

Power - the alternatives

Key words

invisible, megawatt, resolve, spoil

Reading

- 1 Read the article about one source of alternative energy. Answer the question. Why is wave power a particularly suitable form of energy for Britain?

Britain has a long coastline

Invisible Power



For several years, countries around the world have been looking for new energy sources to replace fossil fuels. The country which makes the most use of solar power is Japan, and Holland uses more wind power than any other country. Now Britain, with its long coastline, is trying to lead the world in wave power technology.

Experts say that in the future, the sea, with its wave and tide energy, could provide enough power for the whole planet. Twenty wave farms¹ could supply electricity to a city the size of Edinburgh, with its population of 450,000.

Scientists are also constantly working to improve solar power technology. Although initially expensive, solar panels fitted to the roofs of houses can greatly reduce the bills households have to pay throughout the year, as the houses can take energy directly from the sun to power household appliances. As technology improves more and more things will start running from solar power.

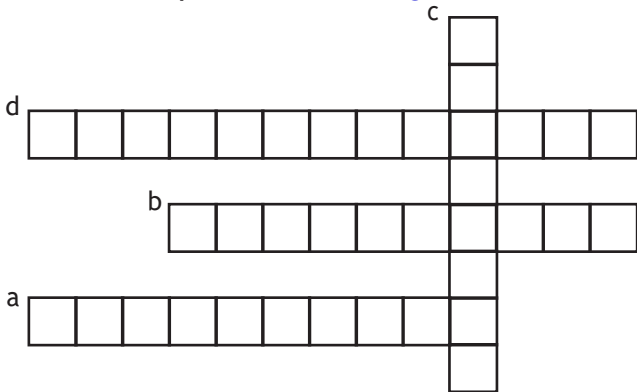
Scientists are working on the “Wave Hub”. This is a testing device, which will be located in the sea 15 km from the south-west coast of Britain and will cover 20 square kilometres. It will produce 30-40 megawatts of electricity every year.

One of the greatest advantages of wave farms is that they will be invisible, unlike wind farms, which are very unpopular with some people who say they “spoil the countryside”. However, there are some disadvantages to wave machines: the machines are just below the surface of the sea and so could be a danger to ships. In addition to this, some people think wave farms may put tourists off and could be a danger to fish. Also, the technology is not cheap: it will cost £50 million to produce just 15% of Britain’s power by the year 2015. In the future, these disadvantages may be resolved, but it is certain that the world, for now, will still be relying on gas, oil and coal energy sources.

¹a wave farm = about 40 separate wave machines

2 Find words/phrases with these meanings in the text. Check your answers in a dictionary or in the glossary.

- a power of the sun **solar power**
- b oil, gas and coal are examples of this **fossil fuel**
- c a collection of 40 wave machines **wave farm**
- d something used to check an experiment **testing device**



3 Read the text again and make lists of the advantages and disadvantages of wave power. Use a graphic organiser of your own.

.....

Advantages: *the sea could provide enough power for the whole planet; wave farms will be invisible*

Disadvantages: *could be a danger to ships and fish; may put tourists off; expensive*

.....

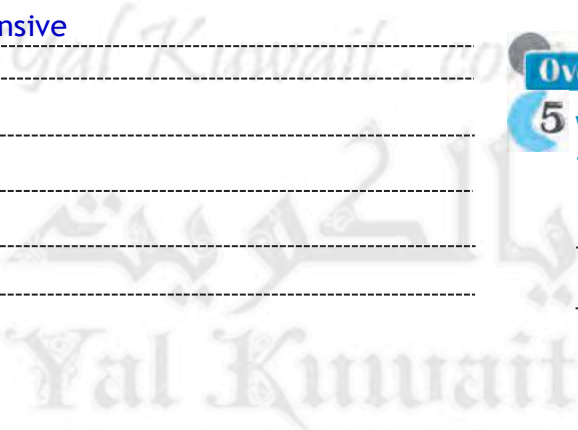
4 Choose the most appropriate statements to complete the sentences.

- a Countries base their alternative energy choices on...
 - 1 the natural amenities available to them.
 - 2 the costs involved.
 - 3 the effects upon people and the techniques.
 - 4 all of the above.
- b Wave farms have the potential to provide energy...
 - 1 to 450,000 people.
 - 2 to an entire country.
 - 3 to everyone on Earth.
 - 4 until 2015.
- c The effects of wave farms upon fish stocks and tourists...
 - 1 are irrelevant.
 - 2 are definitely detrimental.
 - 3 are unknown.
 - 4 are positive.
- d The costs of installing solar panels...
 - 1 outweighs the savings eventually made.
 - 2 are soon offset against the savings made.
 - 3 will increase in the future.
 - 4 are too high to make the technology feasible.
- e The sea...
 - 1 is a largely untapped energy source that could eventually supply all our energy needs.
 - 2 is unable to provide enough energy to power a city.
 - 3 is a source of solar power.
 - 4 will be ruined by wave farms.

