



## Market Creation for small-scale Biogas Systems (MacBioS)



### Challenge

As most Small Island Developing States Grenada is almost fully dependent on fossil fuel imports. However, Grenada is committed to increase the share of renewable energy in its energy mix, and therefore reduce its CO<sub>2</sub> emissions.

Agriculture is one of the main economic sectors of Grenada and farming plays a crucial role for the population's food supply. Currently organic waste from farming, livestock and beverage production is mainly dumped in watercourses or burned on site. These unsustainable waste management practices adversely affect sensitive ecosystems and their services. Biogas systems use this organic waste to produce biogas and bio-fertilizer. However, there are several obstacles for the dissemination of decentralized, small-scale biogas solutions like the availability of high quality systems, the expertise for installation, operation and maintenance, and the access to finance.

### Objective

The objective is to create an enabling environment for biogas technology as a sustainable waste management practice while reducing the dependence on imports such as LPG and chemical fertilizer.

### Partners

The pilot project "Market Creation for small-scale Biogas Systems" (MacBioS) is jointly implemented by the Ministry of Infrastructure Development, Public Utilities, Energy, Transport and Implementation, the Ministry of Agriculture and Lands, the German biogas technology supplier ÖKOBIT, and the German Agency for International Cooperation (GIZ). MacBioS is part of the project "Reform of the Electricity Sector to Support Climate Policy in Grenada" (G-RESCP), which is funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) within the International Climate Initiative (IKI) and implemented in cooperation with the Ministry of Infrastructure Development, Public Utilities, Energy, Transport and Implementation.



## Approach

The MacBioS project focusses on Grenada's potential for small-scale biogas systems. By utilizing energy from agricultural waste, farmers and agro-processors can replace diesel and LPG with the produced biogas, and chemical fertilizers by organic fertilizer. This reduces the cost for agricultural production and makes Grenada's agriculture sector more competitive locally and internationally. Furthermore, the energetic use of biomass will lower CO<sub>2</sub> emissions, introduce sustainable waste management practices and protect groundwater resources as well as coastal ecosystems (e.g. coral reef and mangroves), which are an important buffer zone to protect against storm surges.

Within the project, ten pilot small-scale biogas systems are installed in Grenada by local partners. The performance of these pilot systems will be monitored and assessed. The installations and performance monitoring will be accompanied by capacity building and institutional development activities. This will ensure sustainable operation of the systems and create the enabling environment for biogas technology dissemination in general. In cooperation with a local vocational training partner, operation manuals and training course materials will be developed. Finally, through cooperation with financial institutions, the development of a financing mechanism for small-scale biogas systems will be facilitated. This will help to ease access to finance for farmers and agro-processors.

## Achievements

Through the MacBioS project substantial support for the market creation for small scale biogas systems has been given to the country of Grenada. This includes the installation of seven "HoMethan" biogas digesters on the islands of Grenada and Carriacou through trained local installation crews. Intensive trainings as well as joined installations and capacity building, including for a local service partner, have helped to build a sound base of knowledge and interest about small scale biogas systems among the existing and potential users of such systems in Grenada. Key financial institutions that are able to support the MacBioS project have been identified and contacted. Outside of the project, an additional four system have already been installed on a commercial basis.

## Contact

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