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Содержатся тексты и упражнения по развитию грамматических, разговорных навыков и навыков чтения. Для студентов специальности ТГВ дневной формы обучения.

Unit I. The Environment

Essential vocabulary

acid rain — кислотный дождь
after-effect — последствие
alternative forms of transport / sources of energy — альтернативные виды транспорта (источники энергии), т.е. не наносящие ущерба окружающей среде
to cut down trees — вырубать деревья
disaster — катастрофа
dump — свалка
dustbin — мусорный бак
the environment — окружающая среда
to harm / damage / destroy / pollute the environment — наносить ущерб окружающей среде
to protect the environment (to look after the environment) — защищать окружающую среду
environmentalist / green (person) — эколог, «зеленый»
exhaust fumes — выхлопные газы
finite resources — исчерпаемые ископаемые
flooding — наводнение
habitat — среда обитания
global warming — глобальное потепление
the greenhouse effect — парниковый эффект
litter (to litter) / rubbish / refuse / waste / trash — мусор (мусорить), отходы
the ozone layer — озоновый слой
to pollute — загрязнять (polluter; polluted; pollution; pollutant (gases))
to pour waste into water — сливать отходы в водоемы
power station — электростанция
purification system — очистные сооружения
to recycle — перерабатывать
recycling centers — центры по переработке отходов
solar / wave / wind power — энергия солнца, волн, ветра
toxic waste — токсичные отходы
ultraviolet light — ультрафиолетовое излучение

Vocabulary practice

1.1. Devide the words and expressions given below into two lists: "protectors of the environment" and "threats to the environment".

greenhouse effect, car, power station, national park, smog, Greenpeace, acid rain, urban development, recycling, species extinction, global warming, lead-free petrol, exhaust fumes, ozone layer, cutting down trees, toxic waste, rubbish, dustbins.

1.2. Match word combinations with their translations.

to pollute the atmosphere	токсичные отходы
rubbish bin	парниковый эффект
environmental problems	загрязнять атмосферу
endangered species	электростанция
acid rain	мусорный бак
the greenhouse effect	переработанная бумага
ultraviolet light	солнечная энергия
solar power	проблемы окружающей среды
the ozone layer	исчезающий вид
power station	кислотный дождь
toxic waste	ультрафиолетовые лучи
recycled paper	озоновый слой

1.3. Put in an appropriate word or word combination.

- a) All the bottles we use now are made from ... glass;
- b) Wolves used to be common throughout Europe, but are now ...;
- c) Local people are protesting because the planned new road will ... the environment;
- d) ... the forest will destroy the habitat of thousands of birds and animals;
- e) The biggest ..., today is the car;
- f) ... may cause the ice at the North Pole and South Pole to melt and sea level to rise, leading to serious ... in many parts of the world;
- g) ... is the layer of gases that protects us from ... the sun;
- h) In the last few years the news has been full of stories of hurricanes, floods droughts and other ... caused by the weather.

1.4. Translate into English.

- a) Захоронение токсичных отходов в земле приводит к загрязнению почвы;
- b) Кислотные дожди наносят ущерб не только здоровью людей и природе, но и старинным зданиям;
- c) За последнее время количество дыр в озоновом слое резко возросло;
- d) Парниковый эффект вызван скоплением в атмосфере газов, препятствующих выходу в космос тепла с поверхности земли;
- e) Во многих больших городах мира воду из местных водоемов пить нельзя, так как она загрязнена промышленными отходами;
- f) В результате глобального потепления сухие тропические регионы могут стать еще суше, а влажные — еще влажнее.

1.5. Correct the following statements.

- a) Acid rain is friendly to nature;
- b) The more trees we cut down, the more trees grow;

- c) It's better to busy rubbish than to recycle it;
- d) The higher the average temperature on the Earth, the better;
- e) Recycling centers are places where rubbish is buried;
- f) People who are trying to protect nature are called naturalists.

1.6. Explain the following.

Greenpeace	alternative forms of transport	smog
the greenhouse effect	power station	global warming
acid rain	recycling	dump

The Environment: Problems and Solutions

Problems. Pollution damage to the air, sea, rivers or land caused by chemicals, waste and harmful gases. The biggest polluter today is the car. Exhaust fumes are the main cause of bad air quality, which can make people feel ill and have difficulty breathing. This problem is especially bad in big cities where, on days when there is not much wind, a brown layer of smog hangs in the air. The number of cars is increasing every year and this causes serious congestion. Governments build new roads trying, to improve the situation, but this means that they cut down trees and destroy more of the countryside.

The greenhouse effect is caused by harmful gases known as greenhouse gases. These gases are produced when we burn fuels, especially coal burned in power stations to make electricity. The gases go up into the Earth's atmosphere and stop heat from leaving the Earth. As the heat cannot escape, the temperature on the Earth is running up. This is known as global warming. Global warming may result in the melting of the ice at the Poles and rising of sea levels, leading to serious flooding and other disasters in many parts of the world. In other places the temperature will rise and there will be less rain, turning more of the land into desert.

Holes in the ozone layer. The ozone layer is a layer of gases that protects us from ultraviolet light coming from the sun, which can have a harmful effect on animals and causes skin cancer in humans.

Acid rain is a rain harmful to the environment because it contains acid from factory smoke. Acid rains cause damage to trees, rivers and buildings.

Species extinction is a natural feature of the evolution of life on earth, the best-known example is the disappearance of the dinosaurs. In the last 400 years, however, human activities have been responsible for the loss of most of the animals and plants that have disappeared.

Deforestation is the term used to describe the disappearance of forests from large parts of the world's surface. Deforestation has been occurring steadily since the XX-th century.

Solutions. Alternative forms of transport. One of the main problems with cars is that they cause a lot of pollution and often carry only one person. Public transport is more environmentally friendly because buses and trains can carry large number of people at the same time. Even cleaner solutions are electric cars and bicycles.

