Perspectives on the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) & the investment and business opportunities it offers

..."it (REIPPPP) has already established a flagship public-private partnership model for South Africa, and indeed the rest of Africa, and in the process is helping alleviate Eskom’s current power crisis while also reducing greenhouse gas emissions."

- Enabling Renewable Energy in South Africa: Assessing the REIPPPP, WWF, August 2014
Presentation Outline

1. Background of the IPPP Programme
2. The role and mandate of the IPPP Office
3. REIPPPP Progress to Date
4. REIPPPP’s Contribution to Generation Capacity
5. REIPPPP Programme Successes
6. Available Investment and Business Opportunities
7. Most Accessible Contracting Opportunities
Background of the IPPP Programme

Overall Goal:-

- To procure energy while contributing to broader national development objectives *viz.* job creation, social upliftment & widening the scope of economic ownership

REIPP PPP Objectives:-

- Increase electricity supply, while reducing reliance on fossil fuels
- Stimulate an indigenous renewable energy industry
- Contribute to socio-economic development & environmentally sustainable growth
Background – Continued

**NDP:**
- SA must invest in a strong network of economic infrastructure:
  - To support medium & long term economic and social goals

- Energy infrastructure - critical component to underpin econ activity & growth
- 10 000 MWs to be established by 2025 in addition to 2013 baseline of 44 000 MWs

**IRP 2010:**
- 17 800 MW target - from renewable energy sources by 2030:
  - 5 000 MW - operational by 2019
  - Further 2 000 MW (i.e. combined 7 000 MW) operational by 2020
Background – Continued

**Further capacity:**
- Base load
- Medium Term Risk Mitigation (MTRM) plan

**Determinations:**
- 6 925 MW - Renewable Energy
- 2 500 MW - Coal
- 800 MW - Co-generation (MTRM plan)
- 3 126 MW - Gas (2 652 MW base load + 474 MW MTRM)
- 2 609 MW - Imported hydro
- 6 300 MW of RE & 1 000 MW of cogeneration - promulgated on 18 August 2015
Summary: Background of the IPPP Programme

**NDP**
The National Development Plan (NDP) identifies the need for South Africa to invest in a strong network of economic infrastructure.

Energy infrastructure is a critical component.

The NDP requires the development of **10 000 MWs additional electricity capacity** to be established by 2025 against the 2013 baseline of 44 000 MWs.

**IRP**
The Integrated Resource Plan (IRP) 2010 developed the preferred energy mix with which to meet the electricity needs over a 20 year planning horizon to 2030.

**Determinations**
In May 2011, the DoE gazetted the New Generation Regulations under the Electricity Regulation Act (ERA) and made the following determinations:
- 6 925 MW RE
- 2 500 MW designated from coal-fired plants
- 800 MW of cogeneration under the MTRM plan
- 3 126 MW of Gas-fired power plants (2 652 MW base load + 474 MW MTRM)
- 2 609 MW of imported hydro

**IPPPP**
The Independent Power Producer Procurement Programme (IPPPP) is a key vehicle for securing electricity capacity from the private Sector for **renewable and non-renewable energy sources** as determined by the Minister of Energy.
Role & Mandate of the IPP Office

- A joint venture between DoE, NT & DBSA

**Primary mandate:**
- Secure electrical energy from the private sector via renewable & non-renewable energy sources

**Services Offered:**
- Professional advisory services
- Procurement management services
- Monitoring, evaluation & contract management services
Role & Mandate of the IPP Office

Renewable Energy Procurement
- REIPP Procurement Programme (onshore wind, solar PV, CSP, small hydro, biomass, biogas, landfill gas)
- Small RE IPPs
- Hydro
- Cogeneration (from agricultural waste / byproducts)

Non Renewable Energy Procurement
- Coal (base load)
- Cogeneration
- Gas

ADVISORY SERVICES
- Gas Utilisation Master Plan (GUMP)
- Small projects fund
- Biofuels

[Logos of Energy Department and National Treasury]
Role of the IPP Office – Continued

REIPPPP Procurement:-
- Onshore wind, solar PV, CSP, small hydro, biomass, biogas, landfill gas
- Small RE IPPs
- Hydro
- Cogeneration (agricultural waste/by products)

