

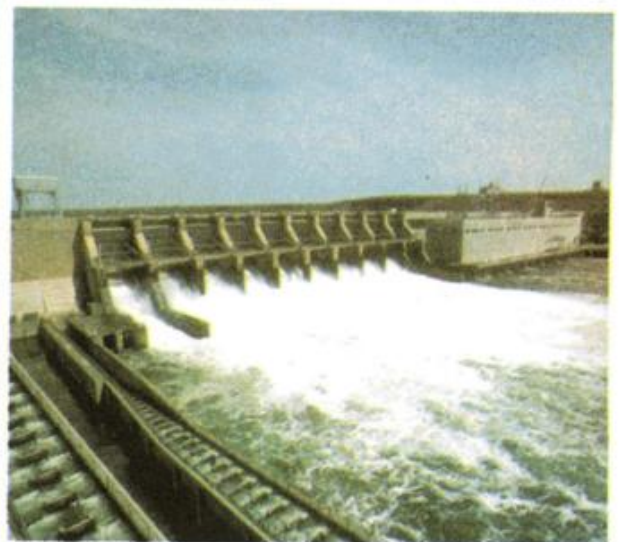
Unit 11



SOURCES OF ENERGY

A. READING

Before you read



Work with a partner. Answer the following questions.

1. What source of energy does each picture above refer to?
2. What do you need energy for?

While you read

Read the passage and then do the tasks that follow.


At present, most of our energy comes from fossil fuels (oil, coal, and natural gas). However, such reserves are limited. Because power demand is increasing very rapidly, fossil fuels will be exhausted within a relatively short time. Therefore, people must develop and use alternative sources of energy.

One alternative source is nuclear energy. Nuclear energy can provide enough electricity for the world's needs for hundreds of years, but it can be very dangerous. Another alternative source of energy is geothermal heat, which comes from deep inside the earth. Scientists use this heat to make energy. However, this energy is available only in a few places in the world.

The sun, water, and the wind are other alternative sources of energy. The wind turns windmills and moves sailboats. It is a clean source of energy, and there is lots of it. Unfortunately, if the wind does not blow, there is no wind energy. When water moves from a high place to a lower place, it makes energy. This energy is used to create electricity. Water power gives energy without pollution. However, people have to build dams to use this energy. And as dams cost a lot of money, water energy is expensive.


The sun releases large amounts of energy every day. This energy can be changed into electricity. Many countries use solar energy for their daily life. Solar panels on the roofs of houses can create enough energy to heat or cool an entire house. Solar energy is not only plentiful and infinite but also clean and safe.

Although there are some disadvantages, the potential of alternative sources of energy is great. However, how to make full use of these sources of energy is a question for researchers all over the world.

 **Task 1.** The words in the box all appear in the passage. Fill each blank with a suitable word. (Use a dictionary when necessary.)

alternative limited energy released exhausted

1. Six hundred balloons were _____ at the ceremony.
2. They are looking for _____ methods of making it.
3. People use _____ to run machines, heat and cool their homes.
4. The food in the restaurant is cheap, but the choice is rather _____.
5. Fuel supplies are nearly _____.

 **Task 2.** Scan the passage and write down the advantage(s) and disadvantage(s) of each alternative source of energy.

Sources of energy	Advantage(s)	Disadvantage(s)
Nuclear power		
Solar energy		
Water power		
Wind power		
Geothermal heat		

 **Task 3.** Answer the questions.

1. What is our major source of energy?
2. How many sources of energy are mentioned in the text, and which one do you think has the most potential?


After you read

Complete the summary of the reading passage by filling each blank with a suitable word from the box.


one	environment	alternative	limited
unlimited	sources	energy	fuels

We need energy to live and work. Our major source of (1) _____ is oil. Oil is (2) _____ kind of fossil fuel. The amount of fossil (3) _____ in the world is (4) _____. Therefore, we must save it, and at the same time, we must find new sources of energy. Geothermal heat and nuclear power are (5) _____ sources of energy. They can give us electricity. Other alternative (6) _____ are the sun, waves and water. These sources are not only (7) _____ and available but also clean and safe for the (8) _____. People should develop and use them more and more in the future.

B. SPEAKING

 **Task 1.** The following statements list some advantages and disadvantages of various sources of energy. Read and tick (✓) the appropriate box A (for the advantages) or D (for the disadvantages), then compare the results with a partner's.

	A	D
1. Fossil fuels will be exhausted within a relatively short time.		
2. Geothermal heat is available only in a few places in the world.		
3. If the wind does not blow, there is no wind energy.		
4. Water power provides energy without pollution.		
5. A nuclear reactor releases radiation which is dangerous to the environment.		
6. Solar energy is not only plentiful and unlimited but also clean and safe.		
7. It is expensive to build a dam for hydroelectricity.		