Alternative energy sources such as wind, wave and solar power do not pollute the environment. They are much cleaner than oil and coal, but it's more difficult to get them regularly.

Recycling is another solution: instead of throwing away glass, paper, cans can be taken to special "banks" and recycled there.

Protesting. Many people try to protect the environment by joining environmental groups that inform people about ecological problems and try to persuade governments to take more care of the environment, especially by organizing problems.

1.7. Which word in each line is the odd one out? Why?

car	bicycle	plane	space rocket
to pollute	to harm	to litter	to recycle
ultraviolet light	acid rain	smog	the greenhouse effect
rain	flooding	melting	air pollution
recycling	burying rubbish	planting trees	ecological education

1.8. Translate from Russian into English.

одна из главных проблем	охранять окружающую среду
перевозить к.-л.	информировать о ч.-л.
одновременно	убеждать
выбрасывать	наносить ущерб ч.-л.
перерабатывать	выхлопные газы
исправить положение	сжигать топливо
вырабатывать электричество	пустыня
защитить к.-л. от ч.-л.	вызывать ч.-л., быть причиной

1.9. Fill in the correct word derived from the word in brackets.

The Environment: Our Responsibility.

These days it is ... (possible) to open a newspaper without reading about the damage we are doing to the environment. The earth is being ... (threat) and the future looks ... (horror). What can each of us do?

We cannot clean up our ... (pollute) rivers and seas overnight. Nor can we stop the ... (appear) of plants and animals. But we can stop adding to the problem while ... (science) search for answers and laws are passed in nature's ... (defend). It may not be so easy to change your lifestyle and habits ... (complete) but some steps are easy to take: cut down the amount of ... (drive) you do or use as little plastic as possible. It is also easy to save energy, which also reduces ... (house) bills.

We must all make a personal ... (decide) to work for the future of our planet if we want to ... (sure) a better world for our grandchildren.

1.10. Answer the questions on the text.

- Why is the car the biggest polluter? What are other polluters?
- Why can the greenhouse effect be dangerous?
- What do you know about holes in the ozone layer?

d) What are the alternative forms of transport? Can they really solve the problem of air pollution?

e) What is recycling?

f) Do you think the protests organized by the "greens" are really effective?

1.11. Points for discussion.

1. Observe environmental problems and solutions to them.

2. Think of some consequences of the environmental problems. Use the 1-st and 2-nd Conditionals and don't forget about modal verbs.

*Ex.: If the average temperature increases it might lead to flooding.
If there were no ozone layer we would die of skin cancer.*

3. Do you think that the condition of the environment depends only on industry or on ordinary people too?

4. We often hear the words "harmful effects of civilization on nature". What do they mean? Illustrate the results of harmful and helpful influences of human contacts with nature.

1.12. Speaking activities. Work in pairs or groups.

- A: You want to build a new motorway in your city to solve traffic problem.
B: You object to it.
- A: You want to provide some opportunities for cyclists to ride around the city.
B: You are a driver and you object to it.
- A: You want to construct a new car park next to B's house.
B: Persuade him not to do that.
- A: You want to drink some tap water.
B: Warn A against doing that.

Ecological Problems of a Big City. London

It was in Britain that the word "smog" was first used (to describe mixture of smoke and fog). As the world's first industrialized country, its cities were the first to suffer this atmospheric condition. In the XIX-th century London's "pea soupers" (thick smogs) became famous through descriptions of them in the works of Charles Dickens and in the Sherlock Holmes stories. The situation in London reached its worst point in 1952. At the end of that year a particularly bad smog, which lasted for several days, was estimated to have caused between 4000 and 8000 deaths.

Water pollution was also a problem. In the XIX-th century it was once suggested that the Houses of Parliament should be wrapped in enormous wet sheets to protect those inside from the awful smell of the River Thames. In the middle years of this century, the first thing that happened to people who fell into the Thames was that they were rushed to hospital to have their stomachs pumped out!

Then, during the 1960s and 1970s, laws were passed which forbade the heating of homes with open coal fires in city areas and which stopped much of the pollution

from factories. At one time, a scene of fog in Hollywood films was all that was necessary to symbolize London. This image is now out of date, and by the end of the 1970s it was said to be possible to catch fish in the Thames outside Parliament.

However, as in the rest of western Europe, the great increase in the use of the motor car in the last quarter of the XX-th century has caused an increase in a new kind of air pollution. This problem has become so serious that the television weather forecast now regularly issues warnings of "poor air quality". On some occasions it is bad enough to prompt official advice that certain people (such as asthma sufferers) should not even leave their houses, and that nobody should take any exercise, such as jogging, out of doors.

1.13. Find English equivalents for Russian words.

страдать			
a) surprise	b) suffer	c) suggest	d) surround
ужасный			
a) awkward	b) available	c) awful	d) average
запрещать			
a) forbid	b) forgive	c) forget	d) foretell
предостережение			
a) warming	b) warring	c) warrant	d) warning
качество			
a) quality	b) quantity	c) quarrel	d) quarter
условие			
a) conviction	b) conclusion	c) connotation	d) condition

1.14. Complete the collocates below by adding an appropriate noun. Some can combine with more than one noun.

warming	fuels	changes	resources
effect	waste	disasters	gases
energy	rain	pollution	
fumes	layer	transport	
acid...	exhaust...		
global...	ozone...		
nuclear...	public...		
natural...	air...		
sea...	solar...		
finite...	greenhouse...		
clean...	recycled...		
noisy...	renewable...		

1.15. Open the brackets and use the verb in the required tense-form; fill in the blanks using a word from the following list.

