SOURCES OF WASTE PRODUCTS

Organic waste materials have been found as good energy sources. The most abundant waste materials containing organic solids are manure (animal waste), sewage and municipal wastes, and agricultural wastes. The largest portion of this waste is manure and other agricultural wastes. Municipal wastes and industrial waste also constitutes a significant portion.

Animal Waste

Cow dung, urine faeces are various forms of animal waste from which energy can be derived. These form manure which may be fresh excretement including both solid and liquid portion or total excretement but with enough bedding added to absorb the liquid portion or the remaining part of the total excretement after most of the liquid has been drained. The important point is at most of the values given for manure or animal waste include water ranging from small percentage to about 85%. When evaluating these materials as energy sources, the water must be excluded.

The quantity of wastes produced by animals depends upon the type of animal, its size, its feed and the environmental condition it lives in.

Agricultural Crop Waste

The generation of field wastes by major agricultural crops is high. Rice hull, maize cob, coconut shell, wood wastes are examples of agricultural wastes from which energy can be tapped. Also included in agricultural wastes are crop and crop residues and waste from foremost products.

The plant residue either in the form of crop residue or forest product residue act as raw materials for pyrolysis, torrefaction and gasification processes.

Sewage and Municipal Waste

Sewage and municipal waste arise usually in any human environment and they have long been considered to a limited extent, as a source of energy. Sewage is essentially a liquid waste, while municipal and industrial wastes are solid wastes.

Solid wastes from households and industrial is a much larger energy potential source than sewage because of its greater variations in composition. The sewage and municipal waste therefore a constitute a problem to the community for which a method of disposal must be evolved. Thus energy that can be extracted from them economically therefore represent costs savings.

Organic materials in sewage include human wastes, paper and food scraps.

Industrial Wastes

Industrial wastes are any materials discarded from industrial operations. These include processing, packaging, shipping, office and other wastes. Since industries vary so much in the type and quantity of materials handled and processed. The composition of the wastes from one industry may be entirely different from that of another. Sludges, waste plastic, rags, papers and cardboard, scrap metals, slag, rubber, ceramics etc may be in the waste from a single industrial operation.