

TRENDS IN THE TRANSITION OF EUROPEAN COUNTRIES TO ALTERNATIVE ENERGY SOURCES



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More than one hundred countries of the world, including Ukraine, have proclaimed the alternative energy as a priority of their policy. Most of them provide benefits to the producers of the "green" energy, realizing that its development is in line with the country's strategic goals: energy independence, cheap energy, jobs, and environmental care.

The basic principles of the use of the renewable energy appear out of its nature and are as follows: firstly, in its infinite presence in the environment, secondly, in the possibility of maximum approximation of the sources to the objects of consumption, and thirdly, in the reduced level of unproductive losses at transmission and consumption [2, pp.269-272].

All of the above mentioned is an economic advantage that persuades investors towards

the alternative energy. The renewable energy is generated from the natural resources, such as: sunlight, water streams, air streams (wind), geothermal heat, biological assets (products of vital activity).

The role of the energy industry cannot be overestimated in the era of the global energy consumption. At present, no industry can do without the use of electric and thermal energy. Energy is the basic part of the engine of world progress. Recently, humanity began to think about the limited use of raw materials for the production of electric and thermal energy from traditional energy resources: coal, oil, gas. And this concern is not unfounded.

The renewable or regenerative energy (the "Green energy") is the energy from the sources that, on a human scale, are

inexhaustible (which are replenished naturally).

The share of the renewable energy from the renewable sources in the European Union in 2015 is 16.7% of the total volume, and is closer to the EU's target which will have been 20% by 2020 [7].

"More for less money" – it so that is possible to characterize the dynamics of investments in the alternative energy. The global trends in the use of the renewable energy sources indicate that it is possible to successfully increase the use of the renewable energy sources, and the amount of the useful energy generated by this way to increase to 95% at final consumption. In the European Union, the state of the development of the renewable energy in general is close to the global indicators.

Eleven of the 28 EU member states have already reached 20%: Bulgaria, Czech Republic, Denmark, Estonia, Croatia, Italy, Lithuania, Hungary, Romania, Finland and Sweden. In addition, Austria and Slovakia lack only 1 % to the target set for 2020.

Modern solar panels still have a rather low coefficient of efficiency. And therefore, to get from them high production figures one has to cover sufficiently large spaces with the panels.

A conceptual technology called Betaray allows to increase the coefficient of efficiency at about three times. Betaray is a small sized installation that can be located in the courtyard of a private house or on the roof of a multistory building. Its construction is based on a transparent glass sphere with a diameter of just under one meter. It accumulates the sunlight and focuses it on a fairly small photovoltaic panel. The installation itself is dynamic. It automatically adjusts itself to the sun's position in the sky, so that at any

moment it works at the maximum possible [6].

Wind power engineering is an industry specializing in the transformation of the kinetic energy of the air masses in the atmosphere into electric, thermal and any other form of energy to use it in the national economy. The conversion is carried out by way of using a wind turbine (for getting electricity), wind turbines (for getting mechanical energy) and many other types of aggregates.

The new environmentally safe energy source in the field of nanobiology is called osmotic energy. Energy is generated by contacting fresh and salt water through a membrane with a thickness of three atoms. The international cooperation in the field of energy allows to direct the investment resources to the global projects.

The Netherlands, Denmark and Germany reached an agreement signed in Brussels on March 23, 2017, on investing in a joint construction of a large wind power hub in the North Sea.

Delivery, conversion and energy consumption implies unproductive losses.

Considering the advantages of investing into the alternative energy, it should be emphasized that the share of unproductive losses in the use of the RES is almost absent.

Thermal energy costs are determined by the results of energy audit using the thermal imager. One of the most promising incentives for the development of the alternative energy is the "green" tariff – a mechanism for encouraging energy production, which gives state guarantees to producers, that the energy produced by them will be purchased at higher prices than traditional energy producers' energy.

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