South African Mainstream Renewable
Jeffreys Bay Pty Ltd

Presented to: NERSA,
Pine Lodge Conference Centre, Port Elizabeth

Date: 2nd March 2012
Presentation outline

1. Background
2. Milestones
3. Project Location/Layouts
4. Energy Analysis
5. Environmental
6. Technology
7. Delivery
8. Project Structure
9. Local Development Benefits
10. Questions
1. Background - Mainstream Renewable Power SA

- Mainstream Renewable Power is a leading global renewable energy developer with a portfolio of over 15,000MW of wind and solar projects across eight countries.

- Mainstream South Africa, a Joint Venture with Genesis Eco Energy has been active since 2009 developing over 4,000MW of wind and solar projects in the Eastern, Northern and Western Capes.

- In December 2011, a consortium led by Mainstream was awarded preferred bidder status by the Department of Energy in South Africa to deliver 138MW of wind energy and 100MW of solar PV into commercial operation by 2014.

- This partnership is unique and teams the local knowledge, development skills and relationships of Genesis Eco-Energy with the core global strengths of Mainstream Renewable Power. These global strengths are in the areas of finance, engineering and procurement where Mainstream has a strong track record in delivering large-scale renewable energy plants around the world.
1. Background - A Project with a long history in SA

- Kouga Wind Farm proposed on part of Sunnyside dairy farm, outside Jeffrey’s Bay in 2001
- Municipality very supportive and representative on the project Steering Com established in 2004
- EIA Authorisation received in March 2009 for 16 MW
- Proponent local company - Genesis Eco Energy
- Project has since expanded, into the Jeffrey’s Bay Wind farm when the JV Mainstream SA was formed between Genesis Eco Energy and international development company Mainstream Renewable Power in March 2009
1. Background – Jeffreys Bay

- **Location**: Located within the Kouga municipal area on the coastal plateau inland of the towns of Humansdorp and Jeffrey’s Bay, in the Eastern Cape.

- **Total number of landowners**: 8 landowners including the Fatman Cooperative Farming Trust.

- **The Project will be spread across** cover a total area of approx 3574 ha. All land is currently used for grazing.

- **Installed Capacity**: 138 MW consisting of 60 x 2.3 Megawatt Wind Turbines.

- **Wind turbine generators and related components** take up 5% of the land.

- **Farming activities will continue alongside the turbines** and will be the primary land use activity.
## 2. Jeffreys Bay – Milestones Achieved

<table>
<thead>
<tr>
<th>Project Element</th>
<th>Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Access</td>
<td>✓</td>
<td>Land Options for project footprint signed</td>
</tr>
<tr>
<td>Environmental Permitting</td>
<td>✓</td>
<td>Record of Decision (ROD) obtained on 15th of April 2011, with no appeals, bird monitoring complete</td>
</tr>
<tr>
<td>Civil Aviation Authority</td>
<td>✓</td>
<td>CAA permit received Q1 2011</td>
</tr>
<tr>
<td>Subdivision of Agricultural Land Act 70 of 1970 (SALA)</td>
<td>✓</td>
<td>Permit from the Department of Agriculture end of 2011</td>
</tr>
<tr>
<td>Wind Measurement</td>
<td>✓</td>
<td>4 year’s data recorded – proving an excellent Wind Regime - Fully Bankable Energy Report</td>
</tr>
<tr>
<td>Wind Turbines</td>
<td>✓</td>
<td>Strategic partnership agreement in place with Siemens South Africa for the supply of ‘best in class’ wind turbines</td>
</tr>
<tr>
<td>Geotechnical Data</td>
<td>✓</td>
<td>Detailed Geotechnical investigations completed on project site</td>
</tr>
<tr>
<td>Transportation Study</td>
<td>✓</td>
<td>Transportation study completed.</td>
</tr>
<tr>
<td>SANRAL and District Roads</td>
<td>✓</td>
<td>Consulted and agreements in place.</td>
</tr>
<tr>
<td>Engineering &amp; Construction Contracts</td>
<td>✓</td>
<td>Heads of Terms signed with lead contractor and Siemens. Consultant engineer in place. Preliminary work completed</td>
</tr>
<tr>
<td>Grid Connection</td>
<td>✓</td>
<td>Long standing consultation with ESKOM. Currently formalising grid connection agreements with ESKOM.</td>
</tr>
</tbody>
</table>
2. Jeffreys Bay – The Road Ahead...

- Preferred bidders status awarded: Dec 2011
- Financial close: June 2012

**Activities:**

- **Development**
  - Land Use Permit (Kouga Muni): May 2012
  - Water Use License (DWA): May 2012

- **Financial Close**
  - PPA Finalised (DoE): April 2012
  - License Application (NERSA): May 2012
  - Final Grid Quote accepted (Eskom): May 2012
  - Contracts Signed: June 2012

- **Construction**: July 2012

- **Commercial Operation**: Dec 2013
3. Project Location
3. Jeffreys Bay—Site Layout
3. Visual Illustration of the Project from the R102
4. Energy analysis

- Wind measurements onsite proves exceptional wind resource across the site.
- 4 years of high quality wind data since June 2007, verified by GL Garrad Hassan
- 37% capacity factor
- 4.5 years of wind data taken from three 3x70m masts; 2x15m and 1x40m mast
- Wind resource and energy yield assessment carried out by GL Garrad Hassan and independently verified by Wind Prospect.
- Fully Bankable Energy Assessment
5. Environmental approval

