

DEVELOPMENT OF WIND POWER ENGINEERING IN UKRAINE

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Our planet is suffering heavy damage from using traditional sources of energy. That's why we have to do something about it. One of the best solutions is using energy of wind, sun, water and other renewables. Today the most obvious decision is

to use wind as the source of energy [2], and there are two main reasons for that. First of all, it is because of the fast construction of wind turbines and wind power plants. Secondly, wind power generators produce “clean” energy, which means that the only harm they may do is when we manufacture materials required for their construction.

Several leading countries in the world have already built the wind farms, and China, whose wind power capacity is 145 GW, is among the leaders in this trend. The capacity of wind farms of Ukraine is far behind that number, and we have not much time to catch up with other countries.

Let’s consider the energy mix of Ukraine in more detail. There are 4 nuclear power plants operating across Ukraine, but since all of them were put into operation in 1980-1987 the last nuclear power unit should be decommissioned in 2050. The construction of nuclear power plant takes at least 6 years, and the price of one nuclear power unit is about \$ 2.5 billion.

On the territories that are currently beyond Ukraine’s control there are 65 coal mines out of the existing 90 ones, as well as three heat power stations, whose total capacity is 6.87 GW (which is 25% of the total capacity of Ukraine’s heat power generation). Moreover, most of the heat power plants of Ukraine have been long enough in operation and should be taken out of service. For example, 90% of heat power units were built in the 1950-60ies [3].

Some countries help Ukraine by financing the wind power projects. For instance, the Chinese company TBEA is planning to build the biggest wind farm in Western Europe in Mykolaiv region of Ukraine [4]. Another country that is ready to provide financial support for building the wind power plant in Zaporizhzhia is USA. The U.S. Overseas Private Investment Corporation (OPIC) plans to spend about \$400 million on that construction [1].

According to the statistics of the European Union (Eurostat), Ukraine can generate up to 74% of the energy from renewable sources, and 49% of these is wind power [5]. This seems to be quite ambitious, considering the fact that at present no more than 7% of total power output is produced from renewable sources.

Our government doesn't pay enough attention to those problems. They don't give much money to develop alternate sources of power. For the past 3 years about 700 millions of euro has been allocated for this purpose [6].

If we want to see Ukraine being successful as part of Europe, we have to do a lot to change not only the way we treat the issues of power industry, but also to change our understanding of the future of our state.

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