Presentation to NERSA on Witkop Solar Project

8 March 2012

Presented by Core Energy
Agenda

- Summary of Limpopo Solar Projects
- Overview of Witkop Solar Park
- Economic Development Benefits
- Meet the stakeholders
- Introduction to Solar PV Technology
Why South Africa for Solar PV?

Electricity demand:

Growing

Renewables potential:

Untapped

South Africa needs **52GW of new generation capacity** in the next **20 years**.

South Africa’s **natural resources** include some of the **world’s best insolation and sites** for solar power.

Economic opportunity:

Significant

Developing a **critical mass of renewables** would **deliver major economic and industrial benefits**.
## WITKOP SOLAR PARK PROJECT – AT A GLANCE

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>WITKOP SOLAR PARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Core Energy (Pty) Ltd</td>
</tr>
<tr>
<td>Plant Capacity</td>
<td>30 MW (AC)</td>
</tr>
<tr>
<td>Farm</td>
<td>Wildebeestfontein : 20 KS</td>
</tr>
<tr>
<td>Portions</td>
<td>9</td>
</tr>
<tr>
<td>Local Municipality</td>
<td>Polokwane</td>
</tr>
<tr>
<td>District Municipality</td>
<td>Capricorn</td>
</tr>
<tr>
<td>GPS coordinates</td>
<td>24° 2.5' S, 29° 21.7' E</td>
</tr>
<tr>
<td>Site size (ha)</td>
<td>189</td>
</tr>
<tr>
<td>Distance from Joburg</td>
<td>~350 KM</td>
</tr>
<tr>
<td>Start of Construction</td>
<td>June 2012</td>
</tr>
<tr>
<td>Total Capital Investment</td>
<td>ZAR 1560 MN</td>
</tr>
<tr>
<td>Life of the plant</td>
<td>20 years</td>
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Project Summary

- 30MW Solar Photovoltaic Power Plant
- Over 60,000,000 KWh to deliver to grid in 1st year of operation
- Located in Limpopo, +/- 350 Kms from Kimberly
- Bid for 4th November: 1st Bid Phase, won preferred bidder
- Estimated Financial Close: June 2012
- Estimated Construction Start: August 2012
- Estimated Operations Start: August 2013
- Approximate cost of facility: ZAR 1500 MM
Site and Location

The site is located on **Farm Wildebeestfontein** (189 hectares in extent), Polokwane Local Municipality, Capricorn District Municipality, Limpopo province. Geographical coordinates: 24° 2.5' S , 29° 21.7' E
Preliminary Design of Plant
Grid Connection

- **Technical**
  - Witkop: 132kV interconnection point to existing substation (Witkop substation), Distance from project to SS < 500m.
  - After commissioning of the SS and transmission lines, assets and servitude will be transferred to Eskom for continued O&M

- **Interaction with Eskom**
  - Applied for self build interconnection option.
  - Two meetings with Eskom held at project site to discuss design aspects of interconnection.
  - Submitted deposit for Eskom detailed budget quote, Expected to receive by 28 April 2012.
Economic Development Benefits from the Limpopo Projects
SED activities promote the inclusion of Black people into the formal economy and forms the basis of all other Economic Development criteria.

SED can be achieved through the following means:

- Annually, the project company will spend 2.1% of its revenues on SED, for the life of the plant, from commencement of Operations.
# Socio Economic Development Summary - Witkop

## Community Benefit

<table>
<thead>
<tr>
<th>Jobs Created</th>
<th>250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Content procured</td>
<td>40%</td>
</tr>
<tr>
<td>South African Ownership</td>
<td>49%</td>
</tr>
<tr>
<td>Community Project Ownership</td>
<td>10%</td>
</tr>
<tr>
<td>Management</td>
<td>50% Black, 25% Black Female</td>
</tr>
<tr>
<td>BEE Procurement:</td>
<td>ZAR 349 M</td>
</tr>
<tr>
<td>Socio-Economic Spend</td>
<td>Above ZAR 80 MM</td>
</tr>
<tr>
<td>Enterprise Development Spend</td>
<td>Above ZAR 30 MM</td>
</tr>
<tr>
<td>Skills Developed</td>
<td>Engineering, Construction, Management, Entrepreneurship, Technology Development, Plant Maintenance, Security</td>
</tr>
</tbody>
</table>
Meet the Stakeholders
# Stakeholders in the Project

