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МИРОВЫЕ ПРОБЛЕМЫ

ЭКОЛОГИИ ОКРУЖАЮЩЕЙ СРЕДЫ

Методические указания

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Мировые проблемы экологии окружающей среды

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Мировые проблемы экологии окружающей среды: методические указания и задания по развитию навыков профессионально-ориентированного чтения на английском языке для студентов специальности «Международные отношения». Актуальность текстов и заданий допускает использование их на факультетах регионоведения и политологии.

Методические указания содержат материалы и задания для развития навыков профессионально-ориентированного чтения и предназначены для аудиторной и внеаудиторной работы студентов I и II курсов по вопросам экологии окружающей среды.

Целью методических указаний является формирование и развитие навыков различных видов чтения на основе текстов, взятых из оригинальных английских источников. Часть текстов адаптирована в учебных целях. Учебные задания содержат тренировочные языковые упражнения для усвоения и закрепления лексического и грамматического материала, а также тесты – вводный и итоговый для диагностики полученных знаний по отраслевой лексике и базовой грамматике.

Смирнова Л.В., 2020

Санкт-Петербургский государственный университет Петра Великого

## Unit I

### Environmental Protection

*Have you leisure, comfort, calm,  
Shelter, food, love's gentle balm  
Or what is it  
You buy so, dear, with your pain  
Or with your fear?*

Milton

➤ *Read, translate and answer the questions given below*

### Things We Need

Every person decision we make has an impact on the environment. This is an ecological fact of life. Every time we go shopping, use public or private transport, or choose a place to live in, our choices have an effect, for better or worse, on the quality of the air we breathe and the water we drink — on the world we experience with our eyes and ears and noses. We really need many things which ultimately influence our environment — we need shelter, food, leisure, and a generally satisfying standard of living. However, there are many things we do not need. We are the species that can change the world, and we are the only species that can choose either to look after our world or to destroy it. Our planet offers us limited resources. We also share it with thousands of other plant and animal species that have evolved with us over millions of years. Yet since the industrial revolution our population has grown enormously, and each one of us now consumes far more finite resources.

1. What do you think about the environment in our country?
2. In what ways are we looking after the world, and in what ways are we destroying it?

➤ *Read, translate, analyze the sentences and find the predicate, defining Tenses*

## **Declaration of Interdependence**

### **This We Know**

We are the earth, through the plants and animals that nourish us. We are the rains and the oceans that flow through our veins. We are the breath of the forests of the land, and the plants of the sea. We are human animals, related to all other life as descendants of the firstborn cell. We share with these kin a common history, written in our genes. We share a common present, filled with uncertainty. And we share a common future, as yet untold. We humans are but one of thirty million species weaving the thin layer of life enveloping the world. The stability of communities of living things depends upon this diversity. Linked in that web, we are interconnected — using, cleansing, sharing and replenishing the fundamental elements of life. Our home, planet Earth, is finite; all life shares its resources and its energy from the sun, and therefore has limits to growth. For the first time we have touched those limits. When we compromise the air, the water, the soil and variety of life, we steal from the endless future to serve the fleeting present.. We may deny these things, but we cannot change them.

➤ *Find the sentences with Perfect and Continuous Tenses*

### **This We Believe**

Humans have become so numerous and our tools so powerful that we have driven fellow creatures to extinction, damned the great rivers, torn down ancient forests, poisoned the earth, rain and wind, and ripped holes in the sky. Our science has brought pain as well as joy; our comfort is paid for by the suffering of millions. We are learning from our mistakes, we are mourning our vanished kin, and now we build a new politics of hope. We respect and uphold the

absolute need for clean air, water and soil. We see that economic activities that benefit the few while shrinking the inheritance of many are wrong. And since environmental degradation erodes biological capital forever, full ecological and social cost must enter all equations of development. We are one brief generation in the long march of time; the future is not ours to erase. So where knowledge is limited, we will remember all those who will walk after us, and err on the side of caution.

➤ *Insert the prepositions into the gaps (for, at, from...to, from...to)*

### **This We Resolve**

All this that we know and believe must now become the foundation of the way we live. ... this turning point in our relationship with Earth, we work ... an evolution: ... dominance ... partnership; ... fragmentation ... connection; from insecurity to interdependence.

### **WORDLIST**

Brief	короткий, мимолетный
Caution	осторожность
Creature	создание
Damn	загубить
Deny	отрицать, не соглашаться
Depend upon	зависеть от
Descendant	потомок
Diversity	разнообразие
Drive (drove, driven)	приводить
Enter	быть составной частью

Envelop	окружать
Equation	уровень
Erase	стирать
Erode	размывать
Finite	ограниченный
Firstborn	первородный
Fleeting present	скоротечное настоящее
Fragmentation	разрыв
Inheritance	наследие
Insecurity	ненадежность
Interdependence	взаимосвязь
Kin	род, семья, родство
Mourn	оплакивать
Nourish	кормить
Replenish	пополнять
Respect	уважать, почитать
Rip holes	проделывать дыры
Shrink (shrank, shrunk)	сокращать
Steal (stole, stolen)	похищать
Suffering	страдание
Turning point	поворотный пункт
Uphold (upheld, upheld)	оказывать поддержку
Vanished	исчезающий
Weave (wove, woven)	плести, ткать

➤ *Read, translate and find sentences with Passive Voice*

*The poetry of earth is never dead...*

### **1. Save Our Wild Flowers**

Plants are the basis of our life on Earth. Yet now, in Britain's country side, wild plants are being destroyed on a scale never known before, by pollution, neglect and wanton habitat destruction.

Meadows, Heaths, Hedges, Bogs and Woods— Gone Forever Each year 5,000 miles of hedgerows disappear — and the insects, birds and animals they support.

Half our ancient woods have been destroyed; and, in the remainder, bluebells, wild daffodils and snowdrops are plundered for the horticultural trade.

### **2. Plantlife's Vital Purpose**

Plantlife in Britain's only charity exclusively saving wild plants and their habitats — from 121 m seashore to mountain top.

Positive action by Plantlife. Plantlife is busy. The highly successful «Back from the Brink» programme is saving plants threatened with extinction. You can help save many more.

Plantlife is buying flower-rich meadows — plant nature reserves — to conserve cowslips, orchids and hundreds more species. Plantlife is campaigning to stop peatlands being destroyed.

Plantlife needs you. Anyone can join Plantlife — no need to be an expert. To help, save our wild flowers, join Plantlife today.

Destroyed since World War II. 97% of our wildflower meadows, 190,000 miles of hedgerow, half our ancient woodlands, 75% of our heaths, 95% of our unique

lowland raised bogs, dug up for garden peat, 22 flower species extinct since records began, 317 standing on the brink.

➤ *Read and write out the sentences with Comparative Form*

### **Environment Cannot Be Overlooked Any Longer!**

The ancient Chinese curse goes "May you live in the days of change!" We are living in an era of change. Though it is still difficult to say whether these changes are for the worse or for the better, some positive signs are becoming clear.

At a meeting of the Security Council on January 30, 2008, Vladimir Putin and Dmitry Medvedev highlighted new key points concerning the ecological safety of the Russian Federation. So now we are in for another reform in the environmental legislation and administration and for tougher liability measures to follow.

What we really need is preventive measures: environmental planning at the early stage of investment projects, assessment of environmental and related legal risks, active involvement of consultants and a dialogue with the state authorities. We do hope that there will be another step forward!



## WORDLIST

Bog	болото
Brink	край, грань
Daffodil	нарцисс
Extinct	вымирать
Habitat	место распространения, естественная среда
Heath	пустошь, поросшая вереском
Hedgerow	полезащитная полоса
Horticultural	садовый
Plunder	расхищать
Remainder	остаток
Save	сохранять, сберечь
Snowdrop	подснежник
Wanton	бессмысленный, безответственный

➤ *Read and compare translations*

**THE POETRY OF EARTH**

**On the Grasshopper and Cricket**

**/by John Keats/**

The poetry of earth is never dead:  
When ail the birds are faint with the hot sun,  
And hide in cooling trees a voice will run  
From hedge to hedge about the new-mown mead:  
That is the Grasshopper's — he takes the lead  
In summer luxury, — he has never done  
With his delights, for when tired out with fun  
He rests at ease beneath some pleasant weed.  
The poetry of earth is ceasing never:  
On a lone winter evening, when the frost  
Has wrought a silence, from the stove there shrills  
The Cricket's song, in warmth increasing ever.  
And seems to one in drowsiness half lost.  
The Grasshopper's among some grassy hills.

**Кузнечик и сверчок**

***Перевод С. Я. Маршака***

Вовеки не замрет, не прекратится  
Поэзия земли. Когда в листве.  
От зноя ослабев, умолкнут птицы,  
Мы слышим голос в скошенной траве  
Кузнечика. Спешит он насладиться  
Своим участием в летнем торжестве.  
То зазвенит, то снова притаится

И помолчит минуту или две.  
Поэзия земли не знает смерти.  
Пришла зима, в полях метет метель.  
Но вы покою мертвому не верьте:  
Трещит сверчок, забившись где-то в щель.  
И в ласковом тепле нагретых печек  
Нам кажется — в траве звенит кузнечик.

*Перевод Б.Л. Пастернака*

В свой час своя поэзия в природе:  
Когда в зените день и жар томит  
Притихших птиц — чей голосок звенит  
Вдоль изгородей скошенных угодий?  
Кузнечик — вот виновник тех мелодий.  
Певун и лодырь, потерявший стыд,  
Пока и сам, по горло пеньем сыт.  
Не свалится последним в хороводе.  
В свой час во всем поэзия своя:  
Зимой, морозной ночью молчаливой  
Пронзительны за печкой переливы  
Сверчка во славу теплого жилья.  
И, словно летом, кажется сквозь дрему.  
Что слышишь треск кузнечика знакомый

## Unit II

### ECOLOGY SUGGESTS ACTIVITY

➤ *Read and translate the text and find Conditional Sentences*

#### Recycle Aluminium Cans

Making aluminium from recycled aluminium uses 90% less energy than making aluminium from scratch. In 1998 alone, aluminium can recycling saved more than 11 billion kilowatt hours of electricity, enough to supply the residential electric needs of New York City for six months. The energy saved from one recycled aluminium can will operate a television set for three hours. If you throw an aluminium can out of the train window, it will still litter the Earth up to 500 years later. When you toss out one aluminium can you can waste as much energy as if you'd filled the same can half full of gasoline and poured it onto the ground.

#### WORDLIST

Aluminum can	алюминиевая банка
Fill	наполнять
Litter	загрязнять
Operate	приводить в действие
Pour	лить
Recycle	перерабатывать
Residential	жилой (квартал)
Scratch	стружка
Supply	обеспечивать
Toss out	выбрасывать
Waste	тратить, расточать

- *Find the sentences with modal verbs in the text and transform them into Past and Future or Present Tenses*

### **Recycle Newspapers**

Recycled paper could easily be substituted for virgin paper in many cases without any loss of quality. Making newspaper from old paper uses 30% to 55% less energy than making paper from trees; and it reduces air pollution by 95%. Reuse old newspapers! It takes an entire forest — over 500,000 trees — to supply Americans with their Sunday newspapers every week. Americans use 50 million tons of paper annually — which means we should consume more than 850 million trees. That can mean the average American uses about 580 pounds of paper each year!

American offices throw away enough paper every year to build a wall 12 feet high across the country. But, right now, we save 20 million tons of paper a year by recycling. Most paper thrown away in the office just has printing on one side. One can use the blank side for writing or drawing, or cut it into smaller sizes and staple it together to make note pads.

### **WORDLIST**

Annually	ежегодно
Average	средний
Blanc side	чистая сторона
Case	случай
Entire	целый
Note pad	блокнот
Staple	скреплять
Substitute	заменять
Virgin paper	бумага, не подвергшаяся переработке

➤ *Translate the following text into English*

**Свет и тепло вашего дома**

Теплоэлектростанция сжигает уголь для того, чтобы выработать энергию, которая дает свет и тепло в ваши дома. Сжигаемый уголь выделяет газы, которые создают парниковый эффект и кислотный дождь. Выключайте свет, когда вы выходите из комнаты, а находясь в комнате, выключайте те источники света, которые вам не нужны. Днем, для того чтобы почитать, садитесь ближе к окну, вместо того чтобы включать свет. Выключайте телевизор или магнитофон, когда вы смотрите программу либо видеофильм.

➤ *Answer the questions*

1. Which of the abovementioned problems does your native country have?
2. What can be done to protect the environment?

➤ *Fill in the gaps with the words given below*

1. Recycled paper could easily be substituted for ...
2. Making newspapers from «old» ... uses 30% to 55% less energy than making paper from ...
3. That means the ... .. about 580 pounds of paper ... ..
4. American offices throw away ... .. every year to build a wall 12 ... .. across the country (feet high, trees, average American uses, each year, virgin paper, enough paper, papers)

➤ *Read and write out the sentences with adjectives in Comparative and Superlative Forms*

**Price for Developments**

My mum is upset: the window glasses get dirty so shortly and the winter is so long. I am upset: my best bathing suit was spoilt this summer. I came out of the

sea with a black mineral oil spot on it though the sea water looked so clear. My dad is upset: his shirt smells awfully because my mum aired it outdoors. My granny is upset: she can't sleep quietly because of the noise of a great number of cars, lorries, buses even late at night.

The scientific and technological progress of the twentieth century resulted in widespread mechanization, automated lines, computerized management, spaceships, atomic power stations, pipelines, new roads and highways.

But it can not be denied that the price for rapid industrial development is very high: natural resources are exhausted, the ecological balance of the planet is disturbed. The poisoning of the world's land, air and water is the fastest-spreading disease of the civilization. It probably produces fewer headlines than wars, earthquakes and floods, but it is potentially one of history's greatest dangers to human life on Earth. Some species of flora and fauna disappear; city and industry waters, chemicals and fertilizers are endangering lakes, rivers and ponds. The seas are in danger. They are filled with poison: industrial and nuclear waste, chemical fertilizers and pesticides. The Mediterranean is already nearly dead, the North Sea is following, the Aral Sea is on the brink of extinction.

➤ *Read and translate the dialogue, learn by heart*

### **Dialogue**

A. — What will happen if the fastest-spreading disease of civilization continues for the next several decades?

B. — If present trends continue for the next several decades, our planet will become more uninhabitable.

A. — What will happen to the seas and rivers if present trends continue?

B. — If nothing is done about it, one day nothing will be able to live in the seas.

A. – What is the most main cause of the greenhouse effect and acid rains?

B. — Industrial enterprises emit tons of harmful substances. These emissions have disastrous consequences for our planet. They are the main reason for the greenhouse effect and acid rains.

A. - What do people of different countries do to save our planet?

B. - Numerous antipollution acts passed in different countries led to the most considerable improvements in environment. In many countries purifying systems for treatment of industrial water have been installed, measures have been taken to protect rivers and seas from oil waters. Wildlife reservation models of undisturbed nature are being developed in some parts of the world.

### **Words and expressions**

to die out	вымирать
disaster	трагедия
disastrous	чудовищный
emission	выброс
to emit	выбрасывать
environmental protection	защита окружающей среды
fertilizer	удобрение
harmful substances	вредные вещества
industrial and nuclear waste	промышленные и ядерные отходы
on the brink of extinction	границы исчезновения
pesticide	пестицид
to poison	отравлять



to spread (spread, spread)

распространяться

to threaten

угрожать

➤ *Read and translate the text into English*

**Человек и окружающая среда**

Важнейшее проявление экологической проблемы — загрязнение окружающей среды, истощение горючих и минеральных ресурсов. Это, в свою очередь, отражается на состоянии биосферы, на здоровье людей, а также на социальных, политических и экономических процессах.

Различают локальные, региональные, глобальные проявления экологических проблем. Непосредственное воздействие на природные системы осуществляется на локальном уровне — в городах, промышленных зонах — и распространяется вплоть до глобальных масштабов. Такие явления, как истощение озонового слоя, повышение радиационного фона Земли, имеют относительно самостоятельный глобальный характер и отражаются в каждой точке планеты.

➤ *Read and find the sentences with Passive Voice, put these sentences into Past and Future Tenses*

**Preservation of Nature**

1. Preservation of nature has become a serious issue by the end of the 20<sup>th</sup> century. Government officials and politicians speak a lot of this problem. For them it is a good chance to attract public attention and get scores in their political campaigns. In fact, very little is done to make our lives healthier by preserving nature. Big industrial corporations keep polluting water in rivers, lakes and seas. Oil tankers dump oil into seas and oceans. Many countries use cheap electricity from nuclear power plants, which beside being unsafe and

dangerous, also account for polluting nature. Forests are felled, including rain forests. As a result, animals, birds and fish are killed. Life in big cities is also affected by big industries and transport. Many people are anxious to leave cities for suburban areas in search of a better ecology. But ecology is threatened there also.

