Секція 6.
ЕЛЕКТРОЕНЕРГЕТИКА, ЕНЕРГЕТИКА ТА ЕЛЕКТРОТЕХНІЧНІ СИСТЕМИ В АПК

ELECTRICAL ENERGETIC, ENERGETIC AND ELECTRICAL ENGINEERING SYSTEMS IN THE AGROINDUSTRIAL COMPLEX

ANALYSIS OF THE STATE AND PROSPECTS OF THE WIND ENERGY USE IN UKRAINE AND THE WORLD

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An essential component of ensuring Ukraine`s energy security is increasing the share of RES in the overall energy balance by reducing the share of fossil resources, including those imported to Ukraine from abroad. According to the Program, Ukraine`s energy development strategy, among other things, involves the development of wind power. Due to its implementation by the end of 2019, it is planned to save total conventional energy of 3.4 million tonnes of conventional fuel, which is about 13 billion UAH in value. At the same time, the Program does not provide for clear and effective mechanisms for supporting renewable energy, which is also confirmed by the current level of use of RES in Ukraine.

In addition, the decree of the Cabinet of Ministers of Ukraine approved the energy strategy of Ukraine until 2030 under No. 145-p from March 15, 2006, which in its provisions provides for the development of domestic energy engineering, instrumentation, and energy complex as a prerequisite for the competitiveness of Ukrainian enterprises in energy projects. According to the draft regulation of NERA "Green" tariff provides operating costs of production (production cost) of electricity, funds for payment of taxes and fees stipulated by the current legislation, and an investment component for financing by entities of construction of new or reconstruction (modernization) of operating installations using alternative energy sources.

However, the application of this tariff in the production of electricity in agriculture is significantly restricted. Firstly, electricity production is not a major function of the AGE, its volumes are rather small, and therefore the cost may be higher than the value of the "green" tariff. Secondly, AGEs are usually distant from high-voltage lines, and therefore energy transportation to the buyer will be accompanied by significant voltage losses. Finally, given the small volumes of production and the distance of the potential buyer, it is advisable to consider that it would be more rational to use wind energy to meet some of AGE`s own needs.

It is clear that the increase in power is a second-order transition and the dynamics show that wind power development is at an early stage and requires significant state support. It is also worth noting that the bulk of the data presented is capacity growth in developed countries – the United States, Germany, Denmark, the Netherlands, the United Kingdom. Wind power is actively used in agriculture in developed countries. For example, a number of low-capacity wind turbines have been created in many countries for the autonomous supply of agricultural consumers. The parameter series in the USA consists of installations with a capacity of 1; 2; 8; 40 kW, in France – 1; 5; 6; 100 kW, in the Netherlands – 10; 22-30 kW. As of 2016 in Ukraine, 6 industrial WPSs with a total design capacity of more than 80 MW were put into operation. At the same time, the use of wind power for agricultural purposes remains quite rare.

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