ТЕМА 2.5.1. ЭКОЛОГИЧНОСТЬ И ЖИЛИЩНОЕ СТРОИТЕЛЬСТВО

SUSTAINABILITY AND HOUSE BUILDING

ACNIVE VOCABULARY

1. ***Use the QR-code and learn the words and word combinations.***

Cause, contamination, debris, degrade, dumping, emission, exhaust fumes, impact, interference, litter, misuse, raw sewage.

2. ***Give Russian equivalents to the compound words.***

Groundwater, lifecycle, long-term, low-lying, man-made, turnover, wildlife, worldwide, lawmaker, household, greywater, footprint, biodiversity, greenhouse.

3. ***Work in pairs. Complete the table with the appropriate words.***

Noun	Verb	Adjective
pollution		
		accidental
contamination		
	particulate	
		harmful
damage		
	discover	

4. ***Match the words to their definitions.***

1) environment
2) pollutant
3) emission
4) habitat
5) ash
6) deforestation

a) the act of sending gas, heat, light, etc. out into the air, or an amount of gas, heat, light, etc. that is send out
b) the activity or business of felling trees and cutting and preparing the timber
c) the soft, gray powder that remains when something has burnt
d) the air, land, and water where people, animals, and plants live
e) the natural environment of an animal or plant
f) a substance that pollutes water, air, etc.

6. ***Explain the word combinations in your own words.***

Fossil fuel; ozone depletion; global warming; vehicle; pollution; waste disposal; nuclear accident; mean air temperature; energy consumption; green building.

READING AND SPEAKING

7. Work in pairs. Discuss the questions.

1. In what way does the construction industry' influencethe environment? 2. What can we do to make this industry more environmentally friendly?

8. ***Read the text Sustainability and House Building and check if your answers are correct.***

SUSTAINABILITY AND HOUSE BUILDING

The construction industry is one of the largest and most active sectors throughout Europe representing 28.1 % and 7.5 % of employment respectively in the industry and in the

European economy. With the annual turnover of 750 million euros, this sector represents 25 % of all European industrial production, being the largest exporter with 52 % market share. Environmentally speaking, this industry accounts for 30 % of carbon dioxide emissions and the building stock consumes 42 % of the energy consumed in Europe. In addition, the global construction industry consumes more raw materials than any other economic activity, which shows a clearly unsustainable industry. Moreover, many buildings currently suffer from problems related to excessive moisture with mold formation, or present humidity levels below 40 % giving rise to respiratory diseases. Another problem affecting the quality of the indoor air has to do with the presence of construction materials with some level of toxicity, even respecting legal regulations.

Sustainability is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. Sustainable architecture is defined as the application of sustainability concepts and techniques in architecture and house building. It aims to reduce the adverse effects of constructed buildings on environment throughout the project's life circle.

Sustainable building design and construction is not a new concept. It is an idea that reemerged in the 1970s and gathered momentum after the 1973 oil embargo. At that time, the focus was limited to energy conservation and the use of alternative energy sources in building. As awareness grew that the problem was larger than one of just energy use, a wide range of related environmental issues were also incorporated in the thinking. In 1994 the International Council of Building (CIB) defined the concept of sustainable construction as the one "responsible for creating and maintaining" a healthy built environment based on the efficient use of resources and in the project based on seven ecological principles, defined by CIB in 1994:

- reduce of resource consumption;
- reuse of resources;
- use of recycled resources;
- protection of nature;
- elimination of toxics;
- application of life cycle costing;
- focus on quality.

Since 1994, much progress has been made all over the world, and several examples are available of how sustainability of buildings and the building environment has been interpreted. The key to understanding what unites these experiences is the greening process. A green building ensures the healthiest possible environment while representing the least disruptive use of land, water, energy and resources. A recent survey has shown that buildings constructed according to green building standards are cheaper to operate and have excellent energy performance. But one of the first aims of green building is to reduce the environmental impact of buildings.

9. ***Find the terms appropriate to the definitions in the text Sustainability and House Building.***

1. ... is the quality of being poisonous, or the degree to which something is poisonous.
2. ... is a government order to temporarily stop trading certain goods or with certain countries.
3. ... is the process of using such natural resources as water, gas, electricity; etc. carefully in order not to waste it.
4. ... are materials or products that have been treated using a special industrial process so that they can be used again.
5. ... is the process of removing something.
6. ... is the strong effect or influence that something has on a situation, person, etc.

10. ***A. Complete the word combinations with the correct prepositions.***

The quality ... the indoor air; according ... green building standards; the level ... toxicity; the use ... alternative energy sources; cheaper ... operate; the concept ... sustainable construction; to have negative impacts ... the environment; standard ... measuring building sustainability; environmental impact ... buildings; to suffer ... environmental problems.

B. Choose three word combinations from ex. 10. A and make up sentences with them.

11. ***Work in pairs. Agree or disagree with the sentences using the statements from the box. Give your reasons. Discuss your answers. Supply some additional information.***

1) The construction industry has a huge impact on the environment.
2) Sustainability in architecture and building construction is an important step to minimize negative effects of construction industry on environment.
3) The use of green building materials and products is one of several constituents that make a building sustainable.
4) Green buildings cost more to create and operate than conventional ones and don't have any financial and social benefits.
5) The main objective of sustainable design and construction $_{K}$ the conservation of energx and the use of alternative energy sources in building.

Agreeing	Disagreeing politely
I agree with you Yes, that is what I think You are right! Undoubtedly.... Exactly.... That's true.	Yes. but do you think ? True, but I think.... I see what you mean, but ... I don't think so. Quite the opposite ... I am not sure ...