- | | | |
|----------------------|--------------|------------------|
| a) weather | d) recycling | g) environmental |
| b) exhaust | e) fuel | h) atmosphere |
| c) greenhouse effect | f) resources | i) energy |

In recent years, the number of 1) ... problems (to increase) dangerously. One of the most serious problems is changes to the 2) ... which (to lead) to the "3) ..."; this (to make) most climates warmer. It already (to affect) several areas of the world with unusual 4) ... causing droughts or heavy storms. Cutting down on 5) ... fumes from vehicles (to help) solve the problem. Natural 6) ... such as oil and coal are not endless, so using the other forms of 7) ... such as wind, sun, wave and even sea waves (to help) preserve our planet. Very soon we (to be able) to drive cars in cities that run on electricity — a much cleaner 8) ... than petrol. And we can also help to preserve finite resources by 9) ... things made of glass, aluminium, plastic and paper.

1.16. Translate into English.

- Впервые слово «смог» появилось в Великобритании;
- Одно время лондонский туман в голливудских фильмах был неотъемлемым символом Лондона;
- Рост использования автомобилей привел к росту загрязнения атмосферы фабриками;
- В середине шестидесятых был принят закон, который контролировал загрязнение атмосферы фабриками;
- В некоторых случаях, когда загрязнение превышает норму, больным астмой рекомендуют не выходить из дома;
- Людей, упавших в Темзу, сразу отправляли в больницу, где им делали промывание желудка;
- Говорят, что в середине семидесятых в Темзе уже можно было ловить рыбу.

1.17. What environmental problems do these passages refer to?

- Some experts predict that by 2090 the average temperature can be higher than today;
- For some years scientists checked and rechecked their findings. By October 1984 the "hole" over Halley Bay showed a 30 per cent reduction in ozone;
- The alarm was sounded in 1970 by the Scandinavian countries where acid rain has destroyed all life in many of their lakes;
- Gone for ever, for example, are seventeen species of bears, five of wolves and foxes, four of cats, five of horses and zebras and three of deer;
- Around the world between 11 and 15 million hectares of tropical forest are lost every year, an area larger than Austria;

- f) 25 % of the world's electricity comes from dams and rivers;
 g) At the moment most countries only turn between 5 % and 10 % of their rubbish into energy.

1.18. Points for discussion.

1. How did they manage to get rid of smog in London?
2. Describe the ecological situation in your city / town. Compare it with previous times. Use *used to* when talking about past.

Ex.: There are more cars nowadays than there used to be.

3. Compare ecological situation in the city and in the countryside. Use comparative formulas (e.g. much cleaner, better than, as ... as, etc.).
4. How can the condition of the environment influence the climate, for example in your city?
5. Speak about practical steps being undertaken to protect the environment.

How Can We Contribute to Solve the Rubbish Problem?

Here are some ways to beat the throw-away society. All of them are cleaner and cheaper than burying rubbish.

Throw away less rubbish. In Denmark, for example, it's illegal to sell drinks in cans. And it's not just governments which can produce less rubbish. It's ordinary people, too. For example, anyone can decide to:

- buy products with as little packaging as possible;
- use and throw away fewer plastic bags;
- waste less paper.

Turn rubbish into energy. How? By burning it. The use of rubbish as fuel is a good idea because it:

- saves fossil fuels;
- means burying less rubbish;
- cuts pollution.

Energy from rubbish is clean and cheaper than energy from fossil fuels. Every year millions of tones of rubbish are dumped into the ground. It could be used instead to generate electricity, create heat for industrial purposes, of heat hospitals, schools, public buildings or even whole districts.

Use rubbish again. It is possible, in fact, to recycle 80 % of domestic rubbish. This includes paper, glass, metal and plastic. It's important to increase the number of recycling centers. For example, there are more "bottle banks" nowadays than ever before. In many countries there are not only bottle banks but also aluminium banks, steel banks, plastic banks, paper banks, used batteries banks, old clothes banks. Denmark has an interesting system. Aluminium cans are not allowed to be sold, nor are non-standard bottles. Any shop which sells bottled drinks has to accept returned bottles.

This system significantly reduces the amount of glass thrown away as refuse and the amount of broken glass turning up in the countryside and on the beaches.

Spread knowledge about rubbish problem among people and inform them what they can do to reduce it.

1.19. What can we do with rubbish? List as many actions as you can.

Ex.: to burn rubbish...

1.20. Match English words and word combinations with their Russian equivalents.

plastic bags	неэкономно расходовать бумагу
to cut pollution	использовать ч.-л. снова
recycling centers	бытовой мусор
to generate electricity	полиэтиленовые пакеты
used batteries	вырабатывать электричество
to bury rubbish	топливо
to re-use	снижать загрязнение
fuel	захоронивать мусор
domestic rubbish	использованные батарейки
to waste paper	центры по переработке мусора

1.21. Translate into English.

- а) На самом деле можно перерабатывать до 80 % бытового мусора;
- б) В Дании продажа напитков в жестяных банках запрещена законом;
- в) Ежегодно захорониваются миллионы тонн мусора, что ведет к заражению почвы и подземных вод;
- г) В настоящий момент в мире лишь 10 % мусора идет на выработку электроэнергии;
- д) Система пунктов приема стеклотары значительно снижает количество выбрасываемого или разбитого стекла.

1.22. Fill in the correct word derived from the words at the end of the sentence.

a) What can we do to reduce the ... of the atmosphere?	pollute
b) The change in the climate has produced ... floods;	terror
c) Many rare species are in danger of ...;	extinct
d) Many of gases produced by factories are ... to our health;	harm
e) Exhaust fumes have ... effects on the environment;	damage
f) Many countries must control the growth of the ...;	populate
g) Protecting the environment is essential to our ...;	survive
h) The ... of the environment is everyone's responsibility;	protect
i) While some countries get richer, the ... in the others gets worse;	poor
j) Millions of people in the world are threatened with ...;	starve

1.23. Multiple choice.

The Baltic is a small sea, A ... it becomes B ... very easily. Its water changes slowly through the shallow straits. 150 rivers run C ... the Baltic. There are hundreds of factories D ... these rivers and millions of people live among them. Seven industrial countries E ... the Baltic. F ... a lot of big cities lie on its G ... All of this combined with active navigation of the sea naturally H ... the state of the sea water and the shoreline flora and fauna.

