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PROSPECTS AND WAYS OF ENERGY DEVELOPMENT IN MODERN UKRAINE

Today, one of the main priorities of energy development in most developed countries is the use of renewable energy sources (RES). So, the United States, Germany, Spain, Sweden, Denmark, Japan plan to bring the share of RES in its own total energy balance to 50% in the first half of the XXI century.

In the world as a whole, according to data at the end of 2014, renewable energy sources produced about 23% of all electricity, of which almost 17% is hydropower (energy of large and small rivers), a little more than 3% - wind power, almost 2% - for the use of bioenergy technologies, less than 1% - for photovoltaic plants. However, there is a noticeable rapid growth and development of this industry, particularly in Europe. Thus, in 2020, for the first time in the EU, "green" energy has become more than "fossil": 38% of all electricity was generated from renewable sources, and 37% from fossil fuels.

Ukraine also has all the prerequisites for large-scale development of technologies based on renewable energy sources. First of all, it is the presence of significant energy potential (such as wind, solar, small river energy, biomass, geothermal energy and environmental energy), as well as a developed scientific, technical and industrial base. In addition, the key factors in the development of RES in Ukraine are the need to improve the environmental situation; exhaustibility of traditional fuel and energy resources; international obligations; and the urgent need to overcome dependence on energy imports, especially in the wake of the last decade. The importance of the latter is underlined by the fact that the Belgian government has decided to postpone for ten years the plan to abandon nuclear energy in 2025 due to the sharp rise in energy prices provoked by Russia's invasion of Ukraine.

Among neighboring countries, Ukraine is showing a record development of renewable energy. The installed capacity of RES-based power plants has increased 10 times since 2010 and at the end of 2014 amounted to 1462.2 MW, which corresponds to 2.7% of the total installed capacity of power plants in Ukraine. Of these, solar energy - 818.9 MW, wind energy - 513.9 MW, small hydropower plants - 80.3 MW, biomass stations - 35.2 MW, biogas - 13.9 MW.

In 2014, a total of 2 billion kWh of electricity was generated at RES-based plants. As of February 2015, the annual technically achievable energy potential of Ukraine's renewable energy sources amounted to 68.6 million tons of oil equivalent

(MT). In terms of conventional fuel, this is 98 million tons. This will be enough to replace about half of Ukraine's total energy consumption today.

According to data from 2021, 731 MW of renewable energy sources (RES) were installed in Ukraine, which received a "green" tariff (Feed-in tariff), and in 2020 this figure was even higher - 1337 MW, according to the calculations of the National Commission, which carries out state regulation in the spheres of energy and communal services (NKREKP). According to the regulator, the total installed capacity of renewable energy facilities in Ukraine as of the end of 2021 reached 8451 MW.

Based on the latest research on the coordinated forecasting of energy and economic development, the most probable scenarios for the development of supply and demand in the electricity sector have been formed. Next, a baseline scenario for the development of generating capacity was formed, the analysis of which showed that Ukraine currently has the potential and opportunities for the development of existing and construction of new power plants, the principle of which is based on renewable energy sources.

Thus, it is safe to say that renewable energy sources should become a priority goal in the development of Ukraine's energy system in the near future. And there is already a huge progress in this area, which, of course, will increasingly displace obsolete hydrocarbons.