 **Task 2. Work in pairs.** Talk with your friend about the advantages and disadvantages of using each alternative source of energy, using the suggestions from Task 1.

Example:

A: *I think/believe that wind power can be an alternative source of energy.*

B: *Why do you think/believe so?*

A: *Because our major sources of energy are running out while the wind is abundant and unlimited.*

B: *I know it is also clean and safe to the environment. However, it is not available when there is no wind.*

Useful language:

enormous, plentiful, available

clean and safe

unlimited, renewable

convenient

cheap, simple devices/ technology

dangerous


expensive

polluted

limited, non-renewable

harmful

exhausted

 **Task 3. Work in groups.** Express your belief on the increasing use of alternative sources in the future, using the ideas from Task 2.

C. LISTENING

Before you listen

- **Work in pairs.** List some of the things you use energy for in your house.
- **Listen and repeat.**

ecologist

resources


renewable

fossil fuels


unlimited

fertilized

While you listen

 **Task 1.** Listen and complete the sentences by circling the letter A, B, C or D.

- Ecology is the study of _____.
A. human beings and animals
B. the environment and solar energy
C. natural and alternative resources
D. human beings and their environment
- The natural environment consists of _____.
A. the oceans and the land B. the sun and the air
C. all natural resources D. the air and the oceans
- If the resource can be _____, it is called renewable.
A. burnt quickly B. used easily
C. divided properly D. replaced quickly
- Grass for animals is a _____ resource.
A. renewable B. nonrenewable
C. limited D. clean
- According to the passage, coal is nonrenewable because it takes _____ to make it.
A. billions of years B. millions of years
C. three million years D. three billion years

 **Task 2.** Listen again to the last part of the talk and write in the missing words.

Solar energy, air, and water are renewable resources because there is an (1)_____ supply. However, this definition may change if people are not careful with these resources. The amount of solar energy that reaches the earth depends on the (2)_____. If the atmosphere is polluted, the solar energy that reaches the earth (3)_____ be dangerous. If life is going to continue, the air must contain the correct amount of nitrogen (N), oxygen (O), carbon dioxide (CO₂), and other (4)_____. If humans continue to pollute the air, it will not contain the correct (5)_____ of these gases.

After you listen

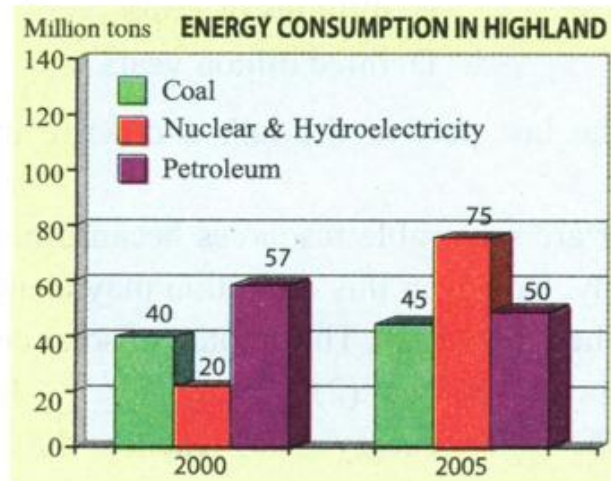
Which group do these sources of energy belong to? Put a tick (✓) in the right column.

Sources of energy	Nonrenewable	Renewable
Coal		
Geothermal heat		
Petroleum		
Solar energy		
Oil		
Wind energy		
Gas		

D. WRITING

Task 1. Study the chart about energy consumption in Highland in 2000 and fill in the gaps with the information from the chart.

The chart shows the energy consumption in Highland in 2000. As can be seen, the total energy consumption was (1) _____ million tons.



Petroleum made up the largest amount of this figure (57 million tons). This was followed by the consumption of (2) _____ (40 million tons). Nuclear & Hydroelectricity made up the (3) _____ amount of energy consumption (20 million tons).

Task 2. Continue your description of the trends in energy consumption in the year 2005 in Highland.

Task 3. Describe the chart, using the information from Tasks 1 and 2.

E. LANGUAGE FOCUS

● **Pronunciation:** /ʃr/ - /spl/ - /spr/

● **Grammar:**

Relative clauses replaced by participles and *to* infinitives (revision)

Pronunciation

● *Listen and repeat.*

/ʃr/	/spl/	/spr/
shred	splash	spring
shrill	split	spray
shrimp	spleen	spread
shrine	splutter	sprightly

● *Practise reading aloud these sentences.*

1. They were all shrieking with laughter.
2. He shrugged (his shoulders), saying he didn't know and didn't care.
3. My dad hates shrimp paste.
4. What a splendid spring day!
5. The stream splits into three smaller streams at this point.
6. The house has a narrow front, but it splays out at the back.

