Mulilo Prieska PV (PTY) LTD
75MW Solar PV Power Plant

Presented by:
Mulilo Solar Enterprises (PTY) LTD
Warren Morse (Director, MSc, BSc Engineering)
Agenda:

- Project Information
- Shareholding Information
- Project Technical Information
- Financial Information
- Economic Development Information
- Anticipated CoDs
- Questions
Project Information:

Project Name: Mulilo Prieska PV
Project Company: Mulilo Prieska PV (PTY) LTD
Project Size: 75MW AC (86.23MW dc) 205 hectares
Project Technology: Solar PV, High Efficiency Monocrystalline, Single Axis tracking

Property Details:
- Farm Name: Klipgats Pan 117
- Portion: 4 of 117
- Extent: 2622ha
- District: Prieska RD
- Province: Northern Cape
Note:

*The final position of the Substation, Control Building, Laydown Area and appurtenant structures are subject to in situ technical modifications as may be required for technical reasons or in order to ensure compliance with the EA conditions.

*Measurements are approximate and for illustrative purposes only.
Shareholder Information:

- **MEDUPI CAPITAL (Pty) Ltd**: 2012/001528/07
- **Calulo Salvage Services (Pty) Ltd**: 2009/00652/07
- **100% Black Beneficiary Local Community**
- **Calulo Renewable Energy (Pty) Ltd**: 2011/123616/07
- **Mulilo Prieksa Solar Community Trust**: IT 2613/2011

**Equity Repartition**

- **Total S.A.**
  - 542051180 RCS Nantier
- **Mulilo Group Holdings (Pty) Ltd**: 2013/032172/07
- **Total Energy Development**
  - 328195193 RCS Nantier

**Bidder**: Total Mulilo Prieksa Consortium

**Project Company**

- **Mulilo Prieksa PV (Pty) Ltd**: 2012/012349/07

**Module Supplier**

- **Sunpower Manufacturing (Pty) Ltd**: 1999/024234/07

**Equipment Supplier**

- **SMA DE 95983150**
- **Power One (alternate)**

**Equipment Contractor**

- **SME Energy Systems Southern Africa (Pty) Ltd**: 2011/104782/07

**EPC & O&M Contractor**

- **SA Shareholder**
  - IT 2899/2011

**Invester Supplier**

- **Tenesol South Africa Employee Trust**: 1998/004794/06
- **Sunpower Manufacturing (Pty) Ltd**: 1999/024234/07
Total’s Solar Presence in South Africa

- Major International Oil&Gas Company
  - 97,000+ employees in over 130 countries
  - 2012 revenue: USD270 billion
  - Balance sheet / financial strength
  - Well positioned in South Africa (Upstream & Downstream)
  - Fully committed to solar

- World-leading solar conversion efficiency
- **28 years** of innovation
- 5,000+ employees in 21 countries
- 2012 revenue: USD2.4 billion
- Turnkey solution provider
- Global manufacturing & supply chain
- **Guaranteed performance and products** (best market warranty)

- Manufacturing Facility in Cape Town (Capacity of +/- 100MW)
- EPC and O&M in South Africa
- 80+ employees
- **BEE level 5** and 20% black ownership
- High local content and proven track record in South Africa
SunPower technology

**Highlights**

- **Cost**: One of the **lowest LCOE** for utility-scale PV

- **Performance**: **Best efficiency** in the market: up to 24% cell conversion efficiency  
  **Best warranties** in the market  
  Modular solar receivers enabling future plant performance upgrades

- **Track record**: **Bankable technology** with proven performance

- **Simplicity**: **Rapid installation** without specialised field labour

- **Local content**: **Job creation** through rapidly deployable regional manufacturing (300 jobs for 200MWp capacity)

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**Key Value Proposition of TOTAL-SunPower**:

- Fully integrated solution from manufacturing to full operation and maintenance
- Local partners only
- Very high reliability and financial strengths
- Very experienced companies

- **Black Economic Empowerment**
- **Long term local strategy**

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**Sunpower Oasis Power Plant**

A **fully-integrated turnkey energy solution** with cost-optimised 1.5 MW PV blocks and a sophisticated plant operating system

California Project (CVSR): **350MWp**
# SunPower in South Africa

## SunPower South Africa

- 100% owned by SunPower, which is 66% owned by TOTAL Group
- Local manufacturing presence – factories in Cape Town

<table>
<thead>
<tr>
<th>1996</th>
<th>1999</th>
<th>2014</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>TENESA (TOTAL Energy South Africa) was founded</td>
<td>Local TENESOL panels manufacturing started</td>
<td>Local manufacturing capacity of +/- 100MW pa (Cape Town) Plan to retrofit back-contact SunPower process (USD3 million capex) Future dependent upon success in DoE REIPPP Program</td>
<td></td>
</tr>
</tbody>
</table>

