ABSTRACT

Thesis contains: 91 p., 27 tables, 41 fig., 2 add. and 16 references.

ALTERNATIVE SOURCE OF ENERGY, BIOGRAPHIC FACTORY, COMPARATIVE ANALYSIS, FORECASTING, ARTIFICIAL NEURAL NETWORK.

The object of the study - biogas factory as a complex system and indicators of the activity of this system: the amount of output biogas and power, represented by a sample of 338 and 278 values for different values of the input parameters respectively.

The purpose of research - analysis of the efficiency of a biogas plant, compare it with traditional sources of electricity and the development of a software product for forecasting the results of the factory's work.

Subject of research - intelligent forecasting methods based on back propagation artificial neural networks.

An analysis of the biogas plant is conducted. Comparison with traditional sources of electricity is carried out. During the implementation of the thesis, a model of the neural network and a software product for forecasting the results of the factory's work was developed.

In conducting further research it is expedient to develop models that will maximize the efficiency of the biogas plant.

The obtained forecasting results can be used at LLC “KOMERTSBUDPLAST”.