Once we I ... a sea it's very difficult to J ... it. Fortunately all the countries in the Baltic area have realized the problem. They co-operate actively K ... solving ecological problems of the Baltic basin. L ... international law and the national laws of the coastal states M ... the regime of environmental protection of the Baltic Sea. The N ... of the agreements among these states is to O ... oil pollution of the sea, to organize rational fishing and the preservation of sea life.

	1)	2)	3)	4)
A	as	because	so that	so
B	muddy	dusty	dirty	greasy
C	into	out of	through	across
D	at	on	in	above
E	gather around	encircle	surround	round up
F	quite	rather	pretty	very
G	beach	coast	shore	banks
H	reflects	effects	forces	affects
I	had polluted	pollute	have polluted	polluted
J	brush	clean	polish	scour
K	in	over	within	for
L	either	neither	and	both
M	deprive	define	decline	defile
N	target	point	objective	aim
O	prevent	protect	preserve	pretend

1.24. Points for discussion.

1. What do you do with your domestic rubbish (paper, cans, bottles, etc.)?
2. Are there any "bottle", "paper", "cans" banks in your city? What can you say about their work?
3. What can you say on the subject of litter on the streets? How is this problem solved in your city?

Unit II. Ecology

Effects of Global Warming

Scientists say the warming of the Earth's atmosphere has begun to affect plant and animal life around the world. Scientists from the University of Hanover in Germany say global warming is affecting endangered species, sea life and the change in seasonal activities of organisms. Carbon dioxide and other heat-trapping gases in the atmosphere cause global warming.

Studies show that the Earth's climate has warmed by about sixteenthths of one degree Celsius during the past one-hundred years. Most of the increase has taken place in the last thirty years.

The German scientists studied different animal and plant populations around the world in the past thirty years. They say some species will disappear because they can not move to new areas when their home climate gets too warm.

The scientists say one of the biggest signs of climate change has been the worldwide reduction in coral reefs. Rising temperatures in the world's warm ocean waters have caused coral to lose colour and die.

In the coldest areas of the world, winter freezing periods are now happening later and ending earlier. Researchers say these changes are having severe effects on animals such as penguins, seals and polar bears.

Changes in temperature in the air can also affect the reproduction of some reptiles and amphibians. For example, the gender of baby painted turtles is linked to the average temperature in July. Scientists say even small temperature increases can threaten the production of male turtles.

In Europe, scientists say warmer temperatures are affecting the spring and autumn seasons. This is affecting the growth of plants and delaying the flight of birds from one place to another.

Scientists also are concerned about invasions of warm weather species into traditionally colder areas. Rising temperatures have been linked with diseases spread by mosquito insects in areas of Asia, East Africa and Latin America.

Britain's Meteorological Office says worldwide temperatures will continue to rise during the next one-hundred years. It says how much these temperatures increase will depend on the success of worldwide policies designed to slow global warming.

2.1. Scan through the article and contextualise the following vocabulary.

to affect plant and animal life; endangered species; seasonal activities of organisms; heat-trapping gases; to cause global warming; increase of temperature; to warm by about sixteenthths of one degree Celsius; the worldwide reduction in coral reefs; rising temperatures; to have severe effects on; to affect the reproduction; gender is linked to the average temperature; to delay the flight of birds; to be concerned about...; to slow global warming.

2.2. Find the English equivalents for the following words and expressions.

вызывать глобальное потепление; повышение температуры; замедлить процессы глобального потепления; испытывать озабоченность по поводу...; задерживать прилет птиц; пол зависит от средних значений температуры; влиять на воспроизводство; оказать серьезное влияние на...; повышение температуры; уменьшение коралловых рифов в мировом масштабе; потеплеть примерно на шесть десятых градуса; парниковые газы; вымирающие виды; оказывать влияние на животный и растительный мир.

2.3. Points for discussions.

1. What do scientists from the University of Hanover in Germany say about the effect of global warming?
2. What do the studies show regarding the Earth's climate in recent years?
3. How is the worldwide reduction in coral reefs connected with the problem of climate change?
4. Single out the main issues addressed in the present article.
5. What kind of policies should be designed to slow global warming?
6. Ruminant on the following subject in writing: "Our world in one hundred years".

The Kyoto Protocol: Questions and Answers

As Russia decides to back the Kyoto protocol, BBC News Online looks at the agreement which many say is the best hope for curbing the gas emissions thought partly responsible for the warming of the planet.

What is the Kyoto Protocol? The Kyoto Protocol is an international agreement setting targets for industrialised countries to cut their greenhouse gas emissions. These gases are considered at least partly responsible for global warming — the rise in global temperature which may have catastrophic consequences for life on Earth. The protocol was established in 1997, based on principles set out in a framework agreement signed in 1992.

What are the targets? Industrialised countries have committed to cut their combined emissions to 5 % below 1990 levels by 2008–2012. Each country that signed the protocol agreed to its own specific target, EU countries are expected to cut their present emissions by 8 % and Japan by 5 %. Some countries with low emissions were permitted to increase them. Russia initially wavered over signing the protocol, amid speculation that it was jockeying for more favourable terms. But the country's cabinet agreed to back Kyoto in September 2004.

Why has Russia decided to back the treaty now? The deciding factor appears to be not the economic cost, but the political benefits for Russia. In particular, there has been talk of stronger European Union support for Russia's bid to join the World Trade Organization, when it ratifies the protocol. But fears still persist in Russia that Kyoto could badly affect the country's economic growth.

Have the targets been achieved? Industrialised countries cut their overall emissions by about 3 % from 1990 to 2000. But this was largely because a sharp decrease in emissions from the collapsing economies of former Soviet countries masked an 8 % rise among rich countries. The UN says industrialised countries are now well off target for the end of the decade and predicts emissions 10 % above 1990 levels by 2010. Only four EU countries are on track to meet their own targets.

