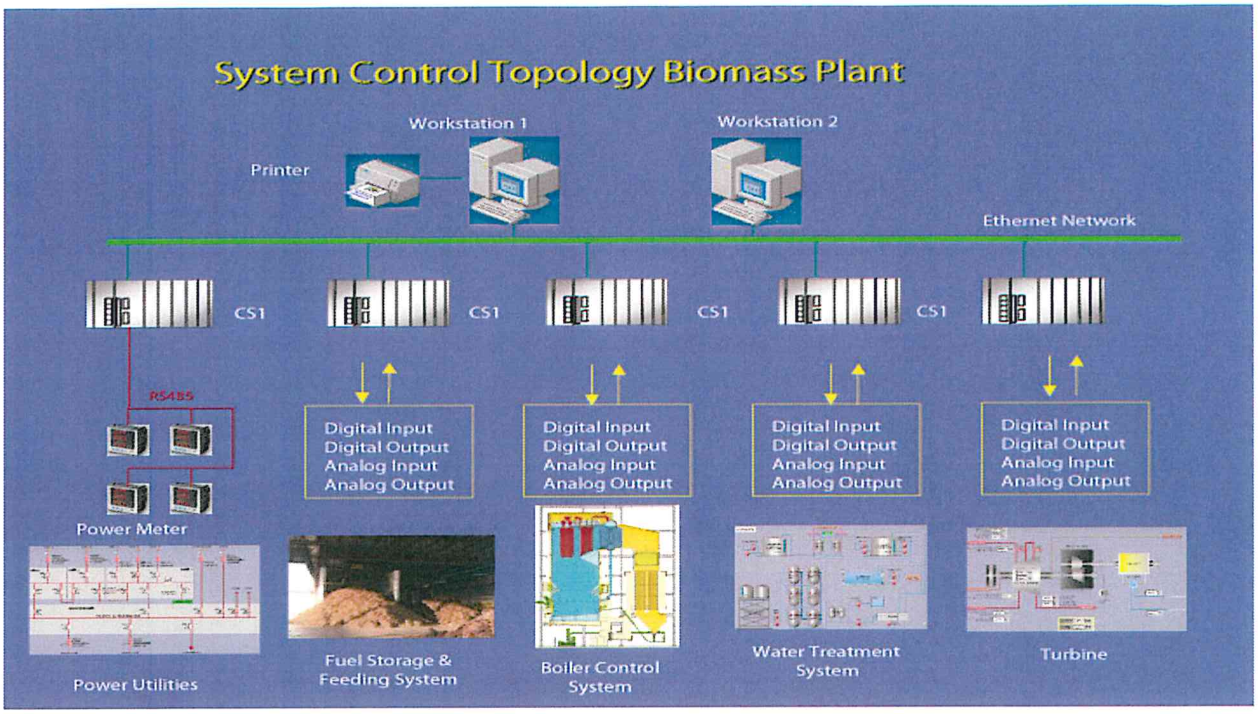
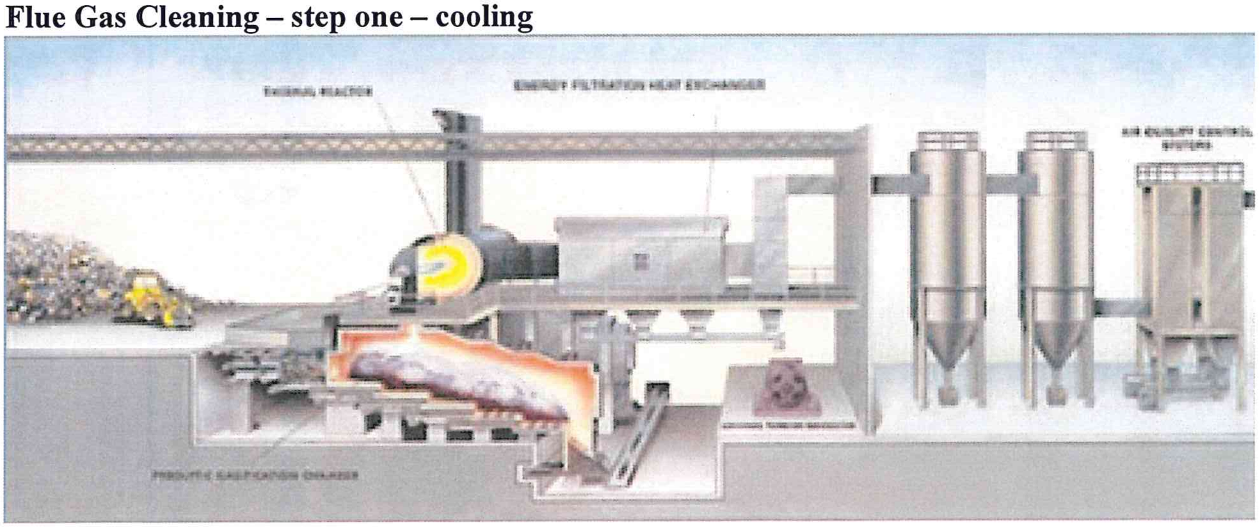
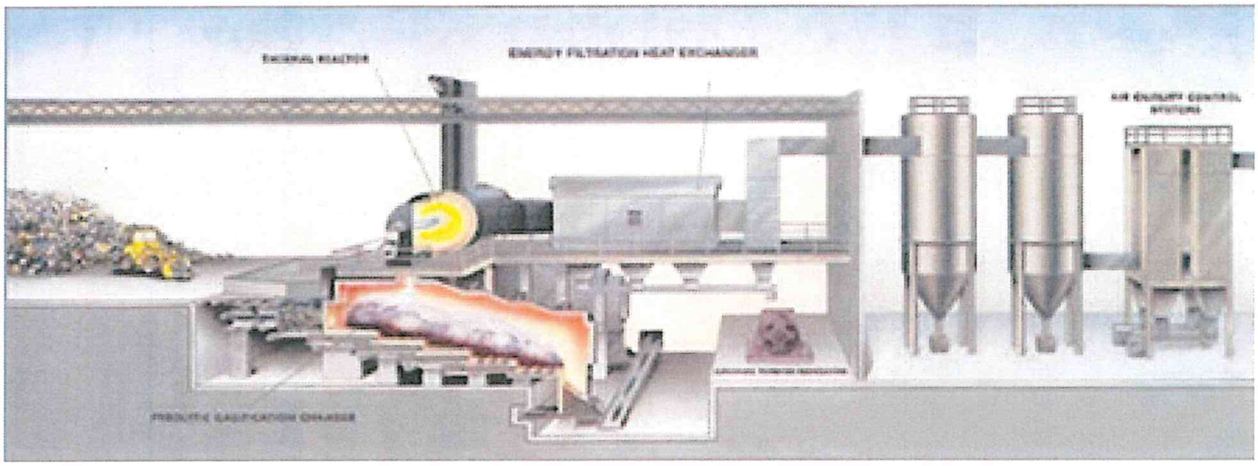