Over to you

5 Why is it important for governments to invest in new technologies to provide energy?

.....



Grammar assistant

if + past simple + would / wouldn't

Use **if + past simple + would / wouldn't** for imaginary situations.

If you told me the answer, I wouldn't tell anyone.

If I wanted to lose weight, I would stop eating fast food.

We can put the 'if part' or the 'would part' of the sentence first.

If I found a summer job, I would save up for a new CD player.

I would save up for a new CD player if I found a summer job.

We usually put a comma after the 'if part' of the sentence when the 'if part' comes first.

1 Complete the sentences with the correct form of the verb in brackets.

If I am (be) thirsty, I drink water.

a Turn the air conditioning up if you are (be) too hot.

b If she's hungry, she eats (eat) a sandwich.

c If you are (be) tired, go to bed early.

d If he travels (travel) to Kuwait, he'll visit the Great Mosque.

e If they release (release) a new mobile phone, I will buy (buy) it with my savings.

f If I don't find (not find) the books I need, I will use (use) the Internet.

g I won't be (not be) happy if my friend reads (read) my e-mails before I did.

2 Complete the sentences with the correct form of the verbs. There are more words than you need.

become block burst fall
flood go stop think wait



If it doesn't stop raining, the water will flood our house.

a If our house floods, we Will go and stay with friends.

b If the wind doesn't stop blowing, trees will fall down.

c If that tree falls down, it Will block the main road.

d If the main road is obstructed, we Will become isolated.

e If we still have electricity, we Will wait for the weather report.

f If the weather report is positive, we Will stop worrying!

3 Complete the dialogue with an appropriate expression.

A: I'm (1) really worried about the amount of electricity my family uses at home.

B: Me too. (2) it's really important for us all to save electricity.

A: What (3) are you going to do ?

B: Well, we've started switching off all the lights and appliances when we're not using them.

A: That's (4) a good idea . What do you think I should do?

B: The same thing!

4 Match the sentence beginnings with the correct endings. There are more endings than you need.

- a If you always turn off lights, ...6...
 b If we don't try out new technology now, 8...
 c If people walked instead of driving their cars, 5...
 d If we run out of fossil fuels, 2...
 e If the world ran out of fossil fuels tomorrow, 3...
 f If the wind farms were not so ugly, 4...
 1 the fossil fuels would be renewable.
 2 we'll have to use alternative energy sources.
 3 we wouldn't have enough energy from other sources.
 4 people would not object to them.
 5 they'd save money and they'd be fitter.
 6 you will save energy and money.
 7 there would be an increase in traffic.
 8 we may be short of energy in the future.

5 Complete the conversations with the correct form of the verbs in brackets.

- a A: If it goes on (go on) raining, our house will flood.
 B: Our house wouldn't flood even if it rained (rain) every day for a week.
 b A: If it's sunny tomorrow, I Won't go (not go) to work. I will take (take) the day off.
 B: If your boss finds out (find out), you'll lose your job.
 A: If you were (be) in my situation, what would you do?
 B: If I were you, I would go (go) to work as usual.
 c A: Will you take the job if they offer (offer) it to you?
 B: If they offer (offer) it to me, I will have to (have to) take it. I need the money.

6 Complete the sentences with *strong* or *heavy*.

- a It's difficult for me to wake up in the morning, because I'm a very Heavy sleeper.
 b I can't lift that box - I'm not strong enough.
 c There's always Heavy traffic on the motorways - especially at rush hour.
 d I like strong black coffee.
 e Sorry I can't hear you, my signal is not very strong.

7 Complete the sentences with the correct form of the words in brackets.

- a There's a lot of traffic in town today. Be careful when you cross the road. (care)
 b The lights went out because of an electrical problem. (electricity)
 c My teacher gave me some useful advice about revising for the exam. (use)

Grammar assistant

Commas

Use commas to separate parenthetical words and phrases.

Surprisingly, the director was 45 minutes late for the meeting.

I e-mailed you the document, as requested.

8 Unscramble the sentences in your notebooks. Add punctuation and capital letters.

- a electricity / stop / the world / functioning / would / without / as we know it
 b brave and / once upon / a / wise man / a time / lived / there
 c peaceful / in the / the city / of rome / early days / and quiet / was /

a) Without electricity, the world as we know it would stop functioning.

b) Once upon a time, there lived a brave and wise man.

c) In the early days, the city of Rome was calm, peaceful and quiet.

Writing

1 Look at the titles of five articles about energy.

a What is the subject of each article? If you are not sure, guess.

