last about 20 years.
2. This natural source can be **exploited** in a number of ways. Hydroelectric power stations convert the kinetic energy from flowing water into electricity by use of turbines, generators and **dams**. The construction of a dam can seriously affect the local habitat of many species and can cause a greenhouse effect because of the emission of methane from decaying organic material. This has occurred in the Amazon basin. However, the benefits of this form of renewable energy are numerous as it doesn't create waste or pollution and the supply of electricity is constant. Tidal power is also a clean and free source of sustainable energy. However, the difference between high and low **tides** must be at least 5 metres. There are only about 40 sites on earth with these tidal ranges.
3. This source of energy comes from the heat underneath the Earth's surface. Countries along the Ring of Fire that circles the basin of the Pacific Ocean have a lot of tectonic activity so large amounts of heat rise to the surface.
4. This is the source of all types of energy but it is more expensive than traditional energy sources. The chemicals used to manufacture photovoltaic cells can be dangerous. It also depends on climate and weather.
5. This form of energy comes from plants and is a source of carbon and hydrogen. We can use it today to fuel vehicles and generate electricity.

Glossary

fuels: combustibili; **sources:** fonti; **unpredictable:** imprevedibile; **patterns:** schemi; **therefore:** perciò; **blades:** pale; **average:** media; **exploited:** sfruttato; **dams:** dighe; **tides:** maree

practice

B. Write FAQs (frequently asked questions) about wind turbines for the given answers.

1. ?
They usually have three.
2. ?
They are from 20 to 40 metres or more.
3. ?
Yes, they do but it is very low.
4. ?
About 20 years.
5. ?
They can be over 100 metres high.

C. Write two advantages and two disadvantages of hydroelectric power stations?

Advantages

Disadvantages

D. Complete this information about “The Ring of Fire” by filling in the definite article THE where necessary.

..... Pacific Ring of Fire is about 40,000 kilometres long and has a total of 452 volcanoes. There are many **cracks** in Earth's **crust** where magma can reach. surface and erupt. There are volcanoes in countries such as Chile, Mexico, ... USA, ... Canada, ... Japan and Philippines. This area also creates islands and mountain chains. Aleutian islands in Alaska are all volcanic.

Glossary

cracks: fessure; **crust:** crosta

E. Match column A with column B to make sentences about energy saving.

A

1. Turn off the lights
2. Take a shower and not a bath
3. Read during the day
4. Wash yourself with cold water
5. Don't use your car
6. Don't put hot food
7. Turn off your television, stereo and computer

B

- a. to use daylight
- b. straight into the fridge
- c. when you are not using them
- d. so that you don't waste hot water
- e. when you are not using a room
- f. when you can walk to places
- g. in summer