



**PROCUREMENT OF EQUIPMENT AND  
INSTALLATION SERVICES FOR SOLAR  
PHOTOVOLTAIC SYSTEMS AND GATE  
ELECTRIFICATION IN KENYA**



## About Solarcentury

**Founded in 1998 in the UK – More than 1,000 MW installed around the World**

*Operations and presence in the **UK, Netherlands, Germany, France, Spain, Panama, Mexico and Chile, Kenya, Eritrea, South Africa, Ghana***

*We have built over **1,000 MWp** of solar worldwide and secured O&M contracts for more than **400 MWp**.*

*We do **Development, Financing, EPC and O&M**. We contribute **5%** of our net profits every year to the charity we founded, **SolarAid**.*

***Financially robust** with an asset light business model, no debt at balance sheet level, cash rich and privately owned. **Bankable and Tier 1 EPC**.*



*Nyrstar – Netherlands (44 MW)*



*Divisa – Panama (9.9 MW)*



*ASDA – UK (6.6 MW)*

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## Solarcentury East Africa

**Solarcentury is market leader in Kenya. In the Country since 2013**

**Licensed T3 Solar Technicians, Solar PV Contractor/Vendor Class C1 and importer of solar equipment Class V2**

**Permanent office in Nairobi:** More than 10 people including engineers, project managers and technicians

**Experience** delivering satisfactorily similar projects in Kenya. The company has more than **5,600 kWp** installed or under construction

We are developing **Utility-scale projects** (Public Sector) and **hybrid systems** (Private companies) in the country



*Solarcentury East Africa teams working on different projects in Kenya*

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## KENYA – Track Record

### Williamson Tea Solar Farm – Kericho, Kenya

Ground-mounted

Size: **1,000 kWp**

Energy Generation: **≈1,800,000 kWh/year**

Year: **2014**



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## ***KENYA – Track Record***

### **Garden City Solar Carport – Nairobi, Kenya**

Solar PV Carport

Size: **858 kWp**

Energy Generation: **≈1,330,000 kWh/year**

Year: **2015**



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## KENYA – Track Record

### ICIPE Solar Project – Nairobi and Homa Bay, Kenya

Solar PV Rooftop and Carport

Size: **1,200 kWp**

Energy Generation: **≈1,900,000 kWh/year**

Year: **2016**



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## ***KENYA – Track Record***

### **London Distillers Solar Rooftop – Athi River, Kenya**

Solar PV Rooftop

Size: **924 kWp**

Energy Generation: **≈1,400,000 kWh/year**

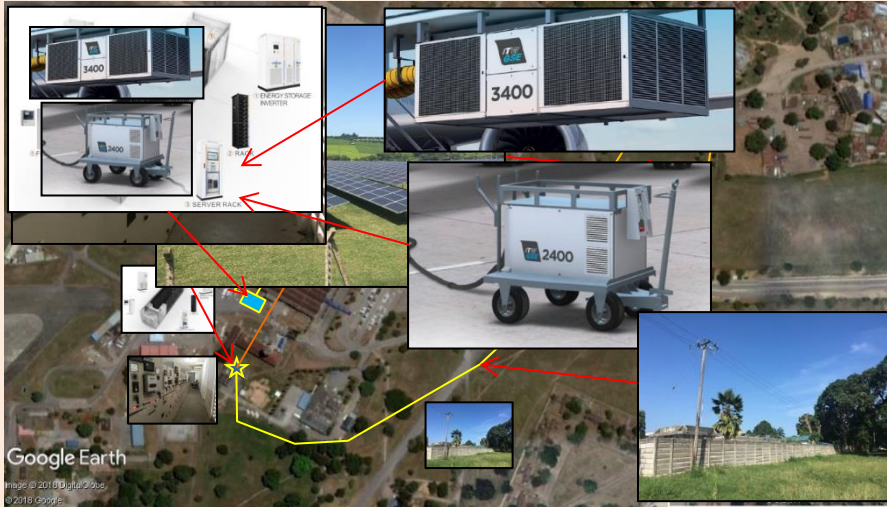
Year: **2017**



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## Technical Description of the Project

