

FACTSHEET

Development of research capacities and demonstration of technologies for the use of biomass potentials in Togo



RATIONALE

In Togo, despite the government's efforts to supply the country with energy, access to electricity remains low with a rate of 40% in 2018 at national level and less than 10% in rural areas. Togo therefore faces enormous challenges with regard to achieving the objectives of universal access to electricity by 2030 as defined by the global initiative for "sustainable energy for all. (SE4ALL) ”.

In the framework of implementing a pilot project for the development of renewable energies, the Federal Ministry of Education and Research (BMBF) –Germany has commissioned a feasibility study in Togo. The feasibility study has shown that Togo has a very important deposit, including biomass, for the development of renewable energies. But the development of renewable energies based on the efficient use of biomass remains at its early stage and faces a major challenge, that of mastering technologies relevant to this sector.

To meet this challenge, Togo has benefited through WASCAL a financial support from BMBF for the implementation of the project entitled "Development of research capacities and demonstrations of technologies for the use of the biomass potentials in Togo- LABTOGO", the first axis of the "Program for the development of renewable energies in Togo".



PROJECT GOAL

Research and develop technologies for the use of biomass potentials in Togo to promote efficient and healthy bioenergy use.

PROJECT OBJECTIVES

- Analysis of biomass potentials. Construct and commission a pilot laboratory to demonstrate innovative technologies for biogas production in the University of Lomé;
- Develop advanced and low-cost cooking technology (improved stoves with energy efficient materials) using available biomass; and
- Research and capacity building for actors and professionals from West African sub-region.

EXPECTED OUTPUT

- Comprehensive data base on biomass potentials.
- A pilot laboratory to demonstrate innovative technologies for biogas production constructed and commissioned
- Stoves of low-cost cooking technology developed and adopted
- Research on the quality of available biomass in terms of calorific potentials and ash content are conducted
- Contribution to Nationally determined contributions (NDCs) in Togo is achieved
- Capacities of stakeholders in West Africa strengthened on biogas production technologies
- At least two master and two PhD students, and other stakeholders trained in bioenergy.

MAIN WORK PACKAGES (WP)

5.1. Work Package 1 (Analysis of the Potential System Contribution of Biogenic Resources)

The activities in WP 1 include:

- Screening and analysis of land use changes;
- Assessment of Greenhouse gases (environmental impact);
- Evaluation of satellite image data as well as the Geographic information system (GIS)-based analysis of local primary data (biogenic residues from agriculture, food processing and municipal wastes) and annual agricultural land use;
- Identification and mapping of preferential regions for the construction of biogas plant.



5.2. Work Package 2 (Construction and Commissioning of a Biogas Laboratory as well as Corresponding Training Courses)

- Construction of a pilot biogas laboratory for the demonstration of innovative biogas production technologies.
 - The biogas laboratory enables the characterization of substrates and the evaluation of process optimizations and analysis of biogas.
- 5.3. Training- knowledge transfer: One-month training of three technicians from the University of Lomé (UL) on different laboratory techniques at German biomass research centre (DBFZ).
- Several in-depth workshops for sustainable transfer of both technical methods and theoretical topics at the UL.
 - LabTogo will serve as a hub to train students, professionals in West Africa in the operation of biogas plants with regard to the basic parameters.

5.4. Work package 3: Development of a pyrolysis cooker and its evaluation

Development of an advanced and low-cost firing technology for the provision of process heat for cooking, which can be operated with specific biomass.

PROJECT DURATION

01.01.2020 – 31.12.2023

FUNDER & PARTNERS OF THE PROJECT

PROJECT FUNDER : BMBF

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PROJECT PARTNERS