Is Kyoto in good health? Before Russia's backing, many feared Kyoto was on its last legs. But Moscow's decision has breathed new life into the protocol. The agreement stipulates that for it to become binding in international law, it must be ratified by the countries who together are responsible for at least 55 % of 1990 global greenhouse gas emissions. The treaty suffered a massive blow in 2001 when the US, responsible for about quarter of the world's emissions, pulled out. The additional uncertainty over Russia's position was seen as another nail in the coffin, but observers are now hopeful the 55 % threshold can be reached.

Why did the US pull out? US President George W. Bush pulled out of the Kyoto Protocol in 2001, saying implementing it would gravely damage the US economy. His administration dubbed the treaty "fatally flawed", partly because it does not require developing countries to commit to emissions reductions. Mr. Bush says he backs emissions reductions through voluntary action and new energy technologies.

How much difference will Kyoto make? Most climate scientists say that the targets set in the Kyoto Protocol are merely scratching the surface of the problem. The agreement aims to reduce emissions from industrialised nations only by around 5 %, whereas the consensus among many climate scientists is that in order to avoid the worst consequences of global warming, emissions cuts in the order of 60 % across the board are needed. This has led to criticisms that the agreement is toothless, as well as being virtually obsolete without US support. But others say its failure would be a disaster as, despite its flaws, it sets out a framework for future negotiations which could take another decade to rebuild. Kyoto commitments have been signed into law in some countries and in the EU, and will stay in place regardless of the fate of the protocol itself. Without Kyoto, politicians and companies working towards climate-friendly economies would face a much rougher ride.

What about poor countries? The agreement acknowledges that developing countries contribute least to climate change but will quite likely suffer most from its effects. Many have signed it. They do not have to commit to specific targets, but have to report their emissions levels and develop national climate change mitigation programmes. China and India, potential major polluters with huge populations and growing economies, have both ratified the protocol.

What is emissions trading? Emissions trading works by allowing countries to buy and sell their agreed allowances of greenhouse gas emissions. Highly polluting countries can buy unused "credits" from those which are allowed to emit more than they actually do. After much difficult negotiation, countries are now also able to gain credits for activities which boost the environment's capacity to absorb carbon. These include tree planting and soil conservation, and can be carried out in the country itself, or by that country working in a developing country.

Are there alternatives? One approach gaining increasing support is based on the principle that an equal quota of greenhouse gas emissions should be allocated for every person on the planet. The proposal, dubbed "contraction and convergence", states that rich countries should "contract" their emissions with the aim that global emissions "converge" at equal levels based on the amount of pollution scientists think the planet can take. Although many commentators say it is not realistic, its supporters include the United Nations Environment Programme and the European Parliament.

2.4. Assignments.

1. Make up your list of phrases on the Kyoto protocol (e.g. emissions trading; to absorb carbon; to cut combined emissions, etc.).
2. Sum up the main idea of the article.

Kyoto — the only Game in Town

Climate change is no longer a matter of argument. There is no previous time in recorded history when the world's temperature has risen so much and so quickly. Even the 400,000 year probes into the ice cap reveal no parallel. We are therefore in entirely uncharted waters. Mankind has been pouring unprecedented amounts of filth into the air ever since the beginning of the industrial revolution. We have a planet that supports vastly more people than ever before and their numbers are still growing fast. Every child has expectations significantly greater than their fathers and mothers. Those expectations, however limited they may seem to the rich, are similarly based upon increased consumption which means more greenhouse gas emissions.

Optimism. What is done can't be undone. We have already changed our climate significantly and there is considerably more change on the way, set in train by the gases we have already released. What we can do is to restrict the growth in that change so that we can cope with it. If we allow global warming to grow unrestrictedly, then life on the planet will become increasingly impossible as it threatens the Gulf Stream and other crucial elements that sustain the earth's benign atmosphere. Happily, the world is waking up. Just this month, American States are suing the utilities for their refusal to take global warming seriously. The Chartered Institute of Insurance is warning all its members of the present reality of climate change and its impact upon insurance risk. Optimism is rising that Russia will ratify the Kyoto Protocol so it will come into force — even without the United States.

Catalyst. So, why Kyoto? It isn't anything like enough. Its targets for reduction in our greenhouse gases are smaller than we need but it is the first step on the journey and that is always the hardest. Already, Kyoto has meant that one of the world's two great trading powers — the European Union — has made major changes in order to meet its targets for reduction.

The likelihood is that, by 2012 the 15 longstanding members will have cut emissions by 8%. Given how fast emissions were rising, that is a remarkable

achievement and another example of the huge value of the EU. The decoupling of economic growth from the growth in emissions is crucial and the latest figures show that it has been done. Even without coming into force, Kyoto has been the catalyst for this change.

Rich countries. Its effect even on the US has been remarkable. American business and many of the states are responding to its challenge even though President Bush has behaved with such callous disregard. Without Kyoto, there would have been no such rallying, no widely accepted program, and no effective base upon which to build. Kyoto was a deal between the rich countries. Only then could we expect developing countries to join in the global response. After all, it was the rich world that caused the problem. Yet, already, China is developing in a much cleaner way than was forecast. The Kyoto mechanisms which reward clean technology transfer are, indeed, beginning to have some effect not least through international institutions like the World Bank.

Economic pressure. Of course, America still holds the key. With 4% of the world's population it produces 25% of the world's pollution. Yet, it depends on world trade and, as the rest of the world makes its investment decisions in the light of Kyoto, American businesses are losing out to European suppliers working within the Kyoto system. No wonder that it is US business that is pushing Bush to change. Of course, any US president will need a way to climb down, if he is in effect to join in. There will be some new package and a different name. But Kyoto is the only game in town and it will mould and probably save our planet's future.

