Karusa Wind Farm

NERSA PUBLIC HEARINGS

09 September 2015
• Karusa Wind Farm has been appointed as a Preferred Bidder in the Fourth Round of the Department of Energy’s (DoE) Renewable Energy IPP Procurement Programme (REIPPPP)

• Karusa Wind Farm has a contracted capacity of 139.8MW and is located between the towns of Sutherland and Matjiesfontein in the Northern Cape province of South Africa

• Karusa Wind Farm is located adjacent to Eskom’s Komsberg substation and the Soetwater Wind Farm (139.4MW) which is also a REIPPPP Round 4 Preferred Bidder project

• Karusa Wind Farm has made application to the National Energy Regulator of South Africa (NERSA) in respect of an Electricity Generation Licence in terms of the Electricity Regulation Act, 2006 (Act No. 4 of 2006)
The Karusa Wind Farm project is incorporated within a ring-fenced special purpose vehicle called ACED Renewables Hidden Valley (Pty) Ltd which is the applicant.

ACED Renewables Hidden Valley (Pty) Ltd is a private company with registration number 2009/004884/07.

The registered address of the applicant is:
Fernwood House, 2nd Floor
The Oval, 1 Oakdale Road
Newlands, 7700
Cape Town
South Africa

The relevant contact person for the applicant is:
Matteo Forlani
Email: matteo.forlani@enel.com
Fax: +27 10 344 0101
Karusa Wind Farm is situated on the properties depicted in the site layout diagram.

The Karusa Wind Farm site coordinates are:
- 32 deg 48’ 39.81”S
- 20 deg 37’ 27.27”E

The Karusa Wind Farm project will comprise 43 Vestas V117 3.3MW wind turbines and associated wind farm infrastructure.

Karusa Wind Farm will commence construction in 2016 with operations commencing in 2019 and the wind farm will be operational for a period of 20 years.
<table>
<thead>
<tr>
<th><strong>Contracted Capacity:</strong></th>
<th>139.8MW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wind Turbine Generator:</strong></td>
<td>Vestas V117 3.3MW</td>
</tr>
<tr>
<td><strong>Hub height:</strong></td>
<td>91.5m</td>
</tr>
<tr>
<td><strong>Number of WTGs:</strong></td>
<td>43</td>
</tr>
<tr>
<td><strong>Voltage Connection Level:</strong></td>
<td>132kV</td>
</tr>
<tr>
<td><strong>Grid integration:</strong></td>
<td>Connection to Eskom’s Komsberg substation will be within acceptable limits for fault ride through, reactive power generation and operate in compliance with the Grid Connection Code for Renewable Power Plants, Version 2.8</td>
</tr>
<tr>
<td><strong>Scheduled COD:</strong></td>
<td>Q2 2019</td>
</tr>
<tr>
<td><strong>Wind Turbine Supplier:</strong></td>
<td>Vestas Southern Africa (Pty) Ltd</td>
</tr>
<tr>
<td><strong>Civil Balance of Plant Contractor:</strong></td>
<td>Power Construction (Pty) Ltd</td>
</tr>
<tr>
<td><strong>Electrical Balance of Plant Contractor:</strong></td>
<td>Consolidated Power Projects (Pty) Ltd</td>
</tr>
<tr>
<td><strong>O&amp;M Contractor:</strong></td>
<td>Vestas Southern Africa (Pty) Ltd</td>
</tr>
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</table>
The Karusa Wind Farm was appointed as a Preferred Bidder project by the DoE in REIPPPP Round 4.

The Project’s Environmental Impact Assessment (EIA) was initially commenced in 2011 and was referred to as the Hidden Valley Wind Energy Facility (Phase 1).

The Project’s Environmental Authorisation (EA) was issued by the Department of Environmental Affairs (DEA) in August 2014.

During the EIA public consultation process, all stakeholders and registered Interested and Affected Parties were provided opportunities to partake and comment on the Project.

Rezoning approval was granted by the Karoo Hoogland Local Municipality in November 2014 to rezone the properties from ‘Agricultural Zone 1 to Special Purpose (Primary Use : Agriculture and Secondary use : Wind Power Generating Facility)’.

