

'Giving society cheap, abundant energy would be the equivalent of giving an idiot child a machine gun.' Paul R. Ehrlich, US biologist and conservationist

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LISTENING AND DISCUSSION

Clean energy

A Discuss these questions.

- 1 Which energy sources are commonly used a) at home, and b) at places of work or study in your country?
- 2 Which sources of energy are considered to be a) the cleanest, and b) the dirtiest?
- 3 To what extent is solar energy used in the area where you live and work?
- 4 Would you be prepared to live in an area with wind turbines? Why? / Why not?

B  CD1.18 Bloomberg New Energy Finance provides news, research and analysis on energy. Listen to its Chief Editor, Angus McCrone, and complete this summary about the company.



Angus McCrone

Bloomberg New Energy Finance (NEF) provides news and in-depth analysis on clean energy. Clean energy includes¹ and solar, small-hydro, marine, geothermal and other² technologies and energy efficiency. They look at the markets and predict³. NEF also collates energy data from projects all over the world; for example, 155 billion dollars were invested worldwide in⁴ in 2008. They study factors such as falls in gas prices and whether that prevents people from investing in⁵ energy, and the possible affect on coal and nuclear energy.

C Which alternative energy supply would you feel happiest about using in the future, and why?

Watch the interview on the DVD-ROM.



D CD1.19 Listen to the second part of the interview and say which of these points are mentioned.

- 1 Currently the most mature clean energy is wind power.
- 2 People know where to locate wind turbines.
- 3 Energy supply and storage are the most important issues.
- 4 Solar power will become the most viable alternative energy.
- 5 New Energy Finance studies the price of carbon in the future.
- 6 When the technology falls in price, there will be a huge market for solar energy.

E Look at these word partnerships related to alternative energy. Which word in each group *cannot* form a partnership with the word in bold?

- | | | |
|---|---|------------------|
| 1 | wind / tidal / carbon / wave | power |
| 2 | alternative / consumption / renewable / clean | energy |
| 3 | reduction / carbon / gas / solar | emissions |
| 4 | solar power / panels / turbine / energy | |
| 5 | wind turbine / power / renewable / farm | |
| 6 | fuel-cell technology / photovoltaic / energy / car | |



F CD1.20 Listen to some experts being asked about reductions in carbon emissions and clean energy. Choose the most accurate ending for each of these sentences.

- 1 According to Speaker 1, the world's governments should ...
 - a) reduce carbon emissions worldwide by 2 per cent.
 - b) prevent global temperatures from rising.
 - c) replace gas and oil with renewable energy.
- 2 Speaker 2 thinks it is up to business to encourage ...
 - a) both industry and citizens to reduce their energy consumption.
 - b) companies to use alternative gases in their manufacturing processes.
 - c) companies to reduce CO₂ emissions by using alternative energy.
- 3 Speaker 3 says hydrogen-powered cars ...
 - a) are one example of fuel-cell technology.
 - b) work much better than electric cars.
 - c) can already be seen on the roads.



G CD1.21 Listen to the same speakers giving more opinions on energy and correct these sentences, according to what they say.

- 1 Speaker 1 thinks airlines should make donations to offset their carbon emissions.
- 2 Speaker 2 says paying a carbon tax would only work in certain industries.
- 3 Speaker 3 insists that wealthier countries should stop aid to developing countries.
- 4 Speaker 3 says that many people in developing countries still don't have fossil fuels.
- 5 Speaker 2 wouldn't mind living near a wind farm because it would improve the surrounding countryside.
- 6 Speaker 3 says having wind turbines is better than living next to a chemical plant.



H Discuss these questions.

- 1 Is there a carbon tax in your country? Why would/wouldn't you introduce one?
- 2 What else can governments do to ensure businesses reduce their carbon emissions?

**READING AND
LANGUAGE**

A Discuss these statements about energy, deciding whether each one is True (T), False (F) or you don't know (DK). Give reasons for your answers.

- 1 A carbon tax on industry could help to reduce greenhouse gas emissions.
- 2 Changing to a low-carbon world can be achieved quite quickly.
- 3 Rapid growth of the world's population will soon increase demand for energy.
- 4 Most forms of alternative energy are easier to transport, store and use than oil and gas.
- 5 Private companies need government support to make technological advances.
- 6 Oil and gas prices will increase in the future.

B Read the article on the opposite page and, in pairs, compare your answers to Exercise A with Helge Lund's views.