### 507 kWp Solar PV System + Battery Storage System + PCA & GPU units

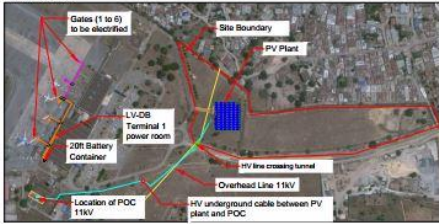


- 507 kWp Solar PV System ground mounted.
- 11kV Transmission line connecting to the Main DB.
- The Solar Energy is used as primary source of Power in both terminals.
- Battery system connected at the Distribution Board of the Terminal 1.
- The Battery System supplies power to the 6 gates.
- GPU and PCA mobile units are plugged to the connection points installed at the gates

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Key Plan: POC  
Scale 1:5000@A1



Huawei 40kW  
Inverters x 11

Sub-Station  
630kVA  
415v/11kV

Permanent access track to be supplied by client. Temporary track to be provided if conditions dictate.

Entrance gate: 6 m wide  
Double-leaf gate

Existing Over Head Line

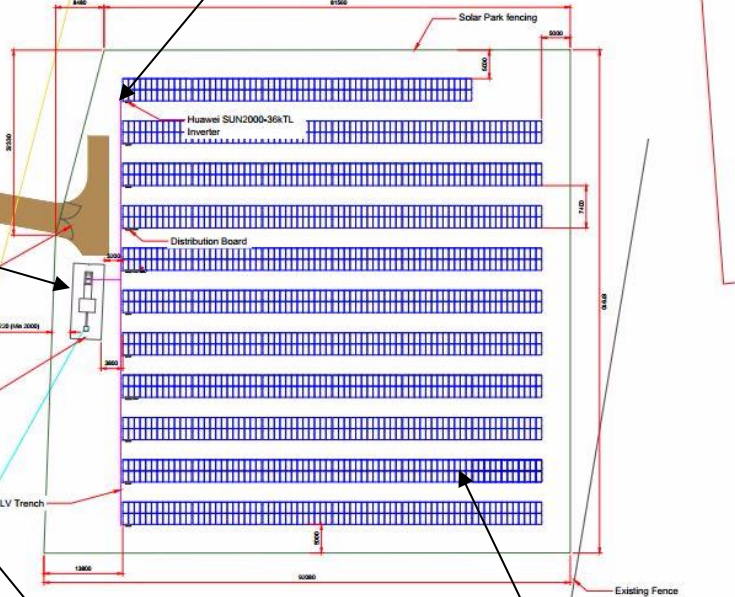
Substation:  
• PV Main DB 81  
• TX 415V/11kV  
• Switchgear

Site boundary

LV Trench

11kV underground  
line to connection

1560 Solar  
modules



LEGEND

Access Trench 5m	-70mm
Fence	-200mm
HV Cable (11kV)	-200mm
LV Trench	-60mm
DB cabinet type 811	
11 Huawei SUN2000-36kTL	
2 Distribution Boards (415V)	

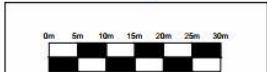
- Notes:
- All dimensions are in mm and indicate only unless otherwise specified.
  - Any deviations to be reported and communicated to Solarcentury.
  - Design based on Google Imagery.
  - See minimum clearance between the fence and overhead line.



ICAM-INDWA-001  
Project: Solar Park  
Technology: Conductor Solar PV  
Module Size: 1660x1000x40mm  
Module Efficiency: 17.5%  
Total DC Voltage: 602 VDC  
Array Power: 660 kW  
2 Distribution Boards

**CONSTRUCTION ISSUE**

1. Location: As per attached  
2. Access: As per attached  
3. Location: As per attached  
4. Location: As per attached  
5. Location: As per attached  
6. Location: As per attached

