Ecodesign: Transportation and Ecological Problems

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***Abstract*—The presented material analyzes the problem of the continued existence and healthy life of people and living organisms on Earth against the background of major undesirable global events in the world. It should be noted that one of the main causes of environmental problems in the environment is emissions into the atmosphere from trucks and cars (especially during traffic jams). Although the relevant government agencies have tried to solve problems in this aspect using different approaches, unfortunately, the desired effect has not been fully achieved.**

The role of eco-design, which has become one of the priority areas in the classification of project activities to solve environmental problems, is emphasized, as well as the growing trend of creating cars running on alternative energy.

***Keywords*— ecology, atmosphere, harmful gases, vehicles, alternative energy**

INTRODUCTION

Undesirable events taking place in the world today - ethno-confessional conflicts, contradictions, confrontations, wars - have disrupted the civilized way of life of humanity and have left it with a difficult way of life. On the other hand, global climate changes taking place on the planet, the increase in industrial waste due to the activities of large manufacturing enterprises, the continuous increase in harmful gases in the atmosphere due to the increase in vehicles, as well as the massive use of various types of missiles and other weapons in war zones, are questioning the sustainable development of life on planet Earth, OUR COMMON HOME. Let us note that in order to combat diseases that cause mass human deaths as a result of the spread of infectious viruses, as well as to implement preventive measures to protect health, and in general, to eliminate negative factors affecting a healthy lifestyle, it is of particular importance to approach environmental problems from a new perspective and find new solutions. Because, as we have noted, life in a broad sense is facing a serious threat.

ANALYSIS

Ecology, which studies the interaction between living and inanimate nature (from the Greek words “oikos” – house, dwelling place and “logos” – science), penetrates almost all areas of activity in society related to environmental protection and ensuring ecological cleanliness. As the name suggests, ecodesign considers ecological suitability and hygiene, along with utilitarian and functional and aesthetic factors, in the organization of human-object-machine-environment systems. In design creative activity, which has a special role in the organization of *human - object - machine - environment* systems, taking into account and solving ecological issues is at the forefront. In this regard, ecodesign has been included in the classification of general design as one of the special directions in the modern era. As the name suggests, ecodesign involves the effective resolution of ecological suitability - hygienic (hygiene - Greek hyhieinos - health) issues, along with utilitarian-functional and aesthetic factors, in the organization of *human - object - machine - environment* systems.In other words, ecodesign takes into account all environmental aspects in the process of creating (manufacturing) a product and solves these or other problems on the basis of ecotechnical requirements so that it does not have a negative impact on the environment and users during its use. The first steps in this direction began in the United States and Europe in the late 1980s. In the early 1990s, after research in furniture, automobiles, and other diverse industries, Delft University of Technology, one of the largest and oldest public universities in the Netherlands, published the first ecodesign guide,

“Pro-mise.”In this process, a number of regulations emerged, ranging from waste management to water pollution, from carbon emissions to fuel efficiency. In the 2000s, the challenge of combating climate change brought the importance of energy efficiency to the forefront. In 2009, the Eco-Design Directive was published to achieve energy efficiency goals in order to reduce energy-related CO2 emissions, contribute to sustainable development and meet growing global demand. To support these efforts in the next stages, the Council of the European Union defined a specific CE mark indicating the suitability of products for various uses.

The CE mark on a product is considered a manufacturer's declaration. This statement indicates that the product complies with the relevant conditions for various purposes and complies with the main criteria set out in the European Union's legislation on health, safety and environmental protection. Such control over goods produced in European countries ensures the quality indicators of the products in many aspects, ensuring their competitiveness, in short, preserving the manufacturer's image.

It should be noted that we can observe these indicators in various clothing samples and other types of products and products produced in the European countries we use.

METHODS

The scope of ecodesign activity mainly covers the following complex issues that we have identified and realizes the possibilities of solving them:

- The organization of micro- and macro environments for living and working activities - noise, humidity, radiation, vibration, dust, sound waves, ventilation, etc. in the organization of apartments, enterprises, organizations and other objects of activity - at a minimum level;
- Compliance of the created product - items and equipment, clothing samples, as well as other types of textile and leather-based goods, material composition, decor and paintwork with environmental standards, the possibility of safe use of the product without harm to health;
- Maximum use of materials with harmless composition in the preparation of various types of boxes and containers intended for packaging food and other, including liquid products;
- Recycling (recycling of materials is very practical and popular among Brazilian designers) and regulation of the environmental performance of the product during remanufacturing with standards;
- In order to prevent or minimize pollution of the environment and atmosphere during the activities of large industrial enterprises, the production environment and technical means should be constantly improved in terms of eco-technical aspects, and if necessary, replaced with new ones;
- In the construction and reorganization of parks and alleys, preference should be given to more environmentally friendly decorative plants, including trees and shrubs, as well as flower species, etc.

The development of special methods that allow for a comprehensive analysis of all these aspects and their prior consideration in the design process should be in the focus of attention.

CONCLUSIONS

Each of the complex issues that we attribute to the field of ecodesign activity can be discussed separately. Here, in accordance with the title of the topic, we mainly discuss transport problems and bring to your attention the possibilities of their solution.

As we mentioned above, a comprehensive approach to solving ecodesign problems involves ensuring that the micro and macro environment - in the organization of apartments, enterprises, organizations and other objects of activity, in their immediate vicinity, is at a minimum level of such problems as noise, humidity, radiation, vibration, dust, sound waves, harmful gases, etc. It should be noted that one of the main reasons for the above undesirable situations is the harmful gases emitted into the atmospheric air by freight and light passenger vehicles (especially during traffic jams). Unfortunately, we must note that the capital of our republic, Baku, has been included in the list of the most ecologically polluted cities in the world. Here, atmospheric air pollution has exceeded the norm and reached its maximum level. For this reason, even among the younger generation of the population, respiratory diseases, including lung cancer, are often observed. It is no coincidence that, given the severity of the problem, the Law of the Republic of Azerbaijan “On the Protection of Atmospheric Air” was adopted. Article 15, paragraph 1 of that Law states: **“The operation of transport and other mobile vehicles whose quantity and composition of harmful substances emitted into the atmospheric air exceed the technical standards for emissions established by legislation is prohibited”**.

Of course, the relevant state structures are trying to prevent the emerging problems with various approaches. Although measures such as expanding highways, partially restricting the entry of freight vehicles into

the city, removing old cars that are considered to have expired from traffic, etc. have been implemented, the necessary effect has not yet been fully achieved.

It is a paradox that vehicles created to ensure people's comfort are now the enemy of humanity's health! Is there a solution to this serious problem that is developing? Of course, currently the creation of vehicles powered by alternative energy has become the focus of attention of the world's leading automobile companies. Designers working in this direction have a special responsibility, and humanity expects them to create new and more advanced models that are resistant to modern problems. The increase in the number of electric - environmentally friendly cars creates conditions for reducing carbon emissions and creating a healthier environment. Currently, the trend of producing environmentally friendly cars continues in the world, and the production of these cars is increasing. Even one of the German automobile manufacturers, Volkswagen, plans to switch to the production of completely electric cars by 2033. It can be noted that the government in Azerbaijan is also implementing a number of measures to encourage the use of these cars.

Thank you!

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