2.5. Points for discussion.

1. What might happen if we allow global warming to grow unrestrictedly? Comment on the headline of the article.
2. Why is climate change no longer a matter of argument?
3. Is Russia's ratification of the Kyoto treaty an optimistic sign?
4. Why was Kyoto a deal between the rich countries?
5. What are the reasons that made the USA pull out of the Kyoto treaty?
6. Summarise the article (250—300 words).

Climate: What Science can Tell us

Most climate scientists are convinced they are right to warn us the prospect ahead is alarming unless we act soon. They accept there are uncertainties but say human activities are having a clear effect on natural climate change, and that the Earth could warm dangerously. Their critics say the evidence so far is not conclusive, and think the human impact is so small as to be negligible. But recent findings suggest there are real causes for concern at the speed with which the Earth is now heating up.

Rapid carbon build-up. The Intergovernmental Panel on Climate Change is starting work on its fourth assessment report, which should be ready by next year.

One rapidly changing phenomenon is the atmospheric concentration of carbon dioxide (CO₂), the main greenhouse gas given off by human activities. Analysis of an ice core drilled from the Antarctic shows the level fluctuated over the last 500,000 years between about 200 parts per million (ppm) during ice ages to more like 270 ppm (parts per million) in warmer inter-glacial periods. Before the start of the Industrial Revolution about 200 years ago, the level of CO₂ in the atmosphere was around 270–280 ppm. It reached 360 ppm in the 1990s and recently climbed to a high of 379 ppm. The year-on-year average rise is currently 2 ppm. There is concern that Greenland's ice sheet could disappear within the next 1,000 years if global warming continues at its present rate. Studies forecast an 8 °C increase in Greenland's temperature by 2350, and researchers believe that if the ice cap melts, global average sea level will rise by about 7 m (23 ft). Even if global warming were halted, they say, the rise could be irreversible. This is because it can take decades or even centuries for actions to produce effects. Another worry is whether peatlands could release vast amounts of CO₂ into the atmosphere. The release, triggered by the higher atmospheric carbon levels, would be an example of what is called "positive feed-back", when warming itself causes a further temperature rise. Scientists say the rate of release is accelerating at 6 % a year, which they think means that by 2060 the peat could account for greater carbon emissions than the burning of fossil fuels.

Vicious circle. The permafrost of northern Europe and North America is known to contain large quantities of methane, a potent greenhouse gas, which could also be released as global warming thaws the tundra. Professor Mike Hulme, executive director of the Tyndall Centre for Climate Change Research, told BBC News Online: "The evidence that feedbacks are occurring is one of the most striking recent findings. Other pieces of evidence are last year's heat-wave in Europe, and the suggestion that climate change could mean a million species will be at risk of extinction by 2050".

Dr. Geoff Jenkins, of the Met Office's Hadley Centre for Climate Prediction and Research, told BBC News Online: "Over the last few decades there's been much more evidence for the human influence on climate. We've reached the point where it's only by including human activity that we can explain what's happening. The feedbacks mean that by the end of this century we'll have lost a lot of the free buffering that nature provides. As wetlands grow wetter and hotter, for instance, by 2100 they'll probably account for as much methane as human activities". Both he and Professor Hulme agree, though, that many uncertainties remain. These include the role played by clouds and solar radiation.

2.6. Assignments.

1. Interpret the text from English into Russian.
2. Sum up the main idea of the article.

Environ — Myths you can Stop Believing

We were appalled at the public's wealth of environmental misunderstanding. This article provides some examples.

One: Recycling is the key. Actually, recycling is one of the least important things we can do, if our real objective is to conserve resources. Remember the phrase "reduce, reuse and recycle"? Reduce comes first for a good reason: it's better not to create waste than to have to figure out what to do with it. And recycling, like any other form of manufacturing, uses energy and other resources while creating pollution and greenhouse gases.

Rather, we need to make products more durable, lighter, more energy efficient and easier to repair rather than to replace. Finally, we need to reduce and reuse packaging.

Two: Garbage will overwhelm us. The original garbage crisis occurred when people first settled down to farm and could no longer leave their campsites after their garbage grew too deep. Since then, every society has had to figure out what to do with discards. That something was usually unhealthy and ugly-throwing garbage in the streets, piling it up just outside of town, incorporating it into structures or simply setting it on fire. Today we can design history's and the world's safest recycling facilities, landfills and incinerators.

The problem is political. No one wants to spend money on just getting rid of garbage or to have a garbage site in the backyard. The obvious solution is to stop generating so much garbage in the first place. Doing so requires both the knowledge and the self-discipline to conserve energy and do more with less stuff.

Three: Industry is to blame. No, it's all people's fault. Certainly industry has played a significant role in destroying habitats, generating pollution and depleting resources. But we are the ones who signal to businesses that what they are doing is acceptable — every time we open our wallets. And don't just blame industrial societies. In his recent book "Earth Politics", Ernst Ulrich von Weizsacker wrote that "perhaps 90 per cent of the extinction of species, soil erosion, forest and wilderness destruction and also desertification are taking place in developing countries". Thus, even non-industrialized, subsistence economies are creating environmental havoc.

Four: The earth is in peril. Frankly, the earth doesn't need to be saved. Nature doesn't give a hoot if human beings are here or not. The planet has survived cataclysmic changes for millions upon millions of years. Over that time, it is widely believed, 99 per cent of all species have come and gone while the planet has remained.

Saving the environment is really about saving our environment — making it safe for ourselves, our children and the world as we know it. If more people saw the issue as one of saving themselves, we would probably see increased motivation and commitment to actually doing so.