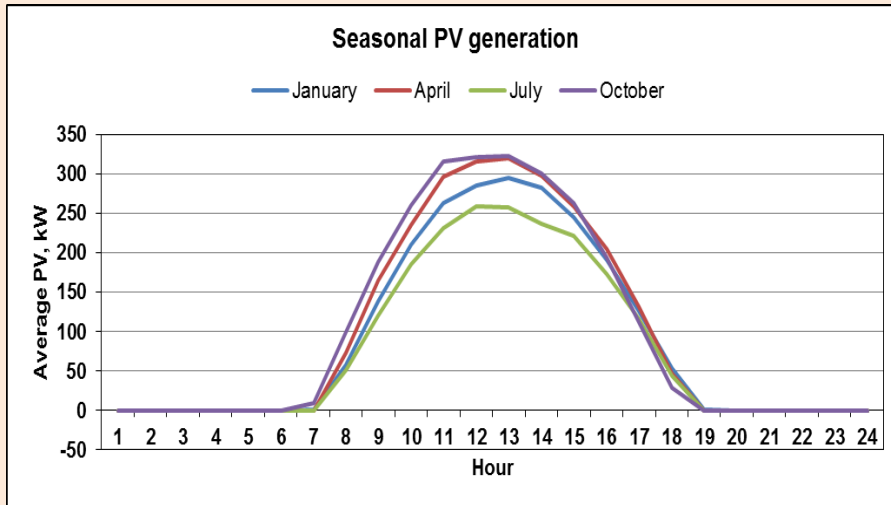


## *The final site layout*



## Technical Description of the Project

### Solar PV System



- **507 kWp** Solar PV System
- Ground mounted
- **1,560 Solar PV Modules**
- **11 x 40 kW Inverters** (440 kVA Total AC Power)
- Energy generated: more than **833,100 kWh/year** (expected)

## Technical Description of the Project

### Battery System



- Expected peak load from GPU and PCA: **≈400 kVA**
- UPS capacity: **>400 kVA**
- Battery capacity: **≈130 kWh**
- Backup time: **>15 minutes**
- Battery type: **Lithium Ion**
- Containerized Solution

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## ***Technical Description of the Project***

### **Airport Gate Equipment**



*GPU - 2400 Series, 180kVA Mobile*




*PCA - 3400 Series, 210 type*


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# Technical Description of the Project

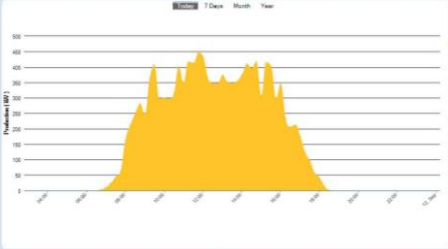
## Monitoring, control and O&M



ICAO




**SOLAR-AT-GATE PROJECT**  
ICAO-European Union Assistance Project  
Capacity Building for CO<sub>2</sub> Mitigation from International Aviation




**This system has been operating for 473 days**

So far this system has produced **XXXXX kWh** and saved **XXXXX kg** of CO<sub>2</sub>. This project has been implemented by the International Civil Aviation Organization (ICAO) with funding from the European Union in collaboration with the Government of Kenya.



**System Size: 924 kWp**  
Installation Date: 26 May 2017

The electricity generated by this solar facility is used to power aircraft when parked at the gate which eliminates carbon dioxide emissions resulting from jet-fuel powered on board engines and auxiliary power units



Project funded by the European Union  
European Development Cooperation Instrument  
DCI-ENV/2013/522-049

- **Monitoring Platform included**
- **Two Educational Kiosks are installed in the terminals**
- **The Solar PV System can operate in parallel with the Diesel Generators**
- **2 years O&M included**

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## Solarcentury Team

### Solarcentury Africa team that are involved in the implementation phase of the Project

**Peter Sweetnam**

*Project Manager*

*Nairobi, Kenya*



**Roberto Martin**

*Business Development Manager*

*Nairobi, Kenya*



**Drew Cormack**

*Director of Operations - Africa*

*London, UK*



**Paul Sutton**

*Contracts Manager - Africa*

*London, UK*



**Daniel Davies**

*General Manager - Africa*

*London, UK*



**Guy Lawrence**

*Director – East Africa*

*Nairobi, Kenya*



**Kean Gee Liew**

*Head of Engineering - Africa*

*London, UK*



**Leonard Matei**

*Project Engineer*

*Nairobi, Kenya*



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