Grammar

Exercise 1. Rewrite the following sentences, using a present participial phrase.

Example:

The man who spoke to John is my brother.

The man speaking to John is my brother.

1. The boy who is playing the piano is Ben.

2. Do you know the woman who is coming toward us?

3. The people who are waiting for the bus in the rain are getting wet.

4. The scientists who are researching the causes of cancer are making progress.

5. The fence which surrounds our house is made of wood.

6. We have an apartment which overlooks the park.

Exercise 2. Rewrite the following sentences, using a past participial phrase.

Example:

The Sport Games which were held in India in 1951 were the first Asian Games.
The Sport Games held in India in 1951 were the first Asian Games.

1. The ideas which are presented in that book are interesting.

2. I come from a city that is located in the southern part of the country.

3. They live in a house that was built in 1890.

4. The photographs which were published in the newspaper were extraordinary.

5. The experiment which was conducted at the University of Chicago was successful.

6. They work in a hospital which was sponsored by the government.

Exercise 3. Rewrite the following sentences, using an infinitive phrase.

Example:

Yuri Gagarin was the first man who flew into space.

Yuri Gagarin was the first man to fly into space.

1. John was the last man who reached the top of the mountain.

2. The last person who leaves the room must turn off the light.

3. The first person that we must see is Mr. Smith.

4. This is the second person who was killed in that way.

5. The first person who catches the ball will be the winner.

TEST YOURSELF D

I. Listening (2.5 points)

Listen to the passage about water conservation and complete the following sentences.

1. Without water, people and other living things _____.
2. If there were no plants, water would run off after _____.
3. Water can be held on the land by _____.
4. Dams are built across rivers to help _____.
5. Water is stored in reservoirs during wet seasons for use in _____.

II. Reading (2.5 points)

Read the passage and answer the questions.

Air, water, and soil are necessary to the survival of all living things. Badly polluted air can cause illness, and even death. Polluted water kills fish and other marine life. Pollution of the soil reduces the amount of land that is available for growing food. The pollution problem is very complicated because much pollution is caused by things that benefit people. For example, exhaust from automobiles causes a large percentage of air pollution. But the automobile provides transportation for millions of people. Factories discharge much of the material that pollutes the air and water, but factories give employment to a large number of people. Thus, to end or greatly reduce pollution immediately, people would have to stop using many things that benefit them. Pollution can be gradually reduced in several ways. Scientists and engineers can work to find ways to lessen the amount of pollution that such things as automobiles and factories cause. Governments can pass and enforce laws that require businesses and individuals to stop, or to cut down on certain polluting activities.

1. What is necessary for the survival of all living things?

2. What can polluted air, water and soil cause?

3. Why is the pollution problem complicated? Give one example.

4. What would people have to do to end or to reduce pollution immediately?

5. How can governments control pollution?

III. Pronunciation and Grammar (2.5 points)

a) Listen and put a tick (✓) in the right box, paying attention to the pronunciation of the underlined part of the word.

- | | |
|--|---|
| 1. <input type="checkbox"/> <u>s</u> leep | <input type="checkbox"/> <u>s</u> neeze |
| 2. <input type="checkbox"/> <u>s</u> nack | <input type="checkbox"/> <u>s</u> plash |
| 3. <input type="checkbox"/> <u>sh</u> rimp | <input type="checkbox"/> <u>sp</u> ring |
| 4. <input type="checkbox"/> <u>s</u> pread | <input type="checkbox"/> <u>s</u> plash |

b) Complete each of the following sentences, using the correct form (*to-infinitive* or *participle*) of the verb in the box.

drink	invite	blow
live	ring	leave

1. Sometimes life is very unpleasant for people _____ near airports.
2. I was woken up by a bell _____.
3. John was the last student _____ the lecture hall.

4. Do you have anything _____ ?
5. None of the people _____ to the party can come.
6. There was a tree _____ down in the storm last night.

IV. Writing (2.5 points)

Write a paragraph of 120 words about the measures to protect the environment, using the cues given below.

Introduction:

– we / try to find solutions / environmental pollution.

Body:

– people / stop cutting trees for timber.

– instead, they / plant trees and forests.

– people / reduce using cars, motorbikes / that cause noise and air pollution.

– we / prevent farmers / use fertilizers and pesticides / that damage soil.

– people / not leave / litter on land and in water.

– we / prohibit factories / dump industrial waste / rivers and lakes.

Conclusion:

– it / be / high time / governments / have suitable measures / that require companies, individuals / stop cutting down / polluting activities.

You may begin with:

We are trying to find solutions to environmental pollution. People should stop cutting trees for timber..