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ТЕХНИКО-ЭКОНОМИЧЕСКИЕ ПУТИ МОДЕРНИЗАЦИИ ЭНЕРГЕТИКИ РЕСПУБЛИКИ БЕЛАРУСЬ

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Energy expenses are an important part of variable expenses in the structure of any product cost. They can comprise 50% or more depending on enterprise energy consumption. Industry of the Republic of Belarus is export- oriented. Going upmarket increases the competitiveness of the Belarusian output. This task is fulfilled by decreasing energy costs.

The analyses of the energy production expenses, conducted by the ministry of energy of the RB, reports that Belarusian expenses on energy production, based on existing technologies and machinery, exceed the European ones by 60%. The council of Ministers puts forward the task to decrease the level of expenses to the Europe's average by the year 2012. The decrease of expenses (of energy consumption) will be carried out in the following ways:

- 1) implementation of progressive and modern equipment & technologies;
- 2) reconstruction of energy industry branch of Belarus.

At present the steam and gas cycling technology is considered to be progressive. Switching from steam cycle to steam and gas technology using gas turbine plant has proved to be efficient. Moving on to the steam and gas cycle it is important to list reasons of this technology efficiency, which are the following:

- 1) reduction of gas usage due to the smaller number of boilers;
- 2) wage fund reduction due to cut in staff headcount;
- 3) reduction of environmental fees for emissions.

The price of a gas turbine-plant, depending on a producer and the capacity of a plant, can vary from 1 to 10 million dollars. Real equivalent fuel consumption in Mogilev heating plant is 200 gram of equivalent fuel per 1 kilowatt-hour of electrical energy. Today's consumption of the fuel at Mogilev heating plant is 200 gram of the fuel to produce 1 kilowatt-hour of electrical energy. If a gas turbine-plant is installed, the consumption will constitute 155 gram of the fuel to produce 1 kilowatt-hour of electrical energy. The station produces 764990 kilowatt-hour of electrical energy a year. The annual fuel saving accounts for 34425 tones, provided steam and gas turbine is installed. The price of 1 ton of the fuel is about 100\$. The annual economic effect is \$3,4mln. The payback period of the investment expenditures will constitute \$10mln / \$3,4mln = 2,9 years, which proves the availability of the project.