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Wind energy as an alternative source of electricity

In modern Ukraine, a large amount of electricity is restored from non-renewable sources. (gas, coal, oil, uranium). According to experts, the reserves of these energy resources will last for another 40-100 years. Every year they are mined in increasingly hard-to-reach places. Therefore, their extraction becomes more expensive and the economic efficiency of the use of fossil fuels is rapidly declining. Humanity, already faced with an energy crisis, is trying to find new, environmentally friendly, and renewable sources of electricity, more profitable in terms of cheapness and transportation.

These non-traditional ways of obtaining, transmitting, and using energy are called alternative energy (green energy). That is, such kind of energy is obtained from natural renewable sources and does not harm the environment. The most popular sources of alternative electricity in Ukraine are wind and sun.

The wind has a certain speed (in average annually and monthly), direction, intensity of gusts and duration of calm. All this determines the expediency of building wind turbines on the territory of the country. The most relevant places for the installation of turbines are the seacoasts and steppe zones.

Since all these conditions common for our country are harmoniously intertwined, foreign companies invest their funds in the construction and operation of wind turbines thus contributing to the development of electricity in the country and increasing job vacancies.

At the moment an energetic sector dealing with wind energy production boosts, as the largest companies are making huge investments in projects for the development of alternative energy in Ukraine. This is Trident Energy, a domestic company that attracts leading European contractors. Vestas is a huge internationally renowned company based in Western Denmark. And the world leader in the production of clean energy, GE Renewable Energy, working in partnership with DTEK. LLC "Furlander Windtechnology" is the first and still the only enterprise in Ukraine for the production, installation, and maintenance of wind power plants (WPP) of multi-megawatt class. DTEK RES is one of the largest producers of electricity from renewable sources in Ukraine.

Providing at the legislative level a "green" tariff for the purchase of alternative electricity in our country makes Ukraine very attractive for the investors, who, in turn, create new jobs for specialists in this area, including graduates from our university and allow to reduce energy resources imported due to frontier. According to the Energy Strategy of Ukraine until 2035, the total share of renewable sources by 2035 should be 25%.

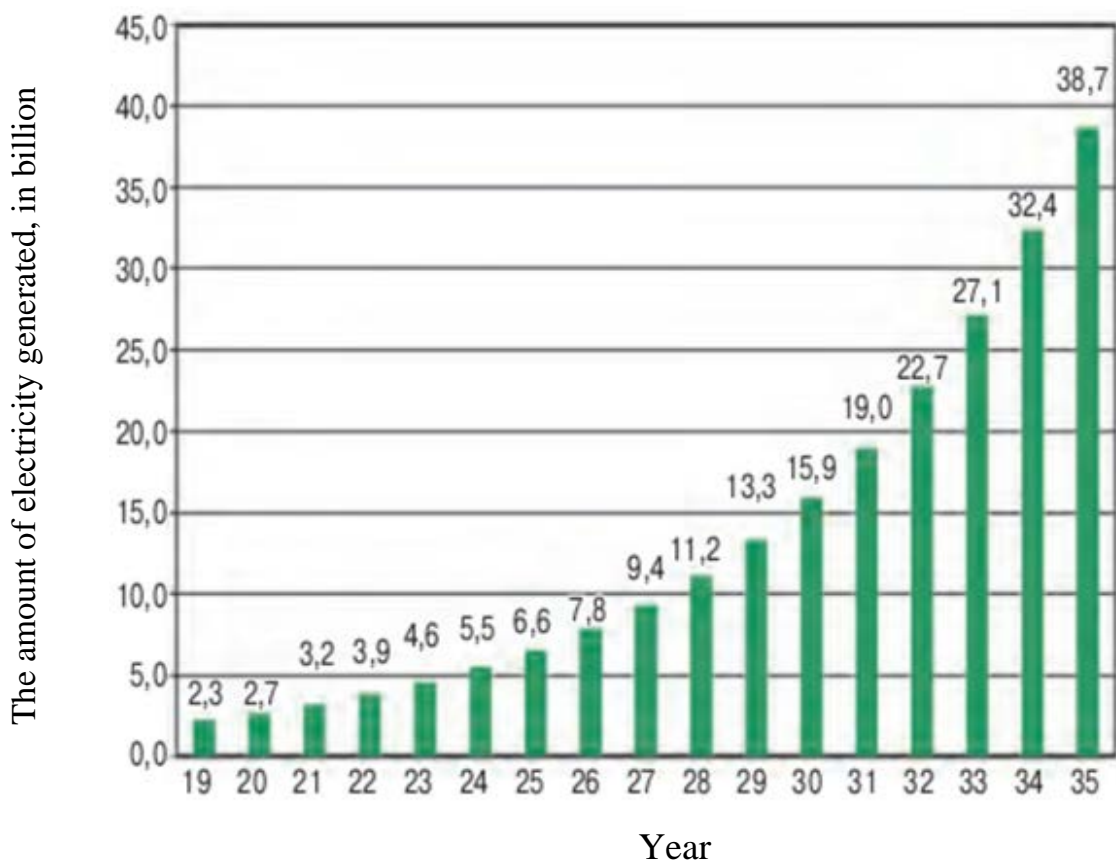


Fig. 1 Growth dynamics of electricity production from renewable energy sources to meet the conditions of the "Energy Strategy of Ukraine."

It should be concluded that Ukraine has a great potential for the development of wind power. The reasons for that are good location and favorable weather conditions for most of the year. To achieve sustainable development in the field of alternative sources of energy sufficient funding and development of this direction, it can become very successful in the green electricity market.

References:

1. Sustainable development DTEK. [Online]. Available: https://renewables.dtek.com/en/sustainable_development/
2. Ветроенергетика в Украине. [Online]. Available: <https://tridentenergy.ua/ru/wind-power-present-and-future/>