

SYSTEM OF UKRAINE WIND ENERGY POTENTIAL MANAGEMENT

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Effective resource management is one of the conditions which are needed for perspective economic and social development. The solving of the problem concerning the providing of sustainable production needs resources, especially fuel and energy, it will be possible with the introduction of long-term strategy for rebuilding the economy, which is aimed at the increasing the alternative energy sources using.

One of the most prospecting areas of the alternative energy sources is wind energy.

The problem of wind energetics is an interesting area of research for Ukrainian and foreign scientists, among which are the works of B. Mokin, V. Polishchuk, P. Armless, D. de Renzo, G. Geletukha, M. La Page, M. Disendorfa etc.

Wind energy on Earth is estimated at 175-219 thousand tV/h per year. This is 2,7 times more than the total world energy consumption. However it is possible to use effectively only 5%, but nowadays this number is less.

Creating a rational system of Ukrainian wind potential management needs attention, because a great amount of wind energy is distributed unevenly on the territory of the country. In the southern regions wind potential is much higher than in the north regions. Ukraine has a large shallow water areas (more than 60 thousand sq. km.) with high wind potential (average wind speed higher than 6 m/sec), and according to the experts it is the best base in Eastern Europe for the wind energy development.

Due to the future investments total power of Ukrainian wind energy stations is increasing to 16,000 mW in 2020, with a possible annual energy production of about 32 billion kW/h, representing 11% of total volume of energy production in Ukraine. Nowadays the cost of kW/h of energy that is produced by wind energy stations is 7 cents in Ukraine and the projected cost will be 4 cents per kW/h till 2025. For comparison, in Ukraine, the energy for the population costs 0.2436 grn. per kW/h. In 2011 the total power of installed wind power station in Ukraine was 87.5 mW. Currently, about 1170 wind turbines with power to 10 kW each are installed in Ukraine.

Scientific researches and engineering that are focused on using wind energy investigate two directions: using wind energy in regional energy systems and in local (autonomous) energy systems. Currently, using wind energy in local energy systems is widespread in countries with high living standards, while using of wind power into Ukrainian regional power systems is reasonable, for example, in solving energy problems of individual farms.

However, due to the governmental support in this area, the active introduction of modern technologies in wind energy can make this industrial direction quite significant. Industrial base of Ukraine allows to realize the task of building wind energy stations and production wind equipment for the needs of our country and for export to other countries. Products of domestic manufacturers more reliable in rugged weather conditions in Ukraine and has a price advantage against imported products. Ukrainian equipment is successfully exported and used in many countries.

Ukraine hosts some measures to support wind energy. For example, the adoption of a new Tax Code has established certain features in the taxation of alternative energy in Ukraine. By 2020 companies that produce renewable energy are exempted from income tax, VAT transactions of imported equipment that work on renewable energy are also exempted from customs duties. Value of land for placement of renewable energy objects costs only 25% of the total bid.

However, for mass introduction of wind energy and its efficient using it is necessary to do such steps:

- provide a consistent nationwide growth wind turbines producing;
- to provide support and participation in the development of wind energy on the local level;
- active introduction of modern technologies in wind energy;
- elimination of subsidies for environmentally harmful energy can lead to some increasing in energy prices, easy to run, it will ensure the development and more intensive using of alternative energy;
- increasing in self-conscious business entities and population, using energy;
- development of market infrastructure, stabilizing prices, giving an access to a common electric network for all owners of wind power;
- implementation of the measures to curb a monopolism in producing and trading electric energy;
- taking into account of the cost of electric energy its ecological component;
- supporting of the researches, development and spreading new engineering and technology in the field of wind energy;
- creating information centers which provide an objective and independent information about wind energy stations that are situated on the market;
- creating necessary conditions for small consumers with the aim to stimulate them to transit on the using of renewable energy.

Thus, the wind energy is really a promising field of energy sector and the development of this sector leads to the effective implementation of the resource saving policy. The development of wind energy in Ukraine requires efficient management of this sector, the introduction and implementation of strategic models. In modern times of economic instability it is not easy to do, but in the long term importance of wind energy will increase, the price of energy produced such way will decline and that is why the development of this energy sector is efficient for economics and society.