

Section 01. Innovations in Engineering

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Bioenergy

Under the conditions of unfavorable forecasts concerning fossil fuel reserves, one of the alternative sources is biofuel and its application in the field of bioenergetics. This option has advantage over other alternative sources as biofuel is an integral part of existence of living beings whether they are people, animals or plants. The main process is rotting and as its result a release of gases and spirits. Its main pros can be considered environmental friendliness connected with the fact that fulfilled raw material is suitable for reuse as a fertilizer that, in its turn, after recycling shows higher rates of quality in comparison with usual humus due to the impact made on it.

The second, but not the least important advantage is its inexhaustibility. The sources for that are more than enough: human and animal wastes, meat production bypass, vegetable mull. And the last but not the least is possibility of decentralization of energy production.

This technology has already been applied in the countries with developed meat or alcohol producing industries, in particular for cane using in rum production or recycled cane for bioethanol. In other cases a big cattle farm working independently from power stations due to its selfsufficiency both uses animals wastes in biofuel generator or sells used material as a fertilizer.

Such kind of power generation can be mostly found in the USA, Canada and Great Britain. More and more cattle farms with special reservoirs for wastes are being built. The mostly spread are sheep farms and cow ranches. Their main advantage is that besides food stuff (dairy products) biomass for biofuel production are made there.

The power stations consuming biofuel would be very convenient in the locations of such firms as they can generate electrical energy for supplying the firm itself.

To sum up, this technology is not well developed in Ukraine, though there are few examples of its practical application. But this problem is very topical due to the constantly growing tariffs on gas and electricity as well as with necessity to buy gas.