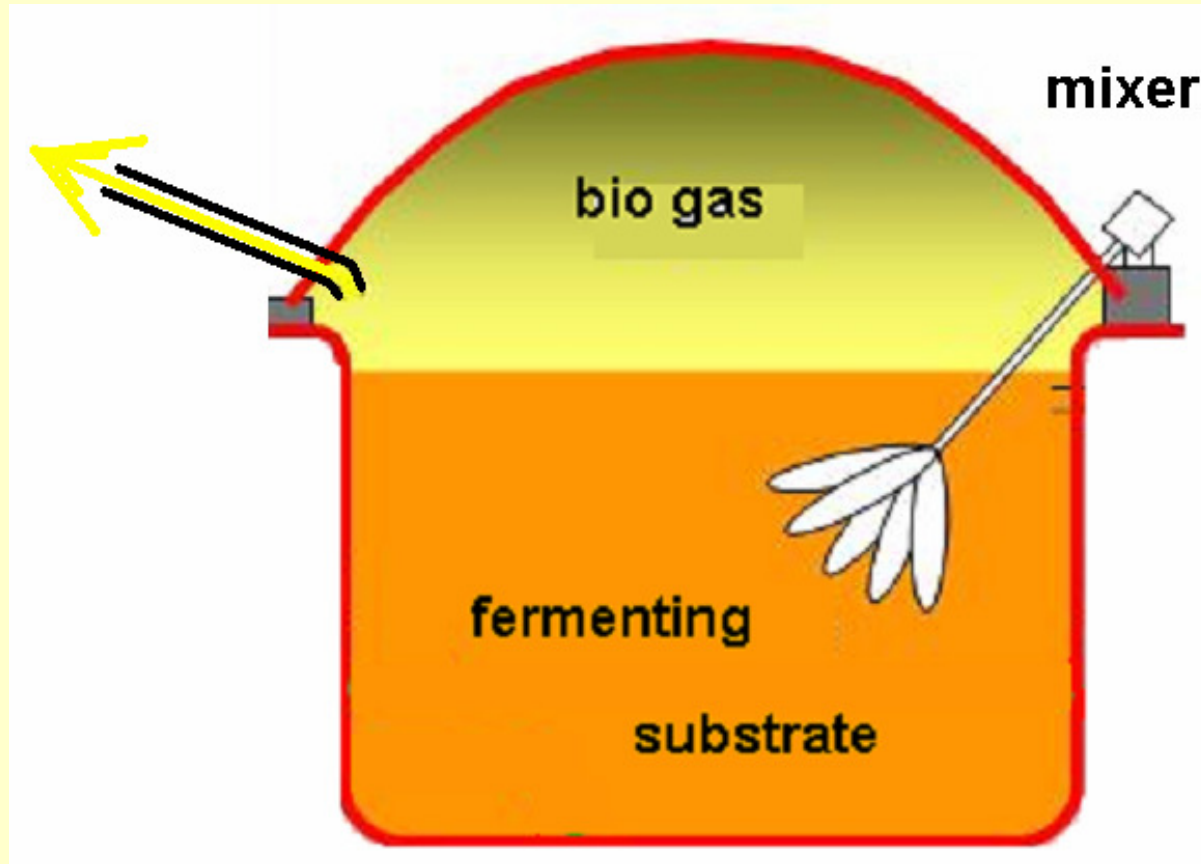


What is biogas?

- Biogas is a combustible mixture of gases produced by micro-organisms when livestock manure and other biological wastes are allowed to ferment in the absence of air in closed containers.

a biofermenter is a big pot.