2. Let's take for example acid rains. What do a forest in Germany, a lake in Sweden and the Great Lakes on the borders of Canada and the United States have in common? They are all threatened by acid rain. All over Europe, particularly in Russia, and in North America, there are lakes and forests which are dead or dying, and the cause is acid rain. All fossil fuels, that is oil, coal and gas, contain sulphur. When these are burnt, for example, in motor vehicles, they form sulphuric acid. This acid goes up into the air, and soon it falls back with rain into earth, into lakes and onto trees in forests. As a result, lakes become acidic, fish disappears and trees are killed. The pollution is carried great distances by the wind, so sulphuric acid produced in Britain can travel as far as Scandinavia. The main source of acid rain is electric power stations.

➤ *Answer the questions*

1. Why is nature seriously threatened nowadays?
2. What are the major sources of pollution?
3. What is acid rain?
4. What can be done to protect ecology?

➤ *Match both parts English and Russian*

e.g.	e.g.
1. <u>a major cause of pollution</u>	a. - <u>большая причина загрязнения</u>
2. lead is removed	b. - существует данная проблема
3. acid rain	c. - свинец удаляется
4. the problem is faced	d. - кислотный дождь
5. examples of nature preservation	e. - ответственный за загрязнение окружающей среды
6. responsible for the pollution	f. - примеры сохранения природы

**Words and expressions**

to preserve (to protect)

охранять, оберегать

issue

проблема

to dump oil

сбрасывать нефть

nuclear waste

отходы ядерного топлива

to threaten

угрожать

acid rain

кислотный дождь

fossil fuel

органическое топливо

sulphur

сера

lead-free

не содержащий свинца

to pass laws

принимать законы

sewage

сточные канализационные воды

landfill

свалка мусора

recycling

вторичная переработка

list of endangered species

Красная книга

➤ *Read and translate into English*

### **Защита от загрязнения**

В настоящее время разрабатываются различные меры защиты от загрязнения: малоотходные технологии, замкнутые циклы, нейтрализация ядовитых веществ, надежная изоляция отходов. Большое значение имеет совершенствование двигателей автомобилей, перевод автотранспорта на другие, экологически чистые, виды топлива. Для утилизации бытовых отходов нужны мусороперерабатывающие заводы. В противном случае санкционированные и несанкционированные мусорные свалки превращаются в источник различных инфекционных заболеваний.

Загрязнение может быть вызвано различными веществами, поэтому в каждом конкретном случае следует определить загрязнитель, выявить его источник, а затем разработать и внедрить приемлемую стратегию его ликвидации и контроля.

➤ *Read and analyze the text, finding the Infinitive, Conditional sentences and Passive Voice*

### **Pollution**

Man has been trying to make his life easier for many centuries. In doing so, he invented machines and instruments. They have been working and polluting the world we live in.

In this world around us, there are two things that do not belong to any one

country: air and ocean water. In both the air and the water, there is much pollution. People are concerned about the air and the water used by everyone, and they are also concerned about the future of the Earth.

One of the most important pollution problems is in the oceans. Many ships sail in the ocean water — fishing ships, some ships carrying people, some carrying oil. If a ship loses some of the oil in the water, or trash from the ship is put into the ocean, the water becomes dirty. Many birds and fish die because of the polluted water. Many fish are dying in the sea, others are getting contaminated. Fishermen catch contaminated fish which may be sold in the markets and people may get sick from eating it. Fish may also move to another part of the ocean. Lakes and rivers are getting polluted too. Some beaches are considered dangerous for swimming.

The second important problem is air pollution. Cars and factories pollute the air we use. It also destroys the ozone layer which protects the Earth from the dangerous light of the Sun.

If we want our children to live in the same world we live in, or in a better and healthier world, we must learn to protect the water, the air and the earth from pollution.

➤ ***Answer the questions***

1. Why are people concerned about air and water?
2. What are the consequences of water pollution?
3. What are the consequences of air pollution?
4. What should people do if they want to live on the Earth?

## EXPRESSIONS

1. to be concerned about	беспокоиться о чем-либо
2. smth to put trash into	сбрасывать мусор
3. smth to get contaminated	быть отравленным
4. to destroy the ozone layer	разрушать озоновый слой
5. to affect the balance of nature	оказывать влияние на гармонию в природе

### *Translate into English, using Infinitive Constructions*

1. Люди озабочены загрязнением воды и воздуха.
2. Суда, сбрасывая отходы в океан, загрязняют воду.
3. Рыба, в загрязненной воде умирает или становится ядовитой.
4. Машины и фабрики загрязняют воздух и разрушают озоновый слой Земли.
5. Кислотный дождь нарушает баланс в природе.
6. Люди должны научиться защищать землю и воздух от загрязнения.

- *Read and write out the sentences with the Participle I, the Participle II and the Gerund*

### **Problems Caused by Economic Activity**

Economists have long thought of the environment as an unlimited source of resources. They have thought that the atmosphere, forests, rivers and seas are capable of absorbing all the rubbish the economy throws into them. In fact, the economy and the environment are closely related. The environment supplies the economy with all its resources, such as water, timber, minerals and oil. The environment has to absorb all its waste products.

Nevertheless, some economists have always argued that pollution damages the resources. For example, pumping waste gases from a power station does not help to get rid of them. The waste gases cause acid rain; this leads to forest damage and therefore reduces the resources of forestry industry.

There are many consequences of damaging the environment. One of them is acid rain. Another one is water shortage resulting from abuse of arable lands in agriculture. The third one is destroying the ozone layer of the Earth through pollution from factories and plants. The fourth problem is water and soil damage. The fifth one is damage to wildlife: numerous species of animals and plants can disappear. Lastly, the most serious danger arising from damaging the environment is the result of the above mentioned consequences. This is the danger for the life and health of the man.

If we are unable to learn to use the environment carefully and protect it from damage caused by man's activities, very soon we'll have no world to live in.

### **Words and expressions for the given below texts**

an unlimited source of resources	to absorb smth.
to be closely related	timber
waste products	to damage the resources
to pump waste gases	to cause acid rain
to lead to damage	to reduce the resources of smth.
a consequence of smth./doing smth.	water shortage
to result from smth.	abuse of arable lands
damage to water and soils	damage to wildlife
species of animals and plants	to arise from doing smth.
to suffer an environmental problem	to be caused by economic activities
the effect of the Chernobyl disaster	cotton growing
to be under threat	a system of dams
to use the environment carefully	to protect smth. from damage

### **➤ Translate into Russian and put questions to the text**

#### **Water Environment**

*When you've spent half your political  
life dealing with humdrum issues  
like the environment...it's exciting to  
have a real crisis on your hands.*

*(Margaret Thatcher during the  
Falkland's campaign, 1982.)*

Our water environment is in crisis because it is carelessly polluted and weakly protected. Agriculture and industry' combine to flood our rivers with chemicals. Our decaying sewage system, designed in the nineteenth century, struggles to cope with the pollution of the twentieth. We pump into our seas raw



sewage that washes back on to our beaches. Leakages of concentrated animal waste drive out the oxygen and the life from our rivers. Toxic rubbish from Britain and abroad is dumped into holes in the ground, from which it leaks to pollute our water sources. There is poison in the pipes too — lead, the dangers of which are only now being fully understood. And there's aluminium, added by the water authorities themselves yet strongly suspected of causing a cruel brain disease. There is something wrong with the water, this most precious of all natural resources.

➤ *Render the contents of the following article in English*

**Путь к чистой воде**

Чистые водные пути благотворно воздействуют как на окружающую среду, так и на людей. Это подтверждает пример озера Уиидермир в красивом Озерном крае в северо-западной Англии.

Британские сточные воды представляют собой смесь дождевой воды и сточных вод, спускаемых в канализацию домашними хозяйствами, промышленностью и сельским хозяйством. Если они не будут тщательно очищены, это приведет к катастрофическим последствиям, так как такие питательные вещества, как азот и фосфор, соединяются с металлами, жирами и ядовитыми химикатами, а также с бактериями и вирусами и поглощают кислород, от которого зависит водная флора и фауна.

Загрязняющие вещества представляют опасность для купания и наносят ущерб моллюсковому промыслу.

➤ *Combine the text in the correct order, using the information from the text given above*

1. We believe that in the long term the consequences of 1 \_\_\_\_
2. ultimately many of our important resources will run dry. 2 \_\_\_\_

3. the rest of the world is increasingly interfered with and	3 ____
4. It is true that much of the interference can be avoided.	4 ____
5. reduced by strong legislation and investment in filter	5 ____
6. are partially protected from the attentions of industry.	6 ____
7. For example, the pollution of our rivers has now been	7 ____
8. systems; parks and areas of outstanding natural beauty	8 ____
9. synthetic fibres or by technical innovation oil fuels by solar	9 ____
10. can also find alternatives for many of the diminishing	10 ____
11. power. However, this on its own is not enough, for the	11 ____
12. should also remember that our standard is high at the	12 ____
13. time to avoid a downturn in our standards of living. We	13 ____
14. most of our raw materials.	14 ____
15. we may not be able to afford them or introduce them in	15 ____
16. expense of others; we import over half of our food and	16 ____
17. The other remedy available to us is conservation. This	17 ____
18. building or tree. It also involves using resources to a maxi-	18 ____
19. does not only mean preserving the occasional beautiful	19 ____
20. every eight years). Industry has, understandably, widened	20 ____
21. fortunate in being able to buy more and more of what	21 ____
22. its market by producing goods that are to be thrown away	22 ____
23. Up to now' this has not been done. We have been	23 ____
24. we want (for example, our consumption of oil doubles	24 ____
25. energy intensive and hence convenient. It is true that these	25 ____
26. give us many short-term benefits, but at a price.	26 ____
27. after a short life span. We all demand goods which are	27 ____

### ➤ Translate the text into English

1) Людей стало так много, а наши инструменты стали настолько мощными, что мы довели своих собратьев до полного вымирания, прокляли великие реки, разрушили древние леса, отравили землю, дождь и ветер и разрыли дыры в небе. Наша наука принесла боль и радость; наш комфорт оплачивается страданиями миллионов. Мы учимся на своих ошибках, мы оплакиваем нашу исчезнувшую семью, и теперь мы строим новую политику надежды. Мы уважаем и поддерживаем абсолютную потребность в чистом воздухе, воде и почве. Мы видим, что экономическая деятельность, которая приносит пользу немногим, а унаследованная от многих, ошибочна. А поскольку деградация окружающей среды навсегда разрушает биологический капитал, полная экологическая и социальная стоимость должна входить во все уравнения развития. Мы одно короткое поколение в долгой гонке времени; будущее не наше, чтобы стереть. Поэтому, когда знания ограничены, мы будем помнить всех тех, кто будет преследовать нас, и ошибаться в сторону осторожности.

2) Мы - земля через растения и животных, которые нас питают. Мы дожди и океаны, которые текут по нашим венам. Мы - дыхание лесов земли и растений моря. Мы - животные, относящиеся ко всей другой жизни как к потомкам первородной клетки. Мы делимся с этими родственниками общей историей, написанной в наших генах. У нас общий подарок, наполненный неопределенностью. И у нас общее будущее, пока еще не предсказанное. Мы, люди, являемся одним из тридцати миллионов видов, плетущих тонкий слой жизни, окутывающий мир. От этого разнообразия зависит стабильность сообществ живых существ. Связанные в этой сети, мы взаимосвязаны - используем, очищаем,

разделяем и пополняем фундаментальные элементы жизни. Наш дом, планета Земля, конечен; вся жизнь делится своими ресурсами и энергией от солнца и поэтому имеет пределы для роста. Впервые мы коснулись этих границ. Когда мы компрометируем воздух, воду, почву и разнообразие жизни, мы крадем из бесконечного будущего, чтобы служить мимолетному настоящему. Мы можем отрицать эти вещи, но мы не можем их изменить.

3) Вторичная бумага во многих случаях может быть легко заменена чистой, без потери качества. Изготовление газет из старой бумаги потребляет на 30-55% меньше энергии, чем изготовление бумаги из деревьев; и это уменьшает загрязнение воздуха на 95%. Повторно используйте старые газеты! Требуется целый лес - более 500 000 деревьев - чтобы снабжать американцев своими воскресными газетами каждую неделю. Американцы используют 50 миллионов тонн бумаги в год, а это значит, что мы должны потреблять более 850 миллионов деревьев. Это может означать, что среднестатистический американец использует около 580 фунтов бумаги каждый год!

Американские офисы выбрасывают достаточно бумаги каждый год, чтобы построить стену высотой 12 футов по всей стране. Но сейчас мы экономим 20 миллионов тонн бумаги в год за счет переработки. Большая часть бумаги, которую выбрасывают в офис, просто имеет печать на одной стороне. Можно использовать пустую сторону для письма или рисования, или разрезать его на меньшие размеры и скрепить вместе, чтобы сделать блокн.

4) Производство алюминия из переработанного алюминия требует на 90% меньше энергии, чем производство алюминия с нуля. Только в 1998

году рециркуляция алюминиевых банок позволила сэкономить более 11 миллиардов киловатт-часов электроэнергии, что достаточно для удовлетворения потребностей Нью-Йорка в жилом секторе в течение шести месяцев. Энергия, сэкономленная на одной переработанной алюминиевой банке, будет работать в течение трех часов. Если вы выбросите алюминиевую банку из окна поезда, она все равно будет засорять Землю через 500 лет. Когда вы выбрасываете одну алюминиевую банку, вы можете тратить столько энергии, как если бы вы наполнили ту же банку, наполовину полную бензина, и вылили ее на землю

5) Каждое принятое нами решение влияет на окружающую среду. Это экологический факт жизни. Каждый раз, когда мы ходим по магазинам, пользуемся общественным или частным транспортом или выбираем место для проживания, наш выбор влияет, в лучшую или худшую сторону, на качество воздуха, которым мы дышим, и воды, которую мы пьем - на мир, который мы переживаем нашими глазами, ушами и носом. Нам действительно нужно много вещей, которые в конечном итоге влияют на наше окружение - нам нужны жилье, еда, отдых и в целом удовлетворительный уровень жизни. Однако есть много вещей, которые нам не нужны. Мы являемся видом, который может изменить мир, и мы являемся единственными видами, которые могут выбрать либо заботиться о нашем мире, либо разрушать его. Наша планета предлагает нам ограниченные ресурсы. Мы также делимся этим с тысячами других видов растений и животных, которые развивались вместе с нами на протяжении миллионов лет. Однако после промышленной революции наше население значительно выросло, и каждый из нас теперь потребляет гораздо более ограниченные ресурсы.

6) Благодаря грандиозным усилиям правительство Японии может похвастаться тем, что 86 процентов из 9 миллионов тонн пластиковых отходов, которые страна производит каждый год, перерабатывается, при этом сжигается лишь 8 процентов, а остальная часть отправляется на свалки.

Еще 14 процентов экспортируется частным сектором в более бедные азиатские страны - без какого-либо механизма для отслеживания того, действительно ли этот мусор переработан или сожжен на свалках или в океане. Только 14 процентов действительно перерабатывается в Японии, в основном превращаясь после переработки в новые продукты.

Но многие простые люди блаженно не знают о реальности. «Мы слишком доверяем правительству», - говорит КенджиФума, исполнительный директор Neural, который консультирует компании по вопросам устойчивости. «Никто не знает, что происходит после сбора отходов, но люди считают, что правительство относится к этому вопросу ответственно».

Одно исследование показало, что 80 процентов анчоусов в Токийском заливе содержат пластик, другое обнаружило более трех миллионов пластиковых пакетов в заливе Осака.

По данным Программы ООН по окружающей среде, на душу населения Япония потребляет больше пластика, чем в среднем по Европейскому союзу и Китаю, но меньше, чем Соединенные Штаты.

➤ **Answer the questions?**

1. What do you think about the environment in our country?
2. In what ways are we looking after the world, and in what ways are we destroying it?

## **This We Resolve**

**All that we know and believe must become the foundation of the way we live.  
We work at the evolution: form dominance to partnership; form fragmentation to  
connection; form security and interdependence**

## UNIT III

### AIR POLLUTION, ENVIRONMENT AND HUMAN HEALTH

➤ *Translate from English into Russian paying attention to compiling the summary or conclusion*

EU policy identifies clean air as one of our most fundamental needs. Poor air quality affects health, ecosystems, food crops and architectural heritage, with concomitant social and economic impacts. Pollutants can remain in the atmosphere long enough to be transported thousands of kilometers from the original polluting source. The transboundary transport of atmospheric pollutants has been and remains an important cause of concern in Europe and elsewhere. This has led to International Protocols and agreements requiring reductions of pollutant emissions. The EU aims to combat this problem and meet its international obligations, through a package of measures related to air quality, acidification strategies, acting to reduce emissions of these harmful pollutants by the introduction of stricter emissions' limits and standards generally.