Cleaning and cooling of the synthesis gas occurs in a multi-staged process.

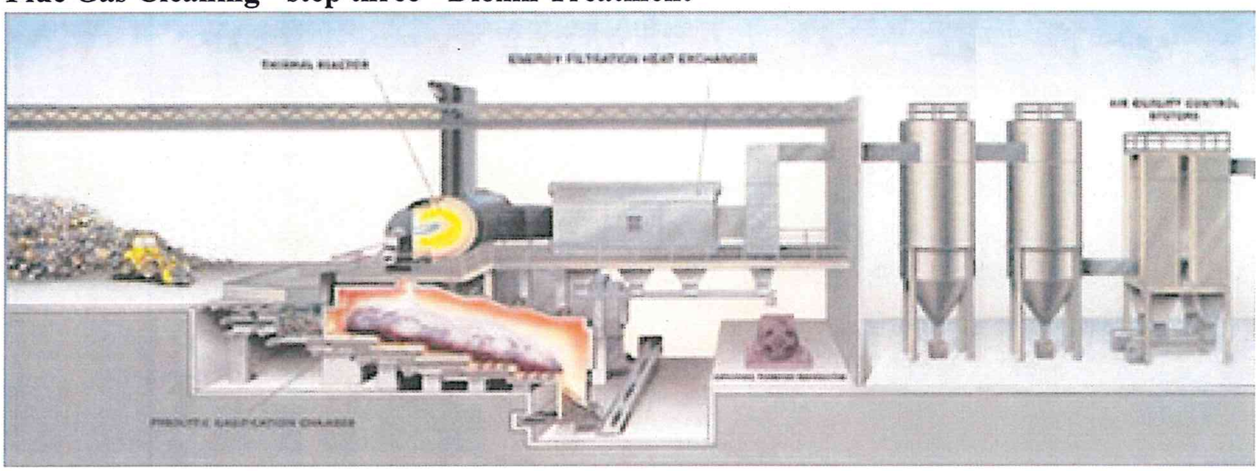
Flue Gas Cleaning – step one – cooling



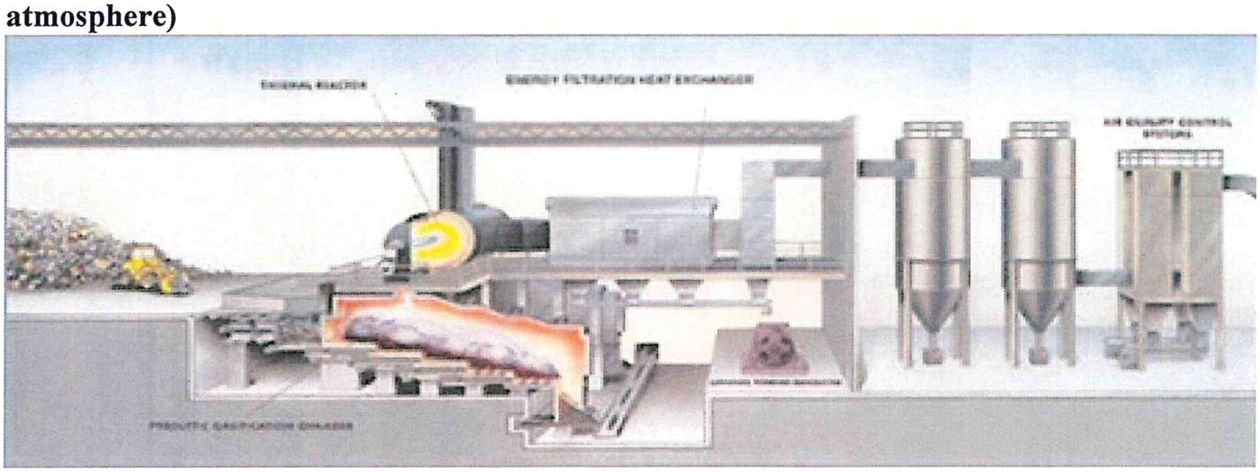
Flue Gas Cleaning – step two – dust removal and acidic gases



Flue Gas Cleaning - step three - Dioxin Treatment



Flue Gas Emission fully compliant to Canadian Standard (prior to discharge to atmosphere)



HIGHEST EFFICENCY TECHNOLOGY

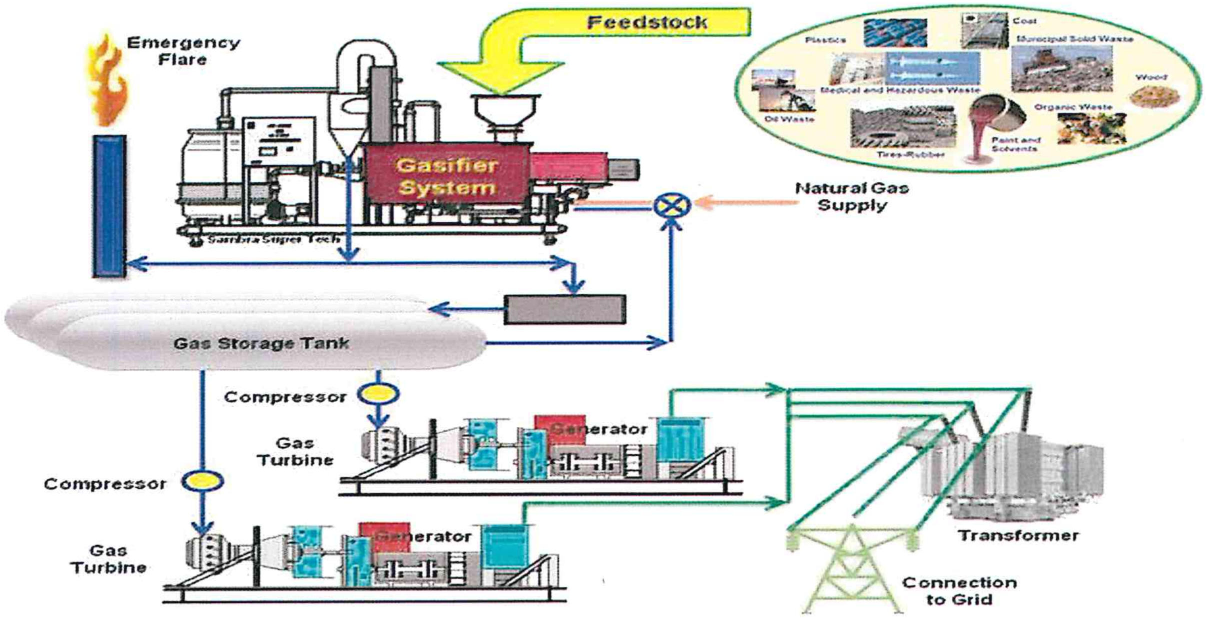
With new high efficiency generators being developed in conjunction with Enerovoxa exclusive sources, the electricity expected to be generated by the plant will rises to as high as 7.5 MW. The production of potable water for both systems is the same but no Bio-Char is available from the mass burn system. Instead that process produces bottom and fly ash that may be sold but not at the same value as Bio-Char. Usually, ash has to be disposed in a landfill.

