52 Metric Ton / Day Biomethanisation Plant for Power Generation & Climate Change Reduction (CDM) Using Slaughter House Solid Waste at Hind Agro Industries Pvt. Ltd., Aligargh (UP)

**Introduction:** This is the second large scale biogas plant implemented by CLRI for mechanized slaughterhouse unit at Hind Agro Industries Pvt Ltd., Aligarg (UP) India. These mechanized slaughter house units facing a serious solid waste disposal problem in many parts of the country. The quantity of slaughter house solid waste generated from the mechanized and manual slaughter-house units in India dumped into land fill and open dumping on to lands creates lots of odour and health related problems. However, the high protein and fat content was researched in the laboratory, and optimized the anaerobic digestion processes for biogas and power generation processes. This project was funded by UNDP/GEF umbrella through Ministry of new and renewable energy.

In continuation of the AKEL Hyderabad biogas plant executed by CLRI for slaughter house solid waste the similar anaerobic bio-process optimization was carried out for HAIL biogas technology and executed the biogas plant onsite by CLRI. Similar to AKEL Hyderabad Company, the mechanised slaughtering of cows, buffalo’s at HAIL Aligargh UP produces animal tallow, rendering plant waste, droppings as dung material, rumen and paunch material which contain high quantity of anaerobically bio-degradable organic material. This biodegradable organic waste was experimented to know the biogas and power potential using different optimization techniques in batch and continuous reactor operations.

**FIRST LARGE SCALE BIOMETHANISATION PLANT IN INDIA FOR SLAUGHTER HOUSE SOLID WASTE**-

This biomethanisation plant is first of its kind in India demonstrated by CLRI. The performance of the plant was maximised after the execution of the plant. The plant is being operated successfully produces 4600 kWh of electrical unit equivalent till date. The details of the biomethanisation plant are described as below.

a) The capacity of the slaughter house waste = 52tonns per day
b) Capacity of the anaerobic digester = 2200 m³
c) Biogas generation Capacity = 5800 Nm³/day
d) Energy Generation capacity = 0.4 MW
e) Revenue generation from this technology = INR 50,000 per day
f) Capital investment made for demonstration = INR 6.0 Crore
g) Pay back period of this technology = 5 years
h) CO₂ mitigating potential (CDM) = 2230Tons per annum

**Project Team**

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