

# Capacity Development in Renewable Energy Policy and Mapping in Belize

## Background

A significant portion of energy used in Belize comes from imported resources, with Mexico supplying about 40% of the electricity consumed in the country. The main utility, Belize Electricity Ltd. (BEL) is able to meet the peak demand and provide access to electricity to more than 85% of the population. Nonetheless, the country spends one-third of its foreign exchange earnings on imported fuels and has a very high electricity tariff for end users.

In order to address these challenges, the Government of Belize set out a goal to reduce the imported electricity and substitute it with domestically produced electricity mainly from renewable energy resources. The Ministry of Public Service, Energy and Public Utilities (MPSEPU) has devised a **five-year Strategic Plan (2012–2017) in order to transform the country into a low-carbon economy by 2033**. The plan includes ambitious goals, such as reducing the country's imported fuels by 50% by 2020 and collecting and assessing countrywide data on solar, wind and hydro potential in order to increase electricity generation capacity and eventually become a net exporter. Furthermore, the Strategic Plan also has concrete targets to achieve universal electricity access for the remaining 15% of the population without access by 2033.

One of the major barriers to achieving these goals is the limited technical capacity available in the country. In addition to that, there is also no clear mapping of available renewable energy resources to move forward with the expansion of the domestic power production capacity.

Therefore, MPSEPU requested technical assistance from the EUEI PDF to facilitate the effective implementation of the Strategic Plan.

Country	Belize
Project Partner	Ministry of Public Service, Energy and Public Utilities (MPSEPU)
Project Manager	Benjamin Attigah, Silvia Escudero
Term	September 2015 – August 2016

## Objectives

The overall purpose of the technical assistance was to **enhance the capacity of MPSEPU in order to assist in the development of an effective policy and strategy framework for renewable energy** and ensure the successful implementation of the 11<sup>th</sup> European Development Fund of €13.5 million to the energy sector in Belize, which will be disbursed in 2017. The specific objectives of the project were to:

- ▶ enhance **institutional capacity and energy governance** to improve planning in the field of sustainable energy;
- ▶ strengthen **workforce capacity** in the energy sector;
- ▶ support the **mapping of natural resources for renewable energy generation** in Belize;
- ▶ prepare a strategy for **providing modern energy carriers to rural communities** in Belize;
- ▶ strengthen the **policy and regulatory framework** with regard to energy.

## Activities

The technical assistance provided by the EUEI PDF comprised of five main activities, each targeted to meet the identified objectives:

- ▶ **Activity 1:** Setting up of energy governance arrangements and processes by assisting in the establishment of an inter-ministerial energy steering body (during the project defined as “Energy Council”) with associated working groups.
- ▶ **Activity 2:** Identifying technical and professional skills required for the development of the energy sector and developing a list of priority training areas.
- ▶ **Activity 3:** Reviewing of the existing energy mapping and specifying needs for further mapping.





- ▶ **Activity 4:** Development of an Off-grid Rural Electrification Assessment and Strategy for the provision of modern electricity using renewable energy sources to rural communities in Belize.
- ▶ **Activity 5:** Reviewing of renewable energy policies and strategies in order to support the establishment of a sustainable energy roadmap (strategy and work plan) for Belize including preliminary cost estimates for the implementation of the work plan.

The technical assistance began with an inception mission for initial data collection and to inform key stakeholders of the overall project. Four additional in-country missions were completed over the course of the year for further qualitative and quantitative data collection, interviews and stakeholder consultations to inform the assessment process of all activities.



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## Results

The technical assistance provided met the defined objectives. The EUEI PDF:

- ▶ **Supported the preparation and setting up of the Belize Energy Council**, an inter-ministerial governance body that will be coordinated by MPSEPU and responsible for guiding the implementation of the Belize 2030 Sustainable Energy Roadmap. The EUEI PDF assisted in **defining the mandate of the Council and drafted the rules of procedure** in order to help develop an effective energy governance structure. The proposed working groups were already formed in 2016 and will be in charge of preparing the first meeting of the Energy Council.
- ▶ **Assessed existing and future workforce capacity and training needs in the renewable energy sector**; and developed a recommended **capacity development plan for Belize**, which incorporates short and medium-term actionable steps.
- ▶ Developed a **strategy for continuous renewable energy resource mapping** and provided recommendations on primary data collection and management to enable MPSEPU to make informed decisions regarding national energy targets and policies.
- ▶ Developed an **Off-grid Rural Electrification Assessment and Strategy** to address challenges of expanding electricity access to unserved and underserved rural communities in Belize. The strategy included a **social and economic impact assessment, identified the appropriate technologies, and outlined the necessary level of training and education in rural communities**. It has served as the basis for the construction of the first micro-grid in Belize which provides solar power for the municipality of La Gracia.
- ▶ Prepared an updated Sustainable Energy Roadmap including **Sustainable Energy Targets**, recommended **Sustainable Energy Technology Screening Criteria** and **recommendations for technologies and a further roadmapping process** in Belize.

The **Partnership Dialogue Facility (EUEI PDF)** currently receives contributions from the European Commission, Austria, Finland, Germany, Italy, the Netherlands and Sweden.



For more information,  
please contact:

EU Energy Initiative  
Partnership Dialogue Facility  
(EUEI PDF)

c/o Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH  
P.O. Box 5180  
65726 Eschborn, Germany

T +49 (0) 61 96 79-7024  
E info@euei-pdf.org  
I www.euei-pdf.org

February 2017

