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## **BIOMASS ENERGY POTENTIAL FORECASTING AS A PRELIMINARY DEVELOPMENT OF BIOENERGY IN UKRAINE**

### *Summary*

The urgency of studying the current state of the bioenergy industry and predicting its development for the future is explained by the fact that bioenergy has a significant weight in the energy supply of economic systems in developed countries. In addition, its share in providing energy needs continues to grow. This is the leading trend in the world and in Ukraine. Developed countries are now characterized by the fact that a significant part of energy needs provides for the search and use of renewable energy sources, among which there is a new direction - production of biofuels and biomass is becoming a major development. In this case, energy security directly affects the processes of functioning of the national economy, therefore, it is the focus of many researchers. Ukraine's bioenergy market is at an early stage in its development. Therefore, not only the study of existing demand and supply on the bioenergy market is relevant, but also forecasting the potential of their development. To predict the energy potential of biomass in the agrarian sector of Ukraine, we use adaptive forecasting models which able to adapt quickly their structure and parameters to changing conditions. The prospects of bioenergy market development on the basis of prediction of supply of different types of biomass are determined; opportunities for bioenergy development in Ukraine are analyzed. On the basis of the conducted forecasting, the growth of the energy potential of wood biomass, biomass of primary plant production wastes (straw and stalk), energy potential of fruit tree trunks and waste from the processing industry has been proved. There was a lack of growth (in an optimistic scenario) and even a reduction in the energy potential of biomass (in a pessimistic scenario) with manure due to the reduction of cattle population. It is also proved that significant growth of bioenergy potential is expected in the sector of growing energy plants and maize on silage.

The forecasting allows to determine the ways of development of the bioenergy market, to allocate further target segments and to use the marketing tools of influence on manufacturers and potential consumers of biofuels to increase demand.

Keywords: forecasting, adaptive model, bioenergy, development, biomass, energy potential.

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