

winglows holdings



WINGLOWS HOLDINGS

Winglows Holdings offers renewable energy solutions, innovative technologies & consulting services worldwide. Our mission, is to introduce Eco-friendly energy solutions, for both private and commercial use.

We are a complete supplier of biogas plants in the energy recovery field from the treatment of wet organic waste, waste from agricultural and food industries, wastewater and process water. Each treatment and biogas plant satisfies and meets the stringent environmental requirements for the treatment of waste and is therefore an economic and future-oriented solution.

Our know how is based on our extensive experience and good business relations, in the renewable energy worldwide markets. We provide a variety of engineering services, plant assessment, projects and contract management, as well as complete turn-Key installation, commissioning and packages in the following areas:

Solid Waste treatment utilization - (Waste to Energy – Gasification) - (BioWaste - Biogas)

Energy recovery and reutilization from waste – Biogas – Biodiesel – Bioethanol

Design, manufacturing, installation, testing and commissioning of solid waste treatment equipment like incinerators, autoclaves, sterilizers, shredders and other tailor made electrical/mechanical equipments required for:

Manufacturing of Biogas or other fluid storage tank or vapor pipeline protection

Sediment traps, foam separator, roof manhole cover, sample and gauge hatch, vent-to-atmosphere, pipe away, horizontal & vertical flame arresters, automatic –manual-electrically actuated drip traps, flame trap assembly, pressure relief vent, manometer, back pressure check valve, flame checks, waste gas burners and pressure relief and flame assembly.



Biogas production from anaerobic digester presents the advantage of treating organic waste and reducing the environmental impact of these wastes. It contributes to a better image of the farming community while reducing odor, pathogens and weeds from the manure and producing an enhance fertilizer easily assimilated by plants.



BIOGAS PLANTS

Biogas refers to a gas made from anaerobic digestion of agricultural and animal waste, food waste and sometimes also municipal solid waste, as well as biofuel crops. Equipment to produce this gas varies based on the type of organic waste to be used as raw material and heat needed for digestion. Dependent on the waste material and operating temperature, a batch digester will start producing biogas after two to four weeks; production will slowly increase then drop off after about four months. In cold climates the efficiency of a digester will decrease, thus heating is necessary to maintain continuous gas production. Of the gases produced from a biogas plant, methane is captured and used to power generators. Other uses for the methane are heat for climate control and boilers, as well as fuel for vehicles converted to biogas.

Sources of Biomass:

Agricultural Biomass - Manure from dairy cattle, hogs, chickens, and waste from crops.

Municipal Treatment Plants Biosolids - Waste Water

Alcohol/Ethanol Biomass - Leftover material from producing alcohol and ethanol is another source of biomass.

Industrial Food Biomass - Waste from food manufacturers is an excellent source of biomass.

APPLICATION AREAS

Biogas technology is a very good solution to local energy needs. It gives an opportunity for the decentralization of energy production.

Energy can be produced and used at point of production.

Systems like these reduce cost of energy transfer, a big consideration where energy needs are small, and helps in places where there are no mature energy grids.



While it takes approx. 200 million years to “create” natural gas, it is done in a couple of weeks to produce biogas. Biogas can be used as a common natural gas for heating and energy production. Agricultural and food industry waste products can be used to provide energy from waste.



Commercial farms and plantations: Biogas technology addresses holistically various agricultural problems such as expensive fertilizers and feeds, primitive technology use, produce spoilage, poor waste disposal, soil erosion, ecological degradation and importantly farm power.

With the use of agricultural wastes through biogas technology, wastes from farms can be used for generating energy for brooding chicks, gas incubators, boiler operations. Provision of fuel for stationary engines, to supply motive, pump water, drive machinery (e.g. threshers, grinders) or generate electricity.

Biogas is used as supplementary fuel in dual fuel engines. Drying, cooking, boiling and smoking of fish (especially catfish), taking into consideration the market value of smoked fish. Fertilizer production rich in NPK as microorganisms in the bioreactor fix nitrogen, which would have been lost to volatilization through the normal practice of spreading raw wastes or burning. The fertilizer also helps in soil aggregation without accumulations of salts as characterized by raw organic wastes application. that are toxic to plants.

Fertilizer is weed seed free, pathogenic microorganism reduced drastically and odorless. Improving crop productivity and farm hygiene. It is usual for livestock farmers to have fishponds, the mineralized water serve as nutrients for the growth of planktons (Natural fish food) when used in fishpond fertilization, without harming fish population and affecting dissolved oxygen.

TYPES OF BIOGAS PLANTS

Floating Gas-holder Type

A digester tank or a well is made out of concrete and it is called the digester tank, which has two parts: the inlet and the outlet. The inlet is from where slurry is transported to the tank, which has a cylindrical dome made of stainless steel. This dome floats on the slurry and collects the gas generated. That is why such a biogas plant is known as floating gas holder type. Fermentation of the slurry takes about 50 days. The pressure inside increases when more gas is formed by bacterial fermentation. The gas is



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then transported out through outlet pipe. The decomposed matter moves into the next chamber in the tank. By using the outlet pipe this is then removed to the overflow tank, which is used as manure for cultivation purposes.

Fixed Dome Type

Here also, a well and a dome are made out of concrete, which is called the digester tank. Since the dome is fixed, this gas plant is known as fixed dome type. The manufacturing process is similar to the floating holder type bio gas plant, where the slurry expands and overflows into the overflow tank.

Bag Type

The bag-type biogas plant is a portable unit. Made of rubberized nylon fabric, such a plant can be easily placed at any location. The appropriate type is selected on the basis of technical requirements like distance between kitchen and cattle shed, location, availability of dung and water, preferences of the beneficiaries etc.

COMPONENTS OF BIOGAS PLANTS

Inlet pipe: The slurry is moved into the digester through the inlet pipe/tank.

Mixing tank: The feed material like dung is gathered in the mixing tank. Using sufficient water, the material is thoroughly mixed till a homogeneous slurry is formed.

Digester: Inside the digester, the slurry is fermented. Biogas is produced through bacterial action.

Gas holder or gas storage dome: The biogas thus formed gets collected in the gas holder. It holds the gas till the time it is transported for consumption.

Outlet pipe: The slurry is discharged into the outlet tank. This is done through the outlet pipe or the opening in the digester.

Gas Pipeline: The gas pipeline carries the gas to the utilization point like a stove or lamp.



We welcome investors, resellers, engross companies and other business venturers to contact us concerning any establishment of various mutual business cooperations. .



PLANT PRICING*

Pricing of biogas plants on poultry dung

| Raw Material Capacity tons / day | Approximate Price in Euros | | | |
|-------------------------------------|--------------------------------|-------------|---------------|------------|
| | Project Review / Blueprints | Engineering | Construction* | Equipment* |
| 50 | 45,000 | 22,000 | 70,000 | 350,000 |
| 100 | 65,000 | 22,000 | 120,000 | 550,000 |
| 150 | 85,000 | 22,000 | 170,000 | 750,000 |
| 240+ | 120,000 | 22,000 | 230,000 | 1,450,000 |

* Blueprints and engineering are included

Pricing for biogas plants using other waste materials such as pig manure, municipal waste, corn or grass silage, etc., are available upon request.

EQUIPMENT PRICING

Winglows Holdings is a manufacturer and distributor of the following biogas plant equipment:

Inlet pipes
Biogas purifiers
Biogas pumps
Biogas desulfurization devices
Reactors
Digesters
Methane Tanks
Float Covers
Storage Tanks
Generators

For equipment specifications and pricing please contact us at +507 282 7316

FOR FURTHER INFORMATION CONTACT US

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