



Biogas Production in Local Communities in Jordan

Project Information

- Project duration:
Jan. 2015 to March 2018
- Installation of a **Biogas Lab** in the premises of German Jordanian University in Amman, Jordan, implementing standardized testing process are to determine the Biogas potential of different substrates.
- Installation of a **biogas pilot plant** on a local farm in the Southern part of the Jordan valley, around 320 m below sea level. The plant is powered with solar energy and operated with agricultural waste from a local farmer. The regional interest in the pilot plant is high.
- Implementation of an **online inventory** to share biogas potential values.

BioREEED is an EU Funded Project.

Reference: EuropeAid/136101/ID/ACT/JO

Contracting Authority:

Ministry of Energy and Mineral Resources,
Jordan

Project Partners:

- ◇ German Jordanian University (GJU),
Amman, Jordan (Coordinator)
- ◇ Hamburg University of Technology
(TUHH), Hamburg, Germany

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Main Project Results



The AMPTS

The Biogas Laboratory

Standardized processes have been defined to determine the biogas potential of substrates in Jordan, covering the whole process from taking samples, conservation, transport, and treatment of samples until analysis and evaluation of the biogas production from the samples. They base on internationally recognized norms like VDI 4630 that are adapted for local use. At German Jordanian University in Amman, a **biogas laboratory** is established using the **Automatic Methane Potential Test System (AMPTS II)** as well as a **climate room**.



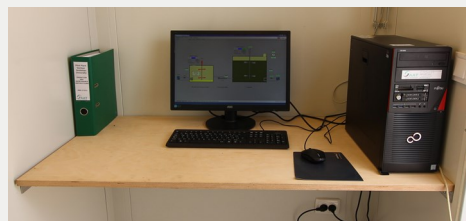
The Climate Room



The Pilot Plant with its Container

The Pilot Plant

The pilot plant mainly consists of a 2000 L digester for the anaerobic digestion. A 3kW electric heater maintain the digester temperature between 37.5°-38.5° C. A 0.75kW vertical agitator to establish homogeneity of the mixture inside. A 550L buffer tank is used as organic substrate storage and it's equipped with a 0.38kW vertical agitator for mixing the substrate before and while being pumped. The 0.55 kW pump station moves organic substrate from the buffer tank to the digester. The produced biogas is measured using a mechanical gas counter. The control unit for monitoring, controlling and logging the operation of the pilot plant can equally be accessed remotely.



The Control System of the Pilot Plant



Buffer Tank (front) and Digester (back)

The Biogas Inventory

The Biogas Inventory allows for sharing results of biogas potential tests of different substrates. Measurement results of the current project will be made available with the interested public. Other labs are invited to use the inventory to equally share their results.

Show Measurement Results

Specification of the Test Type:
Please select the test type from the list:

Substrate:
Please specify the name of the substrate. The name can be up to 250 character.

Test Information:
Please enter the general information regarding the test:
testing institute:
innoculum used:

Publication:
Please select the publication:

Retrieval of Results:
How do you want to retrieve the data?
 download a csv file with results
 see the results on a webpage

The Search Mask of the Inventory