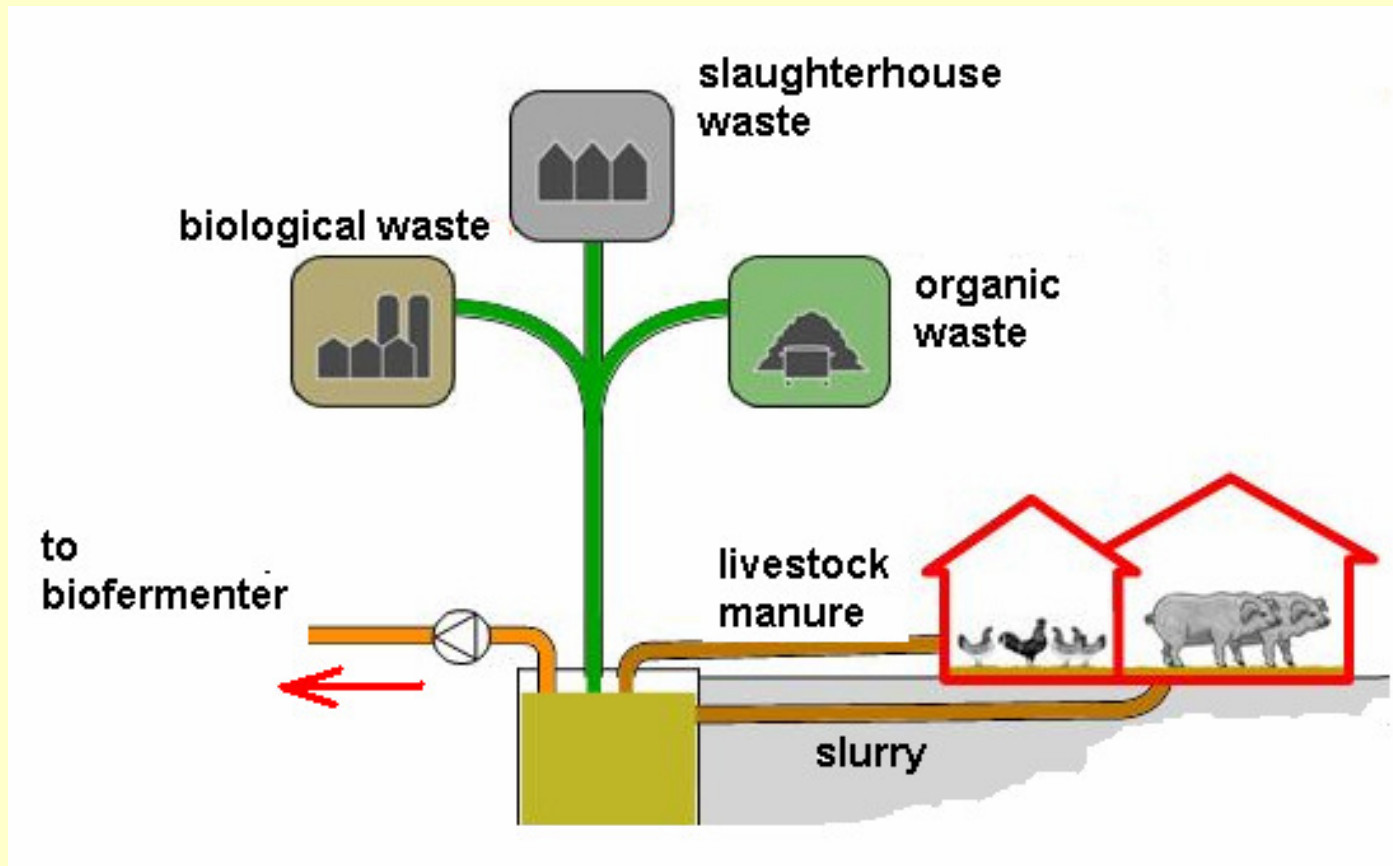


- The major constituents of biogas are **methane** 60%,
- and carbon dioxide 35%,
- and small amounts of **water vapour**, **hydrogen sulphide**, carbon monoxide, **nitrogen**.

The composition of biogas varies according to the biological material.

- The methane content of biogas produced from (slurry), chicken manure and wastewater from slaughterhouse sometimes could reach 70% or more, while that from stalk and straw of crops is about 55%.