Another advantage of the pyrolysis gasification system over a mass burn plant is that the use of Syn-Gas makes the plant less vulnerable to variations in the input waste stream. Other advantages are:

- less pollution – by using no oxygen, very few polluting flue gas emissions are produced
- modular plants – provide flexibility of operation and redundancy to maximize operating time
- lower cost – systems are easier to construct and can be manufactured in automated plants
- products - pyrolysis gasification plants produce more useful by-products
- carbon credits - may be eligible for more carbon credits and other incentives

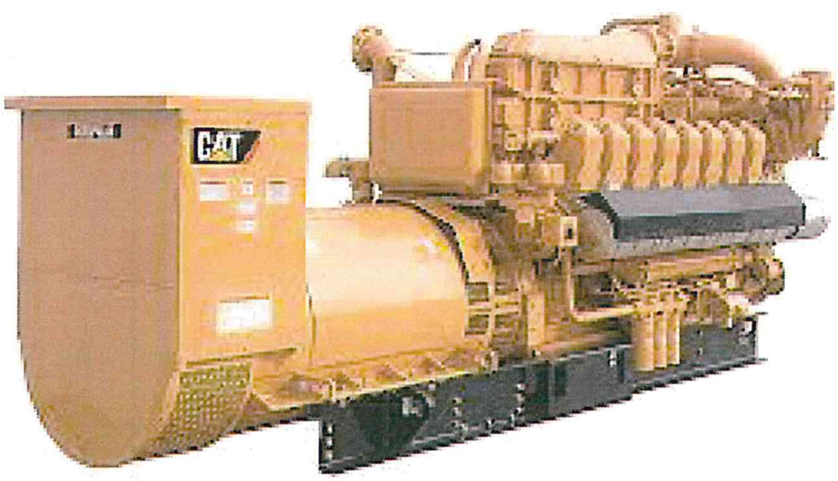
Below is a schematic for a pyrolysis gasification plant and a picture of the same plant with components identified. Please note that the natural gas supply is only required for initial start-up. The diagram shows the use of gas turbines as driver for the electric generators but most waste to energy plants use internal combustion engines because the size of these waste to energy plant modules is too small for the efficient use of a gas turbine.

