

# Information Teaser

## **20MW PV plant Simbrofo, Ghana**



August 2017

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## Executive summary

### Project Financials:

Total funding requirement:	<u>US\$30.155 million</u>
Long term debt secured via EPC	US\$20.155 million
Unsecured debt now required:	US\$10.000 million

Simbrofo in Ghana has a good natural sun resource, which makes solar PV a competitive and reliable source of clean, renewable energy. The project is situated in Gomoa, Simbrofo, in the eastern region of Ghana.

The Feed-In-Tariff of US\$0.0886 KWh has been agreed and will provide a solid revenue stream to the project with a 2.55 average debt service coverage ratio.

- We will build out the project with a capacity of 20MW with an annual power production of 60,500 MWh, based on top quality, reputable equipment suppliers and an experienced design and installation team to provide the reliable and long lasting productivity and plant availability. Life expectancy with planned maintenance will materially exceed 20 years.
- Projected CO<sub>2</sub> emission reduction of 480,000 tonnes over project lifecycle.
- We have secured a very favourable long term (12-year) loan of US\$20.155 million at 4.5%pa, provided by the Polish Government to support export of Polish companies such as EEC Spolka Z.O.O and our German EPC company Alpin Sun GmbH.
- We now wish to finalise the funding package with an unsecured project loan of US\$10.0 million and interested investors are now being sort.
- The project mathematics are showing an expected Internal Rate of Return (IRR) of 6.78 %%. and a Return on Investment (ROI) of 10.02%
- The United Nations Renewable Energy Performance Platform (REPP) have reviewed the project and provided their written commitment to partner and provide expert support as and when required.
- The United Kingdom Government Department of Trade and Industry are providing support to the project and action plans are in place.

We are confident we can deliver a very high quality project which will benefit both lenders and the Ghana partners of Simbrofo Light Ghana Ltd and Polish partner EEC Spolka Z.O.O.. It can become a valuable platform for developing additional projects in the future; three mirror projects are being prepared in the region to follow quickly on from a successful roll-out of the first Simbrofo project.

The project will not only provide a much-needed source of electricity to the national grid in Ghana but also the project principals have committed to a spend of up to US\$100k per year for the first two years from revenues to benefit local communities. Schools, electrification and irrigation are three of many hugely beneficial local targeted objectives as a by-product of this and other planned solar farms in the region.

## Project timelines

Indicative Implementation plan completed and future activities

- a) 2015 - Land Lease Agreement signed (300 acres): actual first project area 80 acres of unused fallow land, mostly savannah terrain
- b) October 2015 - SPV formation & Registration in Ghana - Simbrofo Light Ghana Ltd
- c) 2016 – Feasibility study completed by PTL Technologies
- d) October 2016 – UK holding company registered - Simbrofo Light Ghana Ltd UK Ltd (company number 10433076)
- e) December 2016 - Provisional License issued
- f) December 2016 – Initial funding of US\$21.3 million confirmed - Polish Government export financing scheme on behalf of Polish EPC
- g) September 2017 – target date to secure final US\$10 million debt commitment
- h) November 2017 - Hydrological survey and Topographical study and Change of Use report will be completed
- i) November 2017 - grid connection permit to the medium voltage lines and all the building permits, concessions or any other legal permits or decisions to be completed
- j) September 2017 - Final PPA expected; timing recently confirmed by government department
- k) October 2017 – Environmental Assessment (EIA) and pre-build technical work to be completed
- l) End November 2017 – Initiate clearing of land - Ditches for cabling & foundations
- m) November 2017 - Building of office structure at Simbrofo site
- n) May 2018 - Shipment of solar PV panels, Frames and inverters
- o) June 2018 - Equipment moved to site
- p) July 2017 - Installation of solar equipment - cables and Panels
- q) October 2018 - Test run of electricity production
- r) **November 2018 - Commissioning of plant.**

# Enhancement Document for 20MW Solar Power Plant Simbrofo in Ghana



Hydroponic food production



Small Solar Panels for homes



charging points for mobile phones

## Graduate Renewable Energy Course



Solar PV LED Street Lighting



Solar PV Water Pumps



New Schools



New University Technician Courses



Local Employment

## Enhancement - FREE Technology from Simbrofo Light Ghana Ltd

- Solar PV for Homes in villages
- Solar PV Water Pumps
- New Schools
- Solar PV LED Street Lighting
- Hydroponic Food production
- Local Employment for Technicians
- Winneba University Renewable Energy course

## **Regulatory Framework and Permitting**

Feasibility study completed. The favourable Feed-In-Tariff has been secured and it is expected all work leading to a US\$ linked Power Purchase Agreement (PPA) will be completed and PPA signed by no later than end of July 2017.

It is planned to obtain the grid connection permit to the medium voltage lines and all the building permits, concessions or any other legal permits or decisions also by July 2017.

We are currently working on the Hydrological survey, Topographical study, EIA, construction permits and Change of Use report. These will be completed shortly and over the next months.

## **The Project Group**

Simbrofo Light Ghana Ltd UK limited - UK holding company and 100% owner of the project

Simbrofo Light Ghana limited - Local Ghana registered project/management company

Alpin Sun GmbH EPC company & FEP Group - sub-contractors, Ghana - local business consultancy

EEC Spolka Z.O.O. - Polish Funding & component arranger

Bank Gospodarstwa Krakowego, Poland – project loan provider on behalf of EEC.

United Nations REPP – support and expert assistance

United Kingdom Government Department of Trade and Industry – support action plan in place

Alpin Sun GMBH have assisted the development of this project and may be the EPC company and are also sourcing funding

## **The Project Principals**

Mr Alan Brewer MSc, director UK holding company - Simbrofo Light Ghana Ltd UK Ltd

Project facilitator and director/shareholder of the UK holding company. Alan has over 20-years of experience in the sustainable energy and waste sectors, both in the UK and on an international basis. He also has experience of researching and writing city energy policy in the UK and coordination of county energy networks. He has been active in pioneering solar PV off-grid and solar farms since 1995.

Mr Stephen Filary HNC, director UK holding company

Electronics engineer and businessman with over 30-years of experience. Scientific Officer for UK Ministry of Defence. During the late 1970's Mr Filary worked in Africa providing surveying in the electronics sector in Nigeria, Cameroon, Ghana (Simbrofo region) and Somalia. His experience has covered solar PV installation work.

Mr Victor Noonoo, director Ghana SPV

Victor is a Ghanaian/UK Businessman with over forty years of business development experience and has been a key player in bringing together landowner and technical partners. Victor has good contacts in Ghana, which has enabled a smooth transition of the solar farm project at Simbrofo.

Mr David N Tamakloe, director Ghana SPV

David has been responsible for the development of the Simbrofo Solar Farm project and has excellent connections in Ghana to make possible the solar farm project. Over thirty years as a Businessman in the UK and on an International basis.