➤ *Use these models and expressions for compiling the summary or conclusion for the given texts*

#### SUMMARY

##### I.

##### Model 1

It deals with the problem concerning clean air as one of our most fundamental needs. The paper gives a comprehensive look into today's ecological state of air pollutions.

##### Model 2

This paper describes the problem of clean air, which is considered to be the most fundamental needs in our life.



## II. The expressions you need:

- |  |   |
|--|---|
| 1. This article given under the title «...»<br><div style="border-left: 1px solid black; padding-left: 10px; margin-left: 20px;">           deals with...<br/>           studies...<br/>           discusses...<br/>           is devoted to...         </div> | 4. It is interesting<br><div style="border-left: 1px solid black; padding-left: 10px; margin-left: 20px;">           to mention...<br/>           to note...<br/>           to add...<br/>           to compare...<br/>           to emphasize...<br/>           to point out...         </div> |
| 2. The problems it<br><div style="border-left: 1px solid black; padding-left: 10px; margin-left: 20px;">           shows<br/>           represents<br/>           depicts<br/>           illustrates<br/>           concerns         </div>                    | <div style="border-left: 1px solid black; padding-left: 10px; margin-left: 20px;">           are:         </div> 5. In conclusion (finally speaking)  |
| 3. To my mind, in my opinion,<br>as far as I know  | 6. On the whole   |

➤ *Read the texts with a dictionary and give the summary, using the expressions given above*

### 1. Other Ecological Impacts

A body of EU legislation aims to maintain the ecology of Europe, protecting its landscape, fauna and flora, and minimizing the impact of industrial and economic activity on the quality of life generally. The supply of gas is unobtrusive, especially considering the amount of energy involved. The transport of natural gas is invisible and silent. It does not add to the congestion and pollution of Europe's road network. Natural gas is generally stored under ground, minimizing further its overall impact. Works cause the least possible disturbance to local flora and fauna; any necessary restoration of the ecology

and landscape is carried out to preserve biodiversity. The natural gas industry will continue to build on the advantages of its product, and to aim for all-round improvement. Through the use of natural gas a significant contribution will be made to the achievement of a healthier and pleasanter environment for all as well as economic growth.

## **2. Minimal Disturbance**

In deciding on a transmission pipeline route, a company considers environmental impact, transmission safety and technical-economic criteria, in order to avoid or disturb as little as possible areas of natural or cultural importance, archaeological sites, geologically unstable areas, built-up areas, or those where new housing is planned. In the construction phase, trenches are excavated for the pipelaying operations using technologies that interfere as little as possible with the surroundings. Once the pipes have been laid, the land is restored very carefully. Only the yellow company markers indicate the pipeline's location.

➤ *Read the text attentively using a dictionary and give the main idea of it.*

### **Natural Gas Vehicles**

Emission tests have now demonstrated that natural gas powered vehicles provide an economically viable and socially acceptable way of reducing both greenhouse gas emissions and significantly improving air quality. Even taking into account unburned methane from non-optimized engines and catalyst systems, an independent test has demonstrated an overall percentage reduction in equivalent

CO<sub>2</sub> emissions of some 20% compared with petrol. The range of toxic emissions associated with diesel and petrol engines are either eliminated or dramatically reduced. Similarly, the Natural Gas related emissions provide a substantial

reduction in ozone forming potential whilst significantly reducing other pollutants such as Nitrogen Oxides. Natural Gas fuelled vehicles are even capable of environmentally performing those powered by LPG engines. Taking all factors into account there are substantial environmental benefits in the use of Natural Gas.

➤ *Look through the text and enumerate the problems of consumption.*

### **Problems of Consumption**

At present our whole society is based on a vicious circle of ever-increasing production and consumption, without questioning whether we are really any healthier or happier for it. By seductive and clever advertising and salesmanship we are constantly brainwashed to consume what the manufacturer wants us to, and not what we really need.

Certainly the state of environment is the clearest indication that some of our cherished values may be wrong.

As the population has grown and as the consumption rate of each individual has increased, living in an industrial society like Britain has also meant traffic jams, foul air, crowded cities (and coasts), deteriorating public services, and mounting levels of noise, solid wastes, and pesticide residues. Achieving a high degree of freedom from material want has also meant a crescendo of environmental problems that in the long term threaten the supply of food and raw materials for everyone.

➤ *Read the text, given above, thoroughly with a dictionary and answer the following questions*

1. What is this text devoted to?
2. Name some types of pollutants and heavy metals.
3. Are there any negative effects of pollutants and heavy metals for people?

### ***POPs, Metals and Human Health***

POPs (persistent organic pollutants) and heavy metals (Ni, Co, Си, Zn. Pb. Cd. Hg) in the environment accumulate in the human food chain and can reach levels that lead to significant intake in northern populations. Aboriginal groups that consume large amounts of subsistence foods from the marine environment are especially at risk of high exposure to mercury, polychlorinated biphenyls (PCBs), chlordane and toxaphene. Yet the high nutritional quality of the traditional diet is important for good health and the social and cultural benefits of a subsistence lifestyle are important for community and individual wellbeing. As globalization expands and information on the negative effects of pollutants increases, Arctic peoples are facing changes in their diet, increases in some diseases, significant adverse social pressures, and conflicting information necessary for decision making. Some groups, such as children are especially vulnerable to the effects of these combined factors.

➤ ***Compose the sentences with the chemical compounds given below.***

#### **Chemical compounds – химические соединения**

1. anthracite (hard coal)	антрацит
2. brown coal	бурый уголь
3. charcoal	древесный уголь
4. fossil coal	ископаемый уголь
5. soot	сажа
6. PCB (polychlorinated biphenyls)	полихлориновые бифенильные соединения
7. PTS (persistent toxic substances)	устойчивые токсические вещества
8. POP (persistent organic pollutants)	устойчивые органические загрязнители

*Read and translate*

**BOTH CLIMATE LEADER AND OIL GIANT? A NORWEGIAN  
PARADOX**

**(bySominiSengupta - the New York Times)**

On an unseasonably warm day in May, Norway's climate minister, VidarHelgesen, strolled through a vast parking lot for electric cars, counting Teslas.

"Two, three, four, five," the minister marveled. And that was just one aisle.

There are big perks to buying a Tesla — or any electric car — in Norway. The government waives the high taxes it imposes on sales of other cars. It lets electric cars cruise up bus lanes. Toll roads are free. Parking lots like this one offer a free charge, and new charging stations are being built on the nation's highways.

In fact, Norway hopes that only electric cars will be sold in the country by 2025 — a surprising goal, given that it means kicking the nation's powerful oil industry in the shins.

But Norway's big electric push on cars does not mean the nation is abandoning fossil fuels, revealing what critics call a notable contradiction in its climate policy.

While Norway wants to wean its own citizens off fossil fuels, it remains one of the world's biggest oil producers and is revving up production, almost all of it for export. So even as the country tries to cut emissions and clean up its own carbon ledger at home, it is effectively doing the opposite abroad.

Spurred by attractive state subsidies, the Norwegian oil company Statoil is chasing after new oil and gas fields in the Arctic. Nearly all of the supply is destined for export — and to show up in the carbon emissions of countries that burn Norwegian oil and gas.

There's a lot of it, too. Peter Erickson, a senior scientist with the Stockholm Environment Institute, a research organization, found that emissions from Norway's oil exports this year will be 10 times as much as Norway's domestic carbon emissions.

As governments wrestle over what they should do to keep the planet from heating up to dangerous levels, critics contend that Norway should curb the supply of fossil fuels, rather than just trimming demand among its own people.

"Norway has set out to be a global leader in climate action, yet continued expansion of oil and gas production could eclipse the benefits of Norway's domestic emission reduction efforts," Mr. Erickson and his colleague Adrian Down wrote in a recent paper.

It's one of the problems built into the Paris climate accord that President Trump promises to leave, Mr. Erickson argued: Countries are measured by how much they reduce their own emissions, within their own borders, not by the impact they have on the planet as a whole.

Norway is aiming to shrink its own carbon emissions by 40 percent, exceeding the European Union's targets. It already generates all its electricity from hydropower. A short-distance electric ferry has started navigating one of the fjords.

But oil and gas are vital to Norway's economy, representing 12 percent of gross domestic product and more than a third of Norwegian exports, according to the nation's petroleum directorate.

And while there may be a global effort under the Paris agreement to reduce emissions, that certainly has not stopped the international race for Arctic oil. Norway is in the vanguard of that scramble, trailed by Russia, Canada and the United States.

The Arctic is feeling some of the most acute effects of global warming. Temperatures are rising at least twice as fast as the global average, scientists

have found. The Arctic had less sea ice at winter's end than has been seen before in nearly four decades of satellite measurements. The Barents Sea was almost devoid of ice this past winter.

But, paradoxically, climate change may also aid Norway's export ambitions. The melting waters stand to open up new shipping routes that make it cheaper for Norway to sell its oil to countries in Asia.

Greenpeace Norway has sued the government, arguing that granting new permits to drill in the Arctic is inconsistent with its obligations under the Paris accord, which seeks to keep the global rise in temperatures since the preindustrial era below 2 degrees Celsius.

In May, Statoil began work on five new exploration wells in the Barents Sea, and the company is bullish on the prospects. It says that it explores only in ice-free waters. (Cleaning up an oil spill in ice is next to impossible, environmentalists say.)

A spokesman, Morten Eek, said that Statoil takes great care to mitigate against environmental risks, that its extraction process leaves a smaller carbon footprint than the global average, and that the company saw no reason to stop exploring now.

"There will be demand for oil and gas even in a 2-degree scenario going forward," Mr. Eek said.

In any case, he pointed out, it can trade its emissions allowances across Europe, as part of the European Union's emissions cap-and-trade system, meant to create incentives to reduce a company's carbon footprint.

The oil market, though, may have other ideas. Norwegian oil is expensive, relative to oil from many other parts of the world. Falling oil prices worldwide could make Norway's supply even less competitive on the international market, said ThinaMargretheSaltvedt, an analyst at Nordea, a market research company.

"The world might not need our oil," she said.

Then there are the climate implications, she added: “We want to be a leader in climate change. But what we do is export the CO<sub>2</sub>.”

Oil drilling can be a politically contentious topic for Norwegians. A proposal to explore for oil near the Lofoten Islands, an ecologically sensitive cod breeding ground, was bitterly opposed by environmentalists and fishermen— and shelved until after national elections this fall.

On a recent bright, hot day — “This would be a great day in July, and it’s only May,” said Norway’s environment minister, Mr. Helgesen— the minister emphasized that his country was aggressively trying to curb demand for oil and gas. He drives an electric Volkswagen Golf. It can carry on for nearly 100 miles on a full charge, though in the bitter Norwegian winters, he concedes, it conks out much sooner.

Mr. Helgesen hopes there will soon be a pilot project with an electric-powered passenger plane to handle a short-distance flight in the north of the country. With stepped-up demand for electric vehicles, he says battery companies are finding Norway an attractive destination.

Norway has sought to reduce its carbon footprint in other ways, too. It has divested its enormous sovereign wealth fund from coal. It donates heavily to a global fund to save forests. It was one of the first countries to sign the Paris deal, alongside France itself.

Now, Mr. Helgesen says his country is facing the inevitable. “We are readily saying, ‘Oil and gas will not be the driver of our economy in the future,’” he argued. “While we are still drilling, we are identifying ways to build more legs for the Norwegian economy to stand on.”

That is an existential challenge for the country. The oil industry is politically powerful. Oil exports create wealth. Oil drilling creates jobs. Passing up opportunities in the shallow waters of the warming Arctic is difficult.



“We, as a country, we are petroholics,” said Thomas Nilsen, who runs a news site called The Independent Barents Observer. “We do understand that climate change is caused by burning fossil fuels. At the same time, we depend so much on the income from the oil. Just like alcoholics, we do want to stop, but we don’t know how.”

➤ **Questions**

1. What is Norway’s position towards Tesla cars?
2. Is Norway going to lessen oil production?
3. What does Norwegian company extract natural resources in Arctic region?
4. What’s the level of Norway’s carbon emissions?
5. What is the position of Norwegian oil on the global market?
6. Does spokesman Morten Eek support Statoil?
7. Is Nordea’s forecast positive for Norway?
8. Does Thomas Nilsen support modern oil policy?
9. Does environment minister Helgesen drive electric car?
10. What’s Greenpeace’s forecast towards Norway?

➤ **Vocabulary**

1. stroll through - прогуляться;
2. to marvel - восхищаться;
3. big perks - большие льготы;
4. waive the high taxes - отказывается от высоких налогов;
5. cruise up bus lanes - круиз по автобусным полосам;
6. toll roads - платные дороги;
7. charging station - зарядная станция;
8. wean its own citizens off - отучить своих граждан;
9. carbon ledger - бухгалтерская книга;

10. spurred by attractive state subsidies - стимулируется привлекательными государственными субсидиями;
11. senior scientist - старший ученый;
12. curb the supply of fossil fuels - обуздать поставки ископаемого топлива;
13. wrestle over - бороться за;
14. revving up productions - оживление производства;
15. the Paris climate accord - Парижское климатическое соглашение;
16. to shrink emissions - сократить выбросы;
17. nation's petroleum directorate - национальная нефтяная дирекция;
18. in the vanguard of that scramble - в авангарде этой схватки;
19. inconsistent - непоследовательный;
20. cap-and-trade system - система ограничения торговли;
21. to curb demand for oil and gas - обуздать спрос на нефть и газ;
22. conks out - выходит из строя;
23. Norway's climate minister - министр климата Норвегии;
24. surprising goal - удивительная цель;
25. shallow waters - мелководье;
26. we are petroholics - мы зависимые от нефти;
27. oil drilling - бурение нефтяных скважин;
28. reduce carbon footprint - уменьшить углеродный след;
29. the oil market - нефтяной рынок;
30. the most acute effects of global warming - самые острые последствия глобального потепления;
31. preindustrial era - преиндустриальная эпоха;
32. create incentives - создавать стимулы;
33. devoid of ice - лишенный льда;
34. short-distance electric ferry - электрический паром на короткие расстояния;

35. in the shins - в голени;
36. notable contradiction - заметное противоречие;
37. trimming demand among its own people - обрезать спрос среди своих собственных людей;
38. existential challenge - экзистенциальный вызов;
39. by burning fossil fuels - сжигая ископаемое топливо;
40. 2-degree scenario - сценарий 2-й степени;
41. the oil industry - нефтяная промышленность ;
42. oil and gas fields in the Arctic - нефтегазовые месторождения в Арктике
43. emissions allowances - квоты на выбросы;
44. Norway's environment minister - министр охраны окружающей среды Норвегии;
45. shelved until after - отложено до;
46. bullish - бычий;
47. politically contentious topic - политически спорная тема;
48. ecologically sensitive cod breeding ground - экологически чувствительный треск;
49. exceeding the European Union's targets - превышение целей ЕС;
50. ice-free waters - безледные воды.

➤ **Read and translate**

**POLLUTION BATTLE REACHING NEW LEVEL AS AIR GETS CLEARER**

(By Hou Liqiang China Daily )

Beijing's environmental watchdog has vowed to further bolster cross-regional control of air pollution and to better manage pollution sources at a more detailed level as the capital saw continuous improvement of its air quality in 2018.

The capital saw the average density of PM2.5 particulate matter drop by about 12 percent year-on-year to 51 micrograms per cubic meter in 2018, said Liu Baoxian, deputy head of the environmental monitoring center at the Beijing Municipal Ecology and Environment Bureau. Liu spoke at a news conference on Friday.

Other major air pollutants also decreased. The concentration of sulfur dioxide, for example, stood at 6 mg per cubic meter, down by 25 percent from 2017. Its density remained below 10 mg/cu m, even during the cold months when the increased need for heating can drive up pollution, Liu said.

The number of days with heavy pollution in the capital dropped from 58 in 2013 to only 15 last year. The past year also saw 195 consecutive days without heavy air pollution, 108 more than 2013.

Shi Aijun, deputy head of Beijing Municipal Research Institute of Environmental Protection, said PM2.5 density in the capital peaked at 244 mg/cu m in 2018, down by 46 percent year-on-year.

Xing Jia, associate professor from the School of Environment, Tsinghua University, said their research and calculations showed about half of the capital's air quality improvement in the past five years came from reduction of local emissions.

