**Input**

(From digester) Gas effluent leaving reactor (G\_in; scm)

Total heat required (H)

Operating pressure (P)

Digestate (Dig)

Outputs

**Output**

kWh

Electricity generation

Clean biogas ready for use/sale (G\_out)

Captured GHG (with composition of gases)

Bio-fertilizer (liquid, solid)

Bio-methane

Fuel for vehicles

Input:

G\_in, H, P

G\_out

Compressed Natural Gas

Liquefied Natural Gas

Digester

Biogas

(CH4, CO2, H2S, H2)

Captured GHG

Carbon Dioxide

Bio-fertilizer

Liquid mineral fertilizer

Solid soil amendment

Liquid

Digestate

Bio-fertilizer

Input:

Dig, H, P

Solid

\* Biogas: the constituents are respectively **50% -60% of methane CH4 and 35% -45% of carbon dioxide CO2**. It also contains water vapor and gases such as hydrogen H2, hydrogen sulfide H2S, O2, CO, other contaminants.

\* Digestate: **85% to 90% of the initial substrate remains** on the exit from the digester.