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STANDARDIZATION OF BIOGAS IN UKRAINE

Abstract. *Biogas is a renewable energy source obtained from organic substances through conversion. In Ukraine, biogas has significant potential, because the country has a large amount of agricultural waste, household waste, and enterprise waste that can be used as raw materials for its production. Ukraine currently lacks a clear biogas standardization system. The existing regulatory documents do not fully meet international standards and do not take into account modern development trends in this area. This inhibits the development of the biogas market and restrains its potential.*

Keywords: standardization, biogas, renewable energy source, agricultural waste, household waste.

The purpose of the work is to investigate the current state of biogas standardization in Ukraine, to identify problematic issues and prospects for the development of this area. Conduct a thorough analysis of the existing regulatory framework regulating the production, transportation and use of biogas in Ukraine. Assess the compliance of Ukrainian standards with international norms and rules, with an emphasis on best practices and innovations in this area, and study the experience of other countries recognized as leaders in the production and use of biogas, with the aim of adapting their successful cases to Ukrainian realities. To identify and describe in detail the problematic issues restraining the development of the biogas market in Ukraine, grouping them by categories (technical, economic, legal, political, social). Develop comprehensive and practical recommendations for improving the biogas standardization system in Ukraine, taking into account the needs and capabilities of various market participants.

Main part. There are problems that Ukrainian standards do not fully comply with international norms and rules, which complicates the export of biogas and cooperation with foreign partners. Some regulatory documents are outdated and do not correspond to modern technologies and trends in the development of the biogas industry. The biogas standardization system is not comprehensive and does not cover all aspects of biogas production, transportation and use. The countries of the European Union, the USA and other countries of the world have considerable experience in the field of biogas standardization. In these countries, comprehensive systems of standards covering all aspects of biogas production, transportation and use have been developed and implemented. These standards guarantee the quality and safety of biogas, stimulate the

development of the biogas market and contribute to its integration into the energy system. Improving the biogas standardization system in Ukraine requires the development of a comprehensive set of standards that will cover all aspects of biogas production, transportation and use. These standards, like a clear score, will serve as a compass for market participants, guaranteeing the quality and safety of biogas. The necessary information and educational campaign is not only a way to increase the awareness of the population and business about the advantages of biogas, but also a powerful incentive for investments in this area.

Conclusion. Improving the biogas standardization system in Ukraine is a necessary condition for the development of the biogas market and the realization of its significant potential. This will contribute to the growth of biogas production and use, attracting investments, creating new jobs, reducing dependence on imported energy resources, improving the environmental situation, and increasing the country's energy security. The realization of this goal requires an integrated approach, which includes:

- development and implementation of a package of standards covering all aspects of production, transportation and use of biogas;
- bringing Ukrainian standards into line with international norms;
- creation of a biogas certification system; carrying out an information and educational campaign; stimulating the development of the biogas market; reduction of bureaucratic procedures; and strengthening of state support.

Improving the biogas standardization system is the way to sustainable development of the biogas industry, energy independence of Ukraine, improvement of the environment and improvement of the population's well-being. Thanks to the joint efforts of the authorities, business and the scientific community, Ukraine can become a leader in the production and use of biogas, which will bring significant economic, environmental and social benefits.

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