While favorable meteorological conditions contributed 30 percent of the improvement, decrease of pollutant discharges in nearby regions also helped, Xing said.

In Hebei province, the PM2.5 concentration dropped 12.5 percent last year, according to preliminary results from the provincial environmental authority.

Almost 1.8 million households in the province turned to natural gas and electricity as heating sources instead of highly polluting coal. Almost 6,500 coal-burning boilers with a capacity of about 12,700 metric tons of steam energy were eliminated in 2018.

In Beijing, about a third of air pollutants in 2018 were from outside the city, according the Beijing bureau. Among the locally generated pollutants, emissions from vehicles, dust and industrial emissions contributed about 45, 16 and 12 percent, respectively.

Though diesel trucks represent only about 4 percent of total internal combustion engines in Beijing, they contributed 90 percent of the particular matter from such engines.

Bureau officials said they have taken tailored measures based on their research. While establishing a monitoring network that targets dust, they also are better managing diesel trucks. They say they have weeded out 47,000 such trucks and established a database that includes 145,000 trucks with excessive emissions.

Li Kunsheng, head of vehicle emission management, said trucks in the database that are registered in other regions will be forbidden from entering the capital.

Li said his department will carry out surprise inspections of those with local plates to ensure owners rectify their violations.

Li Xiang, the Beijing authority's director of air pollution management, said that during three decades, the biggest part of their work was reducing coal consumption and shutting down small polluting enterprises. With most of that work completed, Beijing now has to turn to more detailed management to further cut pollution.

«Чайнадейли» (англ. «China Daily», кит. упр. 中国日报, пиньинь: Zhōngguó Rìbào) — китайская ежедневная общественно-политическая газета, которая издаётся компанией «China Daily Group». Язык издания — английский. Владелец газеты Коммунистическая партия Китая. Главный редактор ChinaDaily: Чжу Лин.

### ➤ Answer the questions

1. How many percent did Beijing manage to reduce the average drop in particular matter?
2. Who uses natural gas and electricity as heat sources instead of highly polluting coal?
3. How many days a year is the air very dirty?
4. Why is air more polluted in winter than in the summer months?

### Summary

The article is concerned with air pollution control in Beijing. Beijing's environmental watchdog has vowed to further bolster cross-regional control of air pollution. Firstly, Beijing succeeds in reducing average PM2.5 particulate matter drop by about 12 percent in 2018. Secondly, the concentration of sulfur dioxide was 6 mg per cubic meter, which is 25 percent less than in 2017. It should be noted that even in the cold months, when the need for heating increased, the density of sulfur dioxide remained below 10 mg/cu m. Finally, the number of days with heavy pollution in the capital dropped from 58 in 2013 to only 15 last year.

According to estimates of the Beijing Municipal Environmental Protection Research Institute, PM2.5 density in the capital peaked at 244 mg/cu m in 2018, down by 46 percent year-on-year. It would be wise to mention here that according to preliminary results from last year's regional environmental authority in Hebei Province, the concentration of PM2.5 decreased by 12.5 percent.

The important point is that the country is concerned with the ecology and takes appropriate measures to combat environmental pollution. Almost 1.8 million households in the province turned to natural gas and electricity as heating sources instead of highly polluting coal.

To summarize for three decades, Beijing has reduced coal consumption and shut down small polluting enterprises. Today, China is moving to a more detailed reduction in pollution.

➤ **Read and translate**

**UN CALLS FOR PUSH TO CUT GREENHOUSE GAS LEVELS TO  
AVOID CLIMATE CHAOS**

**(Fiona Harvey, *Environment correspondent*)**

Countries must make an unprecedented effort to cut their levels of greenhouse gases in the next decade to avoid climate chaos, the UN has warned, as it emerged that emissions hit a new high last year.

Carbon dioxide emissions in 2018, also accounting for deforestation, rose to more than 55 gigatonnes, and have risen on average by 1.5% a year for the past decade, according to the UN Environment Programme (UNEP) annual emissions gap report.

Global emissions must fall by 7.6% every year from now until 2030 to stay within the 1.5C ceiling on temperature rises that scientists say is necessary to avoid disastrous consequences. The only time in recent history when emissions have fallen in any country at a similar rate came during the collapse of the Soviet Union. During the financial crisis and recession, emissions in the US and Japan fell briefly by about 6% but soon rebounded.

However, technologies such as renewable energy and electric vehicles are now available, and increasingly cheap, which could enable deep cuts in carbon without jeopardising economic growth.

John Christensen of the Technical University of Denmark, a co-author of the report, told the Guardian the cuts in emissions now required were “unprecedented”.

Postponing action could no longer be an option, said Inger Andersen, executive director of UNEP. “Our collective failure to act early and hard on climate change means we must now deliver deep cuts to emissions [of] over 7% each year, if we break it down evenly over the next decade. This shows that countries simply cannot wait.”

Without such urgent action the world’s fate would be sealed within the next few years as carbon would rise to such a level as to make dangerous levels of warming inevitable, she said. “We need quick wins to reduce emissions as much as possible in 2020, then stronger [commitments under the Paris agreement] to kickstart the major transformations of economies and societies. We need to catch up on the years in which we procrastinated.”

Next year, governments are expected to make new commitments to cut greenhouse gases substantially by 2030, as part of the 2015 Paris agreement. Officials and ministers will meet in Madrid next week to clear the way for a crunch meeting a year from now in Glasgow, where the gap between countries’ current emissions pledges and scientific estimates of what cuts are needed will be addressed.

Current pledges under the Paris agreement are deemed inadequate; if countries stick to them next year, they would have to reduce emissions to zero from 2030 to avoid raising temperatures by more than 1.5C. For that reason, Andersen urged nations not to wait to enshrine new commitments, but to take immediate action.

UNEP has been reporting on the “emissions gap” between countries’ pledges and the cuts needed since the Paris agreement was signed in 2015, but rising emissions in the meantime have made the situation even more urgent. Last year’s landmark scientific assessment by the Intergovernmental Panel on Climate Change revealed the ravages that would result from a 1.5C rise above pre-industrial levels, including the near-total extinction of coral reefs, and extreme weather around the world.

The current pledges made by countries under the Paris agreement would cause temperature rises of about 3.2C this century, according to scientific estimates.

### **Summary**

This article was published in The Guardian by Fiona Harvey and is devoted to the increasing number of greenhouse gas that can lead to an environmental catastrophe. The UN made a report where it was noted that countries have to make an unprecedented effort to cut their levels of greenhouse gases in the near future. It can be done by using renewable energy resources and electric vehicles.

The problem is the following: without such urgent action the world’s fate would be sealed within the next few years as carbon would rise to such a level as to make dangerous levels of warming inevitable. What we found in fact is that next year, governments are expected to make new commitments to cut greenhouse gases substantially by 2030.

In conclusion, it should be noted that nations should not wait to enshrine new commitments, but to take immediate action since the number of greenhouse gas has increased significantly.

### **Vocabulary:**

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1. to cut greenhouse gas levels – снизить уровень парниковых газов
2. to rebound – восстановиться, подскочить
3. deep cuts in carbon – большие сокращения выбросов углерода
4. without jeopardising economic growth – не ставя под угрозу  
экономический рост



5. if we break it down evenly over the next decade - если мы будем равномерно распределять его в течение следующего десятилетия
6. to kickstart the major transformations of economies and societies – дать толчок основным преобразованиям экономики и общества
7. current pledges under the Paris agreement are deemed inadequate – нынешние обязательства по Парижскому соглашению считаются недостаточными
8. to enshrine new commitments – закрепить новые обязательства

➤ **Read and translate**

**JAPAN WRAPS EVERYTHING IN PLASTIC. NOW IT WANTS TO  
FIGHT AGAINST PLASTIC POLLUTION.**

*(By Simon Denyer. Washington Post)*

YOKOHAMA, Japan — My bagels come individually wrapped in sealed plastic bags. At the counter they're carefully packed together in another plastic bag, before being placed inside a third plastic with the rest of my shopping. Japan's obsession with hygiene combined with its pride in "omotenashi," or customer service, dictates that everything is meticulously wrapped, rewrapped and bagged in multiple layers of plastic.

Every person in Japan uses around 300 or 400 plastic bags a year, or more than 40 billion for the entire nation.

Japan also is having to adapt as environmental groups and others raise the alarm about how to cope with a world awash in plastics.

The Yokohama city government's household guide to the "Separation and Disposal of Garbage and Recyclables" is eight pages long, with detailed instructions on how to separate the trash into 10 broad categories, from cloth to paper and cardboard, from small metal items to various types of plastic.

Milk cartons, for example, must be rinsed with water, cut open and dried, then bundled together with items of same size with a paper string: unless, that is, the interior is processed with an aluminum or wax coating, in which case they go in the burnable garbage.

“You need a PhD to understand the recycling rules,” is a common refrain among foreigners living here.

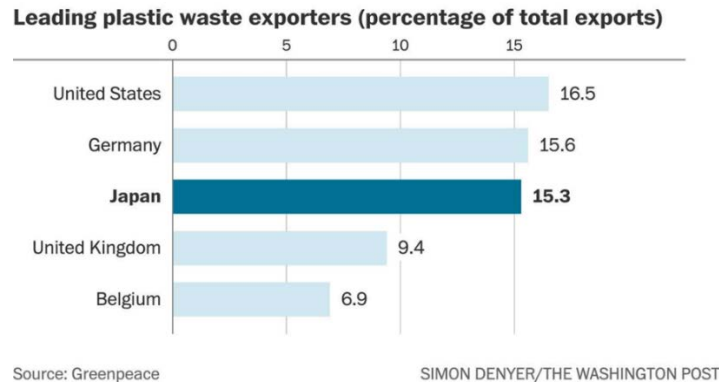
Thanks to this monumental effort, Japan’s government boasts that 86 percent of the 9 million tons of plastic waste the country generates every year is recycled, with just 8 percent burned and the rest sent to landfills.

Another 14 percent is exported by the private sector to poorer Asian countries — with no mechanism to track whether it is truly recycled or ends up burned, in landfills or the ocean. Just 14 percent is truly recycled in Japan, mostly broken down and made into new products.

But many ordinary people are blissfully unaware of the reality. “We trust too much in the government,” says Kenji Fuma, chief executive of Neural, a consultancy that advises companies on sustainability. “Nobody knows what happens after the waste is collected, but people believe the government treats it well.”

One study found 80 percent of the anchovies in Tokyo Bay contain plastic: another found more than three million plastic bags in Osaka Bay.

On a per capita basis, Japan consumes more plastic than the European Union average and China, but less than the United States, according to the United Nations Environment Program.



The government says it wants to reduce plastic use by 25 percent by 2030, and Environment Minister Yoshiaki Harada announced plans this month to force stores to charge for plastic bags.

Supermarket and retail chain Aeon says that more than 1,700 out of their 3,085 stores already charge for plastic bags, and the goal is to reach 2,500 by February. The 7-Eleven chain of convenience stores says it aims to eliminate plastic bags by 2030.

The rural southwestern township of Kamikatsu has gone even further. In 2003, unable to afford the high costs of incineration, it set itself the goal of becoming zero waste by 2020. Today, through sorting, processing and re-use, it recycles more than 80 percent of its waste and has become a global model for sustainable living.

On the other side “A lot of retailers and restaurants are starting to change, but the big resistance is from manufacturers who don’t want to change their ways,” said consultant Fuma. “Japanese manufacturers are way behind their European and American competitors, and the Ministry of Economy doesn’t say anything about reducing plastics use.”

**Summary:**The present article discusses some aspects of garbage pollution in Japan. According to the author of the article, Japan’s obsession with hygiene combined with its pride in “omotenashi,” or

customer service, dictates that everything is meticulously wrapped, rewrapped and bagged in multiple layers of plastic.

The article presents some results of a research according to which every person in Japan uses about 300 or 400 plastic bags per year, which means more than 40 billion - the whole nation.

It also should be noted that despite a lot of work on the separation of garbage, in most cases the garbage is not recycled. The Japanese government boasts that 86 percent of the 9 million tons of plastic waste that the country produces each year is recycled, with only 8 percent burnt and the rest sent to landfills.

A further 14 percent is exported by the private sector to poorer Asian countries - without any mechanism to track whether this garbage is actually recycled or burnt in landfills or in the ocean. Only 14 percent is actually processed in Japan, mainly turning into new products after processing.

At this point a question arises as to reduce the amount of garbage, including plastic. The government says it wants to cut back on plastic by 25 percent by 2030, and Environment Minister Yoshiaki Harada announced plans this month to force stores to charge for plastic bags.

Retail chain Aeon says more than 1,700 of their 3,085 stores are already charging plastic bags, and their goal is to reach 2,500 by February. The 7-Eleven chain of stores says it aims to eliminate plastic bags by 2030.

The rural southwestern town of Kamikatsu went even further. In 2003, unable to afford the high costs of burning, he set a goal by 2020 to completely get rid of the status of a waste supplier. Today, thanks to sorting, recycling and reuse, it recycles more than 80 percent of its waste and has become a global model for sustainable living.

In conclusion it should be mentioned that Many retailers and restaurants are starting to change, but manufacturers who do not want to change their path are putting up a lot of resistance. Japanese manufacturers are significantly behind their European and American competitors, and the Ministry of Economy says nothing about reducing the use of plastic.

### **Questions:**

1. How does the author of the text translate a Japanese word “omotenashi” ?
2. How many plastic bags does each Japanese use per year?
3. How much percent of the garbage is actually recycled in Japan?
4. How does the Japanese government plan to cut back on plastic?
5. What policies do retailers in Japan pursue regarding plastic reduction?

### **Vocabulary**

bagel – пончики, булочки

wrap – заворачивать, обертка

sealed - герметичный

counter - прилавок

the rest of shopping – остальные покупки

obsession - одержимость

hygiene - гигиена

meticulous – мелочный, дотошный

multiple layers – несколько слоев

alarm – тревога

awash in plastics – заваленный пластмассой

cloth - ткань

cardboard - картон

string – лента, нить  
bundled–связать  
aluminum coating – алюминиевое покрытие  
wax - воск  
burnable garbage – сжигаемый мусор  
refrain–жалоба  
monumental effort – грандиозные усилия  
boast - хвастаться  
blissfully - блаженно  
chiefexecutive – исполнительный директор  
anchovy - анчоус  
on a per capita basis – на душу населения  
charge – налог, взимать плату  
retailchain – розничная сеть  
eliminate – устранять, исключать  
incineration - сжигание  
resistance - сопротивление  
competitor – конкурент

➤ **Read and translate**

**ENVIRONMENTAL PROTECTION IN FINLAND**

**(By Finnish Environment Institute (SYKE) , July 2019)**

Finland provides many good examples of how to protect the natural environment. Wide-ranging and detailed environmental data and high levels of technological skill form the basis of Finland's effective environmental protection policies. As one of the world's wealthiest industrialised countries Finland is also able to afford vital environmental investments. Finland's low

population density and comparatively unspoilt natural environment also facilitate nature conservation.

### **Sensitive northern environments**

The main aim of environmental protection is to anticipate risks and prevent damage before any harm is done.

The vegetation of Finnish Lapland is especially sensitive to disturbances such as logging and overgrazing by domesticated reindeer. Fortunately these threats have been reduced through the protection of large areas of forest and restrictions on the number of reindeer. Increasing tourism in Lapland can likewise burden the environment, but it can also encourage environmental protection, since most tourists are attracted to Lapland by the region's unspoilt natural settings.

Climate change and the consequent reduction in snow and ice cover could prove to be fateful for animals such as the Saimaa ringed seal, since these rare lake seals raise their young in winter dens dug in compact snowdrifts on the frozen waters of the Saimaa lake system in eastern Finland. Thanks to the efforts of conservationists, seal numbers have risen slowly since the 1980s, but there are still fewer than 300 seals, and their population increase seems to be slowing. Saimaa ringed seals used to face problems including persecution by fishermen and contamination with mercury and other toxic chemicals. Controls over fishing have thankfully reduced the numbers of young seals killed in fishing nets or traps, but seals are increasingly suffering due to the disturbance of their habitat by snowmobile traffic in the winter, and the construction of lakeside holiday homes.

Many environmental problems can be lessened if sufficient time and money can be found to address them. But it could take decades to resolve the problem of eutrophication in Finland's inland waters and the Baltic Sea, for instance. Over

time some waters could recover from the presence of excess nutrients through natural processes, if further inputs of phosphorus and nitrogen could be kept down to acceptable levels. But there are at least 1,500 lakes around Finland where more active ecological restoration measures such as selective fishing, oxygenation or the removal of aquatic vegetation would be needed to combat eutrophication effectively. Such measures have already been applied in almost a thousand lakes.

