RENEWABLES IN AFRICA

Clean Energy Engineering Consultancy & Media Platform

OUR VISION: To transform Africa and African Lives by leveraging the Power of Renewable Energy.

CASE STUDY | 30 MW Solar Plant in Cameroon

The client, a young developer based in UK and Cameroon was envisaging to build a 30 MW Solar Plant in West Cameroon, close to Bangangte Town.
This project when delivered, will certainly be the first utility-scale project in the region and perhaps the country.

RiA was hired to conduct feasibilities studies and support the developer through the development phases.

LOCATION: Babou, West Cameroon
Size: 30 MW
Type: Grid-tied Solar PV Plant

RiA's work was split into 4 phases:

Screening

- The various analysis performed SCOPE, SWOT, Primo, etc were used to quickly understand the technical, regulatory and economic environment in the country. The main issue identified for the country was the political risk associated with elections in the country set for October 2018.
- No specific regulatory framework has been designed for solar projects but there were incentives in place to encourage IPPs and foreign investments.
- Initial screening of 3 site options were performed.

Assessment

- Analysis of satellite data have demonstrated that the region and different sites had enough solar resource (more than 5 kWh/m2/day) for the project to be viable.
- Sites technical assessments were performing analysing meteorological data, land characteristics and infrastructure available. From the 3 sites initially selected, 2 were deemed acceptable. A major concern at this point for the remaining sites was the distance to the grid. Two connections point were theoretically available but confirmation from the grid operator was needed to determine the most technically favourable case.
- The energy estimation, in this case more the 47 GWh, and an early environmental and socio-impact assessment was conducted to complete the assessment stage. No major obstacle was recorded.

Selection

- After the screening and assessment, which included multiple site visits, 2 sites were shortlisted and an early risk-cost analysis allowed us to select a preferred site, located in Babou village.

Pre-development

- Deeper technology evaluation, technical design assessment were performed to establish the best combinations to achieve good performances. Mono silicon panels and central inverters were chosen.
- Guiding the developer to kick start applications for the various permits and licences was essential as any official go-ahead will depend on acquisitions of these authorizations.
- Preliminary Economic and financial evaluation to determine viability a bankability of the project was conducted looking performance ratio (PR), Capacity of Utility factor (CUF) and LCOE. The values obtained pointed towards additional measures to take to improve bankability of the project.

Outputs: Feasibility Study Document including preliminary solar plant layout.

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