2.7. Scan through the article and contextualise the following vocabulary.

environmental misunderstanding; recycling; to conserve resources; to generate pollution; greenhouse gases; to make smth. more durable; energy efficient products; to reduce and reuse packaging; original garbage crisis; what to do with discs; to pile garbage up outside of town; a garbage site; to be in the backyard; to generate garbage; to destroy habitats; to deplete resources; to be acceptable; developing countries; subsistence economies; non-industrialized countries; industrial societies; the extinction of species; soil erosion; forest and wilderness destruction; desertification; to create environmental havoc; smb. doesn't give a hoot if...; to survive cataclysmic changes; to be about smth.; increased motivation; commitment to do smth.

2.8. Make use of the phrases below while commenting on the article.

- a) the article speaks about...;
- b) the author touches upon one of the most crucial issues of the present-day society...;
- c) though the facts show that...;
- d) we might as well mention here that...;
- e) among other things...;
- f) it appears so on the surface but...;
- g) I see no point in saying that...;
- h) in fact the exact reverse is the case...;
- i) of course, there is another point to it...;
- j) analogously we can...;
- k) let's call to mind...

2.9. Points for discussion.

1. Which do you think are the most serious environmental problems today?
2. Is there anything that an individual person can do about these problems?
3. What sort of waste do you recycle? Could you do more?
4. Would you ever join an environmental group like Greenpeace or vote for a green party?
5. What are the reasons why these environmental parties are not very popular in Russia?
6. Comment on the headline of the article. What is a myth?
7. Summarise the article (150—200 words).

Our Common Threats

The new level of technology, the results of modern scientific knowledge made people realize that the time came for humans to take responsibility for preserving the quality of life for the future generations. The conservation movement was try-

ing to protect endangered species. But suddenly water, air and soil became the most endangered parts of this planet. Unfortunately people did not realize that until some drastic events happened, Science can not always predict the result of human activity. The real struggle for banning nuclear tests in the atmosphere began only after the scientists discovered radioactive strontium-90 in cattle that fed on grass and in cows' milk. Both American scientists and Soviet scientists were sure that there was no ground for worry because the radioactive materials would remain in the stratosphere for many years. A more alarming discovery showed that each link in the food chain contains greater levels of concentration of radioactivity than the link below it. As soon as everybody realized that no matter who does the testing it increases the level of radioactivity on the whole planet, nuclear testing in atmosphere was banned by most countries.

The environmental movement has a global perspective now. In the 1970s environmental movement crossed the borders and became the international one. Concerns over environment were the subject of a UN conference in 1972 attended by 114 nations. Out of this conference developed the United Nations Conference on Environment and Development. Environmental issues can be resolved only if all the countries cooperate. There are very positive and encouraging results in such a global cooperation. Ten years ago a historic event, a landmark in environmental movement took place in Montreal. 24 countries signed a treaty on Substances That Depleted Ozone Layer.

Later on 150 countries ratified the treaty. The treaty put very strict restrictions on the use of chemicals that damage the ozone layer — a 10—15 kilometres layer in the stratosphere that protects the earth from harmful ultraviolet (UV) radiation. Governments from different countries were participating in the talks — rich developed nations as well as poor developing ones. We see the results of this treaty now — 10 years later. The production of the most dangerous chemical substance — chlorine-containing chlorofluorocarbons (CFCs) went down 76 per cent. In 1996 industrial countries stopped producing CFCs for domestic use. It is inspiring to know that countries can work together in the face of common danger. It would be much better if we had not allowed it to happen. Scientists warned us in time and governments acted promptly. Otherwise the results of radiation could have been grave for humanity. But if humans want to survive, they need to solve the problems that humanity faces now.

The Earth Summit on Environment in Rio de Janeiro in 1992 was unproductive. Barriers are too strong. The economies are too different, the level of problems facing each country is very different too. We as humans are facing several environmental problems that need to be solved if we want to survive. One of the big problems is the increase of carbon dioxide (CO₂) in the earth's atmosphere. The amount CO₂ in atmosphere remained stable for centuries, at about 260 ppm, but over the past 100 years it has increased to 350 ppm. The significance of this change is its potential for raising the temperature of the earth through the process known as the "greenhouse effect". Carbon dioxide in the atmosphere prevents the escape of outgoing long-wave radiation from the earth to outer space; as more heat is produced and less escapes, the temperature of the earth increases.

Global warming of the atmosphere would have profound environmental effects. It would speed the melting of polar ice caps, raise sea levels, change the climate regionally and globally, alter natural vegetation, and affect crop production. Since 1850 there has been a mean rise in global temperature of about 1 °C. Some scientists have predicted that rising levels of CO₂ and other "greenhouse gases" will cause temperatures to continue to increase up to 6 °C by the middle of the 21st century.

Another problem — acid rains — is associated with the burning of fossil fuels, which is caused by the emission of sulphur dioxide and nitrous oxides into the air from power plants and motor vehicles. These chemicals interact with sunlight, moisture, and oxidants to produce what is known as acid rains. Acid rain is a major global problem. They corrode metals, stone buildings and monuments, injure and kill vegetation and acidify lakes, streams, and soils. It is known already that low level air pollution results in general increase in the incidents of bronchitis and emphysema.

Pesticides present another environmental threat. Pesticides resist biological degradation. They are insoluble in water, they cling to plant tissues and accumulate in soils, at the bottoms of streams and ponds, and the atmosphere. Pesticides are a great threat to humans. Animals that eat plants absorb them, we eat the meat of these animals. Pesticides are absorbed directly through the skin by fish. Because of that a lot of fish-eating birds became extinct.

A lot of toxic poisoning that presents a risk to human health occur at dump sites. When toxic substances seep into soil and water, the chemicals can contaminate water supplies, air, crops, and domestic animals, and have been associated with human birth defects and diseases. We know about the dangers but the problem is widening. In a recent 15-year period, more than 4 million new synthetic chemicals were manufactured, and new ones are being created at the rate of 500 to 1000 each year. Power plants constitute a great danger to the environment. A lot has been achieved through common efforts in banning atmospheric testing of nuclear weapons by most countries. But nuclear radiation still remains an environmental problem. Power plants always release a certain amount of radioactive waste. Nuclear accidents, which unfortunately happened not than once, release a lot of radiation into the environment. This happened in 1986 in Chernobyl and scientists still can not comprehend the full effect of this catastrophe.

