

Waste Plastics to Fuel : Process brief

The System

The system will consist of three separate skids. One skid will contain the forced circulation evaporator and catalytic conversion reactor, Catalytic converters etc; the second skid will include the condensers and collection systems, exhaust gas scrubbers, and the third will consist of Gas Engine Generators. Additional small skids may be provided, based on the detailed engineering of the system and space requirements for the equipment. The system will function as follows:



Process brief

The waste plastics are shredded and conveyed into a hopper. The plastics are then heated inside an extruder where the plastics melt into a liquid mass. The molten plastic mass is pumped into the reactors where the molten plastic is converted into a vapour phase. The vapours exit into a catalytic converter. The catalytic converter converts the heavy hydrocarbon chains into lighter hydrocarbon chains. The lighter hydrocarbon chains of vapour will then pass into a condenser where the lighter ends are condensed and collected into the storage tank as petrol or gas oil., The uncondensed LPG gas is pumped to a receiver and from the receiver, the same is pumped to the burners in the TF boilers to act as fuel.

The coal residue and solids will flow by gravity to the residual conveyor and the powdery residue is pumped into a collection bin for further disposal and re-packing.

Heat to the entire system will be supplied by a proprietary heating system which uses electricity as a source of energy.

For complete process details send mail to: info@stepsenergy.net