Lessons Learned Case Studies

Cabeólica São Vicente Wind Farm, Cape Verde

Source: Cabeólica S.A.

Madagascar

LESSONS LEARNED CASE STUDY

Source: African Development Bank

THE PROJECT

- The Project was completed in 2008 and is located in the Sahanivotry region of Madagascar. It is a small hydro project with an installed capacity of 15 MW. The project is the first privately owned and operated hydro-electric power plant in the country and the first such facility to be built since 1982.
- The objective is to reinforce and supplement the electricity production by JIRAMA, the local public utility, which is in charge of the production and distribution of electricity in Madagascar.
- The construction and operation of this plant will partially or totally reduce reliance on the thermal power plants in the region. The Sahanivotry Project is now producing 10% of the island's total supply of electricity.
- Additionally, the project serves to advance rural electrification and improve social services.
- Moreover, the project has a very positive impact on the regional economy, industrial activities, handicrafts (artisan) and tourism. The implementation of the project has also created jobs, helping to improve the living conditions of the surrounding area.
- The Sahanivotry Project has the right to sell carbon credits through the Clean Development Mechanism (CDM). It was the first registered CDM project in Madagascar.

PUBLIC-PRIVATE PARTICIPANTS

Public Sector:

- JIRAMA, public utility
- Ministry of Land and Water of Madagascar
- Ministry of Energy of Madagascar

Private Sector:

- Hydelec Madagascar S.A.

LESSONS LEARNED

Energy Policies

- As Madagascar has no feed-in tariffs, a PPA was negotiated between Hydelec Madagascar and JIRAMA. The PPA defines the terms under which Hydelec Madagascar will sell the generated electricity to JIRAMA for a 10-year period. However, the project is implemented under a 30-year concession agreement.
- Amendments were made to reach the financial close and speed up implementation of the project

Financing

- The project financing is based on a 30-70% equity-debt ratio. The African Development Bank (AfDB) provided about half the €13 million to build the plant, and the balance came from local banks and Hydelec Madagascar.
- Moreover, the AfDB guided Hydelec Madagascar through the rigorous CDM registration and issuance process.
- The PPP greatly facilitated the concession and exploitation of water/land rights as well as distribution and transmission of electricity.
- No particular financial incentives were needed for the project as the costs of generating electricity from the project are far lower than the costs of generating power by operating thermal power plants in Madagascar.

Source: African Development Bank

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Replicability

- Replicability was an important issue from inception. The financial and technical implementation structure of the project was chosen accordingly.
- In fact, the Sahanivotry Project has already been replicated in some east African countries. A similar project in Uganda, for example, includes the Buseruka small hydropower plant (9 MW).

Long-Term Policy Framework

- Greenhouse gas (CO_2) emission reduction will help mitigate global climate change. Increased pollution levels from fossil fuels, on the other hand, would harm the local environment and public health, especially in the cities.
- In addition, fossil fuels need to be imported and put a heavy burden on the national economy, which is not sustainable in the longer term (the import of oil products already absorbs 1/3 of Madagascar's GDP). Unlike past practices, consumer tariffs in the future will reflect real generating costs and be high; hence, electrical energy would become unaffordable for large groups of the population if reliance on fossil fuels for power supply should persist.
- The government amended existing policy to enable Hydelec Madagascar to establish the transmission line according to the implementation time line. This will make it easier for future power projects to be implemented successfully.

CONCLUSIONS

- The private side has certainly ensured the financing of the project and reduced the heavy bill for fossil fuel utilized to produce electricity in Madagascar. Moreover, it has significantly facilitated the implementation and operation of the project. The public side worked hand in hand with its private partners, easing the permitting process, providing land and rights amending policies, and making sure that the transmission lines are in place upon the implementation of any power generation plant.
- The development of feed-in tariffs could help to further promote similar projects in Madagascar.
- Madagascar's potential for hydropower is generally recognized as very promising, and international institutions as well as the Government point in the direction of small-scale, decentralized systems with private participation for investment and operation.
- This implies modalities and business practices that are new in the context of rural energy supply in the country. Given the large distances on the island, the lack of employment opportunities in the rural areas and the rapid degradation of the environment, the development of the countryside is a priority, for which rural electrification for productive uses is a fundamental condition. The Agency for Rural Electrification (ADER) has carried out a study to assess promising sites for small hydropower. This project has secured a stable energy supply to the region, created additional jobs and enabled social development in the rural area. For example health, education services and living conditions have been considerably improved.

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Created in the wake of the 1992 Rio Summit, the Global Sustainable Electricity Partnership, formerly e_8, is a non-profit international organization, composed of the top world leading electricity companies, whose mission is to play an active role in the international debate on global electricity issues and to promote sustainable energy development through electricity sector projects and human capacity-building activities in developing and emerging nations worldwide.

For more information visit:
www.globalelectricity.org.

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UN-Energy was initiated as a mechanism to promote coherence within the United Nations family of organizations in the energy field and to develop increased collective engagement between the United Nations and other key external stakeholders. Its envisaged role was to increase the sharing of information, encourage and facilitate joint programming and develop action-oriented approaches to coordination. It was hoped that it would develop into a system-wide network open to all and a mechanism by which a range of organizational actors could work with the United Nations to ensure a more coherent approach to addressing energy issues.

For more information visit:
www.un-energy.org.

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