

Biogas

The first candidate to expand the production chain is a biogas installation. Biogas is a mixture 25-35% CO₂ (carbon dioxide) and 65-75% CH₄ (methane).

Jatropha presscake is favorite feedstock of the methane producing bacteria.

Indeed, the presscake still contain oil, so because they still contains much energy, they can be converted into biogas by digestion in biogas tanks, together with other input materials such as dung, leaves, grass, etc.

Biogas is the product of the **fermentation of biomass** and this fermentation is the degradation of wet biomass by microorganism, at low temperature and without the presence of oxygen.

In order to be used as a transport fuel, the biogas should be upgraded to a 98% methane content. If that is the case, it can be used in an industrial gas engine.

Biogas processing with the use water

For example a 160 KW biogas installation will need some 30 m³ water per day. To produce biogas, presscakes have to be mixed with water, but only a small part of the water is consumed in the process. So the waste water from biogas installation can be used as an excellent fertilizer when used for irrigation.

Moreover this waste water can be used for new processing of feedstock and the annual need of water need can be limited. (recycle)

The seedcake contains nitrogen and can be used as fertilizer even after it has been used in biogas production, as it will still contain nutrient and mineral (FACT 2006).

Hence after the biogas production, the presscakes remain a good organic degassed fertilizer, thereby being a substitute for chemical fertilizers or cow dung.