<table>
<thead>
<tr>
<th></th>
<th><strong>WITKOP</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding Company Shareholders</td>
<td>CHINT/ ASK &amp; MEMC</td>
</tr>
<tr>
<td>BEE Partner</td>
<td>Symphony Trade &amp; Invest 39 (Pty) Ltd, Sub of Videovision Investments</td>
</tr>
<tr>
<td>Community Trust</td>
<td>Kurisani Witkop Trust</td>
</tr>
<tr>
<td>EPC JV Partner</td>
<td>Izingwe Capital</td>
</tr>
<tr>
<td>O&amp;M JV Partner</td>
<td>Landelahni Investments</td>
</tr>
<tr>
<td>Management Services Provider</td>
<td>SunEdison Energy Southern Africa</td>
</tr>
<tr>
<td>Economic Development Solution Providers</td>
<td>SEDISA, BEESA, Womens Development Bank, Life Dyanamics</td>
</tr>
</tbody>
</table>
Symphony Trade & Invest 39 (Pty) Ltd is a member of the Videovision Group of companies with partners Fani Titi and Aqueel Patel.

Videovision is a diversified company with operations that range from its core business of film and television production and distribution to media, live entertainment and film studio and real estate development.

100% Black owned and controlled; Level 1 Broad based Black Economic Empowerment Rating.

VALUE ADD

- Videovision has significant relationships with key infrastructure services’ providers.
- Has solid relationships with the Central Government and excellent rapport with the local banks and other financial institutions.
- Successful track record in business over its 30 year existence.
Directors have significant experience in management and business
- Access to capital
- Board Experience

VALUE ADD
- Deal making and deal structuring experience
- Significant relationships in banking both in South Africa and abroad
- Sterling reputation in business based on integrity and ethics
- Solid network of corporate and government relationships
Community Trust(s) - loveLife and Kurisani

Kurisani is the investing arm of loveLife, South Africa’s largest HIV prevention initiative for youth.

Separate Trusts have been established for the Community effort involved in each project – Kurisani Soutpan Trust and Kurisani Witkop Trust.

100% Black Youth owned

VALUE ADD

- loveLife and Kurisani achieve success by empowering the youth. Partnering with them is equivalent to investing in South Africa’s future.
- Proven track record of delivering worthwhile, credible and monitor-able socioeconomic development and enterprise development projects.
The Landelahni Group is a strategic resourcing & development partner providing arrange of specialized recruitment & talent development solutions at all levels of employment.

VALUE ADD

- Landelahni will offer a range of talent development services including; leadership development, coaching and mentoring.
SEDISA (Socio-Economic Development Initiative South Africa) is a leader in the development and implementation of sustainable Socio-Economic Development (SED).

- SEDISA structures SED programmes to comply with programmes as per code 700 of The Codes of Good Practice for BBBEE.

VALUE ADD

- The SEDISA programmes will be designed to create sustainable access to the economy for the beneficiaries.
- The SEDISA Program will manage the projects graduate recruitment program through allocating bursaries to promising high school students.
Life Dynamics Training is the leading edge provider in the field of human technology, development and personal transformation.

VALUE ADD

- Life Dynamics Training courses are designed to bring about a fundamental shift in what is possible in peoples lives.
- Participants in Life Dynamics Training courses and programs see new possibilities for effective action in everyday matters. They are able to achieve higher standards of excellence and intimacy and to think and act beyond existing views and limits.
For the past 18 years, Womens Development Bank (WDB) have been offering real hope to the women of South Africa to enable them to build a self sustaining future.

The core business of the WDB Group is ensuring that poor rural women are given the tools to free themselves from the chains of poverty.

**VALUE ADD**

- WDB will provide capacity building and fund raising and will innovate development projects that are aimed at improving the lives of poor rural women.
- The primary tool they have is developmental micro credit for the poorest.
BEESA GROUP BEESA Group manages the oldest and largest Enterprise Development Fund in the country.