### ***Green and spacious cities***

By international standards Finland's cities are small and blessed with many green areas. Most have only grown recently and are still developing rapidly.

This migration and rapid construction have resulted in more spatially scattered suburban communities, especially on the fringes of larger cities. This trend is problematic in environmental terms, as it leads to increases in traffic, energy consumption and the use of natural resources. It is difficult to organise effective public transportation systems where homes, services and workplaces are scattered over large areas.

Air pollution and other environmental problems associated with cities around the world are comparatively slight in Finland's urban centres. The most serious health problems concern particle emissions and noise. More than 800,000 Finns live in surroundings where they are subjected to noise levels of more than 55 decibels.

### ***Climate change and energy***

Global climate change is expected to have extremely dramatic effects in Finland. Finnish experts have estimated that mean annual temperatures could rise by 2–7°C by 2080, while annual precipitation could increase by 5–40%. The winters



could become largely snow-free in southern Finland, whilst in the north more snow may fall than previously.

Finland's contributions to global greenhouse gas emissions are small in absolute terms, but very high when measured per capita.

Finland's northerly location increases the demand for energy and natural resources, but the cold climate has also forced people to make sure that they produce and use energy efficiently, and insulate their homes well.

Renewable energy sources account for about a quarter of all the energy used in Finland – a very high proportion by international standards. A large part of this renewable energy is produced from residuals generated in the pulp and paper industry, including bio-sludge and wood chips. Finland's energy policies aim to significantly increase the use of renewable energy sources. So far wind power, solar power and geothermal or ground source heat are only exploited on a very small scale, but the number of Finnish buildings warmed using ground source heat is increasing rapidly. The greatest challenge for Finland is to find ways to save energy more effectively.

### ***Biodiversity in Finland***

Finland's biodiversity is exceptionally well documented, thanks to high quality research and the work of many keen amateur naturalists. On the other hand, Finland's natural habitats contain fewer species than other habitats such as tropical rainforests. Some 200 species have provenly become extinct in Finland.

Most of Finland's threatened species are associated with forest and farmland habitats. Forest species are threatened by logging and the shortage of decaying wood in commercially managed forests. Meanwhile, due to the intensification of agriculture, small-scale ecologically diverse habitats created by traditional

farming practices have almost disappeared from the Finnish countryside. The spread of building developments along shorelines also reduces biodiversity.

Finland has achieved notable nature conservation successes in recent years, particularly in the cases of some larger animals and birds that were formerly hunted or harassed. Finland's national bird, the whooper swan, for instance, has become much more widespread in recent decades.

Invasive species are one of the greatest threats to biodiversity around the world. The rapid spread of exotic species can seriously disrupt native ecosystems. So far only a few such species have created problems in Finland. The cold climate offers some protection, as many invaders fail to survive the northern winter. Biodiversity in Finland could be faced by many more problems with invasive species if the climate becomes warmer.

### **Answer the questions**

1. What is the success of Finland's environmental policy?
2. What is the main aim of environmental policy?
3. What has reduced threats such as logging and overgrazing by domesticated reindeer?
4. How will the reduction of snow and ice cover affect the life of the Saimaa ringed seal?
5. What active measures are in place to combat the eutrophication in Finland's inland waters and the Baltic Sea?
6. What consequences did migration and rapid construction have for Finnish cities?
7. What is the biggest health threat in Finnish cities?
8. What is Finland's energy policy aimed at?
9. What are the main reasons for the decline in biodiversity in Finland?

10. What are the dangers of invasive species to the local ecosystem?

## Unit IV

### Extra Reading (Home Reading)

#### THE AGE OF CONSENTS

##### *Industrial pollution of the water environment*

The water authorities and industry are involved in a giant chemistry experiment using the environment as a test tube.

*Tim Birch, Greenpeace*

Any industry, from a dark satanic mill to a sophisticated pharmaceutical company, produces waste by-products. A proportion goes into the poorly regulated hazardous-waste-business, other waste is pumped either straight into rivers or into water-authority sewers. Flowing water has in the past been regarded as a great purifier, able to dilute and render harmless almost anything thrown into it. But all water is susceptible to pollution. Groundwater, from which we draw much of our drinking supplies, is especially so.

Industry pollutes both by accident and by design. Accidental spillages are one thing, but water is also contaminated by chemicals that factories are allowed to discharge perfectly legally. By law factories are subject to discharge consents agreed with the local water authority. These are supposed to regulate the composition and the quantity of the discharge. What we don't know is how far companies comply with these consents. We do know, however, that in 1988 there were 23,000 reported pollution incidents in Britain, double the figure for 1982, and that industry was responsible for 37 per cent of them.<sup>1</sup> We also know that during the 1980s more and more rivers have been classed as unable to support life - almost 4,500 kilometres of river by 1988.

## **THE TOXIC COCKTAIL: PESTICIDES IN DRINKING WATER**

Drinking water all over the country is subject to extensive and illegal contamination by an unstable cocktail of highly toxic pesticides and herbicides. We consume them only in small doses, but we know next to nothing about the long-term effects of what we are drinking. These chemicals are, after all, designed to kill.

It is an alarming thought, though apparently not alarming enough to prompt government action. Britain is failing to comply with the drinking-water directive that sets strict limits on pesticide contamination. Pesticides are frequently found in quantities far above the permissible levels. Politicians often exhort us to obey the law. In this case, with public health at stake, the British government itself has decided to break the law and is instructing the water industry to do likewise.

Pesticides and herbicides reach our drinking water from a variety of sources. About half of the pollution is the result of modern farming practice. The international chemical industry, expanding alongside the 'industrial' agriculture it services, produces millions of tonnes of powerful agro-chemicals every year. Poisonous chemicals also seep into our water supplies from industry, from large-scale weed-killing programmes carried out by local councils and from the extensive spraying of railway lines by British Rail.

## **THE DUSTBIN OF EUROPE**

### **Hazardous-waste disposal in Britain**

We produce thousands of tonnes of waste every year in this country. Some of it is the household rubbish we put out in black bags for the bin men to collect. Some is builder's rubble. Some is scrap metal. And then there's the nasty stuff - the chemicals that come in drums with a skull and crossbones on the side,

the tankers marked 'danger', waste that is toxic and unstable and needs to be disposed of very carefully.

Very little of this is recycled - probably as little as 15 per cent.<sup>1</sup> Most of it goes to landfill. In other words, we take the waste and fill up our land with it. It's cheap and convenient, and there are plenty of holes in the ground that need filling up. Perhaps 'disposal' is the wrong word for most of what goes on. The hazardous chemicals do not disappear; instead they are put where nobody can see them. The hope is that they will go away. Unfortunately they do not, and some of them have a disagreeable habit of making their way into the public water supply.

Hazardous-waste management in this country is a national disgrace - or, rather, it would be if more people were aware of the scandalous state of affairs.

## **A CASE OF DELAYED REACTION**

### **Aluminium in drinking water**

*You might compare it to the link between smoking and lung cancer. We're at about the same stage as research on smoking and lung cancer was twenty years ago.*

Dr Philip Day, Department of Chemistry,  
Manchester University

Most of the chemicals in our drinking water have got there more by accident than design. Nobody is deliberately pouring lead or pesticides or industrial waste straight into the mains. But aluminium is different. The water authorities add the chemical themselves, tipping it in by the tonne. Every year they add 100,000 tonnes of aluminium sulphate to drinking-water supplies in order to help purify

the water. This process, called flocculation, causes impurities to coagulate and sink to the bottom of giant tanks. Aluminium flocculation leaves water looking clean and sparkling when it pours out of the tap. Unfortunately there is now growing evidence that a high aluminium content in drinking water appears to contribute to bone disease, making bones weaken and fracture spontaneously. In the north of England, where there are high levels of aluminium in the water, the incidence of bone disease is also high. There is also evidence that aluminium, like lead, is causing serious damage to our brains and that it is partly responsible for one of the most common and most distressing illnesses of our times, Alzheimer's Disease.

### **THE DENTIST'S DREAM**

Fluoridation of drinking water

*Of course fluoride can be poisonous,  
and so can oxygen, and so can water.*

*It is all a question of dosage.*

Sir Cyril Clarke,

Royal College of Physicians.

Fluoride is added to water because it is intended to do us good. It does not treat the water in any way, nor does it make it cleaner or more pleasant to drink. It is added to improve the health of our teeth.

The British Fluoridation Society (BFS) exists to promote the artificial fluoridation of water in areas that are not already naturally high in fluoride. They claim that it is a great success. Fourteen-year-olds in fluoridated Birmingham, for instance, have 42 per cent less tooth decay than children of the

same age in Bolton. Manchester five-year-olds have twice as much tooth decay as Newcastle five-year-olds; Newcastle is fluoridated. The BFS can point

to ninety-five different studies, carried out in twenty countries, all of which have demonstrated that fluoridation works. No one knows precisely how fluoride helps teeth. Mike Lennon, chairman of the BFS, told us that there are a number of theories. The benefit may occur as fluoridated water passes over the teeth, or the fluoride may be absorbed by the body and incorporated into the teeth. Whichever theory is correct, the important thing is that tooth decay does seem to be reduced. Less tooth decay doesn't just mean fewer trips to the dentist. It also means fewer operations. In 1985 about 200,000 children under ten years old had to have a general anaesthetic for tooth extractions. A small amount of risk is always involved in such operations, and any reduction in their number is to be welcomed.

➤ **Read, translate and retell**

## **EXTINCT AUSTRALLIAN RODENT OFFERS LESSONS IN LOST OPPORTUNITY**

**(By Karl Wilson China Daily)**

The extinction of a tiny brown rodent in Australia, blamed on climate change, has been described as a "national tragedy" by environmentalists and scientists who said it could have been avoided.

The rodent, known as the Bramble Cay melomys, had inhabited the small, barren island of Bramble Cay in the northeast of the Torres Strait near Papua New Guinea.

Professor John Woinarski of Charles Darwin University, a specialist on the tiny mammal, said the extinction could have been prevented with some early intervention by the government. The mammal was doomed largely due to climate change as the island it lived on was virtually at sea level and open to wild fluctuations in weather and the rise in sea level, he said.



## Extinct Australian rodent offers lessons in lost opportunity

An effort to save it could have been made years ago as sea levels began to rise due to climate change, he said. The fact that the island was low lying means it was slowly being eroded with high tides and storm surges, giving the small creature little chance of survival.

The announcement that the Bramble Cay melomys was extinct was made in an official press release on Feb 18. Since the European settlement in Australia more than 200 years ago, 34 species of mammals have become extinct.

The fact, due mainly to imported cats and foxes in the past, is an appalling statistic considering that only one animal in North America has become extinct in the same period, according to Woinarski. Another 450 species of Australian animals are now on the endangered list along with 1,400 plant species, and the list is growing.

Perhaps more alarming is the number of disappearing insects. According to a study published in the latest issue of the conservation biology journal *Biological Conservation*, more than 40 percent of insect species (globally) may become extinct "over the next few decades".

"Unless we change our ways of producing food, insects as a whole will go down the path of extinction in a few decades," the study warned. It was conducted jointly by researchers from universities in Australia and the Chinese Academy of Agricultural Sciences in Beijing.

Why should we be worried about the loss of insects? Insects are by far the most varied and abundant creatures, outweighing humanity by 17 times. They are "essential" for the functioning of all ecosystems, researchers involved in the study said, as food for other creatures, pollinators and recyclers of nutrients.

"There is reason to worry," said lead author Francisco Sanchez-Bayo, a researcher at the University of Sydney. "If we don't stop it, entire ecosystems will collapse due to starvation."

The study, the first global survey of research on insect populations around the world, singles out a few groups of insects that are particularly threatened: moths and butterflies; pollinators like bees; and dung beetles, along with other insects that help decompose feces and detritus.

The main drivers have been habitat loss and conversion to intensive agriculture and urbanization; pollution, mainly that by synthetic pesticides and fertilizers; biological factors, including pathogens and introduced species; and climate change.

"If insect species losses cannot be halted, this will have catastrophic consequences for both the planet's ecosystems and for the survival of mankind," according to the study.

Dr Tanya Latty, an entomologist with the School of Life and Environmental Sciences at the University of Sydney, said entomologists have long suspected a decline in insect numbers.

"It's the one thing you tend to notice in your career, but the problem is we do not have that much data which cover insect numbers over a long period of time and in one place. And that is down to funding," Latty said.

"You can get funding for cuddly animals but who wants to sit down and count cockroaches for years in one place?"

"There have been some studies done which have shown major declines in certain areas but nothing definitive and on a global scale," Latty said.

Some species will die out but others will replace them, she said. "But I don't think you can start talking about ecological collapse. There is a lot of space between everything being fine and collapse," she said. "The environment is complex."

Professor Philip Weinstein, professorial research fellow with the School of Biological Sciences at the University of Adelaide, said the study highlighted an issue that had been known for some time.

Weinstein, who is also president of the Australian Entomological Society, said the "single most important issue in insect conservation is to protect habitat".

The phenomenon of a global insect decline has been "studied in professional circles for many years, which is why the authors have been able to review the existing body of work", he said.

➤ **Read, translate and retell**

**ENVIRONMENTAL ECOLOGY PROBLEMS IN CHINA.**

**(New York Times)**

The rapid industrialization and population growth in China over the last century has also led to the country to become one of the most polluted in the world. While a large industrial base and millions of motor vehicles significantly contribute to China's notorious air pollution, the biggest contributing of this environmental issue is a result of the country's numerous coal-fired power plants.

According to a New York Times report, China is responsible for 47% of the world's coal burning, which is more than all other countries in the world combined. As a result, respiratory diseases that are directly related to air

pollution are currently the leading cause of death in China, according to the World Wildlife Fund (WWF).

In addition to some of the world's worst air pollution, China also has many waterways that are highly polluted. According to the Economist, more than 50% of China's surface water is not fit for human consumption, whereas approximately 60% of the groundwater under Chinese cities is considered to be "severely polluted."

In recent news, it has been reported that approximately 70% of groundwater samples that were taken in various areas of China were proved to be suitable for human consumption, which is an overall integrity that has improved by 67.9% from samples taken in 2017.

China is also dealing with rampant soil erosion and desertification, which is a type of land degradation that is a result of previously fertile soil transforming into arid land due to poor agricultural practices and land management, as well as extreme climate change. According to the WWF, desertification has already swept over 30% of China's land mass.

#### Environmental Policies of China

In 2013, China's economic planning agency released a regulatory roadmap to combat climate change. Starting in 2014, 15,000 factories are now required to publicly report real time data regarding their air emissions and water release. The government also pledged \$275 billion over the next five years toward cleaning up the country's air pollution.

On July 3, 2018, China announced a new plan that is a modified version of the previous Air Pollution Action Plan that was originally released in September 2013. Following the implementation of this plan in 2013, China successfully

improved the air quality in several key regions such as the Pearl River Delta, which reduced air pollution by 15%, and in Beijing that reduced air pollution by 33% in terms of the PM2.5 targets for these areas.

The new 2018-2020 Three Year Action Plan for Winning the Blue Sky War will apply to all cities in China, whereas the original plan implemented in 2013 only applied to specific target cities like Beijing, Tianjin and the Pearl River Delta areas. This new plan is specifically focused on reducing the emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx) by 10% and 15%, respectively, by 2020. To achieve these goals, several measures are incorporated into this novel plan, some of which include:

- 1) Strengthen end-of-pipe treatment
- 2) Improve transitions in energy, industry and transportation
- 3) Cleaner heating furnaces
- 4) Tackle small-scale coal burning
- 5) Improve district heating in northern industrial cities

In January 2015, the Chinese government passed another sweeping set of environmental regulations – said to be the strictest in Chinese history. The new law describes harsher penalties for environmental violations such as falsifying records, discharging wastes covertly and evading oversight. The law also contains terms for tackling contaminants, increasing public awareness and protecting whistle-blowers, while simultaneously placing more accountability on regional governments and law-enforcement agencies. It also sets stronger standards for companies.

➤ **Read, translate and retell**

**AMAZON FIRES RAISE ALARM ON ECOLOGICAL IMPACT**

**(China Daily)**

Nations along the Amazon River are not only battling huge blazes in the forests, but also fighting the perception that pro-development policies are responsible for the fires that environmentalists fear may affect the rainforest and South America's ecology. The relatively young government of Brazilian President Jair Bolsonaro is coping with the situation by using troops and firefighting assistance from some nations, though initially balking at a G7 offer of financial aid."More than 43,000 members of the armed forces (Navy, Army and Air Force) are located in the region. They are available to act on demand, coordinate with environmental control and public safety agencies," said the Brazilian Ministry of Defense.