The Project received preliminary approval from the South Africa Civil Aviation Authority (SACAA) in August 2014 and final approval from SACAA will be sought prior to construction.

All other permits required by the Project are being progressed and will be to hand before commencement of construction.
• The Project’s partners include:
  • African Clean Energy Developments
  • Enel Green Power
  • Pele Green Energy
  • Karusa Wind Farm Community Trust
  • Vestas Southern Africa
  • Power Construction
  • Consolidated Power Projects

• ACED is the project developer of the Karusa Wind Farm

• The Sponsors of the Project (including Enel Green Power, Pele Green Energy and the Community Trust) bring together a strategic partnership with experience in developing, construction and operating renewable energy projects internationally and in the South African REIPPPP

• Vestas Southern Africa, Power Construction and Consolidated Power Projects have significant experience and expertise in constructing and operating renewable energy projects internationally and in South Africa
KARUSA WIND FARM
PROJECT STRUCTURE

KARUSA WIND FARM
(140MW)

Shareholders

Enel Green Power
Pele Green Energy
Karusa Wind Farm Community Trust

60.0%
30%
10%

Equity Finance 100%

Contractors

Vestas Southern Africa (Pty) Ltd
Consolidated Power Projects (Pty) Ltd
Power Construction (Pty) Ltd

Turbine Supply & Installation Agreement
Electrical Balance of Plant EPC Agreement
Civil Balance of Plant EPC Agreement

Bidder
(Project Company)

ACED Renewables Hidden Valley (Pty) Ltd
African Clean Energy Developments (Pty) Limited (ACED) is a South African registered company dedicated to the development of renewable energy projects in Sub-Saharan Africa.

ACED and its shareholders, African Infrastructure Investment Manager (Pty) Ltd (AIIM) and AFPOC Limited (AFPOC), have an established track record in renewable energy projects in South Africa and globally.

In the South African REIPPPP, ACED and its shareholders have been involved in the development, bidding, investment and construction of 720MW of wind projects and 75MW of solar photovoltaic projects.

The ACED business has been in operation for 6 years and is at the forefront of renewable energy development in South Africa.
• Enel Green Power RSA (Pty) Ltd (Enel or EGP) has ambitions to have a strong presence in South Africa over the long term

• EGP already has more than 70 people employed and working in EGP’s Johannesburg headquarters

• EGP has been awarded in excess of 1,200 MW wind and solar projects in the DoE’s REIPPPP, which accounts for an investment of approximately ZAR 18 billion in South Africa

• EGP is a major global renewable energy investor and operator globally and is committed to bringing its expertise and experience to the South African market

• EGP RSA is a 100% subsidiary of Enel Green Power S.p.A. which in turn is subsidiary of Enel S.p.A.
1. As of December 31st, 2014

ENEL GREEN POWER
GLOBAL FOOTPRINT IN RENEWABLE ENERGY

North America
- 2.1 GW in operation
- 0.4 GW under construction
- 5.1 GW pipeline

Latin America
- 1.7 GW in operation
- 1.0 GW under construction
- 12.4 GW pipeline

Europe
- 5.8 GW in operation
- 0.1 GW under construction
- 4.0 GW pipeline

Africa
- 10 MW in operation
- 0.5 GW under construction
- 4.5 GW pipeline
- Of which: 0.7 GW awarded in 2015

Total capacity by technology
- 9,626 MW
  - Geo 9%
  - Hydro 27%
  - Wind 59%
  - Biomass 4%
  - Solar 1%

Total production by technology
- 31.8 TWh
  - Geo 19%
  - Hydro 36%
  - Wind 44%
  - Biomass <1%
  - Solar 1%
Global diversified player in more than 30 countries

1. As of 31st December 2014
2. Among private operators
**Pele Energy Group** (PEG) has three subsidiaries namely, Pele Natural Energy (PNE), Pele Green Energy (PGE) and Knowledge Pele (KP).

PEG owns and operates 689 MW of renewable and base-load power projects across Southern Africa, with involvement in a further 250 MW through its research and development.

PEG’s beginnings can be traced to 2009 with the establishment of Pele, an organisation focused largely on social development. Although the company has evolved into a sound energy group, the company embraces the social development aspects of the business through KP, a business focused solely on this function.

