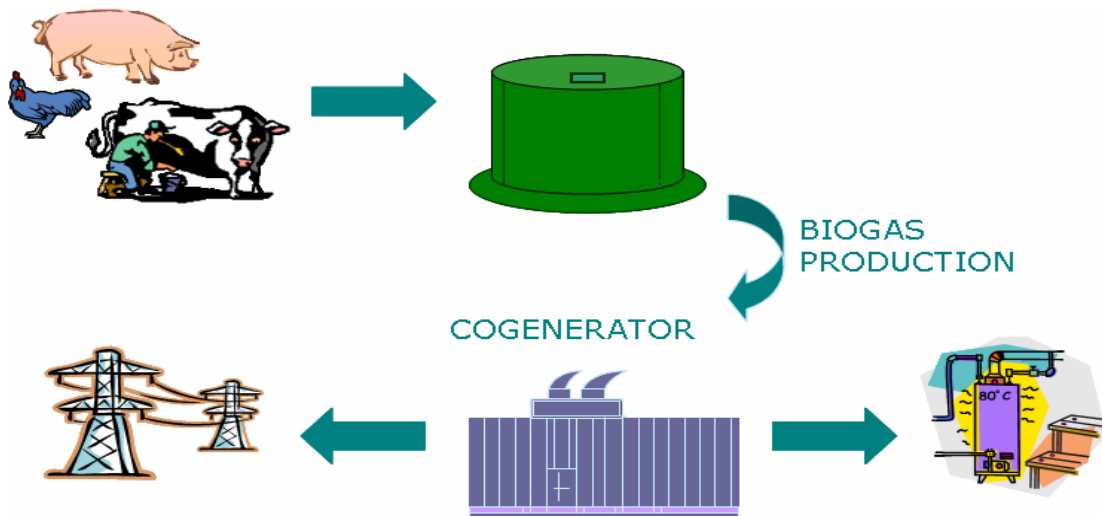


'ENERGY FROM WASTE — ANEROBIC DIGESTION

Colloide specialize in operation, design and control of biogas plants, though anaerobic digestion of organic waste and biomass with electrical energy and heat production



TYPES OF BIOMASS

- Organic waste from food farming industry (mais, fruits ...) and animal husbandry (butchering and meat manufacturing)
- Industrial organic waste (for example from pharmaceutical fermentation)
- Primary and biological sludge
- Organic fraction of municipal waste

- Creation of methane for heat production
- Reduction of CO₂ emissions
- Nitrogen removal from digested sludge allows solids to be spread on land

WHY PRODUCE BIOGAS?

- Green Certificate for renewable electric energy production
- Reduction in disposal of solids

ANAEROBIC DIGESTION: THE PROCESS

Colloide along with their process partner Austep provide a complete turn key plant. At the heart of the process is anaerobic digestion which consists of degradation of organic substance by micro-organisms in anaerobic conditions.

Biomasses are composed by organic material. In anaerobic fermentation micro-organisms digest





Fig 1. SBR Plant

biomass, producing biogas (methane), so electric energy and heat can be produced through co-generation.

Thanks to the special technologies applied, the natural biological process of anaerobic digestion is maximized both for energy recovery and for the residual solids stabilization.

The main process parameter in the design of an anaerobic digestion is SRT (solid retention time). It has to be sufficient to provide a good removal degree of the volatile compounds, in a complete mixed reactor.

During degradation in anaerobic conditions biogas is produced, mainly composed by methane.

The anaerobic treatment is advantageous because no energy is requested, on the contrary it is produced. Methane in fact can be utilised in co-generator for the production of electric energy and heat.

Moreover, the digestion process allows the stabilization of organic substance, so the sludge is suitable for land spreading.

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