



FERCO Enterprises, Inc

“We Convert Waste and Renewables into Clean Energy”

FERCO’s mission is to develop and implement solutions that improve the global environment by producing clean energy from agricultural, municipal and forestry waste and other renewable resources.



Background of the SilvaGas Process



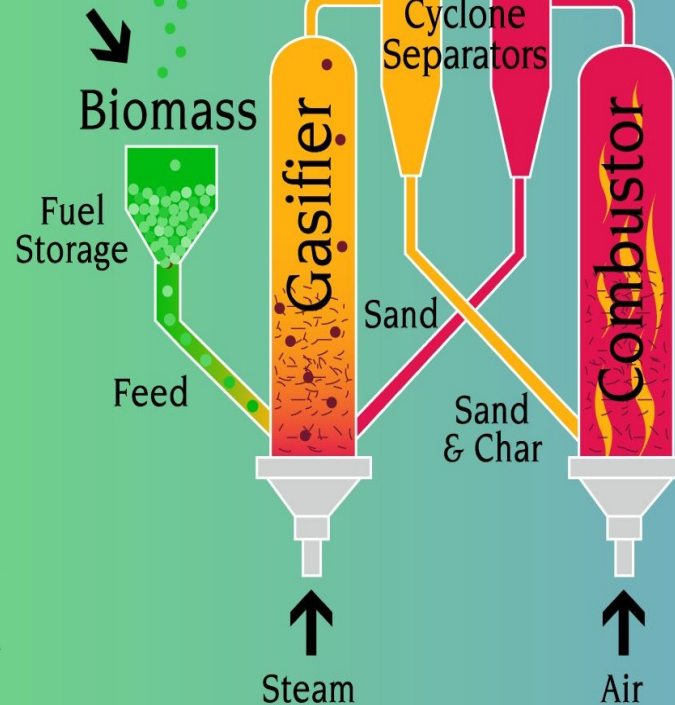
- ❖ *FERCO Patented Process developed at Battelle*
 - ❖ *Process specifically developed for biomass*
 - ❖ *Funding from US DOE and industrial sources*
 - ❖ *Over 20,000 hours of operation in a 10 ton per day pilot plant*
 - ❖ *Successful integration of gasifier with gas turbine*
- ❖ *Commercial scale demonstration plant operated in Burlington, VT (over 300 tons per day)-exceeded pilot plant performance*
- ❖ *Award winning process*



The FERCO SilvaGas[®] Process



Feedstock Flexibility
 wood, energy crops,
 agricultural residues,
 municipal solid waste,
 animal waste



Flue Gas → Heat Recovery Options
 steam production, direct heating,
 biomass drying

→ **SilvaGas**

↓
 Medium-Btu Gas Uses
 boilers, gas turbines,
 natural gas substitute,
 fuel cells,
 chemical synthesis





The FERCO SilvaGas® Process

- ❖ Feedstock Flexibility
 - ❖ Traditional biomass
 - ❖ Wood
 - ❖ Wood residues
 - ❖ Straw
 - ❖ Switch grass
 - ❖ MSW
 - ❖ Energy Crops
 - ❖ Agricultural residues
 - ❖ Residue fuels
 - ❖ Urban waste wood
 - ❖ Logging residue
 - ❖ Paper mill residues / sludges



General Facility Description

- ❖ Plant site area - 3 acres
- ❖ Complete facility area - 20 acres
- ❖ Plant height - 100 feet
- ❖ Major facility components:
 - ❖ Gasifier island
 - ❖ Biomass fuel unloading and storage
 - ❖ Fuel processing and handling
 - ❖ Control room, offices and warehousing
 - ❖ Product gas end use equipment

Facility Product/Output



- ❖ Facility production options
 - ❖ Using the synthetic gas from the *SilvaGas*[®] process
 - ❖ Electric power generation
 - ❖ Liquid chemical plant feed stocks
 - ❖ Transportation fuels
 - ❖ Natural gas substitute
- ❖ Plant emissions
 - ❖ *SilvaGas* burns as clean as natural gas
 - ❖ *SilvaGas* process combustor emissions low
 - ❖ Greenhouse gas emissions significantly lower than any fossil fuel alternative