C Find the words or phrases in the article that are similar to or mean the following.

- 1 changing, especially in a way that improves a situation (paragraphs 1 and 4)
- 2 opposing change and refusing to accept new ideas (paragraph 2)
- 3 get involved in (paragraph 2)
- 4 controlling or limiting something in order to prevent it from having a harmful effect (paragraph 3)
- 5 gradually stopping someone from doing something they do habitually (paragraph 4)
- 6 ready to (paragraph 5)
- 7 organisation responsible for making sure that companies do not do anything illegal or harmful (paragraph 5)
- 8 say that something is not true (paragraph 7)
- 9 draws people's attention to something by making it easily visible (paragraph 7)
- 10 stop something from happening or developing (paragraph 7)
- 11 establishing (paragraph 8)
- 12 think of an idea, answer, etc. (paragraph 8)

D Discuss these questions.

- 1 In what ways are Helge Lund and Statoil both pioneers?
- 2 In what way does Helge Lund think government intervention in the energy industry is positive? In what way does he think it is negative? Do you agree?
- 3 In what ways can the pressure on global energy demand be curbed? Which do you favour?
- 4 Do you think energy companies should be in private or public hands? What are your reasons?

E Look at the nouns and articles in bold in the article. Why do we use the indefinite, definite or zero article in each case? Look at pages 129–130 of the Language reference and compare your answers.

➔ Language reference: Articles; countable and uncountable nouns page 129

The danger of losing touch with reality

by Ed Crooks

Politicians often underestimate the massive challenge of cutting greenhouse gas emissions by moving away from **fossil fuels**, according to Helge Lund, Chief Executive of StatoilHydro, Norway's national oil and gas company, who is an adviser to the United Nations Secretary-General on energy.

Mr Lund is far from **the stereotype of the die-hard oilman**. He believes it is important to engage with the debate over climate change, and is **the only** oil company representative on the group advising the UN Secretary-General, on energy.

Norway has a **good record** for curbing greenhouse gas emissions from its oil industry, having been **one of the first** countries to impose a carbon tax, in 1991. Statoil is a pioneer of storing carbon dioxide underground, with projects in Norway and Algeria.

Mr Lund accepts that, in the future, his customers will use less of **the oil and gas** that his company produces. Yet even he is concerned that politicians are in danger of losing touch with reality in their push for a low-carbon world. Weaning the world off **oil and gas**, he says, will be harder than many people realise. 'Governments are moving away from the energy source that our entire civilisation is built on: hydrocarbons. That is not an easy task,' he says. 'It is very important that the debate is based on energy realities.'

The first of those realities is demography. By 2050, the world's population is set to grow to 9 billion, from about 6.8 billion today, while economic development lifts hundreds of millions out of poverty, enabling them to buy cars and fridges and air conditioning. That creates massive upward pressure on global energy demand which, given 'business as usual' policies, will rise by 45



per cent by 2030, according to **the** International Energy Agency, the rich countries' watchdog.

The second is the effectiveness of hydrocarbons – oil and gas – as energy sources that can be easily extracted, transported, stored and used. Few of today's alternatives offer anything like as attractive a combination of characteristics. Mr Lund's conclusion: 'You can see that planning to move away quickly from hydrocarbons is unrealistic.'

He does not deny the science of climate change, and says there is an 'urgent' need to respond to it. But he does want to stop responses that he thinks will be counter-productive. 'The debate is sometimes too simplistic, and overstates the opportunity for quickly changing to a low-carbon economy,' he says. 'If we start the discussion on an unrealistic basis, we are less likely to make any real progress.' The danger he highlights is of politically driven support for particular technologies, which he argues will stifle innovation.

'Some people seem to believe that

technology can be decided politically: it cannot,' he says. 'Technology advances best when you have competitive companies working on concrete projects.' That means setting a price for carbon, whether through a carbon tax or, as seems more politically feasible, an emissions trading scheme, and letting industry respond freely to that price to come up with profitable solutions.

'Oil and gas are finite resources, and we should expect that over time they will become more expensive, so we should use them more carefully,' Mr Lund says. 'We are going to be telling our customers to use less of the products that we make.'

If Mr Lund is right about the transition being slow, however, there is still plenty of profit to be made from Statoil's traditional business. Its gas reserves in Norway and around the world can also play an important role as a 'transition fuel', providing a lower-carbon alternative to coal-fired power generation while other forms of energy are built up.

