TRADITIONAL ENERGY PRODUCTION TECHNOLOGY OF RENEWABLE ENERGY

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ANNOTATION

A special pyrolysis device is heated to 10-15% humidity. Biomass sources include solid domestic, industrial waste, and organic waste from large and small horned animals. Uzbekistan can meet 15-19% of its energy needs. Chlorine is a persistent toxic compound. Biomass and biogas reduce emissions of harmful gases into the atmosphere and produce additional electricity and heat energy.

Keywords. Biomass, crushed waste, solid household, combustion temperature, methane gas, liquid hydrocarbon, phosphorus, chlorinated sulfur, recovered.

The state policy in the field of renewable energy in Uzbekistan has developed industry, taking into account the experience of a number of developing countries in the use of renewable energy and their scale. This shows that the establishment of a clear goal and task in the field of renewable energy, as well as state support - will help make renewable energy more competitive than traditional energy production technologies.

The current significance of the use of renewable energy resources in Uzbekistan is that, apart from hydropower, its resources are currently not widely used (on an industrial scale). It, like all new technologies, is in the research, development and experimentation phase of non-traditional and renewable energy-based energy sources (NQTEM), and should be economically and legally supported.

Monitoring of laws, government decisions and instructions in recent years have shown that the existing legal and regulatory framework in the field of NQTEM in the Republic of Uzbekistan is a management mechanism that supports the development of recycling and additions, economic and financial mechanisms and renewable energy.

Biomass — is the energy obtained by pyrolyzing the waste. In practice, biomass is a waste. Dried trees or their twigs, rhizomes of melons from the garden, crushed stalks of cotton stalks, bark and sawdust. Such wastes are also used in the organic waste of large and small horned animals.

Larger quantities may be agricultural crops: reeds, cotton stalks, corn, and others.

The use of biomass is very simple. The special pyrolysis device is heated to 10-15% humidity, the water vapor is converted into pyrolysis gas and can be used as a fuel in agriculture.

Biomass energy is a promising area of energy for the extraction, production and use of biomass. Sources of biomass include solid domestic, industrial wastes, organic waste of large and small horned animals, plant residues, forest products, in particular, in the production of timber and wood materials, paper masses and other wastes.

The composition of biogas

Indicators	MethaneCH_4	CO_2 Composites	H_2	H_2S	60 percent CH_4 40 percent CO_2 compounds
Volume contribution, percent	55-70	27-44	1	3	100
Volume combustion heat, MJ / m3	35,8	10,8	22,8	-	21,5
Combustion temperature, C^0	650-750	-	585	-	650-750

Density:					
Normal, g / l	0,72	1,98	0,09	1,54	1,2
Hazardous condition, g / l	102	408	31	349	320

According to experts, biomass energy can meet 15-19% of Uzbekistan's energy needs. This method of energy production, to a certain extent, provides the country's agriculture with activated coal in solving the problem of environmental protection. Pyrolysis gas equipment was successfully tested in separate poultry farms and fattening and livestock complexes. But so far it has not become widespread, unpopular.

Pyrolysis gas. People have been using pyrolysis gas since the middle of the twentieth century. Before the advent of electricity, pyrolysis gas was used to drive machinery in Moscow.

Pyrolysis gas is typically a mixture of carbon dioxide (SO2) and (SN4) methane gases. It is formed by the decomposition of various biological microorganisms in a state where air and oxygen cannot enter (lack of oxygen, called the 'anaerobic state'). Hay-fed animals, including large and small horned cattle, produce large amounts of pyrolysis gas. More precisely, it is not the animals themselves that produce the microorganisms that live in their gastrointestinal system.

Separation of biogas from raw materials

Primary raw materials	Pyrolysis gas released from 1 kg of dry matter, l / kg.	Methane in the gas, percent
Grass	630	70
The leaves of the tree	220	59
Pine needles	370	69
Reeds and reeds	420	60
The base of Mecca	420	53
Wheat stalk	340	58
Cattle manure with large horns	200–300	60
Horse manure with straw	250	56–60

There are projects to dispose of household waste using pyrolysis. The difficulties in organizing the pyrolysis of tires, plastic waste and other organic wastes from automobiles are not related to the pyrolysis technology itself, which is no different from the thermal processing technology of other solid raw materials

The problem is that most wastes contain phosphorus, chlorine, and sulfur. Sulfur and phosphorus in their oxidized form are volatile and can harm the environment. Chlorine reacts actively with organic pyrolysis products to form persistent toxic compounds (e.g., dioxins). These compounds are not easy to extract from smoke and have their own complexities. The problem of recycling obsolete car tires and obsolete plasma products is of great environmental and economic importance for all developed countries of the world. The irreplaceability of natural crude oil requires the efficient use of secondary resources.

Automotive tires and plasmas are valuable raw materials, which are obtained by thermal processing with low-temperature pyrolysis (up to 450-500 ° C) to obtain liquid hydrocarbon fractions (synthetic oil), carbon residue

(carbon black), steel slag and combustible gases. At the same time, if 1 ton of tires are burned, 270 kg of heat and 450 kg of toxic gas will be released into the atmosphere.

It can be used to extract pyrolysis gas directly from biomass at the landfill. Methane gas is released during waste decomposition. They are collected in pipes and sent to a thermal power plant, where the mixture is mixed with natural gas and used to generate electricity.

This method can also be used on livestock and poultry farms. Livestock manure produces methane during decomposition, which can be used on the farm for electrical and thermal energy purposes.

Thus, biomass and biogas reduce emissions of harmful gases (carbon dioxide and methane) into the atmosphere and produce additional electrical and thermal energy. This creates a renewable energy source on a permanent basis from plant and animal waste.

REFERENCES

1. G.N. Uzakov, H.A. Davlonov, K.N.Kholiqov. Applied Solar Energy, 2020, Vol. 54, No. 6, pp. 481–484. © Allerton Press, Inc., 2019.
2. Uzakov G.N., Davlonov X.A., Xujakulov S.M. Kholikov K.N. Proceedings of the XIII International Scientific and Practical Conference «International Trends in Science and Technology» Vol. 1, May 31, 2019, Warsaw, Poland. 33-35.
3. Kholikov Komil Nurmahmatovich. CENTRAL ASIAN JOURNAL OF SOCIAL SCIENCES AND HISTORY, 2 (2), 103-105. Retrieved from Spain. (2021).
4. K.N. Kholikov. UCHENYY XXI VEKA. international scientific journal № 2 (73), February 2021 g. 45 st.

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