- EIA commenced July 2010 with extensive public participation.
- Environmental authorisation received on 15\textsuperscript{th} of April 2011, with no appeals
- Study conducted to World Bank Equator Principles.
- Comprehensive bird monitoring program complete.
6. Technology choices

**Siemens SWT-2.3 MW** - Over 8,000 MW installed globally by Siemens.

- ‘Best in Class Machine’ - Excellent track record in terms of durability and availability.
- Over 3500 units installed internationally.
- Fully compliant with IEC/EN 61215 and IEC/EN 61730 and IEC 61400.
### 7. Output (Value - Environmental)

<table>
<thead>
<tr>
<th>Savings</th>
<th>Volume</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity Produced per Annum 138MW</td>
<td>362,664</td>
<td>MWh/per year</td>
</tr>
<tr>
<td>Number of SA Homes per annum</td>
<td>241,776</td>
<td>Houses per year</td>
</tr>
<tr>
<td>Annual Tonnes of CO2 emissions avoided</td>
<td>306,451</td>
<td>Tonnes per year</td>
</tr>
<tr>
<td>Lifetime CO2 emissions avoided</td>
<td>6,129,022</td>
<td>Lifetime of project</td>
</tr>
<tr>
<td>Water Savings</td>
<td>520,000,000</td>
<td>Liters Per annum</td>
</tr>
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7. Delivery

**Pre construction** (Dec 2011 – June 2012)
- Concluding as part of Financial close.
- Owners engineers appointed – detailed design being concluded
- Lead contractor appointed
- Grid connection
- PPA signed

**Construction Phase** (July 2012 to Dec 2013)
- Construction to start in Last quarter of 2012
- COD end 2013
8. Structure of project and financing

- 40% South African owned.
- 40% Black South African owned.
- Thebe Investment Corporation is Broad Based BEE partner.
- Two black-owned Engineering firms are actively engaged in project delivery.
- Local Community Trust shareholding in the Project Company.
- Fully underwritten Senior Debt by Absa Capital.
9. Local Development Benefits

**Operation**
- Development Trust
- ED support
- SED support
- Permanent Jobs
- Support to emerging farmer
- Income to landowners
- Local services
- Stability of grid
- Electricity supply
- Tourism

**Construction**
- Temporary Jobs
- Temporary Services
- Upgrade of certain infrastructure
- Local Procurement of goods & services

**Development**
- Local spend
- Support to local projects
- Exposure

20 – 30 yrs

18 months

Exposure
9. Job Creation and Indirect Jobs

- The creation of decent jobs is central to this project, and of all the Renewable Energies, which can be transferred within the Eastern Cape and beyond.

- Ave 120 people employed over the entire construction period peaking at 175.

- Many Indirect jobs are also foreseen anticipated in the following areas: accommodation, buses, tourists, agricultural, security, amongst others...

- Capacitating of local companies (where applicable) in the renewable energy space also creates decent jobs.

- Operational Jobs: Minimum of 11 full time positions for the 20 year operational life of the project.
9. Socio-Economic Development

- Commitment of 1.485% of annual gross revenue over 20 years and confirmed in our Implementation Agreement that is a condition of our license and PPA.

- Socio-Eco Development commitment focus areas eg’s:
  - **Addressing Poverty & Unemployment**
    - Project 1: The CSML Mpendulo Savings Program
  - **Improving Education**
    - Project 1: ABET Learning Initiatives for local community.
  - **Children**
    - The Joshua Project: Hospice and Education for Homeless Children.

<table>
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<tr>
<th>Description</th>
<th>Threshold</th>
<th>Target</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic Development Contributions</td>
<td>1%</td>
<td>1.5%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Adjusted Socio-Economic Development Contributions</td>
<td>1%</td>
<td>1.5%</td>
<td>1.485%</td>
</tr>
</tbody>
</table>

All thresholds exceeded
9. Socio-Economic Development: Working within the Community to date
9. Enterprise Development

- Commitment of a 0.54% of annual gross revenue over 20 years and confirmed in our Implementation Agreement that is a condition of our license and PPA
- Business Development and Entrepreneur Programme
- Tourism Enterprise Development
- Agriculture and Enterprise Development
- Renewable Energy Enterprise Development Plan Components
  - In partnership with ASGISA, identify develop and implement RE initiatives..
  - Encourage and facilitate private sector local involvement in the project supply chain in conjunction with the Kouga Black Chamber of Commerce (KBCC).

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<th>Target</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Development Contributions</td>
<td>0.6%</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td>Adjusted Enterprise Development Contributions</td>
<td>0.6%</td>
<td>0.54%</td>
<td></td>
</tr>
</tbody>
</table>
9. The Development Trust

- The Trust has been established to take up a % holding in Jeffreys Bay Wind Farm.

- The dividends will provide consistent funding and investment to local entrepreneurs and into social projects across key areas of
  - Education
  - Healthcare
  - Land Reform Initiatives
  - Enterprise Development
  - Energy

- Governance: 1 trustee now, operational will have trustees made up local representatives with Municipal as advisor/ex-officio

- Beneficiaries of the project will fall within a 50 KM radius of the project
Thank you

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Questions?
Thank you