

Maslov O.A., second-level higher education student

Odesa National University of Technology

ORCID: <https://orcid.org/0009-0002-6513-4539>

Academic supervisor: **Mazur O.V.**, Ph.D., Associate Professor of the
Department of Technological Processes Automation and Robotic Systems
Odesa National University of Technology

MAIN PROVISIONS OF UKRAINE'S TRANSITION TO A «GREEN ECONOMY»

Integration of “green technologies” into the industrial and economic complex is conditioned by the needs of the Ukrainian state in solving environmental and socio-economic problems - both in the context of ensuring stable production and increasing energy efficiency, clustering of Ukraine's energy system in the conditions of large-scale military aggression by Russia. In turn, the implementation of “green economy” models [1], with further development of “green” industry, will contribute to improving the level and quality of industrial and economic potential of the Ukrainian state [2].

Turning to the origins of this concept, it should be noted that the concept of “Green Economy” was developed on the basis of the UN Environment Program (2008), and was developed with the aim of improving the standard of living and quality of life of all mankind, achieving social equality with a qualitative reduction of negative impact on the environment. An additional factor was to increase energy security - both for humanity as a whole and for individual states - by reducing their dependence on fossil fuels, including reducing the level of negative impact on nature and ecology.

Further development of these principles was associated with the development of the concept of “green industry”, developed on the basis of the UN in industrial development. Within the framework of this program the characteristic accents were connected with the development of long-term models of population protection, protection of ecosystems, including counteraction to climate change.

The logical development of this approach is also the creation of the UN Sustainable Development Goals 2030, (SDGs), the “green agenda” within the framework of which is associated with Goal No. 1 “Alleviate poverty” (access to energy), Goal No. 2 “Alleviate hunger, develop agriculture” (introduction of “green technologies” in agriculture, increasing the contribution to food security), Objective No. 6 “Clean Water and Proper Sanitary Conditions” (environmental factor), Objective No. 7 “Affordable and Clean Energy”, Objective No. 9 “Industry, Innovation and Infrastructure” (integration of “green technologies” into the industrial sector), Objective No. 12 “Responsible Consumption and Production”, Objective No. 13 “Addressing the Impacts of Climate Change”.

As a result, the complex integration of the concept of “green economy” in the industrial, economic sector of Ukraine is associated both with global trends aimed at reducing the level of human impact on the environmental and climatic

sphere, and is associated with the national interests of Ukraine, mainly - in terms of the development and integration of new models to ensure energy, industrial, economic security of the Ukrainian state, educational institutions, industrial enterprises - in the period of martial law, and in the post-martial law period, and in the post-martial law period.

Characteristic tools in this case can be the following directions:

1. Development of models for efficient use of resources by optimizing the consumption of fossil fuels at all stages of production;
2. Introduction of energy-efficient technologies at enterprises;
3. Development of integrated projects of biological water treatment, hydropower, development of solar energy, development of “green ICT”, development and implementation of new projects in the field of waste management, including organic waste recovery [4].

Integrated implementation of these approaches in Ukraine, supplemented by the adoption of foreign experience can create conditions for sustainable development of the Ukrainian economy, minimizing both the impact on the environment and reducing the total level of resource depletion in Ukraine.

In addition, the implementation of projects in the green sector can contribute to the decentralization of energy networks, increasing the autonomy of industrial enterprises in Ukraine. A derivative of this direction is the increase in the production of products and goods that can be recycled, recovered or reused (recycling). Also, an important reference point is the general focus of the Ukrainian economy on reducing environmental pollution while increasing the resource efficiency of production, which will contribute to the growth of competitiveness of the Ukrainian economy in European and world markets.

Another important direction is the in-depth application of innovations, while consistently replacing outdated methods of energy production, which traditionally have a high ecological impact on the environment.

Conclusions. The article considered global trends of human development in the economic, environmental and industrial spheres. It was revealed that the transition to a “green economy” is a global trend, the participation of Ukraine in which may contribute to the increase of economic and industrial potential, as well as will contribute to the qualitative growth of competitiveness of the Ukrainian economy in the medium and long term. Also analyzed were characteristic directions of the use of “green technologies”, in terms of their positive impact on sustainable development, reducing the rate of resource depletion, including the emergence of a new impetus for the development of economic and industrial potential of Ukraine. In addition, the article identified the relationship between the “green economy” and global goals - mainly the UN Sustainable Development Goals until 2030, which emphasizes the strategic importance of the development and integration of these technologies in the economic, industrial and technological segments of the Ukrainian economy.

References:

1. Global Electricity Review 2025 [Electronic resource]. Access mode: <https://ember-energy.org/latest-insights/global-electricity-review-2025/>
2. Official website of Odessa National Technological University [Electronic resource]. Access mode: <https://ontu.edu.ua/download/pubinfo/Long-term-Development-Strategy-2027.pdf>
3. Principles of sustainable development of enterprises: A comparative analysis. Economic discourse: International scientific journal. 2017. № 1. С. 33-41.
4. Polinkevych O. Inclusive development of enterprises as a dimension of economic growth. Scientific Notes of the National University of Ostroh Academy. Series 'Economics': scientific journal. Ostroh: NaUoA Publishing House, 2019. №15(43). с. 48-52.

UDC 504.05:631.95:504.062.2

Myndiuk V., student of TK-22-1 group
Lopushniak V. I., Doctor of Agricultural Sciences,
Professor, Department of Technology of Protection
of Environmental Protection and Labor Safety,
Ivano-Frankivsk National Technical University of Oil and Gas of Ukraine,
Hoysan T.I., Lecturer at the Department of English Language
Ivano-Frankivsk National Technical University of Oil and Gas.

USE OF PHYTOREMEDIATION TECHNOLOGIES TO REDUCE SOIL POLLUTION BY OIL PRODUCTS

Soil contamination with oil products is one of the most serious environmental problems arising from the intensive activities of oil production, refining and transportation infrastructure. Such contamination causes significant degradation of soil ecosystems, reduction of their fertility, loss of biodiversity, and negative impact on water resources. Traditional methods of soil treatment, including mechanical and chemical methods, are often expensive, require significant resources and can have secondary negative impacts on the environment. Given the current challenges associated with sustainable development, the use of environmentally friendly technologies is of particular importance [1, 3].

Phytoremediation, which is based on the ability of plants to cleanse the soil of contaminants, is a promising alternative to traditional methods. This technology not only effectively reduces pollution, but also helps restore soil structure and biological activity by integrating the principles of nature-based solutions [2, 4].

Phytoremediation involves the use of plants and associated microorganisms to remove, stabilize or degrade pollutants in the soil. The main mechanisms that ensure the cleanup of oil-contaminated soils are absorption of pollutants by plants through the root system with their subsequent translocation to the aboveground;