

43 Green issues

A Environmental pollution

Companies should of course minimize **environmental pollution** – damage to the land, sea, etc. caused by their activities. They should not **pollute** the air with **toxic emissions** from chimneys or with **effluent** – toxic liquids that they **discharge** into rivers or the sea. They should **dispose of waste** in more acceptable ways.



Nuclear power plants are required to monitor levels of **radioactivity** in the air and water around them, but critics say that even minimum levels of radioactivity are unacceptable. And some **pollutants** are **carcinogenic**, causing cancer.

Governments impose **stringent regulations** to force companies to limit pollution.

B Recycling

Products should be **recyclable** – the European Union, for example, has regulations about the **proportion** or percentage **content** of products and packaging that must be reused and recycled. **Household** and **industrial waste** should also be recycled. Supporters of **recycling** say that **dumping** waste in **landfills** cannot continue indefinitely and that burning waste in **incinerators** is also **environmentally damaging**.

C Word combinations with 'environmental'

environmental	}	credentials	evidence that you care about the environment
		degradation	damage to the environment
		devastation	severe damage to the environment
		lobby	pressure groups such as Greenpeace and Friends of the Earth who campaign on issues together
		standards	rules that companies and government authorities should follow in relation to the environment

D Sustainability

Some industries are directly dependent on **natural resources**, and managing these resources so that they are not **depleted** is essential. For example, deep-sea fishing has to be done in a way that maintains fish stocks and avoids **overfishing**. Ideally, those engaged in **logging** that causes **deforestation** should have an incentive to maintain future timber stocks through **reafforestation**. These industries should be run in ways that are **sustainable** – in ways that maintain the resources that they rely on. (See also Units 45 and 50)



Another aspect of sustainability is **renewable** or **alternative energy sources** such as wind power. These are some of the **environmental** or **green issues** that companies are facing. Some companies produce reports on these issues that give a more favourable impression than is justified by the real facts. This is called **greenwash** by critics.

BrE: reafforestation;
AmE: reforestation

43.1 Complete the table with words from A and B opposite and related forms. Put a stress mark in front of the stressed syllable in each word. (The first one has been done for you.)

Verb	Noun	Adjective
	car'cinogen	carcino'genic
discharge		
dispose (of)		
	environment	
	incinerator	
pollute		
	recycling	recyclable
	toxicity	

43.2 Match the two parts of these sentences containing expressions from C opposite.

- | | |
|--|--|
| <p>1 He led a political campaign against the company, saying its oil production caused environmental</p> <p>2 According to the environmental</p> <p>3 If you really want to show your environmental</p> <p>4 The project will boost Brazilian efforts to fight environmental</p> <p>5 In the richest countries with the toughest environmental</p> | <p>a lobby, this type of plastic is such a dangerous substance to manufacture and dispose of that it should be banned.</p> <p>b credentials, there are several household cleaning products that will cause less damage to the environment, but are likely to cost slightly more.</p> <p>c devastation in the area.</p> <p>d standards, the amount of household waste is growing more slowly than the economy as a whole.</p> <p>e degradation in the Amazon basin.</p> |
|--|--|

43.3 Complete the sentences with expressions from D opposite.

- Illegal could accelerate degradation or even cause, which has affected more than 9.8 million acres of forest in the past 30 years.
- Fishermen are being encouraged to catch alternative fish species because has the stocks to near-collapse.
- The country's society is maturing and adopting a model of economic development that balances economic growth, social justice and the use of
- They accuse multinational companies of '.....' – polishing up their images on environmental issues with brochures and advertising campaigns.
- Many congressmen are keen to revive research into renewable like solar and wave power.

Over to you



What does your local government authority do to encourage recycling? Does it do enough?

50 Sustainable development

A Climate change



Scientists point to the dangers of **climate change**, in particular **global warming**. This is the rise in temperatures in the atmosphere and the sea caused by **emissions of carbon dioxide** and other **greenhouse gases** from the burning of **hydrocarbon** or **fossil fuels** such as oil and coal. Some say that the earth cannot sustain much further **industrialization**.

The **Kyoto protocol** of 1997 was designed to put the **United Nations climate change convention** into effect. This originally aimed to cut emissions to five per cent below 1990 levels by 2010. Some businesses complain that these targets will increase their costs, but see section C below.

