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Research Article

THE IMPORTANCE OF OBTAINING BIOGAS

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ABSTRACT

This article provides detailed information about the well-known importance of obtaining biogas among energy resources, its use as a source of energy, and ways to use it for various purposes.

In addition, information is given on the advantages of using biogas plants.

KEYWORDS

Biogas, biomass, energy value, biogas plant, energy resource, food, agriculture, raw materials, building materials, medical preparations.

INTRODUCTION

At present, the demand for energy resources among natural resources is increasing year by year. This, in turn, requires saving and rational use of energy resources.

Among energy resources, biomass is of great importance. Because biomass is an organic mass that represents one of the most popular and universal resources on Earth. It allows you to get not only food, but also energy, building materials, paper, cloth, medical supplies and chemical supplies.

Biomass has been used as an energy source since humans learned to make fire. Today, biomass fuel can

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be used for a variety of purposes, from heating homes to producing electricity and gasoline for cars.

Biomass is the main raw material for obtaining biogas. For example; Up to 15 m3 of biogas can be obtained from 1 ton of manure per day. 1 m3 of biogas is equivalent to one liter of liquefied gas or 0.5 liters of high-octane gasoline. In China, biogas production devices are widely used in agriculture. Another source of biogas production is the cultivation of algae on the banks of water bodies and processing them into methane gas. 1,000 hectares of algae can annually produce methane gas in such a volume that its heat-generating properties are equal to that of 10,000 tons of oil. [1].

In addition, biogas plants are a clear example of the free use of biomass.

They use agricultural and food industry waste. These are cattle manure, bird droppings, aviary waste, beer wort, beet residue, sewage effluents, etc.

As a result, we get:

- biogas is produced as a result of the decomposition of biological waste and is used like ordinary natural gas for heating rooms or generating electricity;
- electricity. KO - it is possible to produce 2 kW/hour of electricity from the burning of 1 m3 of biogas in the generator;
- biofertilizers. Highly fermented biomass is environmentally friendly liquid and solid fertilizers that can increase productivity by 40-50%;
- fuel for motor vehicles. After removing the carbon dioxide from the biogas, what remains is propane, which can be used as fuel for cars.

Use in biogas devices has the following advantages.

• biogas is a neutral fuel compared to SO2, and its use prevents the increase in the amount of methane gas that occurs during the fermentation of organic waste in the atmosphere;

• the value of fertilizers obtained from fermented biomass is much higher than that of the initial raw material;

• secondary processing of nutrients on farmers' lands in an environmentally safe and economically profitable manner is an advantage of fermentation of solid biomass for biogas production;

• the health of people improves due to the reduction of environmental pollution;

• creates household amenities even in remote villages;

• increases land productivity;

• allows you to profit from waste;

• relieves energy dependence.

The slow development of the use of some non-traditional energy sources is due to the fact that their production is more expensive than traditional energy production. That is why biogas is widely used in our country.

For example, the total amount required for the creation of a biogas plant with a capacity of 300 tons per day is about 6.4 million US dollars. This price is expected to fall from 5.8 to 5 million USD in the next 15 years. Therefore, small bioreactors are currently being installed that can produce approximately 6-8 m3 of biogas and 100-120 liters of fertilizer per day. Their minimum price is 250 US dollars. Fertilizer production for small farms and farmers using consumer biogas plants can help increase their economic efficiency [2].

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In our republic, reforms aimed at protecting the environment, protecting public health, rational use of natural resources, and ensuring environmental safety continue more consistently. It is important to strengthen the legal basis of work to solve problems related to organic waste from the point of view of the state interest. Any type of organic waste, which appears in rapid growth, requires modern equipment to be processed without having a negative impact on nature.

In conclusion, we can say that there is a high possibility of obtaining biogas in technological processes from organic mass residues generated as waste today.

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