## Targeting Solar PV in South Africa

- The national IRP (Integrated Resource Plan) identifies **8.4GW of new build options for solar PV by 2030**
- **South Africa** has one of the **highest irradiation levels in the world** (>2000 kWh/m²)
- **The DoE** (Department of Energy) has already procured **1,484MW of solar PV electricity** through the REIPPP program
## REIPPPP opportunities

### Round 1
- **2 projects (33MWp) awarded to TENESOL (as EPC contractor)**
  - Projects Herbert & Greefspan under construction in Northern Cape
  - Majority of the plants already connected, ahead of schedule
  - Local modules manufacturing
  - EPC / O&M turnkey

### Round 2
- **No projects awarded**
  - Tenesol as EPC contractor
  - 150MWp proposed by developers with SunPower/Tenesol EPC solutions

### Round 3
- **1 project (86MWp) awarded**
  - TOTAL as sponsor and co-developer to land 2 projects in Round 3 of REIPPP Program
  - Co-development agreement with local developer
  - SunPower as EPC and O&M service provider
  - 1 project (86MWp) already awarded, in Prieska
  - Second project likely to be in the extended allocation planned by the DoE

### Round 4/5
- **More than 5 potential projects**

## Outside REIPPPP opportunities
- TOTAL and SunPower are focused on finding new opportunities to sustain their local presence and long-term strategy for South Africa
- 1GWp of opportunities already identified (including rooftop solar)
### Technical Information:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracted Capacity [MW]</td>
<td>75 MWac</td>
</tr>
<tr>
<td>PV Module Type:</td>
<td>Monocrystalline 435Watt Peak (SunPower E20 435)</td>
</tr>
<tr>
<td>Number of PV Modules:</td>
<td>198,240</td>
</tr>
<tr>
<td>Number of module strings:</td>
<td>26 inverters with 216 strings of 10 modules, 74 inverters with 192 strings of 10 modules</td>
</tr>
<tr>
<td>Mounting Type (fixed, single axis tracking or double axis tracking)</td>
<td>SunPower single axis Tracker</td>
</tr>
<tr>
<td>PV inverter (manufacturer and model):</td>
<td>SMA Sunny Central 760CP XT</td>
</tr>
<tr>
<td>Number of Inverters</td>
<td>100</td>
</tr>
<tr>
<td>Transformers ratings</td>
<td>1600kVA</td>
</tr>
<tr>
<td>Number of transformer</td>
<td>50</td>
</tr>
<tr>
<td>Planned voltage connection level:</td>
<td>132 KV</td>
</tr>
<tr>
<td>Planned connection point:</td>
<td>Self Build up to the Eskom Kronos Substation. The Line and Prieska PV Substation are then handed back to Eskom and the Point of connection is thus the Prieska PV Substation on the HV side of the transformer.</td>
</tr>
</tbody>
</table>
Financial Information:

The project debt is being provided by three tier 1 lenders, jointly Mandated Lead Arrangers, on a debt/equity ration of 80/20.

Debt (80%):
1. Nedbank Capital 38.1%
2. ABSA Capital 38.1%
3. IDC 23.8%

Equity (20%):
1. Andisol 25%
2. Mulilo Klipgats PV Community Hold Co. 5%
3. IDC 15%
4. OMLACSA (Futuregrowth) 10%
5. Mulilo Solar Enterprises 18%
6. Total Energy Developpment 27%
# Financial Information:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Contracted Capacity (MW)</th>
<th>Fully Indexed Price (R/MWh)</th>
<th>Partially Indexed Price (R/MWh)</th>
<th>Portion Indexed (%)</th>
</tr>
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<tr>
<td>Adams Solar PV 2</td>
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<td>864.10</td>
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<tr>
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<td>1415.50</td>
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<td><strong>Total</strong></td>
<td><strong>435</strong></td>
<td></td>
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Economic Development Information:

- The Project has maximised the components of economic development in line with the guidelines of the DOE.
- Jobs created during construction and operation are high compared to the market, and the use of black, local labour has been optimised.
- The local content includes locally manufactured panels by Sunpower Manufacturing (Pty) Ltd.
- Black ownership of 29.5% is held by a member that has related experience in this sector.
- Community ownership of 5% is as per the DOE target.
- Management control has been designed to give maximum benefit in line with the bid Guidelines.
- A number of enterprise opportunities have been identified and contributes total 1.37%
- Socio economic development has been carefully considered by the consortium and has therefore committed unadjusted contributions of 4.12%.
## Economic Development Information:

### Preferred Bidders Round 3 REIPPPP

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Anticipated Commercial Operation Date:

The Mulilo Prieska PV project expects to achieve CoD by:

4th November 2015

This timeframe depends on the expected Eskom commissioning timeframe to be published in the Budget Quote by end of April 2014.
Questions:

Thank you for your time.

Questions?