B Sustainability

Sustainability is the idea that the economy should be organized in ways that can be continued without causing **irreversible damage** to the environment or **depletion** of **natural resources**. Businesses should be run not for **short-term profit**, but in a way that takes account of the **long-term interests** of society and the environment. (See also Units 43 and 45)

Developing countries are trying to attain the **living standards** of the industrialized world. Some warn that, in addition to the dangers of global warming, the world's natural resources are not sufficient for this.

Others argue that **renewable, non-polluting energy sources** such as **wind power** will allow further economic growth without causing damage to the environment. Some argue that **nuclear energy** still has a role to play.

These are some of the issues surrounding **sustainable development** in the global economy.

C The triple bottom line

SustainAbility¹, a consultancy, says that the **triple bottom line (TBL)** makes corporations concentrate not just on the **economic value** they add, but also on the **environmental** and **social value** they add – and destroy. (See Unit 42) The TBL is used to sum up the values, issues and processes that companies must pay attention to in order to minimize any harm resulting from their activities and to create economic, social and environmental value. The three lines represent society, the economy and the environment. Society depends on the economy – and the economy depends on the **global ecosystem**, whose health represents the **ultimate bottom line**.

¹ www.sustainability.com

50.1 Complete the article, which contains words from A and B opposite, with a–e below.

Energy's future is trapped in the fossil fuel past

In his State of the Union address, President George W. Bush proposed a \$1.5bn (£900m) government research and development programme to replace the internal combustion engine with hydrogen-powered fuel cell cars. (1)

To be sure, the shift to fuel cells and a hydrogen economy will be as significant and far-reaching in its impact on the global economy and society as the steam engine and coal in the 19th century and the switch to the internal combustion engine and oil in the 20th century. (2)

Most commercial hydrogen today is extracted from natural gas but it can also be extracted from coal and oil. Even the nuclear industry has weighed in, arguing that nuclear power can be used to extract hydrogen.

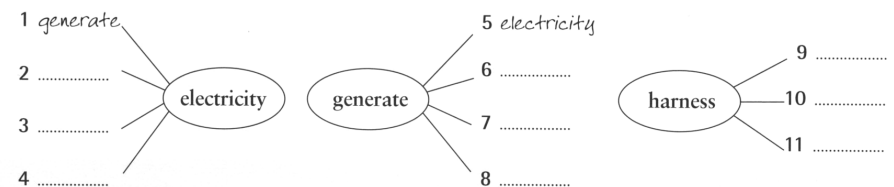
The White House's enthusiasm for hydrogen suddenly becomes understandable. (3)

There is, however, another way to get hydrogen. Renewable sources of energy – wind, photovoltaic, hydrogen, geothermal and biomass – can be harnessed to produce electricity and that electricity, in turn, can be used to electrolyse water, separating the hydrogen from the oxygen for storage and later use in a fuel cell. (4) Why twice? Because electricity generated from renewable sources of energy cannot be effectively stored. If the sun is not shining, the wind stops blowing, or water stops flowing because of drought, electricity stops being produced and the economy stops. (5)

Financial Times

- By using some of the electricity generated by renewables to electrolyse water and extract hydrogen, society obtains stored energy to use at a future date.
- Hydrogen is the lightest, most plentiful element in the universe. When it is used to generate power, heat and light, the only by-products are water and heat. But what Mr Bush did not mention was that hydrogen has to be extracted from either fossil fuels or water.
- If fossil fuels and even nuclear power can be harnessed to produce hydrogen, the Bush administration can have its cake and eat it too.
- While some applauded his call to create a clean, non-polluting energy source for the 21st century, many environmentalists were less enthusiastic. That is because there is both more and less to his announcement than meets the eye.
- While this second approach frees us from fossil fuel dependency and is the solution environmentalists have dreamt of for years, it currently costs more to extract hydrogen with renewable energy. That is because electricity has to be generated twice, first to create the electricity to electrolyse the water and grab and store the hydrogen and then to use the hydrogen to power the fuel cell.

50.2 Look at the following key words from the article and find words which can go before or after them to form 'word combinations'. Two of them have been done for you as examples.



Over to you

Are you optimistic or pessimistic about the capacity of the planet for future growth? Why / Why not?