Input: waste and slurry



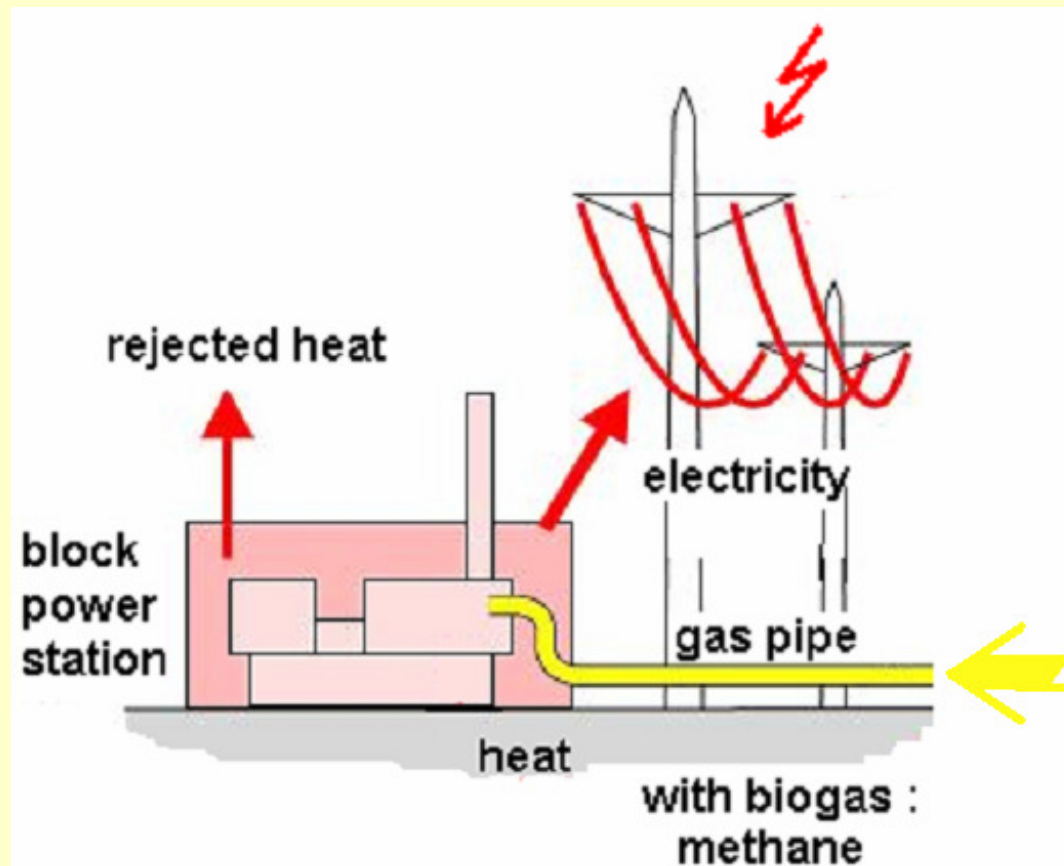
security aspects

- Methane, which is made up from biogas, forms explosive mixtures in air, the lower explosive limit being 5% methane and the upper limit 15% methane.
- No naked flames should be used in the vicinity of biofermenter and electrical equipment must be "explosion proof". No normal electrical switches, mobile phones and static electricity.
- As Anaerobic Digestion relies on a mixed population of bacteria of largely unknown origin. Care should be taken to avoid contact with the digester contents.
- The digestion process does reduce the number of pathogenic (disease causing) bacteria.

