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## **PROSPECTS FOR THE DEVELOPMENT OF MODERN ENERGY COMPLEXES**

The fuel and energy complex has always been and is a rather promising direction of development. The energy industry, in turn, is one of the main components of the economic basis of the state. According to the level of energy development, we can talk about the country's potential, the country's economic growth opportunities and development prospects. The fuel and energy complex occupies a significant part in the country's industrial production.

The fuel and energy complex of Ukraine includes enterprises that are involved in the processing and extraction of fuel, the fuel industry, and in the production and transmission of electricity. All processes of extraction and processing of coal and brown coal, gas, oil, peat relate specifically to the fuel industry. Electricity is a huge industrial sector, which is engaged in the production and transmission of electricity.

It is worth noting that the potential for the development of the electric power industry for Ukraine is very large. Today, the unified energy system of Ukraine includes thermal power plants, nuclear power plants, hydraulic power plants and power plants that operate on alternative energy sources [1]. It should be noted that the development strategy of energy complexes in many countries of the world is associated with the use of renewable energy sources, which is one of the directions for successfully solving the problem of energy conservation of consumers.

Representatives of the environmental industry are very concerned about the state of our planet with the continued use of traditional energy sources. In such a situation, the way to obtain energy using non-traditional and renewable sources, which include biofuels, comes first. For the development of the energy sector, it is necessary to follow global development trends, then we will be able to be part of global initiatives.

Indeed, a large part of biological raw materials around the world significantly exceeds the reserves of classical organic fuel. Therefore, the development strategy of modern energy complexes in many countries of the world, in particular the countries of Europe, is associated with the use

of renewable energy sources, non-traditional sources. It should be noted that any type of biological material can be a raw material for the production of biofuel.

Biofuel thermal power plants have the opportunity to increase the safety of the energy industry of any region, have a positive impact on agriculture, forest processing. Mini-thermal power station can be used in any areas with a source of cheap biofuel [2]. The crisis of the global economy, which is primarily associated with a shortage of fuel and energy resources, stimulates the introduction of energy-saving technologies for processing biological waste in order to produce biogas that can replace natural gas for power plants and transport [3].

Today, possible methods of biofuel production and some installations for generating thermal and electric energies are being considered. We offer combined-cycle plants in which boilers with fluidized-bed furnaces are installed. The use of biofuel gas turbine plants, which can be used to produce electricity during peak hours in the power system, as well as an independent autonomous source of energy for individual consumers, is also quite relevant.

Analyzing the current trends in the development of world energy, we can say that the main factors that affect this development are the reliability of energy supply, energy security, energy efficiency and environmental component. Thus, the urgent task for the world today is the development of precisely modern energy complexes that will be aimed at working taking into account all world demands.

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