BIOGAS: Green Energy via Waste Utilization

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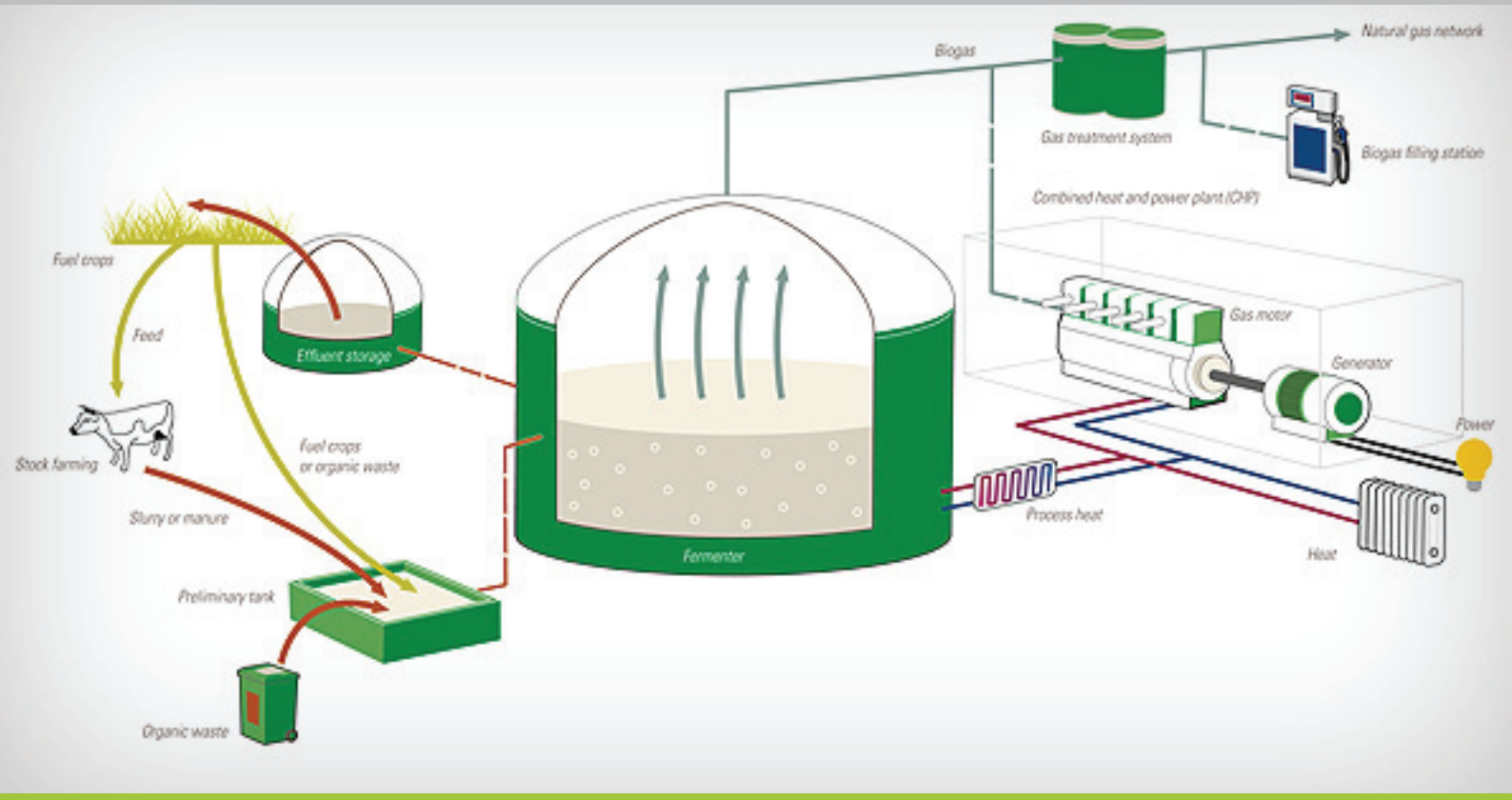
Search of technologies for processing of huge quantity of municipal and other vital products waste become imminent all around the world now. The embedding of biogas power-plants is the best solution for bio waste utilization.

BIOGAS, what is this?

In Wikipedia you can find the following description: "Biogas typically refers to a gas produced by breakdown of organic matter in the absence of oxygen. Organic waste such as dead plant and animal material, animal feces, and kitchen waste can be converted into a gaseous fuel called biogas. Biogas originates from biogenic material and is a type of fuel bio fuel."

The variety of directions for use of BIOGAS makes it the universal energy carrier, because it can be used as for electricity and heat producing as like fuel instead of natural gas (after depurating up to bio methane quality). The energy in such form can be accumulated in storage or use like fuel for cars and tracks unlike most of other kinds of renewable energy.

Each project is unique and has to be developed for specific conditions separately. Waste sorting is the most significant and important part at biogas power-plant working process. It can be performed by hand or using special automatically sorting line. The products of bio-waste processing are biogas, heat and valuable organic fertilizer.



Among the advantages of biogas power plants are:

1. gain valuable energy – electricity, heat
2. reduce the burden on the environmental odour
3. load reduction by methane and ammonia atmosphere
4. state-guaranteed long-term purchase price of electricity produced from biogas
5. disposal and treatment of otherwise hard-decomposable organic residues
6. possibility of providing paid services environment-friendly disposal of organic waste to other entities
7. gain of high value organic fertilizer
8. high profitability and interesting return on investment

The biogas yield depends on used raw material kind. The sheet below can show the approximate yield from the different raw bio-waste kind:

Substrate	Biogas yield m3/ton
Cattle's manure (natural 85-88% humidity.)	60
Cattle's manure of low viscosity (94% humidity)	24
Chicken droppings cellular (75% humidity)	90
Chicken droppings (floor keeping) (60% humidity)	90
Corn silo	180
Grass	200
Milk whey	50
Wheat, flour, bread	550
Fruit and vegetable pulp (80% humidity)	70
Beetroot pulp (78% humidity.)	100
Molasses	430
Distillery wheat wastes (93%humidity)	45
Molasses' distillery wastes (90% humidity.)	50
Beer grains (82% humidity)	110
Corn pulp (80% humidity)	85
Potato pulp (91% humidity)	45
Grease (fat), (pure, 0% humidity)	1300
Grease (fat) from grease trap (grease pulp)	250
Abattoir wastes	300
Root crop vegetables	100
Technical glycerin	500
Fish wastes	300