**Pele Green Energy** is an IPP which develops, owns and operates power generation plants in the renewable energy space.

PGE was one of the first 28 preferred bidders in the first round of the REIPPPP alongside Soitec on the 36 MW Solar CPV project. In October 2013, PGE together with Enel Green Power were selected as a Preferred Bidder on the 88 MW Nojoli Wind Farm, as well as on the 60 MW Tomburke Solar and 75 MW Paleishuwei Solar plant as the EPC and O&M contractor alongside its partner Terni Energia. In December 2014 PGE together with ACWA were selected as Preferred Bidder on the 100MW Redstone Solar CSP plant. In April 2015 PGE was selected as Preferred Bidder on the 140MW Karusa Wind Farm, 140MW Soetwater Wind Farm and 140MW Nxuba Wind Farm.

**Pele Natural Energy** primarily develops, owns and operates base-load plants. PNE owns 20.4% of the Kuvaninga project, a 40.29 MW natural gas fires powered plant in Mozambique.

**Knowledge Pele** is engaged in research and development. KP has provided services to over 10 renewable energy projects as well as university linked research projects.
SPONSOR
PELE ENERGY GROUP

Founding Shareholders

100%

Pele Green Energy

30% 30% 30% 35% 30% 10% 30%

Copperton Wind (100MW) Soetwater Wind (140MW) Karusa Wind (140MW) CPV1 Solar (36MW) Nojoli Wind (88MW) Redstone CSP (100 MW) Nxuba Wind (140MW)

20% 20%

Paleisheuwel Solar PV (EPC and O&M) Tomburke Solar PV (EPC and O&M) Copperton Wind (O&M)

40%
The Karusa Wind Farm project delivers exceptional value for money to the South African government, low cost of electricity to electricity consumers and delivers significant economic development benefits to South Africa and the Local Communities.

In REIPPPP Round 4, the DoE awarded 5 wind farm projects as Preferred Bidders in April 2015, including the Karusa Wind Farm.

The Preferred Bidder projects were appointed by the DoE on the basis of their relative ranking in terms of Price (70% weighting) and Economic Development (30% weighting).

Karusa Wind Farm therefore ranks in the top 5 wind projects in the country in terms of delivering value for money to the South African government and citizens.

The Project’s Sponsors have committed to progressive Economic Development targets to ensure meaningful economic development through socio-economic development, enterprise development, preferential procurement, black economic empowerment ownership and job creation in the Local Communities.

As a result of the strong level of competition in REIPPPP Round 4, the DoE made a further allocation and appointed 7 additional wind farm projects. This demonstrates that the Karusa Wind Farm delivers exception value for money as it was one of the highest ranking projects to be awarded Preferred Bidder status by the DoE in REIPPPP Round 4.
In support of the Department of Energy’s objectives to achieve economic development and socio-economic development in South Africa, the Project has made progressive Economic Development commitments across the seven Economic Development Elements including:

1. Job Creation
2. Local Content
3. Ownership
4. Management Control
5. Preferential Procurement
6. Enterprise Development
7. Socio-Economic Development
Job Creation

- During the construction phase, 581 (12-month) jobs will be created for South African Citizens
  - Of which 540 jobs will be created for Black Citizens
  - Of which 291 jobs will be created for Local Citizens providing a boost to the income levels of the members of the Local Communities

- During operations, 95 jobs will be created for South Africa Citizens
  - Of which 74 jobs will be created for Black Citizens
  - Of which 19 jobs will be created for Local Citizens providing sustained employment opportunities for local community members after the completion of construction

Ownership & Local Communities

- 40% of the Equity in the Project will be owned by Black South Africans
- The Local Communities will collectively own 10% of the Karusa Wind Farm through the Karusa Wind Farm Community Trust and benefits will flow to the Local Communities in the form of Development Initiatives, programmes and projects
- Project spend areas and initiatives will be determined through ongoing needs analysis, asset mapping research and multi-stakeholder engagement
- Focus will be given to targeting local socio-economic and enterprise development needs that will provide long term sustainable community benefits, helping to reduce poverty and unemployment, improve economic opportunities and social support structures and improving the quality of lives of Local Community members at all levels: individuals, households and small enterprises
THANK YOU