

Biomass Heating Solutions

Biomass Heating Solutions (BHSL)

- Utilizes poultry litter from 8 onsite poultry houses
- Combustion process results in hot water & electricity
- Use hot water for heating poultry houses (2 with 2 controls for 3 flocks during cool weather)
- European facilities -heat accelerated bird growth & improved bird health
- Sell excess electricity to grid
- By-product is high phosphorus (w/potash) ash

Status: Biomass Heating Solutions

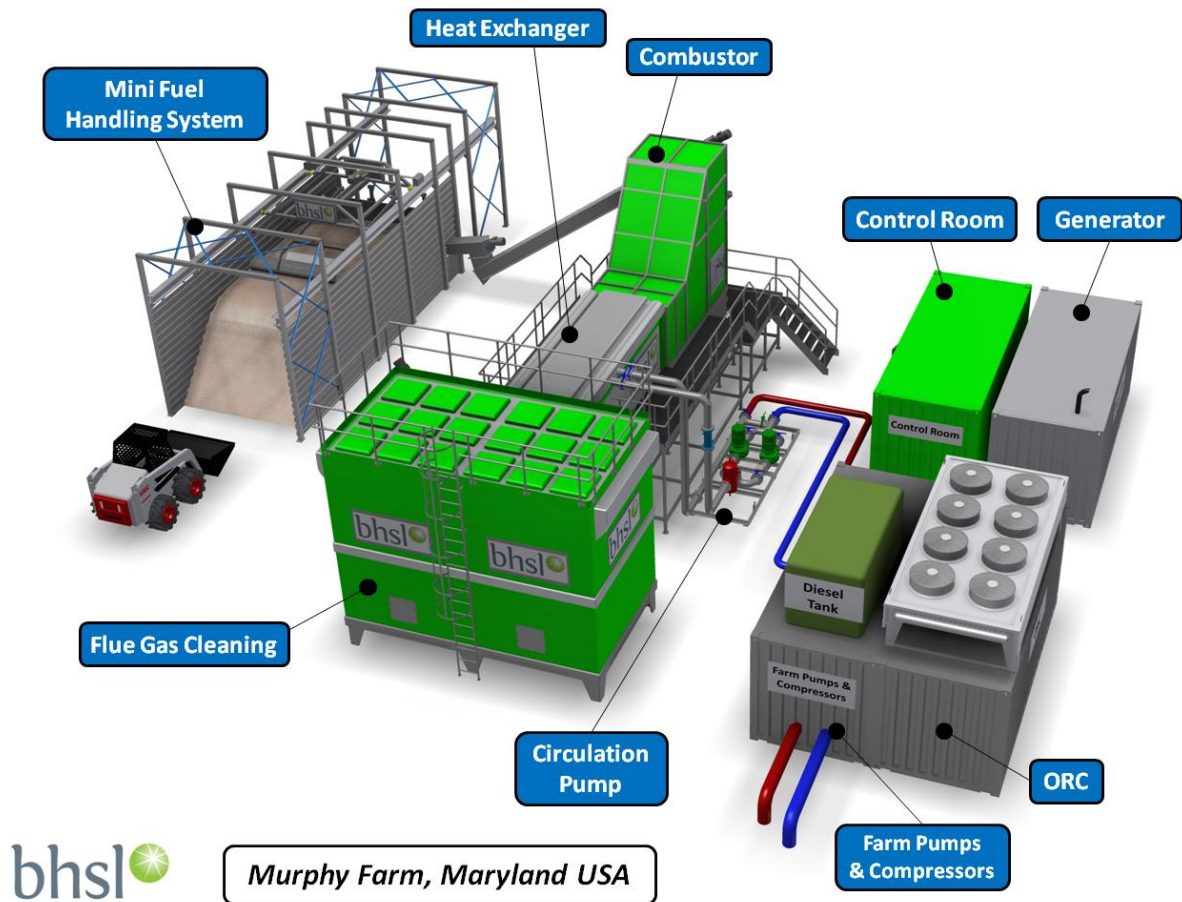
- Instrumentation of poultry houses -1 calibration flock/1 monitored flock to date
- Multiple adjustments to monitoring system during commissioning
- MDE Air Quality permit restricts feedstock to on site litter sources (using 8 houses instead of 16 as proposed)
- System using 8-10 tons per day of litter
- Feedstock quality issues with litter- rocks and extraneous materials –requiring machinery retrofits
- Ash by-product registered with MDA, initial sales this spring to watermelon producer

3rd Party (UM) Monitor Bird Performance

- Daily Bird Weight
- Feed Consumption
- Water Consumption
- Heater/Fan Run Times
- Electricity & Heat Consumption
- Ventilation level
- CO2 Levels
- Inside/outside Climate Conditions



Biomass Heating Solutions (BHS)



Murphy Farm, Maryland USA

Electrical Generator



Hot Water Tank



Energy Ctr

**Fluidized Bed Combustion (FBC)
Unit**

FBC Unit



Manure Shed-Conveyer System

