

Unit 14

Energy for the Future



029



Modern life is fuelled by electricity. Most of this energy comes from fossil fuels such as coal, oil and natural gas. However, these non-renewable resources are in limited supply on the planet. At some point in the future, fossil fuels will run out. That's why the search for renewable energy sources has become one of the greatest challenges of the 21st century. Renewable energy comes from natural sources like the sun, wind, water and tides and can be generated again and again. These renewables are easily available and they are the cleanest sources of energy on this planet. Let's take a closer look at them.



Wind Power

is produced by turbines that turn wind into electricity.

PROS Wind turbines create little pollution, require limited maintenance and are relatively inexpensive to build.

CONS No energy is produced when the wind isn't blowing. The towers create noise and can be harmful to birds and wildlife. They also require a lot of land.

Biomass Power



comes from plants, trees and other organic material that is burned. When waste material is used, this is known as 'energy-from-waste'.

PROS It's abundant and cleaner than fossil fuel. It can be used without interruption.

CONS It can result in air pollution, takes a lot of energy to produce and can be seasonable.

Hydroelectric Power



is generated from flowing water, which turns turbines and generates electricity.

PROS It's clean and abundant where there are bodies of water. It produces no waste or pollution.

CONS Dams are expensive to build and can cause environmental damage. Its use is restricted to where there is water.

DID YOU KNOW? #FridaysForFuture

One of the main driving forces behind the search for renewable energy sources is concern over the impact of fossil fuels in terms of climate change. In recent years millions of students around the world have gone on strike to raise awareness of the need for change, following the example of activist Greta Thunberg, who first staged a protest outside the Swedish Parliament in August 2018, holding a sign that said 'School strike for climate'. This sparked an international movement called #FridaysForFuture, which so far has brought together over 13 million people all around the globe, with the motto 'There is no Planet B'.

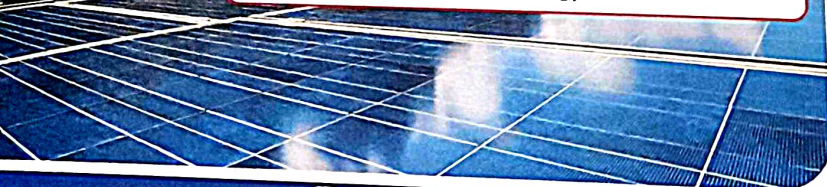




Solar Power comes from photovoltaic cells, which convert sunlight into electricity.

PROS It can rely on an unlimited supply of sunlight and produces no pollution or waste.

CONS It doesn't generate electricity at night or when overcast. It's more expensive than other sources. It takes a lot of space to generate a significant amount of energy.



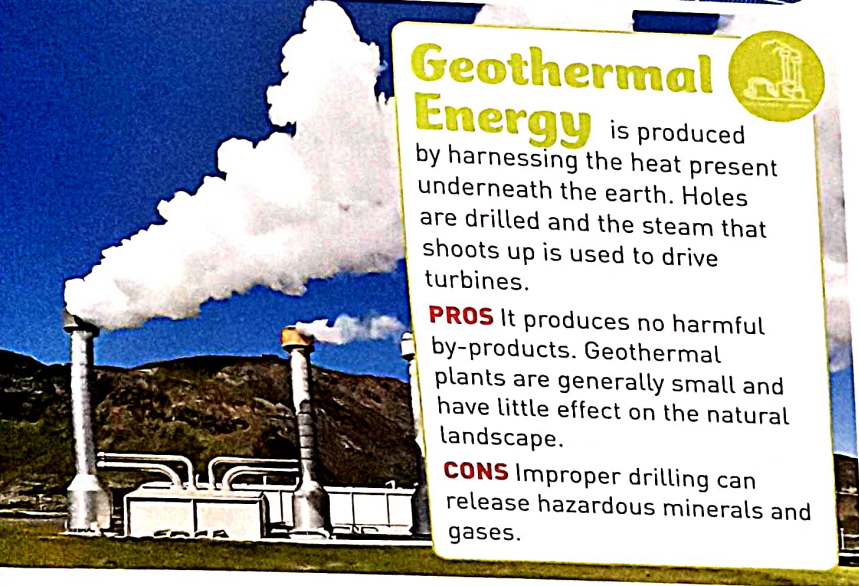
Geothermal Energy



is produced by harnessing the heat present underneath the earth. Holes are drilled and the steam that shoots up is used to drive turbines.

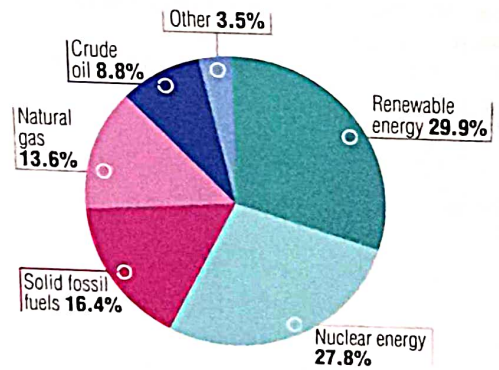
PROS It produces no harmful by-products. Geothermal plants are generally small and have little effect on the natural landscape.

CONS Improper drilling can release hazardous minerals and gases.



FACTS & FIGURES

Energy Production in the EU



in 90seconds

What is an electric vehicle?



▶ Watch the video to find out

Glossary

fuelled: alimentata

supply: fornitura, quantità

maintenance: manutenzione

dams: dighe

overcast: nuvoloso

harnessing: sfruttando

hazardous: pericolosi (per la salute)

sparked: ha suscitato

1 WARM-UP Do you know where most of the energy we use comes from?

2 SPEAKING Read the texts and answer the questions.

- 1 Why has the search for renewable energy sources become such a major challenge?
- 2 Where does geothermal energy come from?
- 3 How is 'energy-from-waste' produced?
- 4 Which of the renewable energy sources listed can still be a serious source of air pollution?
- 5 Which of these sources are only available at certain times of the day or year?
- 6 How did the #FridaysForFuture movement emerge and what is its goal?

3 MEDIAZIONE Look at the chart 'Energy Production in the EU' and prepare a short oral presentation discussing its data.

Most of the energy produced in the EU comes from ...

4 WRITING Browse the Internet and find information on the pros and cons of fossil fuels and atomic energy. Prepare a short description of these two non-renewable sources of energy.

5 DEBATE Get together in groups and discuss the pros and cons of different energy sources. Half the group will support the use of renewable energy sources, while the other half will support the use of fossil fuels and atomic power.