# Power -the alternatives

Grammar

If sentences: conditional

### Discuss



- a Read the list of energy sources. Which is the odd one out? Why?
  - coal
- ▶ solar → oil → gas
- nuclear
- b What are the advantages and disadvantages of the different kinds of energy? Discuss these ideas with your partner.
  - costs
- the situation now and in the future
- the environment

### Read

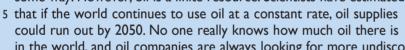


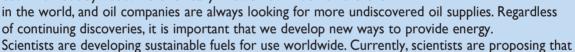
Read the article below. What ideas did you mention in your discussion?

### The Power of Oil

### Now and the Future

Without oil, the world would be a very different place. In fact, you'd struggle to find any area of modern life that doesn't involve oil in some way. However, oil is a finite resource. Scientists have estimated





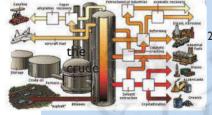
10 motorists use renewable oils. These oils are derived from renewable sources such as grain, wood chips and even agricultural waste. Most vehicles can run on fuel made from a mixture of renewable and crude oil. This reduces costs and pollution, and ensures the supply of natural oil lasts longer. Unfortunately, the many other uses of oil make it extremely difficult to replace entirely.

### The Environment

15 The use of oil and other fossil fuels is contributing to environmental damage and global warming. Pollution from vehicles, factories and power stations has contributed to environmental problems. Drilling for oil can also have detrimental effects on the environment as it sometimes involves the destruction of animal habitats. However, some scientists have argued that the use of natural oil has actually saved several animal species, such as the sperm whale, which was previously hunted

20 to make oil. Some oil companies also contribute towards environmental projects in an attempt to limit the damage they cause.





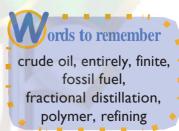
Although it is expensive to make and set up the necessary equipment extract oil from the ground, once these are in place the cost of oil 25 extraction is relatively low.The real cost of oil is generally incurred by fractional distillation during oil refining. This is the process by which oil is split into many different types of oil, which can then be used for different purposes. For example, crude oil can be made into petrol for cars, polymers for plastic and even tar for roads.

Match these 'energy' words <b>a–e</b> with their meanings <b>1–5</b> . You may use the dictionary
or the glossary at the end of the book.  a finite  2  1 the process by which impurities are removed from a substance
b contribute 5 2 limited
c refining 1 in natural or raw form; unprocessed
d crude <u>3</u> 4 natural energy formed over a long period of time
e fossil fuel 4 5 aid in causing something to occur
(7.1) You are going to hear part of a radio programme about world energy. Which types of energy do the speakers mention?
coal, oil, natural gas, hydro-electric power, wind power, wave power, solarenergy, wood (vegetation)
(7.1) Listen again and note the correct numbers for the gaps in these
sentences.
a Coal and oil will last for 60 years. Natural gas will last for 220
years.
b The Aswan Dam in Egypt produces over 10.billion kilowatts of electricity every year.
The Rogun hydro-electric dam in Tajikistan is 355 metres high.
d The world's first wind-powered generator was built in the year 1890.
e In parts of Africa, women walk over 10 kilometres a day to find wood.
f The average American uses 340 times as much energy as an Ethiopian.
Read the article again.
a Are these statements True (T) or False (F)? Justify your answer.
1 Reserves of coal and oil will last longer than reserves of natural gas.
False: Reserves of natural gas will last for 220 years and reserves of coal and oil will only last for 60 years.
The world's largest oilfield is in Saudi Arabia.
True: The Al-Ghawar oilfield in Saudi Arabia is the biggest in the world.
Wind, waves and the sun produce only five per cent of the world's energy needs. □
False: Wind, waves and the sun-produce only 0.5-per cent of the world's
4 In some places, plants provide most of the energy people use.
True: In some poor countries plants provide over 90% of all the fuel
answers.
(predicting; discussing advantages and

# disadvantages)



- a What are some possible consequences if the world's industry reduces its energy use?
- What are the disadvantages of natural sources of energy like wind power, wave power and solar energy? Discuss.