The world is also experiencing a permanent decline in water quality and water availability. In a lot of places water supplies are contaminated with toxic chemicals and nitrates. Waterborne diseases kill 10 million people a year.

We, the human race, are involved in a large experiment — an experiment to see what will happen to our planet, its health and the health of its inhabitants. The experiment is a dangerous one. Life itself is at stake. Can we preserve the life? Can we preserve the quality of life necessary for future generations? When we are sick we try to take care of ourselves. There is nobody but we, humans, must take care of the Earth that is sick because of our actions. Can we do something? YES, we can! We proved that. Is it difficult? Extremely! There are so many of us and we are so

different — socially, economically, culturally, traditionally. But the Earth does not know that all these differences exist, that there are borders we created. We are just one of the life forms that the Earth supports. And we are the only life form that is able to destroy our life support system. Let's believe that we are also the ones, who can maintain it for the many generations to come.

2.10. Comprehension check. Choose the right answer.

- The real struggle for banning nuclear tests started after scientists discovered that...
 - a) we have too many nuclear bombs;
 - b) we don't have any more safe places for having the tests;
 - c) traces of radioactivity were found in humans.
- The treaty on Substances that deplete ozone layer was signed by ...
 - a) 24 countries; b) 87 countries; c) 150 countries.
- One of the biggest problems that humanity faces now is ...
 - a) the speed of the population growth;
 - b) the increase of the carbon dioxide in the atmosphere;
 - c) the overproduction of sweet drinks.
- Pesticides are extremely dangerous for fish because ...
 - a) pesticides concentrate in top layers of water;
 - b) fish absorb them directly through skin;
 - c) fish eat poisonous plankton.
- Acid rain is the product of ...
 - a) all the industries;
 - b) chemical industry;
 - c) burning fossil fuels.
- Greenhouse effect can be very dangerous because it...
 - a) might raise the earth temperature;
 - b) might cause more pollution;
 - c) might kill fish.
- New chemicals are created at the rate of...
 - a) 50 to 100 each year;
 - b) 500 to 1000 each year;
 - c) 200 to 500 each year.

2.11. Points for discussion.

- Explain the phrase "each link in the food chain has a higher level of radioactivity than the link below it".
- What will happen if the temperature on the planet rises?
- What do you think about the environmental problems that human society is facing today?
- What makes it possible to believe that we can find solutions to the environmental problems?

Call for Action on Climate Change

The UK government is not doing enough to tackle climate change, according to a report by a parliamentary committee.

The Environmental Audit Committee attacked ministers for believing that new technology and market mechanisms will reduce greenhouse gas emissions. The committee says Britain and the developed world need to reduce emissions by 60—80 % by 2050. Committee chairman MP Peter Ainsworth called on the government to draw up a clear plan of action. In its report, the parliamentary committee attacked the European Emissions Trading Scheme, which is central in helping the EU to bring down greenhouse gas emissions.

The BBC's environment correspondent, Richard Black, said the committee found the scheme's regulations were too lax, had minimal impact on emissions and might lead to windfall profits for electricity generators. He said the government was currently embroiled in a legal dispute with the European Commission over Britain's emission allowances under the scheme.

This was a dispute which the audit committee said risked "wanton squandering" Britain's reputation for leadership on climate change, he reported. The committee believes Britain and the rest of the developed world need to reduce dramatically their emissions, but this cannot be achieved by technology and market mechanisms alone.

MP Peter Ainsworth, speaking on BBC Radio Five Live, called for a plan of action. "The government chief scientist has said that climate change is one of the most serious problems facing mankind, and Government has rightly put it at the head of his international agenda", he said. "The trouble is that the rhetoric isn't translating into action". He said Britain needed to provide clear policies to direct the international community.

"What Britain needs to do is to set out a list of achievable goals for the world community, which involves getting America engaged with this as far as is possible; but it also crucially involves getting the developing world involved.

The time for talking about this problem is drawing to an end; what we really do need now is a programme for action, and that's what we're trying to impress on the government through this report".

2.12. Scan through the article and contextualise the following vocabulary.

the Environmental Audit Committee; to tackle climate change; to reduce greenhouse gas emissions; to bring down greenhouse gas emissions; the developed world; Committee chairman; to call on the government; to draw up a clear plan of action; the European Emissions Trading Scheme; to be central in doing smth.; to have minimal impact on; lead to windfall profits; electricity generators; to be embroiled in a legal dispute with smb. over smth.; emission allowances; to squander one's reputation; leadership on climate change; to be achieved by technology and market mechanisms alone; the government chief scientist; serious problems facing mankind; to put an issue at the head of the agenda; to translate rhetoric into action;

to provide clear policies; to direct the international community; to set out a list of achievable goals; to get America engaged with the problem; time is drawing to an end; to impress on the government through the report.

2.13. Find the English equivalents for the following words and expressions.

донести мысль до правительства с помощью доклада; заканчивается время; подключить Америку к решению проблемы; перейти от слов к делу; поставить перед кем-либо достижимые цели; направлять международное сообщество; значительные проблемы, стоящие перед человечеством; впутаться в тяжбу с...; квоты на выброс газов; незначительно повлиять на что-либо; быть основным элементом в каком-либо процессе; снизить выбросы парниковых газов; искать пути решения проблемы изменения климата; призвать правительство к...; председатель комиссии; составить четкий план действий; Комитет по надзору и охране окружающей среды; развитые страны.

2.14. Points for discussion.

1. Define the main idea of the article.
2. What did the Environmental Audit Committee attack British ministers for?
3. If you were the person in charge of the environmental protection what list of achievable goals for the world community would you set out?
4. Summarise the article (100—150 words).

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