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RENEWABLE ENERGY AS FACTOR OF ECOSYSTEMS IMPACT

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Energy security and energy independence are among of the most important priorities of the state energy policy of the Republic of Belarus. The way to ensure is increasing energy efficiency and increasing the use of its own fuel and energy resources, including renewable energy sources (RES). In this paper presented analyze of the structure and capacity of renewable energy sources on the territory of Belarus. It is shown that one of the promising sources of renewable energy is the use of biomass (Fig. 1) [1].

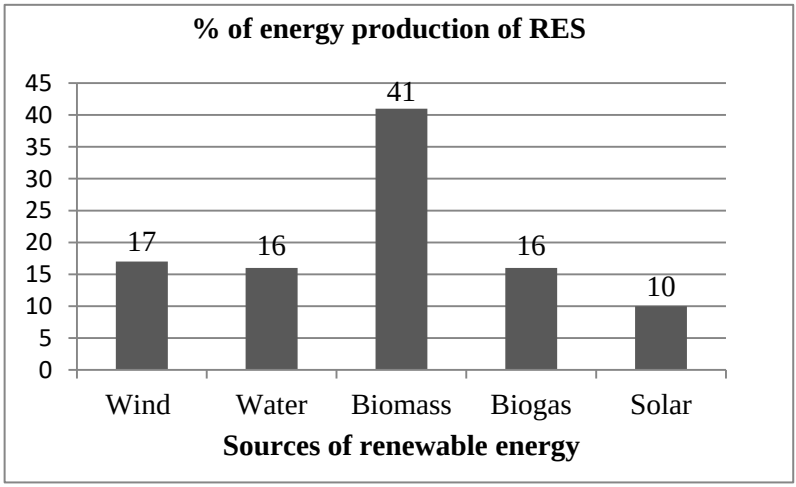

Fig. 1. – The structure of renewable energy production in Republic of Belarus

In accordance with Belarus cadaster the amount of annual reduction in consumption of traditional fuels due to renewable energy sources is

498.01 toe year, including 41 % (205.63 toe) of which is biomass energy Currently, there are about 86 operating plants operating on biomass in the republic, with a total electrical capacity of 186.39 MW and a total thermal capacity of 275.71 MW. The amount of heat energy produced by these units per year is 1,631.41 Gcal, the amount of electricity produced is 853.78 thousand kWh / year.

Combustion of local fuels to generate electricity and heat is one of the power sources of environmental impact. In this regard, an analysis of the factors influencing the formation of the state of the environment in the urbanized territories adjacent to enterprises was carried out and the following were identified as the main ones:

Type, composition and properties of the fuel used. Environmental and energy indicators depend on the qualitative characteristics of fuel resources, such as the heat of combustion, which determines the energy value of resources, moisture content, ash content, and chemical composition. In this work, research has been carried out to determine the fuel characteristics of wood waste (sawdust), flax wood and peat screening. The choice of these samples is due to the development of enterprises in the peat, linen and woodworking industries in the republic. The analysis of the research results showed that the screening of coarse peat, sawdust and flax wood have the highest calorific value, the highest total content of combustible elements and the lowest ash content in dry state, which is most effective when used in production as fuel.

Type and capacity of the boiler plant, solid fuel combustion technology. Availability and efficiency of the waste gas cleaning system.

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