Title	Subject
1 Are we doing enough?	<u>How we don't do enough to save energy</u>
2 Energy saving tips	<u>how to save more energy</u>
3 Is there life after coal?	<u>Alternative sources of energy</u>
4 Solar power can be beautiful	<u>building which uses solar power</u>
5 Wind farms: not everyone loves them	<u>the disadvantages of wind farm</u>

b Read the first paragraph of each article. Write the correct title for each one.

A 2

Whether you want it or not, the summer will be hot as usual this year. But there are things you can do to minimise the effects of summer on your energy bills.

B 1

Our lives, your life and mine are in danger! By polluting our air and our water, and burning rainforests, we are damaging our world. Everyone knows that: I know it and you know it. But what are we doing about it? What is the world doing about it? The simple answer is: not enough!

C 4

What do you think of when you hear the phrase 'solar power'? If you're like me, you think of roofs covered with ugly black water heating panels. But it doesn't have to be like that. Interested? Read on.



D 5

Many people have welcomed wind farms as the answer to an energy crisis. But not everyone! Thousands of people who live in country areas are protesting because they don't want these ugly new windmills to spoil their view.



E 3

We all depend on coal for fuel and heating and on the millions of things we produce from coal. But with experts predicting that the world's coal will run out in 50-90 years, we have very little time to find a successful alternative energy source.

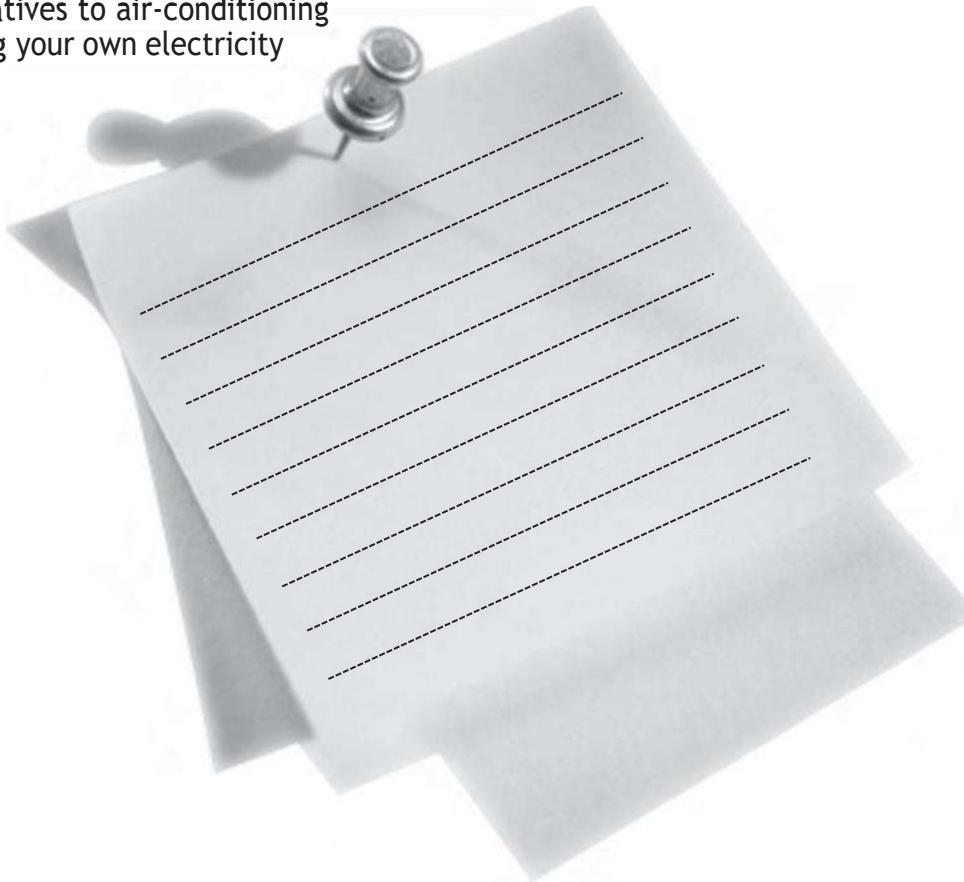
2 How does each title and article try to interest its readers? Write the article letters.

Which articles, A-E ...

- a surprise, worry or shock the reader? **B-E**
- b ask the reader a question? **B-C**
- c give the reader practical advice? **A**
- d suggest a conflict? **D**

3 Think of a title and a first sentence for an article on one of these subjects. Use one or more of the methods in exercise 2 to interest your readers.
Students' own answers

- Cars of the future
- Alternatives to air-conditioning
- Making your own electricity



4 Now write the rest of the article about the problems and solutions of your choice. Make it interesting. **Students' own answers**

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