With more than 5 years of proven track record and a Financial Services Board (FSB) registered Fund Management structure, BEESA will manage a dedicated fund facility for the Projects

VALUE ADD

- BEESA Groups process and documentation fulfills the requirements for Enterprise Development under the gazetted Codes of Good Practice on Board-Based BEE
- BEESA GROUP will provide the following services in relation to Enterprise Development:
  - Enterprise Development Fund Management
  - Enterprise Supplier Development Programme Management
  - Enterprise Development Monitoring and Reporting
Astronergy Solar Korea (ASK) is a wholly owned subsidiary of CHINT Solar (Zheijiang)

As of 2010, the CHINT Group grossed revenues of over USD 3 billion and declared assets worth USD 2 billion

Astronergy is the world's first large scale producer of high efficiency thin film (TF) modules

VALUE ADD

- CHINT's vast expertise and global presence can help jump start local module manufacturing and assembly
- Ancillary units that will cater to CHINT manufacturing lines will provide widespread employment in the local community
SunEdison

SunEdison develops, builds, finances, owns and operates solar power plants in order to deliver solar services / sell commercial retail electricity at competitive prices

One of the largest solar energy service providers in North America

- Over 400 solar plants, financed and under O&M
- Operational plants in 6 countries and development in 10 other countries
- Built first utility scale plant in the U.S and Canada
- Tracking 4 GW in project development
- Fastest growing international solar companies
- Created a JV with First Reserve Corp to invest US $1.5 billion SunEdison projects
- Built Europe’s largest PV Power Plant of 70 MW in 2010 in 7 months

Work closely with customers in order to:

- Address renewable portfolio requirements
- Hedge cost of energy
- Provide green energy

Core competencies and key advantages

- Internal R&D to optimizes system design and production
- Leading monitoring technology maximizes uptime and production
- Financing capabilities enable project growth, +$1 Bil in projects done
- Regulatory support enabled solar markets (CA, CO, AZ, etc)
MEMC/ SunEdison

Currently, SunEdison has over 400 MW of Solar PV plants under management worldwide

VALUE ADD

- Experience of developing a wide variety of projects across the globe
- Vertical Integration provides control over all aspects of the Solar Energy value chain
- Excellent relations with the international investing community; IFC (of the World Bank) is looking to invest in SunEdison’s South Asian and African operations
- Prior success on the community development front
Diverse Experience in Sizes and Geographies

**69.8 MW - Rovigo, Italy**
Crystalline panels, fixed tilt, ground mount. Largest solar plant in Europe

**Kohl’s - 409 KW - Laguna Nigel, CA**
Crystalline panels, fixed tilt, roof mount

**8.2 MW - Alamosa, CO**
Crystalline panels, Fixed, one-axis, & dual-axis trackers, ground mount

**City of San Diego - 1.1 MW - San Diego, CA**
Crystalline panels, fixed tilt, ground-mount on steel

**9.0 MW - Ontario, Canada**
Thin film panels, fixed tilt, ground mount

**Duke Energy - 3.9 MW - Cotton Grove, NC**
Crystalline panels, one axis, ground mount
SunEdison’s Rovigo Project

- SE built Europe’s largest Solar PV Power Plant at Rovigo, Italy – 70 MW Project Commissioned on 22nd Nov 2010
- System will power ~16,500 homes & prevent 40,000 tons of CO2, equivalent of 8000 cars on road
- Optimum Area Utilization – 206 Acres (3 Acres/MW)
- Guaranteed Record Completion Time (22nd March 10 – 22nd Nov 10)
SunEdison India Operations

- Sub-Saharan Africa
- Chennai, India
- Thailand
- Malaysia
- Philippines
- Australia
SunEdison India’s Plants – India and Thailand

25 MW - India

1 MW (with tracker) - India

Thailand
Afterschool studies made possible

Permanent employment generated for members of the Local Community

SunEdison’s Community Development Effort – Meerwada Village in India (60 houses)

Community hall setup to provide vocational training and extra curricular activities

No need to walk 5 km to charge mobile phones
Thanks

Contact persons:

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