Bolsonaro has questioned whether any other country can tell Brazil how to use its natural resources. The Amazon rainforest spans more than 5.5 million square kilometers in nine countries, though two-thirds of the area is in Brazil. More than 160,000 forest fires have been recorded throughout the region so far this year, with about half of them in Brazil. Of the rest, 26,000 have been in Venezuela, 19,000 in Bolivia and around 14,000 each in Colombia and Argentina.

The United States and Israel have sent firefighting planes to help tackle the blazes. Other countries are leasing planes to spray water and fire retardants. For the rest of the continent, the concern is that burning a particular section of the Amazon rainforest could have implications on weather patterns as well as regional access to water. A single large tree in the Amazon can release about 1,000 liters of water into the atmosphere every day through a process called evapotranspiration. That water turns into rain that falls throughout the region.

"Calculating that, the Amazon would reach the extraordinary number of 20 billion tons of water in a single day. We call this riosvoadores, or 'flying rivers',"

said Ana Luiza Tunes, an environmental engineer and water management specialist who founded the Brazilian environmental portal Tunes Ambiental.

"It is the 'flying rivers' formed in the Amazon that bring water back to the continent. This leads us to conclude that the Amazon rainforest is not only the main lungs of the world, but the heart of planet Earth," Tunes said.

During the dry season, which typically runs from May until October, fires in the Amazon are sparked by natural sources such as lightning strikes. Some argue that this year's fire season is not particularly different from others.

According to NASA, total fire activity across the Amazon basin as of Aug 16 was close to average compared with the past 15 years. Global Forest Watch, an online platform that provides data and tools to monitor forests, agreed, though data from other agencies point to an increase in fires.

Brazilian President Bolsonaro has argued that the global alarms are politically motivated. Renan Buchelt de Oliveira, an environmental consultant, said, "The problem is the media war against the current government, not a fire increase."

He said it is mostly opposition parties that have harshly criticized Bolsonaro's government and management of the fires. "In eight months of government, these groups have been trying to destabilize the new government," he said.

Critics say the president's pro-development policies are responsible for many of the fires, due to the expansion of slash-and-burn tactics. They argue that this year's fires are the beginning of a trend caused by runaway deforestation sparked by pro-agriculture policies.

Around 2,500 fires are currently burning in Brazil. The Brazilian state of Amazonas has managed to control some areas after it declared a state of emergency on Aug 11. Fires have spread across the tropical forests and

savannahs near Bolivia's borders with Paraguay and Brazil. At least 1 million hectares have been affected by the blazes, Bolivian officials said.

"More than 800,000 hectares of the Chiquitano forest (inside the Amazon rainforest) were burned in Bolivia during August. This region is the largest dry rainforest in the world and at risk of losing this title," said Tunes, the environmental engineer.

➤ **Read, translate and give the summary**

## **CLIMATE CHANGE POSES THREATS TO CHILDREN'S HEALTH WORLDWIDE**

**(By Kendra Pierre-Louis)**

The health effects of climate change will be unevenly distributed and children will be among those especially harmed, according to a new report from the medical journal The Lancet.

The report compared human health consequences under two scenarios: one in which the world meets the commitments laid out in the Paris Agreement and reins in emissions so that increases in global temperatures remain "well below 2 degrees Celsius" by the end of the century, and one in which it does not.

The report, published Wednesday, found that failing to limit emissions would lead to health problems caused by infectious diseases, worsening air pollution, rising temperatures and malnutrition.

"With every degree of warming, a child born today faces a future where their health and well-being will be increasingly impacted by the realities and dangers of a warmer world," said Dr. Renee N. Salas, a clinical instructor of emergency medicine at Harvard Medical School and lead author of the United States policy brief that accompanied the report.



## What on Earth Is Going On?

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“Climate change, and the air pollution from fossil fuels that are driving it, threatens the child’s health starting in the mother’s womb and only accumulates from there,” she said.

Children are especially vulnerable partly because of their physiology.

“Their hearts beat faster than adults’ and their breathing rates are higher than adults’,” said Dr. Mona Sarfaty, the director of the program on climate and health at the Center for Climate Change Communication at George Mason University, who was not involved in the report.

As a result, children absorb more air pollution given their body size than an adult would in the same situation.

But unless nations halt emissions, air pollution, which, according to the report, killed seven million people worldwide in 2016 alone, will quite likely increase. The burning of fossil fuels such as coal and gas also releases a type of fine air pollution called PM 2.5 that can damage the heart and lungs when inhaled. Exposure to PM 2.5 air pollution is correlated with health problems such as low birth weight and chronic respiratory diseases like asthma.

Research published in The New England Journal of Medicine after the passage of policies designed to improve air quality “shows that the children who grew up when the air was better quality literally had more functioning lung tissue,” Dr. Sarfaty said.

In addition to the emissions associated with burning fossil fuels, the report said future generations would be exposed to a growing source of fine-particulate pollution: wildfires.

As temperatures rise, wildfires are becoming more frequent in part because hotter temperatures dry out vegetation, making it easier to ignite. The smoke, like the smoke that comes from burning fossil fuels, has negative health effects.

According to the report, since the middle of this decade there has been a 77 percent increase in the number of people exposed to wildfire smoke worldwide. Much of that growth has been in India and China. The 2018 California wildfire season, though, when the Camp Fire became the state's deadliest and most destructive blaze in terms of acres burned, and this year's wildfire season make it clear that increasing wildfires are also happening in the United States.

Across the Western United States, the rise of giant wildfires has worsened air pollution enough to erode some of the air-quality gains from the Clean Air Act.

"You have young kids escaping fires that are going to be, in effect, challenged for life," said Gina McCarthy, a former administrator for the Environmental Protection Agency. "There are mental health issues happening as a result of these climate events and fires and floods that children have never had to face, certainly not to the frequency and intensity that they have to face now."

The report said that there were many links between climate change and mental health, including the loss of property and the loss of livelihoods but stopped short of quantifying the impact.

Part of the exposure risk that children face is simply that they spend more time outside than adults. Coupled with their differing physiology, it makes them more susceptible to fine particulate pollution. These same factors also mean they are

more likely to suffer from the effects of extreme heat associated with climate change; eight of the 10 hottest years on record have happened this decade.

The European heat waves in 2003 lead to the deaths of 70,000 people. “We know that climate change had its fingerprints there and that’s concerning,” said Dr. Nick Watts, the report’s executive editor, adding that subsequent heat waves have “resulted in tens of thousands of deaths.”

While many of those people were elderly, young people suffered, too.

As heat waves become more severe, parents and coaches “may not realize that the children are more exposed and therefore more vulnerable,” Dr. Sarfaty said.

A 2017 report that she helped prepare found that, in the United States, heat related illnesses were the leading cause of death and disability in young athletes.

This is the third time The Lancet has weighed in on the health impacts of climate change, but the first with a focus on children. “It was our contention, both negatively, that the health costs were huge and underestimated. But also, more positively, that by putting health first in our response to climate, there were dividends for both the public and for the economy in terms of cleaner and safer cities and healthier diets,” Dr. Richard Horton, editor in chief of The Lancet, said.

To that end, the report does contain glimmers of hope. Carbon intensity, or how much energy can be produced for each unit of greenhouse gas released, has increased. And more cities are filing climate assessments detailing solutions that can be put into place. But these actions are happening against a backdrop of greenhouse gas emissions that continue to rise.

A child born today will live until 2090 on average, Dr. Watts said, noting that without changes to greenhouse gas emissions the planet could warm by 4

degrees by then. “We roughly know what that looks like from a climate perspective,” he said. “We have no idea what that looks like from a public health perspective. But we know it is catastrophic.”

The report, and its focus on children, comes at a time when youth climate demonstrations including school strike protests spearheaded by Greta Thunberg, the Sunrise movement and Extinction Rebellion have attracted attention.

“This may be the first time in the history of the United States that there are children wondering whether they are going to have a future, whether they should have children as a result of the potential for climate change to get worse and worse,” Ms. McCarthy said.

This year, Jamie Margolin, the 17-year-old founder of the climate activist group Zero Hour testified before Congress. “Everyone who will walk up to me after this testimony saying I have such a bright future ahead of me, will be lying to my face,” she said. “It doesn’t matter how talented we are, how much work we put in, how many dreams we have, the reality is, my generation has been committed to a planet that is collapsing.”

### **Questions:**

1. According to the author of this article who will be primarily affected by climate changes?
2. What will happen if governments fail to reduce emissions?
3. Why are children vulnerable to climate changes?
4. How many people did air pollution kill in 2016?
5. What will lead to the growing of fine-particulate pollution?
6. How much has increased the percentage of people who suffer from forest fires?
7. Is there a link between climate change and mental health?

8. Do children suffer from heat more than adults?
9. When did happen the European heat waves?
10. Who said that parents and coaches “may not realize that the children are more exposed and therefore more vulnerable” during this article?

➤ **Read, translate and give the summary**

## **ENVIRONMENTAL PROBLEMS AND AMERICAN POLITIC: WHY IS PROTECTING THE ENVIRONMENT SO DIFFICULT?**

**( By Dustin R. Turin)**

Environmental concerns have been of increasing salience to Americans since the 1960s, when Rachel Carson published *Silent Spring* and spurred public anxiety over the use of the widely utilized pesticide DDT. The impact of Carson’s work was hugely important, both for its eventual impact on regulation in the chemical fertilizer industry and for its role in bringing the environment more resolutely into American political consciousness.

In the wake of *Silent Spring*’s publication, DDT was banned, public attention was heightened, and in 1970 President Richard Nixon signed new legislation that created the Environmental Protection Agency (EPA). Seemingly, concern for the environment moved out of the shadows and had found a definitive place on the political agenda.

Nevertheless, in the period since the EPA was created the debate over the environment became more political – and perhaps, less rational – than at any previous time. Today the politicization of the environment is apparent along stark right-left lines and the debate has become subsumed within broad philosophical and theological questions of ‘state versus market’ and ‘science versus faith.’

**Tackling environmental problems today is more difficult because the nature of the "problems" has changed: where such problems were once primarily scientific and technocratic in nature, they are now almost exclusively problems of politics.**

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Perhaps ironically, considering the indiscriminate manner in which we all affect and are affected by the environment, the debate about the future of its protection is now a divisive 'hot-button' campaign issue. Being 'green' is equated to being 'liberal,' and 'conservatives' are expected to denounce 'conservation.' The future of the environment, at home and abroad, appears less certain than ever before even at a time when its potential to bring serious negative consequences for all humanity is more well-known than ever before.

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In short, tackling environmental problems today is more difficult because the nature of the "problems" has changed: where such problems were once primarily scientific and technocratic in nature, they are now almost exclusively problems of politics.



This paper therefore approaches the politics of the environment in the U.S. from three perspectives: first, the environment is described as a problem of collective action writ large, wherein such paradoxes as the ‘tragedy of the commons’ belie rational individual behavior and make cooperation essential but difficult; second, the contemporary debate over the environment is described in terms of problem definition, revealing the subtle manner in which the political redefinition of environmental questions has shifted the debate into the polarized arena in which it today resides; and third, the environment is considered in the realm of public opinion.

Using the example of failed climate change legislation, these perspectives are brought together to provide a more nuanced understanding of why addressing

environmental problems, particularly at this time and in the United States, is so exceedingly difficult.

### **Collective Action and the Tragedy of the Commons**

Even outside the context of American politics, the environment presents challenges of a unique character. By their nature, environmental problems are ‘big’ problems that likewise affect ‘big’ groups of people and require ‘big’ solutions. Clean air cannot be achieved merely through the regulation of one industry in one part of the country, or through the passion of one highly motivated group or individual; in an even broader sense, clean air cannot even be achieved only through the cooperation of one country.

As an example: the ‘Asian brown cloud,’ a giant hazy cloud of polluted air visible from space, makes its way across Southern Asia with no respect for internationally recognized borders or local regulations. Likewise, climate change – from the perspective of many scientists, the most substantial threat facing all humanity (Rockström et al., 2009) – is a problem that is simply impossible to solve without widespread international cooperation.

**Climate change is a problem that is simply impossible to solve without widespread international cooperation.**

Yet problems that affect large groups and require collective action are recognized as some of the most confounding political conundrums. In a seminal work, Mancur Olson (1965) explored the incentive structures and resulting organizational patterns of various types of group interests.

Beginning from the assertion that organizations exist to pursue common interests, Olson identifies a central paradox in this pursuit: although the



collective benefit in the provision of some common good might outweigh its collective cost, for the rational individual focused on maximizing his own interests the costs of participating in the organization often outweigh the individual benefits (p. 11). In other words, because common goods “must be available to everyone if they are available to anyone” (p. 14), it is economically more efficient for individuals to ‘free-ride’ in groups that seek to provide common goods.

This paradox finds particular salience in the realm of the environment, where the defining feature of most concerns is that they tend to be ‘commons’ problems, or problems dealing with resources that are shared by many and owned by none. In 1968 Garrett Hardin described the “tragedy of the commons,” whereby the collective outcome precipitated by many rational individuals is in fact quite irrational:

In simple terms, the use of common resources – forests, oceans, air – provide an immediate benefit for individuals; and while the benefit appears to come at minimal cost, or even to be ‘free,’ our collective use of these resources without restraint comes at great future cost. When one tree is felled to fuel a family fire, the individual utility gain is significant while the cost is apparently miniscule considering the vast number of trees in a forest; when, however, the local forest is utilized by thousands, tens of thousands, or many more individuals making a similar calculation, the result is fast-paced deforestation.

Or in a more contemporary example, when we get in our cars and drive to work in the morning, the emission of greenhouse gases (GHGs) attributable to our drive is so miniscule and inconsequential as to seem non-existent. But when

thousands and millions of Americans wake up and drive to work, the impact is large enough to change the entire earth system.

Two factors make these types of problems fundamentally difficult to solve. First, the distribution of costs and benefits is different at the individual and collective levels. The cost-benefit calculation of individual actors makes using common resources a rational decision, because the ‘costs’ of use only accrue at the level of the collective. The costs associated with my own GHG emissions are, in isolation, essentially zero. Second, the temporal distribution of costs and benefits is such that the benefit is typically realized immediately, while the cost is not realized until much later.

The tangible gain from using common resources, for example the profit from cutting down a tree and turning it into floorboards, far outweighs any immediate cost to the individual. Yet if many individuals make the same decision, the forest will be destroyed over time. Likewise, the utility of my getting to work *now* far outweighs the distant potential impact of my car’s emissions. These two factors make commons problems difficult to solve, and thus often lead to the ‘tragedy’ that Hardin observed.

This paradox is closely associated with the particular challenges that Olson associated with certain group interests. As such, one of Olson’s key finding is that group size is fundamentally important to the provision of collective goods, or in environmental terms, the protection of collective goods. Olson finds that small groups are more likely to organize in service of such goods because the “personal gain [of each group member] from having the collective good exceeds the total cost of providing some amount of that collective good” (p. 34). Again, the fact arises that individual rationality cannot always be translated to collective

rationality: those ‘goods’ that all are interested in obtaining are not always in the rational interest of individuals to attain.

As opposed to small groups, where the rationality of the individual and the collective are more easily held in line, larger groups (or interests) naturally produce a greater opportunity for individual members to free-ride (Olson, pp. 35-36). Interestingly, this produces the counterintuitive capacity for the “exploitation of the great by the small” (p. 37) in the process of interest articulation: in other words, it is inherently more difficult for groups formulated around large interests – such as the environment – to overcome smaller, more well-organized interests (e.g., the American Petroleum Institute).

The inherent collective action challenge facing large groups can be addressed in two ways: either coercive mechanisms are needed to compel membership in large group organizations, or selective benefits available only to members are required as inducements (Olson, p. 44). Thus, Olson argues that most collective action in the United States can be explained either through “by-product” or “special interest” theory. On the one hand, special interest theory is used to explain the organization of industries characterized by a small number of firms on the basis of the economic rationality of small group action (p. 135), whereas the pursuit of collective goods through large interest groups is explained by the fact that such pursuits are a ‘by-product’ of some other function performed by the group “in addition to lobbying for the collective good” (p. 132).

As a result, Olson observes that the largest groups that share “vital common interests” nevertheless tend to be the least organized and least capable of advancing those interests, because few individuals (with the exception of those on the ‘lunatic fringe,’ p. 162) will be “willing to make any sacrifices to achieve

the objectives” of the group (p. 166). Clearly, this is often the position occupied by the ‘environment’ as a large and “vital” concern, yet one that is often defeated by the specific interests of smaller groups.

If environmental problems are collective action problems likely to suffer from the ‘tragedy of the commons,’ how can they be addressed? The solution to this type of problem, conventionally conceived, is located in the restructuring of the cost-benefit calculation of individuals such that the rational decision is no longer one leading toward inevitable depletion or destruction (Hardin, 1968, p. 1247; Ostrom, 1990; Vogler, 2012, p. 175).

