Project Preparation: Maximizing Financing Viability

A Private Sector Developer’s Perspective
5MW Solar PV at Kigoma, Tanzania

UNOPS Webinar
Co-hosted by SEforAll & Power Africa

NextGen Solar
Feb 28, 2017 Washington DC
About Us:

We are a Private Sector partner of US Government’s **Power Africa Initiative** - highlighted as an example of a successful US-Africa partnership at the Leadership Summit in Washington DC.

As a Renewable Energy developer, our focus is on building & operating utility scale solar PV power plants in Sub-Saharan Africa and Small Island Nations. We have already set up operations in Tanzania, Kenya, Uganda & Seychelles. We intend to:

- Provide access to clean, reliable energy, by setting up **200MW** of generation capacity via several solar power plants – 70 MW in Tanzania, 50 MW in Kenya, 35 MW in Ethiopia, 30 MW in Ghana and 15 MW in Nigeria, representing total investment of **$ 600 million**.

- Over the next 5 years, energy projects of NextGen Solar will not only increase access to electricity to **3.7 million** people, but also help in creating **431,000** incremental jobs in these countries.

- NextGen Solar aims to provide Power Africa countries with access to sector expertise in building **hybrid solutions**, by integrating legacy **diesel mini-grids** with modern **PV generation**.

- This investment strategy is expected to reduce the annual GHG emissions in these Power Africa countries by **300,000 tCO₂** emissions per year.

Setting the Stage:

- **“Viable” Project:**
  - Financial
  - Regulatory
  - Legal
  - Technological
  - Infrastructural

- Meeting the appetite of **“Financiers”**:
  - Financial
  - Project Risks
  - Environmental

- Investing in **“African Power”** market/sector:
  - Infrastructural
  - Macro-economic factors.
Our Project Model:

NextGen Solar (NGS) identified Tanzania to build and test the solar power plant model prior to scaling up to other utility scale, Main or Mini-Grid connected Solar PV power plants - in remote/rural, diesel-dependent areas of Sub-Saharan Africa and Small Island Nations.

- NGS has received a Provisional License to generate up to 40 MW of electricity in Tanzania, connected to several Isolated Mini-Grids. Each site will generate between 1-5 MW based on local demand, under the Power Africa Initiative.

- NGS will supply all power produced to the state-owned utility company TANESCO based on a long-term Power Purchase Agreement. The power will be sold at the Tariff formulated & published by the Regulator EWURA.

- The first 5MW demonstration plant is being set up at Kigoma, Tanzania. This is projected to save TANESCO over $1.2 million per annum.

- Project Financing has been committed from Overseas Private Investment Corporation (OPIC) and ElectriFI (EU) with project development assistance from USTDA, ACEF, ElectriFI and The World Bank.

- The project will electrify over 150,000 rural households, displacing vast quantities of diesel fuel and act as a catalyst for attracting manufacturing units to the area.
“Viable Project” - Solar PV for Tanzania:

- **Abundant solar radiation** – being in the solar belt, Tanzania receives between 7.7 – 9.6 hours of sunshine per day. Solar should be viewed as a valuable natural resource in Tanzania.

- Solar is very **scalable** – supply can be fine tuned to demand and increased in large or small steps, with short implementation timelines (weeks or months, instead of years).

- Solar will increase energy security by **adding to mix** of available energy sources.

- Solar plants can be **located close** to where the power is used, leading to significant system wide cost savings by eliminating the need to build costly transmission infrastructure and the resulting transmission losses.

- The cost of **imported oil** is projected to continue to increase over time – investments in Renewable Energy will decouple Tanzania from this uncertainty and volatility.
Solar Insolation Map:

Insolation: 5-6 kWh/m²/day
(2.5 times that of Europe)
“Viable Project” - Development/Preparation:

- Feasibility Studies
- Regulatory Assessment
- Company/SPV Incorporation
- Technical Feasibility
- Financial Model
- Land Availability & Lease
- Provisional License for Electricity Generation
- Tax Registration
- Grid Assessment
- EPC Selection
- Letter of Intent for Inter-connectivity
- Power Purchase Agreement (PPA)
- Equipment Selection
- Environment Impact Assessment
- CDM Registration
- Annual CERs certification

Can only now initiate Project Financing process with Financiers
Meeting the “Appetite” of the Financiers:

- **Financial:**
  - Revenue Uncertainty
  - Contractual
  - Delay/Non Payment by Off-Taker
  - Demand for Generation
  - Currency Convertibility
  - Currency Transfer Restriction

- **Technological:**
  - Equipment Failure
  - Intellectual Property Rights

- **Regulatory/Economic:**
  - Environmental
  - Exchange Rate Risk

- **Political:**
  - Expropriation/War/Civil Disturbance
The African Power Sector:

- **Infrastructural:**
  - Suppressed Demand – a “promise” in future
  - Non-uniform Standards
  - Transmission Infrastructure
  - Immediate Need
  - Mini-Grids & Main-Grid
  - Grid Instability

- **Heavy Reliance on Fossil Fuels:**
  - Cost of Generation
  - Fuel Shortages/Blackouts

- **Political Constraints:**
  - Subsidizing Electricity

- **Macro-Economic:**
  - FX & Inflation Rates
NextGen Solar has been designated as a Strategic Investor by the Kigoma Special Economic Zone as it is seen as catalyst for further economic development in the region.
Development Benefits – Kigoma Region

- Lake Tanganyika
- TANESCO Diesel
- NextGen Solawazi
Kigoma Solar Project – Key Metrics:

Name plate capacity: 5MW
Project cost: USD 12.5 million
Location: Plot No 242-255, Kigoma Special Economic Zone
Electricity generation: 8,800,000 kWh/year
Households benefit: 17,500
Expected life of project: 25 years
Project investor: NextGen Solawazi Limited
Financiers: ElectriFI, Diamond Trust Bank (short term), OPIC (long term)
EPC Contractor: Martifer Solar, Portugal
Owner’s Engineer: CEC&E, USA and EEI, Tanzania
Electricity supplied to: Kigoma mini-grid operated by TANESCO
Planned construction start: October 3, 2016
Planned completion date: April 15, 2017
Excited to know that electricity can be generated from the sun – and soon will be available for their school from NextGen Solawazi solar plant across their school.
Thank You!

Mayank Bhargava  
CEO & Founding Partner  
NextGen Solar  
info@nextgensolar.net

Kigoma 5MW site can be “seen” on Google maps/earth at:  
https://goo.gl/maps/9EpcRYwFMcP2