Output 1

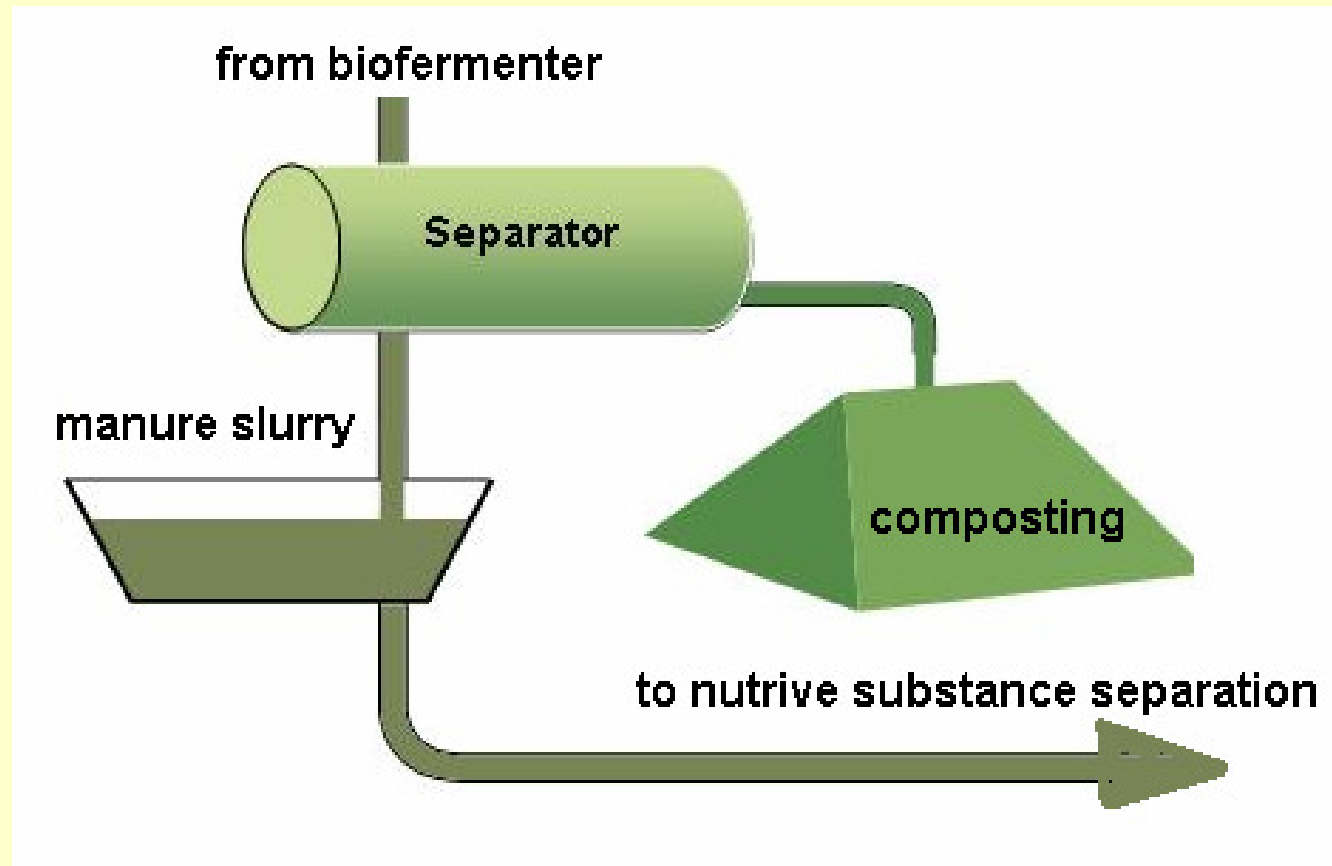
energy production

combined heat and power CHP



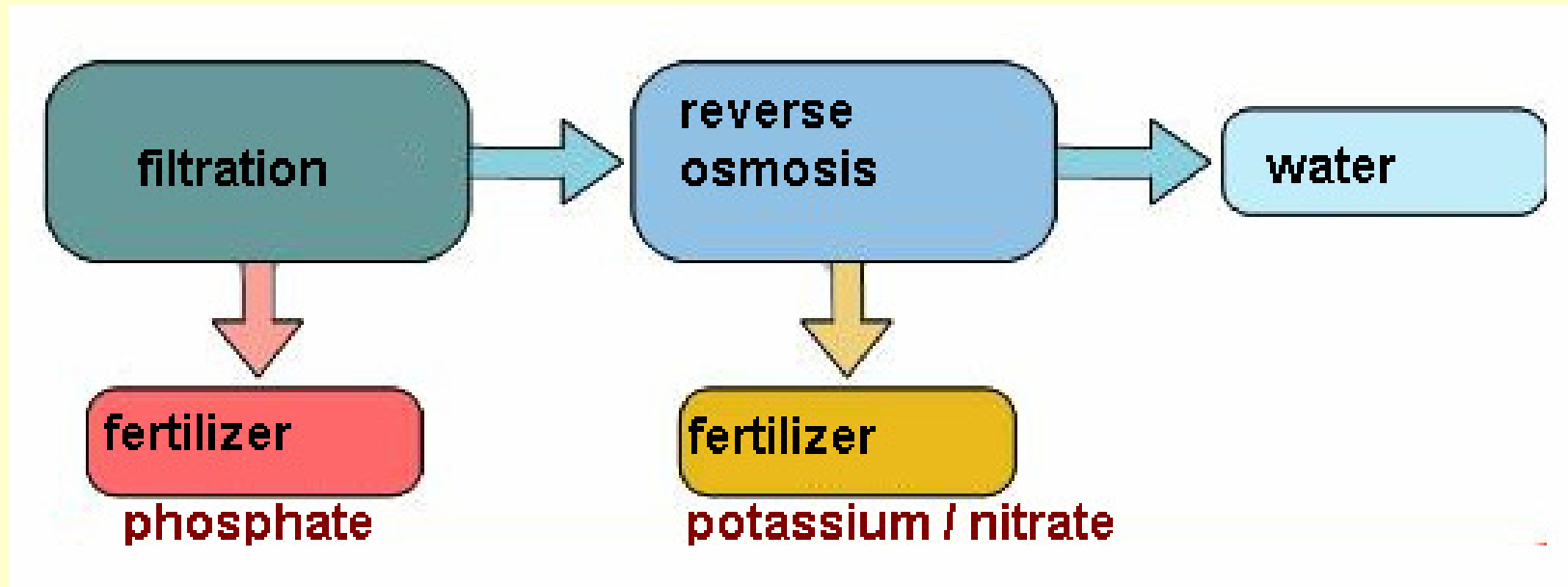
Output 2

rest from biofermenter



Output 3

nutritive substance separation



useful links

- <http://www.uasb.org/index.htm> is about Upflow Anaerobic Sludge Blanket digesters for dilute wastes.
- <http://www.biogas.ch/>
- <http://www.habmigern2003.info/biogas/Baron-digester/Baron-digester.htm>
- <http://www.methane-gas.com/>.

The whole production cycle