Regulating the commons – controlling who has access, or how much access, or how a finite resource should be distributed – provides the basis for restructuring the decision-process and merging individual and collective rationality. Hardin phrased this process as “mutual coercion mutually agreed upon,” (p. 1247) and described how our conception of what constitutes the ‘commons’ has changed out of necessity over time:

*“First we abandoned the commons in food gathering, enclosing farm land and restricting pastures and hunting and fishing areas... somewhat later we saw that the commons as a place for waste disposal would also have to be abandoned. Restrictions on the disposal of domestic sewage are widely accepted in the Western world; we are still struggling to close the commons to pollution by automobiles, fertilizing operations, and atomic energy installations.... Every new enclosure of the commons involves the infringement of somebody’s personal liberty” (Hardin, p. 1248)*

This point seems to be particularly salient in the contemporary debate: politicians have come to battling over the environment as a subject of ‘freedom’

and ‘rights’ rather than as the basic foundation upon which our existence depends. Generally speaking, dealing with environmental concerns requires the creation of new rules, the possible array of which were laid out in the pivotal work of Elinor Ostrom (1990), wherein a range of eight “design principles” are used to describe the process through which incentives can be restructured and sustained for the benefit of common pool resource management (see p. 90, Table 3.1).

Yet the basic incongruence between individual and collective rationality remains at the core of why addressing environmental problems is so difficult. They are emblematic of Olson’s collective action problem, wherein the mobilization of ‘big’ interests is harder to accomplish effectively than those of small, specific interests where costs and benefits are more efficiently distributed. The dynamics of this paradox, regardless of the increasing range of technocratic and scientific ‘fixes’ available to address the environmental problems of greatest concern, remain difficult to overcome.

This paper has thus far referred repeatedly to the challenge of addressing environmental “problems,” generally understood. This section discusses the ambiguous nature of “problems” and how their definition and redefinition can drastically change the course and tenor of conversation as it pertains to their ‘solution.’

It is widely understood in policy literature that ‘problems’ have no objective definition and that the ability to manipulate the phrasing or comprehension of a particular political problem entails considerable ramifications as to the range of alternatives that are considered, the capacity of an issue to remain on the political agenda, or the possibility of reaching a solution at all. Indeed, many

scholars conceive of the policy process as beginning at the point of problem definition (Jones, 1984; Kingdon, 1995; Stone, 2002).

E.E. Schattschneider (1960), who observed the inherently conflictual nature of politics captured by his infamous ‘fight’ analogy (p. 2), commented: “some issues are organized into politics, while other are organized out” (p. 69). In some sense, this can be taken as the basic [conflict](#) of problem definition, wherein certain actors seek to ‘expand’ the scope of a perceived problem while others attempt to control it and confine it to a particular, limited scope.

Thus, Stone (2002) indicates that each step in the decision-making process is used “[strategically] to control a decision” (p. 243). More specifically, Kingdon (1995) describes the process of problem definition in terms of the particular sets of conditions that we believe we should do something about (p. 109). In this sense, not all ‘problems’ are viewed as problems appropriate for political action (hence Schattschneider’s notion that some issues are ‘organized into politics’ – i.e., problematized as conditions necessitating a political response – while others are ‘organized out,’ in which case they may indeed still be considered ‘problems,’ but not problems for political action).

Conditions become defined as problems appropriate (or not) for political action according to *values*, *comparisons* (e.g., the Hudson River is dirtier than the Charles River), and *categories* (e.g., investment in ‘clean energy’ as an *economic* issue or an *environmental* issue) (Kingdon, pp. 109-113), while they come to the attention of policy makers through indicators, ‘focusing events,’ and feedback (pp. 90-100). Debate over the environment in the U.S. can therefore be viewed through this lens.

The failed attempt to implement a nationwide ‘cap and trade’ program provides a good case for a brief examination of problem definition in relation to American environmental policymaking. Cap and trade, a policy tool designed to place a total ‘cap’ on carbon emissions and facilitate the ‘trade’ of pollution allowances, is a mechanism designed precisely to address the paradox described in part one: it is designed to align economic rationality with collective rationality regarding the management of common pool resources.

### **Vocabulary**

Salience-выпуклость

Chemical fertilizer- химическоеудобрение

Industry-индустрия

Calamities-бедствие

Scienceversusfaith-наукапротивверы( поверий)

Technocratic-технократический

Conservation- сохранение

Tacklingenvironmentalproblems–отмечать проблемы окружающей среды

Belierational individual behavior- личностноеповедение

Likewise affect ;big groups’-эффекттолпы

Hazy cloud-туманноеоблако

Conundrums-головоломки

Emissions of greenhouse gases (GHS) –загрязненияпарниковыйэффект

Miniscule-мизерный

Tangible gain

➤ **Read and translate**

**FINLAND PLEDGES TO BECOME CARBON NEUTRAL BY 2035**

**(By Jon Henley, The Guardian 2019)**

Finland's new left-leaning coalition government has pledged to make the country carbon neutral by 2035 as part of a policy programme that includes a major increase in public spending on welfare and infrastructure.

The Social Democratic party leader, Antti Rinne, who formed the five-party alliance of centrist, leftist and Green parties after narrowly beating the nationalist Finns party in an election in April, said it was time to “invest in the future” after years of austerity.

Pekka Haavisto, the Green League party chair, said the programme – which will increase public spending by €1.23bn (£1.1bn) a year and spend another €3bn on one-off investments, notably in the rail network, over the four-year lifetime of the government – was “probably the most ambitious in the world” on climate issues.

Climate campaigners welcomed the announcement. “People demanded faster climate action and that’s what we’re going to get,” said Sini Harkki, the Finland programme manager of Greenpeace Nordic.

“Building the world’s first fossil-free, sustainable society is going to require much more than nice words on paper, but we’re determined to make it happen. It’s an exciting journey we want to embark on.”

Harkki said the government’s programme, which will have major implications for the country’s key forestry industry and use of peat for energy,



was far from perfect. But with “the broad public support we now have for transformational change, the fights can be won”, she said.

The government programme followed an election in which the climate crisis emerged as Finnish voters’ number one concern. A survey for the previous centre-right government found 80% of Finns felt urgent climate action was necessary, with 70% of respondents saying the new government must do more.

Besides cutting back on planned logging investments, the 2035 carbon neutral target – which is to be written into law – will require Finland to radically reduce its consumption of fossil fuels and peat, which together supply about 40% of the country’s energy needs.

The programme calls for a rapid increase in wind and solar power production, the electrification of heating and transport, and a 10% increase in bioenergy, mainly from agricultural waste and forest residues.

The target should not involve Finland buying credits for CO2-reducing projects in other countries, the government said, although that would be subject to a review scheduled for 2025.

To fund the increased spending, the government plans to raise taxes by €730m, much of it through fossil fuel levies, and sell off up to €2.5bn of state assets, according to the 190-page policy document. It also aims to raise Finland’s employment rate to 75% from 72.4% in April.

Rinne, the country’s first leftist prime minister in 20 years, said his administration’s plans were aimed squarely at reducing income differences in Finland through increased spending on education, pensions and social services.

Austerity measures imposed by the outgoing centre-right government succeeded in cutting public spending by €4bn and reducing Finland's debt for the first time in a decade, but made it deeply unpopular.

Ten parties won seats in the 14 April election, with Rinne's Social Democrats capturing 17.7% of the vote, beating the Finns by 7,666 votes.

The nationalist, Eurosceptic Finns were excluded from the coalition talks, with Rinne opting instead to partner with the Centre party of the outgoing prime minister, Juha Sipilä, as his main coalition ally, in addition to the Greens, the Left Alliance and the Swedish People's party of Finland.

## Questions

1. What promise did the new left coalition government of Finland make?
2. In what areas does this programme provide for increased costs?
3. What will the programme allow to do?
4. For which industries will the government programme have consequences?
5. What did the previous centre-right government survey in Finland show?
6. What is the programme calling for?
7. What does the government plan to do according to the government document?
8. What plans did prime-minister Antti Rinne announce?
9. What allowed the austerity measures introduced by the outgoing center-right government?

How is the Finnish government planning to raise taxes?

**Read, translate and answer the questions**

**OUR HOUSE IS ON FIRE': GRETA THUNBERG, 16, URGES  
LEADERS TO ACT ON CLIMATE**

**(By The Guardian 2019)**

According to the IPCC (Intergovernmental Panel on Climate Change), we are less than 12 years away from not being able to undo our mistakes. In that time, unprecedented changes in all aspects of society need to have taken place, including a reduction of our CO<sub>2</sub> emissions by at least 50%.

And please note that those numbers do not include the aspect of equity, which is absolutely necessary to make the Paris agreement work on a global scale. Nor does it include tipping points or feedback loops like the extremely powerful methane gas released from the thawing Arctic permafrost.

**Teenage activist takes School Strikes 4 Climate Action to Davos**

At places like Davos, people like to tell success stories. But their financial success has come with an unthinkable price tag. And on climate change, we have to acknowledge we have failed. All political movements in their present form have done so, and the media has failed to create broad public awareness.

But Homo sapiens have not yet failed.

Yes, we are failing, but there is still time to turn everything around. We can still fix this. We still have everything in our own hands. But unless we recognise the overall failures of our current systems, we most probably don't stand a chance.

We are facing a disaster of unspoken sufferings for enormous amounts of people. And now is not the time for speaking politely or focusing on what we can or cannot say. Now is the time to speak clearly.

Solving the climate crisis is the greatest and most complex challenge that Homo sapiens have ever faced. The main solution, however, is so simple that

even a small child can understand it. We have to stop our emissions of greenhouse gases.

Either we do that or we don't.

You say nothing in life is black or white. But that is a lie. A very dangerous lie. Either we prevent 1.5C of warming or we don't. Either we avoid setting off that irreversible chain reaction beyond human control or we don't.

Either we choose to go on as a civilisation or we don't. That is as black or white as it gets. There are no grey areas when it comes to survival.

We all have a choice. We can create transformational action that will safeguard the living conditions for future generations. Or we can continue with our business as usual and fail.

That is up to you and me.

Some say we should not engage in activism. Instead we should leave everything to our politicians and just vote for a change instead. But what do we do when there is no political will? What do we do when the politics needed are nowhere in sight?

Here in Davos – just like everywhere else – everyone is talking about money. It seems money and growth are our only main concerns.

And since the climate crisis has never once been treated as a crisis, people are simply not aware of the full consequences on our everyday life. People are not aware that there is such a thing as a carbon budget, and just how incredibly small that remaining carbon budget is. That needs to change today.

No other current challenge can match the importance of establishing a wide, public awareness and understanding of our rapidly disappearing carbon budget, that should and must become our new global currency and the very heart of our future and present economics.

I'm striking from school to protest inaction on climate change – you should too

We are at a time in history where everyone with any insight of the climate crisis that threatens our civilisation – and the entire biosphere – must speak out in clear language, no matter how uncomfortable and unprofitable that may be.

We must change almost everything in our current societies. The bigger your carbon footprint, the bigger your moral duty. The bigger your platform, the bigger your responsibility.

Adults keep saying: “We owe it to the young people to give them hope.” But I don’t want your hope. I don’t want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day. And then I want you to act.

I want you to act as you would in a crisis. I want you to act as if our house is on fire. Because it is.

### **Vocabulary**

- *methane gas* - метановый газ;
- *the Paris Climate Agreement* - Парижское соглашение по климату;
- *permafrost* - многолетние ледники (вечная мерзлота);
- *to be aware of* - быть осведомленным;
- *to undo mistakes* - исправить ошибки.

### **Summary**

Greta Thunberg has excoriated world leaders for their “betrayal” of young people through their inertia over the climate crisis at a United Nations summit that failed to deliver ambitious new commitments to address dangerous global heating. In a stinging speech on Monday, the teenage Swedish climate activist told governments that “you are still not mature enough to tell it like it is. You are failing us. But the young people are starting to understand your betrayal.” She has also mentioned that the climate crisis is the greatest and complex challenge Homo Sapiens have ever faced and urged all people around the planet to take measures, since the future is in our hands.

## Appendix I

### ➤ *Entry Test*

*Please fill in the gaps, circling the correct item*

- 1) ".....you like a cup of tea?" "Yes, please"  
a) Would b) Could c) May d) Do
- 2) "Where..... now?"  
a) lives he b) is he living c) he is living d) he living
- 3) That isn't your coat, it's..... coat  
a) me b) my c) I d) he
- 4) Take your coat. It.....rain  
a) is going to b) will c) is d) has
- 5) "No, I don't want.....tomatoes"  
a) some b) a c) they d) any
- 6) "Where..... yesterday?" "I was at home"  
a) you were b) you was c) you d) were you
- 7) "Why not go to the National Gallery)" "I.....there yesterday"  
a) go b) went c) gone d) going
- 8) Where..... yesterday?" "I didn't go anywhere "  
a) went you b) did you went c) did you go d) was you go
- 9) My French is very good, I speak French.....  
a) good b) bad c) well d) badly
- 10) Richard..... to a girl when I saw him  
a) talk b) talking c) will talk d) was talking
- 11) The man.....came yesterday is very rich  
a) he b) who c) has d) when
- 12) John is good at football but Richard is.....  
a) good b) well c) gooder d) better

- 13) John..... since he left school  
a) was working b) works c) has been working d) will be working
- 14) I'm a student." He told me that..... a student  
a) I am b) I was c) he was d) he is
- 15) Susan will come to tea if you..... her.  
a) asks b) ask c) asked d) will ask
- 16) When I was a child I..... a lot of sweets  
a) use eat b) eat c) used to eat d) am used to eat
- 17) The house..... last year  
a) built b) has built c) was built d) is built
- 18) Mary enjoys.....in London  
a) to live b) living c) having living d) when lived
- 19) I think you'd better.....to the Doctor  
a) to go b) go c) going d) to going
- 20) Tea will be ready when you.....home  
a) gets b) get c) will get d) shall get
- 21) If I were you.....home.  
a) I'd go b) I go c) I'll go d) I'm go
- 22) "Have you finished?" He asked me.....  
a) have I finished b) if I have finished c) if I had finished d) if I finished
- 23) I like him. He makes me.....  
a) laughing b) laughter c) to laugh d) laugh
- 24) What about.....to the cinema tonight?  
a) go b)'to go c)we go d) going
- 25) I.....here for 5 years in November.  
a) shall be b) will be c) shall have been d) will have
- 26) I wish I.....a lot of money.  
a) had b) have c) will have d) would have

- 27) If you..... gone to the party you would have seen him  
a) had b) would have c) have d) should have
- 28) "Where is Piccadilly Circus?" She asked me where.....  
a) Piccadilly Circus was b) is Piccadilly Circus  
c) Piccadilly Circus d) was Piccadilly Circus
- 29) The streets are wet. It.....raining.  
a) must have b) must have been c) had to d) must to be
- 30) He's too old to paint the house himself, so he.....  
a) is painted the house b)is having his house painted  
c) is doing to paint his house d) is having painted his house

➤ ***Psychological test.***

Are you an introvert or an extrovert?

1. You are invited to a party. What is your reaction?

- a. Good! I hope I meet some new people
- b. I don't want to go. Nobody spoke to me at the last party I went to.
- c. I love parties. I like being the centre of attention!

2 . You are at the party. Everyone is telling jokes.

- a. You have dozens of jokes to tell.
- b. You manage to remember a couple of jokes.
- c. You can't think of a single joke to tell

3. You realize that you have nothing planned for Saturday night.

- a. You are frantic. You ring up some friends and arrange an outing to the cinema.
- b. You think, "It's time I had an evening in".
- c. You think, "It's a good chance to read more of my new library book".



4. Do you take risks?

- a. Sometimes.
- b. Never.
- c. Often.

5. You are asked to help organize class excursion.

- a. You accept willingly; you are sure that you can organize things well.
- b. You hesitate for a moment and then accept.
- c. You are terrified. You refuse.

6. How do you spend most of your leisure time?

- a. By yourself.
- b. With one or two friends.
- c. With a group.

7. Do you ever think about the meaning of life?

- a. Sometimes.
- b. Often.
- c. Never. I'm too busy living!

8. Do you find it easy to make decisions?

- a. It depends.
- b. It's always easy to decide.
- c. I can never make up my mind.

9. You have a new boyfriend/girlfriend. Your friends tease you about him/her and they make jokes.

- a. You don't mind at all. In fact, you like being teased.
- b. You smile. You don't mind being teased.
- c. You are embarrassed. You don't like people making fun of you.

10. Somebody in your class unsaying horrible things about you.

a. You get worried about you.

b. You don't care what they say.

c. You begin saying horrible things about them.