1)a)1-continue (to use): present simple; will last: futuresimple. This is a first conditional sentence.

2-walk: present simple; need: present simple. This is ageneral conditional sentence.

3-were: past simple; would last: past. This is a

If I accept the job, \_\_\_\_\_

If I accept the job,

• IT Sel	second conditional sentence.
<b>(1</b> T	here are three different examples of $if$ sentences (conditionals) in the radio discussion.
a	Find the verbs in these examples.  1 If we continue to use coal at today's speed, it will last for 60 years.  2 Women walk over 10 km if they need wood for fuel.  3 If we were more careful, our energy would last longer.
b	Choose one of the words below to describe each of the sentences.  Sentence 1 likely Sentence 2 always Sentence 3 unlikely
•Gene	2)a- Ask the students to explain how we know these answers (because the sentences a the present simple, which can describe a habit or routine.)  Read this short conversation, then answer questions 1 and 2 below.
b	A What do you do if you have no money? B If I have no money, I ask my dad.  1 Have the speakers been in a situation where they have no money? Yes, they have.  2 How often has this happened to them? Once, or more than once? More than once.  Complete these sentences so that they are true for you. Students' own answers  If I feel hungry, I
• First	If I can't sleep at night, I  Make conversations in pairs. Take turns to ask the first question. Students' own answers  A What do you do if you feel hungry?  B I look in the kitchen.
<b>3</b> a	Read this short conversation, then answer questions 1 and 2 below.
b	1 policeman (to driver) If you drive too fast,
	3)a-Ask the students to explain how we know these answers (because the sentences are in the first conditional, which is used to talk about future eventsthat are likely to happen.)



### Second conditional



igl 4 a Read this short conversation. Are f A and f B talking about past, present or future time? Future time

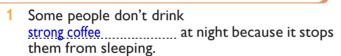
- A If we use our cars less, we will create less pollution.
- **B** Crude oil separates into composite parts if it is heated at high temperatures.
- A If I owned a power station, I would reduce energy costs.
- b Is it likely or unlikely that the oil will run out tomorrow? unlikely
- c Complete these sentences by adding the correct form of the verbs in brackets.
  - 1 If we found (find) a way of using water instead of petrol, the cost of motoring would fall (fall).
  - 2 If the cost of motoring <u>fell</u> (fall), everyone <u>would use</u> (use) their cars more often.
  - If everyone <u>used</u> (use) their cars more often, the roads <u>would be</u> (be) much more crowded.
- d Work in pairs. Discuss what would happen if sea levels around the world rose by two metres next week. **Students' own answers**

### Vocabillary Strong and heavy



Complete the sentences with one of these phrases.

strong lights heavy work heavy traffic strong coffee heavy fall strong smell heavy fighting strong wind



To play football at night, you need very strong light

4 The boat sailed quickly because of the strong wind

5 My uncle broke his leg when he suffered a heavy fall . . .

- 6 There is a strong smell of curry coming from the kitchen.
- 7 The newspaper reports heavy fighting in central Africa. heavy work
- 8 Building houses is



actually, appliance, breakdown, generate, last, motoring, strong

### Word families



Work in pairs. Complete this text with one of the words in italics.

The British coal (1) industry / industrial employs just over

9,000 people. In 2002/03, total British (2) product / production was 28.9 million tonnes. About a third of this coal is used to

- (3) generate / generator electricity. This means that when people use
- (4) electricity | electrical appliances in their homes, they are actually (5) useful | using coal.

### Pronunciation



(7.2) Listen and repeat these words. Notice how the two words are linked together.

e If oil ...

- a If you ... c If we ...
- b If I ... d If the ... f If Faisal ...

4

(7.3) Listen and repeat the same words in the following sentences.

## Speaking Expressing opinions



1 You are going to discuss this statement in groups of five.

"To help save the world's energy resources, the government should increase the price of petrol by 100%."