BUSINESS SKILLS

Decision-making



'OK, all those in favour of delegating decision-making, shrug your shoulders.'

A How often do you attend decision-making meetings? How easy is it generally to reach decisions in meetings?

B Which of these statements best describes what happens in meetings you attend?

- 1 Decisions are already made by the managers beforehand. Most meetings are just informative.
- 2 Meetings are generally the best place to take important decisions.
- 3 Not everyone's opinion carries equal weight when we're deciding issues.
- 4 It takes a lot of convincing for me to change my mind during a meeting.
- 5 Arguing is a healthy part of trying to solve problems and reach decisions.
- 6 It's not always clear what decisions have been made, or who is responsible for carrying them out.
- 7 Humour is a good way to release tension during heated discussions at meetings.
- 8 Participants are sometimes reluctant to put forward proposals because they might be criticised.

C CD1.22 Listen to an extract from a meeting between three managers at an oil company: Alain, Tony and Caroline. What has happened, and what do they decide to do?

D CD1.22 Complete these expressions from the meeting. Then listen again if necessary. Match the expressions with the sections in the Useful language box below.

- 1 Would it..... to close the refinery for a while?
- 2 I'm not..... we want to disrupt production at this.....
- 3 So, we..... look into what's going on there urgently.
- 4 That said, I..... we should..... a decision until we have all the facts.
- 5 Here's a.....:..... an investigation team first.
- 6 I'm..... that another incident may not be so.....

E Why do you think Tony phrases his first proposal as a question? Why does Alain disagree indirectly?

F Work in groups of three. Look at your information and hold meetings in order to discuss your proposals and make decisions.

Student A: Look at your information on the opposite page.
 Student B: Turn to page 150.
 Student C: Turn to page 159.

USEFUL LANGUAGE

PUTTING FORWARD PROPOSALS

We could consider ...
 One option would be to ...
 The best course of action is to ...

DISAGREEING INDIRECTLY

I'm not so sure I agree with you there.
 I see things a little differently from you.

Yes, but I'm not convinced that ...
 Another way of looking at it is that ...

EMPHASISING A POINT

I do think it's important to act quickly.
 We just can't afford to ...
 I know I keep going on about this, but ...

AVOIDING MAKING DECISIONS

Let's not make any hasty decisions.
 Let's keep our options open.
 We should think this through a bit more.
 I'm in two minds about it, really.

Student A

**Meeting 1**

You are the company CEO. Your company provides all its top management and sales staff with luxury cars. In order to cut costs, there is a proposal to replace these with smaller electric cars. You can see the argument for replacing the sales teams' cars, but you don't think this is a good idea for the morale of the management team. Meet the Sales Manager and the CFO to discuss your ideas and reach a decision. You chair the meeting.

**Meeting 2**

You are the Human Resources Manager. Your company is thinking about relocating to new, larger offices outside the city centre. You don't think this is a good idea because you live near the city offices, like many of your colleagues, and the transport links to the proposed location are very bad. Meet the Production Manager and the CEO to discuss your ideas and reach a decision.

**Meeting 3**

You are going to share a new office with your two colleagues. There is only one desk by the window and you think you should have it. Talk to your colleagues and try to reach a decision.

Writing: layout and structure of reports



Complete the report-writing tips below with the words in the box.

draft errors headings layout plan readers register rewrite

Report-writing tips

Read a similar report first. Write a¹ or outline, and then your first². Always write with your³ in mind.

Edit your draft report for style and⁴, e.g. formal language, passive or active forms.

Proofread your report for typical⁵, e.g. subject-verb agreement, prepositions and punctuation.

Organise the⁶ and structure. Use an appropriate title,⁷ and sub-headings.

Revise and⁸ your report in order to improve it if necessary.

Take a break for a few hours and re-read your report before finalising it.



Discuss these questions. Then check your answers on pages 146–147.

- 1 What is the logical order of these headings in a report? In what order would you write these parts of a report? Why?
 - a) Recommendations
 - b) Conclusions
 - c) Executive summary
 - d) Introduction
 - e) Findings
- 2 What is the difference between an introduction and an executive summary?
- 3 What other sections might be found in a report?



Work in pairs. Look at the plan and recommendation report on pages 152–153. Re-organise the report so that the information is in a logical order. What else would you do to the report to improve the layout and structure?

➔ Writing file pages 146–147