Picture of a Standard Pyrolysis Gasification Unit



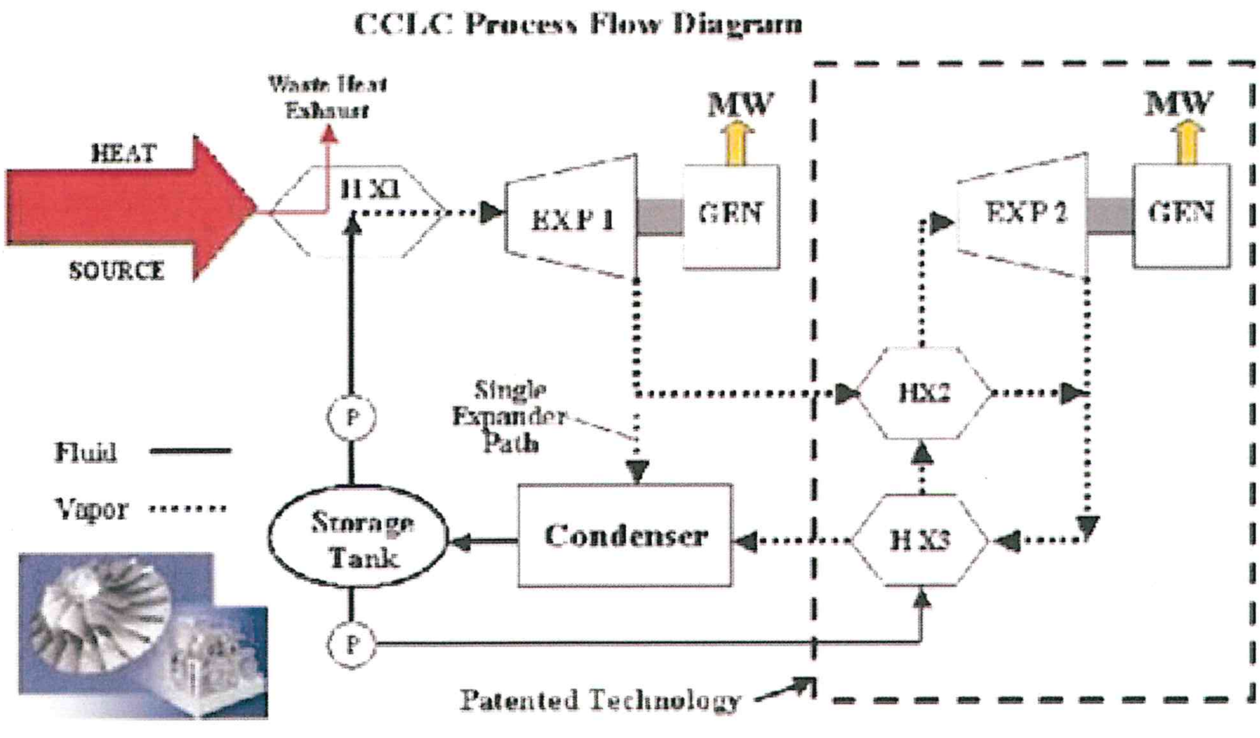
Caterpillar Gas Generator

Below is a picture of a Caterpillar gas generator set similar to the one normally used to date Enervoxa 's gasification plants. This generator set may soon be replaced with new more efficient and less costly generator set developed with two partnership companies and this will increase the electricity output to a much higher level.



Waste heat recovery and secondary generation system

The primary WTE plant converts forty percent of the heat produced by the pyrolysis combustion of waste into electricity. This means that sixty percent of the heat is wasted. Enervoxa solves part of this problem by using a secondary heat recovery and conversion system to raise the total generation efficiency of between fifty to sixty percent depending on the generators used.



This system uses process that captures heat from several sources: 1) heat from the flue stack; 2) heat from the gas engines' radiators and 3) heat from the gas engines' exhaust gases. It then converts this heat into additional electricity using the system shown in the schematic below. Under ideal conditions, this increases the electricity generated by 2.6 MW from each 10.5 MW producing by Caterpillar Gas Generator.

Thus, in comparison with the best competing WTE process, the Enervoxa pyrolysis gasification system is twenty seven percent more efficient than other pyrolysis gasification systems and one hundred percent more efficient than traditional mass burn systems.

Thermodynamically, one of the most efficient ways to convert thermal energy (heat) to mechanical energy is with an Organic Rankine Cycle (ORC). Steam Turbine plants are one of the most common and well-known ORC cycles, as shown in the CCLC Process Flow Diagram shown above. In these cycles, the discharge from the expander (EXP 1) goes directly to the condenser as shown by the small dotted arrow entering the condenser, rather than being directed to the HX2 heat exchanger.

Cascading closed loop cycle (CCLC) power plant - ORC cycles are closed-loop cycles involving five (5) major steps: a) fluid (water, propane, ammonia, Freon, etc.) is pumped

(P) to pressure; b) the pressurized fluid is vaporized in a heat exchanger (HK) using a heat source; c) the pressurized vapor is expanded across the turbine (EXP) which is connected to a compressor, generator or pump to produce useful work.; d) the vapor discharged from the turbine is condensed back to a liquid using a cooling tower or fin-fan heat exchanger and condenser; e) the condensed liquid is returned to a storage tank from which it is pumped back to pressure to continuously repeat the cycle in a closed loop. The CCLC system is simply a combined cycle turbo-expander system. The difference between a CCLC cycle and a single turbo-expander cycle is that two expanders and two fluid streams are used in series as shown in the rectangular dashed window of the CCLC Process Flow Diagram above. This allows the thermal energy (heat) from the discharge of the first expander to be used to vaporize a second propane stream that is expanded in a second turbo-expander to increase the efficiency as shown in the heat recovery.