### nfroduction and preparation

- Each group chooses one of the roles **A–E**.
- Read your role card and decide what you think about the statement.

### A - Petrol station owner

- You own a petrol station.
- Most of your income is from selling petrol to local people and companies.

You use your car every day: for work, for shopping and to visit You are self-employed and for most of the week you have to travel and consult different companies.

B – Someone who wants to protect nature You think there is too much congestion on the roads and that the smog is a danger to nature and to people's well-being. You go everywhere by public transport or on foot and you suffer from asthma.

# D – Teenage cyclist

- You are too young to drive,
- so you travel everywhere by bicycle.
- Your journey to work is hazardous because the traffic is very heavy in the mornings. Cars have knocked you off your bike twice.

# E - Student

- At the moment you walk everywhere but you'd like to procure a car when you leave university and get a
- You are worried about the environment.

### Role-play



### 2 Work in groups of five – A, B, C, D, E.

- First, each 'character' should say what he / she thinks about the statement in exercise 1. Say why you are pleased or worried by the idea. How does the language differ? Use some of the expressions from the Useful Language box below.
- b When everyone has expressed their opinions, have a general discussion.
- c Finally, organise a vote to find out whether your group agrees or disagrees with the statement.

### **USEFUL LANGUAGE**

Saving why one is worried

I'm really worried about (the idea) because ... I'm afraid X would (happen) if they increased the price of petrol.

Saying why one is pleased

I'm really pleased ... I think it's a great idea. It sounds good to me.

Quote "Environmental protection doesn't happen in a vacuum. You can't separate the impact on the environment from the impact on our families and communities."

Jim Clyburn



### Milliu A magazine article

### Read and analysa

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You are going to write an article for a school magazine suggesting practical ways in which we could all save energy.



### 1 Read the magazine article below and answer these questions:

- What do you know about the writer and the readers of the article? they drive cars
- b How does the writer start and finish the article? with questions for the reader
- Is the style formal or informal? informal
- What is the main purpose of the article? to persuade the readers to use their cars less often

### DO YOU REALLY HAVE TO DRIVE2

When you're in your car, do you ever think, 'Do I have to drive?' or 'Could I travel by bus?' Recently. I've asked myself these questions more often. Sometimes I have good answers, 5 but not always.

When I drive to work, I'm the only person in my car. Most other cars on the road also carry only one person. We're all going to the same place in our own cars. What a waste of energy 10 and money! I don't enjoy my journey because of all the traffic, but I'm more worried about air pollution and the energy which motorists

like me are squandering.

So here are my suggestions for diminishing the 15 amount of energy we use in our cars. Firstly, we could share cars with other people who are going to the same place as us. Secondly, we could use alternative modes of transportation. And finally, if you have a big car, you could

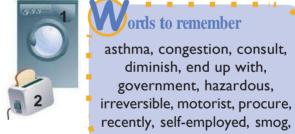
20 replace it with a smaller one. If we don't do something to save energy, we'll end up with irreversible environmental problems. What are YOU going to do to prevent this?



Compare your answers to questions 1a-d in pairs.



- a Brainstorm ideas in groups. Collect them in a graphic organiser using the following headings:
  - Think about electricity: lights, air-conditioning, travelling, etc.
  - How could you save some energy at home?
  - What would be a suitable title for the article?
  - How could you start and finish your article?
- b Write a plan for an article with four paragraphs.
  - Introduce the topic.
- 3 Make your suggestions.
- State the problem.
- 4 Conclude the article.





ords to remember

asthma, congestion, consult, diminish, end up with, government, hazardous,

recently, self-employed, smog,

squander, waste



### Vrite and chec



a Write your article in about 150-170 words, using your plan. b Now check your article and exchange it with a partner.

USEFUL LANGUAGE

### Introducing a topic with a question

Do / Have you ever ...? What are you doing to ...? / What could you do ...?

### **Giving warnings**

If we don't do ..., ... will happen. It sounds good to me.

### Making suggestions

We could ... (share cars). If you have a big car you could ... (replace it).