Now add up your points and see below.

1. a) 3 b) 1 c) 5      6. a) 1 b) 3 c) 5

2. a) 5 b) 3 c) 1      7. a) 3 b) 1 c) 5

3. a) 5 b) 3 c) 1      8. a) 3 b) 5 c) 1

4. a) 3 b) 1 c) 5      9. a) 5 b) 3 c) 1

5. a) 5 b) 3 c) 1      10. a) 1 b) 5 c) 3

35-60 points: You're a true extrovert. You enjoy being in a group. You have lots of self-confidence. You are an active, practical person, and you are outward-looking. You enjoy making decisions and taking risks. I hit be careful. Don't be too sure of yourself. Remember that you can hurt sensitive people by your lack of understanding.

26-34 points: Like many people, the outside world is as important to you as your own inner world. You are somewhere in between the extrovert and the introvert, and can have the good qualities of both. But be careful that you haven't all the bad qualities!

10-25 points: You are a true introvert. Your inner world of dreams and deals is more important than the external world. You are often not realistic or practical. You don't like showing your feelings to other people, in case they hurt you . Use your sensitivity to appreciate I beautiful things and understand other people's feeling.

## Final Test

### *I. Fill in the gaps, choosing the words from the box*

Pollution, swimming, acid rain, nature, contaminated, sick, die, ocean, polluted, water, ships-ships, oil.

1. One of the most important \_\_\_\_\_ problems is in the oceans.
2. Many \_\_\_\_\_ sail in the ocean water - fishing \_\_\_\_\_, some ships carrying people, some carrying oil.
3. If a ship loses some of the \_\_\_\_\_ in the water or trash from the ship is put into the ocean, the \_\_\_\_\_ becomes dirty.
4. Many birds and fish \_\_\_\_\_ because of the polluted water.
5. Many fish are dying in the sea, others are getting \_\_\_\_\_.
6. Fisherman catch contaminated fish which may be sold in the markets and people may get \_\_\_\_\_ from eating it.
7. Fish may also move to another part of \_\_\_\_\_.
8. Lakes and rivers are getting \_\_\_\_\_ too.
9. Some beaches are considered dangerous for \_\_\_\_\_.
10. Another problem is that our forests are dying from \_\_\_\_\_.
11. This, in turn, affected the balance of \_\_\_\_\_.

### *II. Put the correct verb-form, choosing from the given variants*

1. Our comfort \_\_\_\_\_ for by the suffering of millions.  
  
a) is paid    b) had been paid    c) is paying    d) has paid

2. At this point in our relationship with Earth, we \_\_\_\_\_ for an evolution.  
a) Are working b) had worked c) had been worked d) work
3. Yet now, in Britain's countryside, wild plants \_\_\_\_\_ on a scale never known before, by pollution, neglect and wanton habitat destruction.  
a) Are being destroyed b) were destroyed c) had been destroyed  
d) destroy
4. The highly successful «Back from the Brink» programme \_\_\_\_\_ plants threatened with extinction.  
a) had been saved b) saved c) is being saved d) is saving
5. She said that she \_\_\_\_\_ with me it I brought her red roses.  
a) danced b) will dace c) would dance d) had danced
6. Recycled paper \_\_\_\_\_ easily \_\_\_\_\_ for virgin paper in many cases without any loss of quality.  
a) can be substituted b) could be substituted c) could being substituted d) could substitute
7. American \_\_\_\_\_ about 580 pounds of paper each year.  
a) uses b) had used c) had been used d) is using
8. In recent years the pollution problems \_\_\_\_\_ great publicity.  
a) have received b) were receiving c) had been received d) are being received
9. Economist \_\_\_\_\_ long \_\_\_\_\_ of the environment as an unlimited source of resources.

a) think b) thought c) had thought d) have thought

10. In fact, the economy and the environment \_\_\_\_\_ closely\_\_\_\_\_.

a) had been related b) were related c) will be related d) are related

11. Many of these problems \_\_\_\_\_ by economic activities.

a) caused b) have been caused c) cause d) will cause

12. The protection of natural resources and wildlife \_\_\_\_\_ a political programme in every country.

a) has become b) become c) is becoming d) will become

13. If we are unable to learn to use the environment carefully and protect it from damage caused by man's activities, very soon we \_\_\_\_\_ no world to live in

a) have b) will have c) have had d) are having

### ***III. Fill in the correct prepositions***

1. EU policy identifies clean air as one ____ our most fundamental needs.	of, to, on, up
2. Any necessary restoration ____ the ecology and landscape is carried ____ to preserve biodiversity.	at, in, out, of
3. The natural gas industry will continue to build ____ the advantages ____ its product.	in, out, of, on
4. _____ the use ____ natural gas a signification contribution will be made to the achievement of a healthier and pleasanter environment ____ all as well as economic growth.	for, through, of, off
5. Taking all factors _____ account there are substantial environmental benefits _____ the use _____ .	over, into, in, of
6. The supply _____ natural gas directly to the end user in underground pipes eliminates the environmental impacts associated _____ transport of other energies.	at, of, with, by

### ***IV. Water Environment***

Our water environment is in crisis because it is carelessly polluted and weakly protected. Agriculture and industry' combine to flood our rivers with chemicals. Our decaying sewage system, designed in the nineteenth century, struggles to cope with the pollution of the twentieth. We pump into our seas

raw sewage that washes back on to our beaches. Leakages of concentrated animal waste drive out the oxygen and the life from our rivers. Toxic rubbish from Britain and abroad is dumped into holes in the ground, from which it leaks to pollute our water sources. There is poison in the pipes too — lead, the dangers of which are only now being fully understood. And there's aluminium, added by the water authorities themselves yet strongly suspected of causing a cruel brain disease.

*I. Find in the text key words (10) that you can use them to speak about environmental problems.*

*II. Answer the question choosing the correct variant.*

1. What may cause pollution?
  - a) Marine pollution
  - b) Aspects of sewage system
  - c) Heavy metal
  - d) Air pollution
2. What kind of pollution can not be removed but only reduced?
  - a) Noise
  - b) Animal waste
  - c) Water pollution
  - d) Toxic rubbish
3. Do the environmental problems arise from agriculture and industry?
  - a) Chemicals
  - b) Out-of-date equipment
  - c) Decaying sewage system
  - d) Heavy metal

### ***V. Translate into English***

1. Постоянные воздействия на экосистему могут привести к неблагоприятным последствиям.
2. Загрязнение промышленными отходами ранее не существовавшими в среде, особенно опасно.
3. Разрабатываются разумные меры защиты от загрязнения.
4. Чистые водные пути благотворно воздействуют как на окружающую среду, так и на людей.
5. Если они не будут тщательно очищены, это приведет к катастрофическим последствиям.
6. В настоящее время решение глобальных экологических проблем возможно только на международном уровне.

### ***VI. Connect the first and second parts of sentences***

- |   |   |
|---|---|
| 1. At waste gases cause ...                 | <u>a - from nuclear power plants</u>      |
| 2. Government officials and politicians ... | <u>b – depends upon this diversity</u>    |
| 3. Many countries use cheap electricity ... | <u>c – but we cannot change them</u>      |
| 4. The stability of communities             | <u>d – speak a lot of this problem</u>    |
| 5. We may deny these things ...             | <u>e – acid rains</u>                     |
| 6. The main source of acid rain is          | <u>f – requiring power stations to</u>    |
| 7. Some countries have passed laws ...      | <u>install filters</u>                    |
| 8. These filter mechanisms cannot work ...  | <u>g – unless the lead is removed</u>     |
| 9. This is the danger ...                   | <u>h – for the life and health of the</u> |
| 10. Many forests in the north of            | <u>man</u>                                |
| European Russia and the Far East ...        | <u>i – are under threat</u>               |
|   | <u>j – electric power stations.</u>       |



## **Appendix II**

### **Expressions for Summary**

*I      Introductory phrases (used to begin a talk )*

1. The present paper discusses some aspects of ...
2. The discussion is concerned with ...
3. The present communication deals with...
4. The review is devoted to ...
5. The paper presents some results which illustrate...
6. This work is an attempt to show (to find, to prove, to consider) that...
7. The present is designed to demonstrate (to show, to explain, to describe) that...
8. The purpose of this report is to compare (to determine, to give) the result of...
9. The first point to be noted as to... is the fact that...
10. It is interesting (important, necessary) to consider (to show, to note) something (that)...
11. It has been (will be) shown (pointed out, considered) that...
12. It should be noted (mentioned, observed, emphasized, pointed out) that...
13. It is evident (obvious, unlikely, doubtful) that...
14. I (we) shall consider (discuss, talk, about) something...
15. I (we) must next consider (discuss, compare, show) something...
16. What I mean to say (to show, to emphasize) is that...
17. What I (we) find in fact is that...
18. What happens (takes place, occurs) in fact is that...
19. From the above I (we) see that...
20. At this point a question arises as to...
21. The problem is the following...

## *II Closing phrases used to complete a talk, a communication, a paper*

1. In conclusion it should be emphasized (note, said, observed) that...
2. Finally a few remarks should be made about...
3. Summing up the results, it should be observed (said, noted) that...
4. Summarizing, it can be said (pointed out, mentioned) that ...
5. To summarize then, ...
6. In conclusion I would like to mention (to consider, to add, to say) that...
7. We finally conclude that...
8. With this we will conclude our discussion (paper, communication).
9. At the end we can say (mention, observe, point out) that...

## *III*

As far as I know ...

As far as I can judge ...

In my opinion ...

To my knowledge ...

To my mind ...

For all I know ...

I think (believe, suppose) that ...

## Irregular Verbs

*Звездочка (\*) обозначает, что глагол имеет правильную и неправильную форму*

Infinitive	Past tense	Past participle	Translation
Abide	abode	abode	жить
Arise	arose	arisen	вставать
Awake*	awoke	awoke	проснуться
Bear	bore	born	рождать
Bear	bore	borne	нести
Beat	beat	beaten	бить
Beget	begot	begotten	порождать
Behold	beheld	beheld	видеть
Bend*	bent	bent	сгибать
Beseech*	besought	besought	умолять
Bet	bet	bet	держат пари
Bid	bade	bidden	велеть
Bind	bound	bound	вязать
Bite	bit	bitten	кусать
Bleed	bled	bled	кровоточить
Break	broke	broken	ломать
Breed	bred	bred	порождать
Burn*	burnt	burnt	жечь
Burst	burst	burst	лопнуть
Cast	cast	cast	бросать
Catch	caught	caught	поймать

Chide	chid	chidden	бранить
Choose	chose	chosen	выбирать
Cleave	clove, cleft	cloven, cleft	раскалывать
Cling	clung	clung	цепляться
Clothe*	clad	clad	одевать
Cost	cost	cost	стоять
Creep	crept	crept	ползти
Dare*	durst	durst	сметь
Deal	dealt	dealt	распределять
Dig	dug	dug	копать
Draw	drew	drawn	рисовать
Dream*	dreamt	dreamt	сниться
Drive	drove	driven	гнать
Dwell	dwelt	dwelt	жить
Feed	fed	fed	кормить
Fight	fought	fought	сражаться
Flee	fled	fled	убегать
Fling	flung	flung	кидать
Forbear	forbore	forborne	воздерживаться
Forsake	forsook	forsaken	покидать
Freeze	froze	frozen	мерзнуть
Gird*	girt	girt	опоясывать
Grind	ground	ground	молоть
Grow	grew	grown	расти
Hang*	hung	hung	повесить
Heave*	hove	hove	поднимать
Hew*	hewed	hewn	рубить
Hide	hid	hidden	прятать

Hit	hit	hit	ударить
Hold	held	held	держать
Hurt	hurt	hurt	ушибить
Keep	kept	kept	держать
Kneel	knelt	knelt	стоять на коленях
Knit	knit	knit	вязать
Lade	laded	laden	грузить
Lay	laid	laid	класть
Lead	led	led	вести
Lean*	leant	leant	опираться
Leap*	leapt	leapt	скакать
Learn*	learnt	learnt	учиться
Lend	lent	lent	одолжить
Lie	lay	lain	лежать
Light*	lit	lit	освещать
Lose	lost	lost	терять
Mean	meant	meant	значить
Melt*	melted	molten	плавить
Mow	mowed	mown	косить
Quit*	quit	quit	оставить
Read	read	read	читать
Rend	rent	rent	рвать
Rid	rid	rid	освободить
Ride	rode	ridden	ездить
Saw	sawed	sawn	пилить
Seek	sought	sought	искать
Seethe*	seethed	sodden	кипеть
Shake	shook	shaken	трясти

Shave*	shaved	shaven	брить
Shed	shed	shed	терять
Shoe	shod	shod	обувать
Shoot	shot	shot	стрелять
Shred*	shred	shred	кромсать
Shrink	shrank	shrunk	съеживаться
Sink	sank	sunk	опускать
Slay	slew	slain	убивать
Slide	slid	slid	скользить
Sling	slung	slung	метать из пращи
Slink	slunk	slunk	красться
Slit	slit	slit	разрезать
Smell*	smelt	smelt	пахнуть
Smite	smote	smitten	ударить
Speed*	sped	sped	спешить
Spill*	spilt	spilt	проливать
Spin	spun	spun	прясть
Spit	spat	spat	плевать
Split	split	split	расколоть
Spoil*	spoilt	spoilt	портить
Spread	spread	spread	распространять
Spring	sprang	sprung	прыгнуть
Stave*	stove	stove	проломить
Steal	stole	stolen	красть
Stick	stuck	stuck	липнуть
Sting	stung	stung	жалить
Strew*	strewed	strewn	сыпать
Stride	strode	stridden	шагать

Strike	struck	struck	ударить
String	strung	strung	нализывать
Strive	strove	striven	стараться
Swear	swore	sworn	клясться
Sweep	swept	swept	мести
Swell*	swelled	swollen	пухнуть
Swing	swung	swung	качать
Take	took	taken	брать
Teach	taught	taught	учить
Tear	tore	torn	рвать
Thrive*	throve	thriven	процветать
Thrust	thrust	thrust	толкать
Tread	trod	trodden	ступать
Weave	wove	woven	ткать
Weep	wept	wept	плакать
Wind	wound	wound	мотать
Wring	wrong	wrung	жать

## Appendix III

### Active Voice

	PRESENT	PAST	FUTURE	FUTURE IN THE PAST	
INDEFINITE [To ask]	ask asks	asked	will ask	<div> <div>should</div> <div>ask</div> <div>would</div> </div>	1 факт, отдельные действия (tomorrow, yesterday, ago, on Monday, in 1953, last month, next year) 2 обычные и регулярно повторяющиеся действия (everyday, usually, twice a week) 3 последовательность действий
CONTINUOUS [To be asking]	<div> <div>am</div> <div>is</div> <div>are</div> </div> <div> <div>asking</div> </div>	<div> <div>was</div> <div>were</div> </div> <div> <div>asking</div> </div>	will be asking	<div> <div>should</div> <div>be asking</div> <div>would</div> </div>	1 процесс, происходящий в определенный момент или период (at 5 o'clock, when I return, now) 2 параллельно происходящие процессы (while – пока, в то время как) 3 процесс, охватывающий период времени, когда происходит интересующий процесс (from... till)
PERFECT [To have asked]	<div> <div>have</div> <div>has</div> </div> <div> <div>asked</div> </div>	had asked	will have asked	<div> <div>should</div> <div>have asked</div> <div>would</div> </div>	Действие, заверенное к определенному моменту (результат найду в данный момент), переводится глаголами совершенного вида <u>Present Perfect</u> Время часто не указывается (подразумевается момент речи) (already, just, never, ever, yet, this week) <u>Past &amp; Future Perfect</u> Выражает действие, заверенное до другого действия или предшествующее ему (момент выражен предлогом by)
PERFECT CONTINUOUS [To have been asking]	<div> <div>have been</div> <div>has been</div> </div> <div> <div>asking</div> </div>	had been asking	will have been asking	<div> <div>should</div> <div>have been asking</div> <div>would</div> </div>	Отрицает действие, начавшееся до данного момента и продолжающееся до данного момента, исключая или включая его с обязательным указанием длительности совершения действия (for two hours, since 1953, since he came here)



# Passive Voice

TENSE GR. TENSE	PRESENT	PAST	FUTURE	FUTURE IN THE PAST
INDEFINITE to be asked	am asked is asked are asked	was asked were asked	will be asked	should be asked would be asked
CONTINUOUS to be being asked	am being asked is being asked are being asked	was being asked were being asked		
PERFECT to have been asked	have been asked has been asked	had been asked	will have been asked	should have been asked would have been asked
PERFECT CONTINUOUS to have been asking				

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