

## **Outlooks of realization of a wind energy potential in Belarus**

Stroev P.

*Economics Institute of the National Byelorussia Sciences Academy*

*Premises for usage of renewable energy.*

The republic of Belarus imports about 86% of indispensable fuel and energy resources. Thus about 37% of gross consumption of fuel and energy resources in republic will be utilized in large power engineering (on heat and electric stations and boiler-houses) and about 50% - in housing and municipal quadrants.

In Belarus already is disbursed more halves of own reserves of not renewable energy and materials (for example, oil for 85 %, glass sand - on 60%, building sand, grit and clay for production of a brick - 50-60%).

Technological potential of a wind power in Republic of Belarus.

In 1998 "Vetromash", "Goskomgidromed", "Belenergosetproekt" the operations on eliciting possible platforms for installation of wind aggregates, and also eliciting of a Belarus wind energy potential were held. The following results were obtained: 1840 platforms with a communal engineering potential in 223 million MWh in a year are detected. An economical potential - 18 million. MWh in a year, that compounds 7% from territory suitable for a wind power.

The forecasts of Government of Republic of Belarus on usage of renewable energy.

The forecast of Government of Republic of Belarus concerning usage of renewable energy could be obtained in "Reference directions of power policies of Republic of Belarus on 2001-2005 and on a period up to 2015 year", where is in particular said, the idealized potential of a wind power compounds 1600 MW with an annual development 6,5 million MWh. But in the present period possible and economically justified the development of a potential in 300-350 MW or 1,0-1,5 million MWh. The necessity of building of an atomic power plant is on the other hand substantiated.

Usage of renewable energy under the forecasts of the scientists.

In Belarus for today the same situation, as well as in Germany in 1960-1970 years is supervised. There, when an industrial wind power only originated, and the powerful ambulances were indispensable, the group of the atomic power scientists has undertaken mining wind energy aggregates. In the total a full fall of the idea of usage of a wind power for the industrial purposes. And only that have picked up the given direction and successfully have advanced in Denmark, it in a consequence

began to be developed and in Germany.

The similar situation on the today's moment is piled and in Belarus. Group of institutes, and also energy generating companies attempt to construct some new types wind energy aggregates, one of which grounded on Magnus effect. In the total, a bit later it will be possible to speak that "the wind in Belarus is not present". And, therefore, it is necessary, on the one hand, to accumulate powers of existing thermal power stations, and, on the other hand to start building an atomic power plant.

An outlook of usage wind energy aggregates and dodges of their realization.

The intrusion of renewable energy on Belarus goes by thorny path and is right at the beginning of the progressing. On the other hand many western countries have passed this path - from lobby from the side of the energy generating companies on organic and atomic combustible to dynamical progressing of quadrant are iterated of power sources - and many are in middle of this path. So, for example, in Canada a fraction of an electrical power manufactured with usage wind turbines for today only 137 210 kW, whereas in Germany this digit reaches 10% from a communal development. On data for 1997 in Canada 0,02% from communal consumption on all renewable energy, whereas in USA - 0,12%, Germany - 0,4%, in the Netherlands - 0,53%, and in Denmark - 2,3% was effected.

What image can go an intrusion of renewable energy in Belarus and, in particular, wind power? Most reasonable is "the Danish path", namely, progressing through a private property. In Denmark the majority wind energy aggregates is in the property either non-state entities, or private persons.

The basis for progressing such approach in ??????? already is: in 1997 year by Belarus Government the Order No.400 was accepted. Under this Order the proprietor of installation hooked up in a web receives the dual fare for an electrical power transmit in a web.

The intrusion in Belarus of production of energy with usage of a wind sees on following directions:

- Creation of joint ventures with German and Dutch corporations, which one will deliver wind energy aggregates, both Germany-Dutch mining, and domestic. And the maiden time the majority of them will go on export;

- Creation of wind stations for commercial production of an electrical power and realization it as in limits of Belarus, and abroad;
- Usage of wind energy aggregates at the industrial plants for hoisting water, heating of water, heating and so on. That is everywhere, where the consumer of an electrical power is not exacting to its quality (frequency and stress);
- Usage of wind energy aggregates for needs of cottage settlements;
- Creation of the agricultural plants operating a closed cycle of production with energy supplement from renewable energy (including wind energy aggregates).