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SPECIFICS OF REGULATORY MECHANISMS APPLICATION FOR THE ENTREPRENEURSHIP DEVELOPMENT IN THE FIELD OF RENEWABLE ENERGY

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Abstract: *The article examines the economic incentives for entrepreneurship development in the field of renewable energy in the world and Ukraine.*

Key words: renewable energy; entrepreneurship stimulation; innovations, regulatory mechanisms.

The adoption of the Paris Climate Agreement has set the agenda for preserving the environment and developing a carbon-free economy and energy for the third decade of the 21st century, which aims to reduce greenhouse gas emissions and combat global warming. Most countries around the world are developing and implementing the concept of energy transition - the transition from traditional fossil energy resources to renewable energy sources, the introduction of energy-efficient technologies, which indicates the innovative development of the energy sector. Thus, the innovative development of the energy sector will ensure the development of the socio-economic sphere in the Sixth Technological Paradigm, the Post-Industrial Age, the Knowledge Economy, the Fourth Industrial Revolution (Industry 4.0). As well as compliance with the provisions of sustainable development, resource savings, energy efficiency, environmental protection for future generations. That is why the development of renewable energy (Sustainable Development Goal 7) is one of the 17 Global Sustainable Development Goals by 2030, approved at the UN summit in 2015. To increase energy capacity based on the renewable energy sources in Ukraine, it is important to create a supportive environment for entrepreneurship development in this area, which determines the relevance of this study.

The new EU Renewable Energy Directive (REDII) [1] was approved on 3 December 2018. The EU's main target for the share of renewable energy is 32% of final energy consumption by 2030. This target has not been shared among the Member States, but the share of renewable energy in the Member States should be at least the same as in 2020. That is why today it is important to analyse the successful experience of other countries in the application of innovations in the energy sector and implement innovations in the energy sector of Ukraine, based on the effective use of the existing potential of alternative energy sources and external opportunities.

Today, various mechanisms for financial incentives for renewable and alternative energy development were launched and implemented [2-7]. In particular, such mechanisms are being implemented in EU member states:

1. Mechanisms with the use of benefits ("green" tariffs and surcharges), which are based on pricing tools. The mechanism is that the government fixes the price and the amount of electricity is already determined by the market. The green tariff is often set for a long period and then gradually

reduced, as well as differentiated for different technologies and installed capacities. Germany, France, Austria, Denmark are examples of effective implementation of such mechanisms.

2. Regulatory mechanisms with the use of quotas, green certificates, implemented on a quantitative basis. The mechanisms are that the amount of electricity is fixed by the government and the price is set by the market.

- Within the framework of quotas, the regulator sets the minimum share of "clean" electricity in the overall structure of electricity, and the regulator determines the obligation to use "clean" electricity by setting quotas. Quota mechanisms are often combined with the use of "green" certificates. Examples of countries implementing these mechanisms are Belgium, Poland, Italy, Sweden, and Romania.
- Within the framework of the implementation of mechanisms with the use of "green" certificates, the obligated party under the quota issues a certificate for the amount of electricity produced. In the case of production of more "green" energy than provided for in the quota, the producer may sell these volumes on the certificate to another entity that has not yet fulfilled its obligations under the quota.

3. Tariff auctions ("green" auctions) are a mechanism in which potential producers of "green" electricity offer tariffs at which they are willing to sell energy from newly built facilities. In 2015, the International Renewable Energy Agency (IRENA) [8] introduced recommendations for the launch of auctions in the field of renewable energy, the main stages for the implementation of the mechanism are:

- formation of the lot request (setting the volume and type of energy generation or the appropriate generation structure for the auction)
- definition of qualification requirements (establishment of the minimum level of requirements for potential participants in the auction)
- the procedure of the winner selection (establishing the procedure of collecting applications and the criteria according to which the winner will be selected).

World experience shows that with the help of "green" tariffs it is possible to develop related branches - such as industry and mechanical engineering. In particular, in Germany and Denmark, the development of wind turbines ensures the development of mechanical engineering. China has used similar mechanisms. This indicates that the development of renewable energy technologies is a priority. As an alternative to the "green" tariff, there may be contracts for difference, corporate PPAs as additional tools to auctions.

The study identifies the main areas of economic incentives in leading countries, which should be used in Ukraine for the development of entrepreneurship in the field of renewable energy. Economic incentives for the development of renewable energy will achieve global environmental goals and should be provided by political factors. Renewable energy development in Ukraine should be a priority in the short and long term, given the current energy crisis, the rapid rise in coal prices ($ 220 per tonne in October 2021), and natural gas (over $ 2,000 per 1,000 m3 in October 2021), Ukraine's high energy dependence on energy imports. The key elements of most of the world's policy planning documents in the field of energy are energy transition, innovation, decarbonisation, circular economy, digitalization, which proves the importance of renewable energy. These key elements and the basic principles of renewable energy entrepreneurship stimulating should be taken into account and on this basis, it is recommended to develop a new comprehensive strategy for the functioning of the RES sector until 2030. In Ukraine, it is important to start the implementing process of the new Renewable Energy Directive (Directive (EU) 2018/2001) and the financing mechanism for RES within the framework of Implementing Regulation (EU) 2020/1294 of the European Commission. It is advisable to initiate participation as a host country within the functioning of the new EU mechanism of the financing RES. Namely, within the framework of the 17 Sustainable Development Goals, in support of the Sustainable Development Goal 7, intensify the search for EU partner countries to provide a new funding mechanism - Ukraine is the host country for

investment in RES projects, and the EU Member State contributing to the development of RES projects in Ukraine will receive a "statistical transfer" to achieve the Sustainable Development Goals.

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