

Contact:

Independent Institute for Environmental Issues (UfU)

German Office:
Greifswalder Str. 4
10405 Berlin, Germany
fabian.stolpe@ufu.de
www.ufu.de

Hanoi Office:
VINACOMIN Tower
Room 1102, 11th Floor
03 Duong Dinh Nghe,
Yen Hoa, Cau Giay, Hanoi, VN

BIOGAS



Sorghum bicolor (Christian Fischer, CC BY-SA 3.0) Bioogas plant (DALIBRI, CC BY-SA 3.0)

BIOGAS

Anaerobic digestion produces biogas due to the microbiological degradation of organic residues such as biowaste and foodstuffs or special cultivated plants. The composition of the biogas is different depending on the substrate composition of the feedstock and the mode of operation of the fermenter. On average two-thirds of biogas consists of methane (CH₄). The aim of the fermentation process is to achieve the highest possible yield.

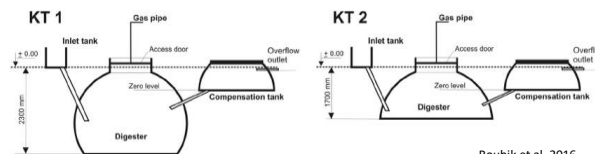
ENERGY CROPS FOR BIOGAS IN VIETNAM?

For the vietnamese biogas production, sorghum bicolor und *Pennisetum purpureum* cv. VA06 are most important. *Sorghum bicolor* is an annual C4 grass and belongs to the sweet grasses. Its sugar content in the fresh matter is about 8.8%. Sucrose, glucose and fructose are directly fermentable, so that no breakdown of starch into sugar is necessary with sorghum bicolor, which facilitates processing into biofuel.

The hybridgrass VA06 is a Vietnamese breed from the grasses *Pennisetum americanum* and *Pennisetum purpureum*. It is popular among Vietnamese farmers as a feed grass and is grown extensively.

TECHNOLOGIE FOR BIOGAS PLANTS IN VIETNAM

In Vietnam more than 200.000 small-scale plants and a few medium to large-scale plants can be found. Among the small-scale bio gas plants, the KT1- and KT2-type are predominant. On a household base the volume of digesters ranges from 6-12 m³.



Roubik et al. 2016.

APPLICATIONS OF BIOGAS

Biogas can be used for cooking, heating and the production of light. The following picture gives an overview over a possible small-scale production and use scenario for biogas made of bioenergy crops that are growable in Vietnam:

