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Biogas from Organic Waste from Sugar Production

Due to the fact that in recent years the price of energy is growing, there is an important question about the use of alternative energy sources. One of the most appropriate sources of this energy is biomass. Sugar production is a significant source of organic waste. Sugar production and sugar beet processing give regular white sugar and as an organic waste-tops, bagasse and molasses. The resulting organic waste can be used as follows:

- pulp can go on food pectin, pectin glue;
- molasses is used for the production of alcohol, yeast, animal feed;
- tops, bagasse and molasses can be sent to animal feed or as fertilizer.

The most effective way of waste utilization is production of biogas which can be generate heat and electricity. Biogas can also be used for the production of lime.

Biogas is a valuable fuel. For its production in many countries special digesters are constructed, which are filled with manure runoff or wastewater. Methane tanks range in size from one cubic meter (in individual farms) to thousands of cubic meters used in large commercial installations. Downloading can be constant or a la carte, and the fermentation process can take anywhere from ten days to a few weeks. Good biogas plants can produce 200-400 m3 of biogas with a methane content of 50 to 75% for each tonne of dry organic matter.

In my work, biogas will be produced by fermentation. Fermentation - is the biological decomposition of organic matter under anaerobic conditions. Container in which the process of digestion - digester will work in mesophilic mode. Mesophilic mode requires less energy to maintain the required temperature, and less precise temperature maintenance.

In this paper the sugar factory, the source of heat and power in a sugar factory is a thermal power station, which both operate two boilers of TP-35, the capacity of 30 t / h The energy source is natural gas.

The objective of work is:

- economy of natural gas through its minimal use in combination with biogas;
- complete translation of biogas boiler with an irreversible decrease in its performance.

Economic evaluation of the scheme effectiveness is provided.