Non-Renewable Energy Procurement:-
- Coal (base load)
- Cogeneration
- Gas

Advisory Services:-
- Gas Utilisation Master Plan (GUMP)
- Small projects fund
- Others (Biofuels, demand side management, cross-border)
<table>
<thead>
<tr>
<th>BW 1</th>
<th>BW 2</th>
<th>BW 3</th>
<th>BW 3.5</th>
<th>BW 4</th>
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</table>
| Submission date: 4 November 2011  
28 preferred bidders  
1 425 MW of contracted capacity  
Signature of the PPAs - 5 November 2012 | Submission date: 5 March 2012  
19 preferred bidders  
1 040 MW of contracted capacity  
Signature of the PPAs - 9 May 2013 | Submission date: 19 August 2013  
17 preferred bidders  
1 457 MW of contracted capacity  
Signature of the PPAs - 11 December 2014 (except 2 projects to be signed by mid 2015) | Submission date: 31 March 2014  
2 preferred bidders  
200 MW of contracted capacity  
Signature of the PPAs - expected mid 2015 | Submission date: 18 August 2014  
26 preferred bidders  
2 205 MW of contracted capacity  
Announcement of 13 preferred bidders on 16 April 2015  
13 additional bidders were announced on 7 June 2015  
1 800 MW Expedited Bid Window due on 1 October 2015 |
REIPPPP’s Contribution to Generation Capacity

Since November 2011 more than 6 327 MW from 92 renewable energy projects have been awarded – wind projects contribute more than half of total capacity.

<table>
<thead>
<tr>
<th>Type</th>
<th>BW1 Capacity MW</th>
<th>BW1 Number of Projects</th>
<th>BW2 Capacity MW</th>
<th>BW2 Number of Projects</th>
<th>BW3 Capacity MW</th>
<th>BW3 Number of Projects</th>
<th>BW3.5 Capacity MW</th>
<th>BW3.5 Number of Projects</th>
<th>BW 4 Capacity MW</th>
<th>BW 4 Number of Projects</th>
<th>ALL Capacity MW</th>
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<td>649</td>
<td>8</td>
<td>559</td>
<td>7</td>
<td>787</td>
<td>7</td>
<td>1 362</td>
<td>12</td>
<td>3 357</td>
<td>34</td>
<td>1 457</td>
<td>19</td>
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<td>Solar PV</td>
<td>627</td>
<td>18</td>
<td>417</td>
<td>9</td>
<td>435</td>
<td>6</td>
<td>813</td>
<td>12</td>
<td>2 292</td>
<td>45</td>
<td>813</td>
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<td>Solar CSP</td>
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<td>50</td>
<td>1</td>
<td>200</td>
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<td>600</td>
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<td>Landfill Gas</td>
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<td>1 457</td>
<td>17</td>
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<td>2</td>
<td>2 205</td>
<td>26</td>
<td>6 327</td>
<td>92</td>
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REIPPPP Programme Successes
(up to June 2015)

WITH ONLY THE FIRST 39 IPPs CONNECTED TO THE GRID BY 1 SEPTEMBER 2015, THE REIPPPP IS ALREADY CHANGING THE SOUTH AFRICAN ENERGY LANDSCAPE FOR THE BETTER

- **4 294 GWh**
  - Power generated to date using renewable energy procured by the REIPPPP

- **4.0 Rand billion**
  - More in financial benefit for the country than its cost

- **1.2 million**
  - Homes equivalent powered by electricity generated from RE

- **19 050 job years**
  - Employment opportunities for South African citizens during construction and operation
<table>
<thead>
<tr>
<th>District</th>
<th>Municipality</th>
<th>Nearest Town</th>
<th>BW</th>
<th>Project Name</th>
<th>MW</th>
<th>Tech</th>
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<td>Bojanala</td>
<td>Rustenburg</td>
<td>Marikana</td>
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<td>RustMo1 Solar Farm</td>
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<td></td>
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<td>Brits</td>
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<td>De Wildt</td>
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<td>Dr Kenneth Kaunda</td>
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<td>Matlosana</td>
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<td>Bokamoso</td>
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<td>Ramotshere Moiloa</td>
<td>Ramotshere Moiloa</td>
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<td>Zeerust</td>
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<tr>
<td>Dr Ruth Segomotsi Mompati</td>
<td>Naledi</td>
<td>Vryburg</td>
<td>4.5</td>
<td>Waterloo Solar Park</td>
<td>75</td>
<td>PV</td>
</tr>
</tbody>
</table>
Available Investment & Business Opportunities
Manufacturing Opportunities for Onshore Wind Energy:-

• **Small wind turbines:-**
  e.g.   - Kestrel Wind Turbines (0.6kW to 3kW in size)
         - Aero-Energy

• **Medium/large wind-turbine generators:-**
  e.g.   - PalmTree Power (300kW)

• **Large grid-connected wind turbines:-**
  Limited quantities of components for this market sector
Available Investment & Business Opportunities

CSP Value Chain:-

- **Materials:** steel, plastic, copper, brass, aluminium, concrete, silica, molten salt and synthetic oil. While these are generally sourced globally, many materials (including steel, plastic, aluminium, concrete and potentially synthetic oil) are available in South Africa and some can be manufactured locally.

- **Components:** for the collector system, steam generator system, heat storage system and electrical/control system. Some of these can be manufactured by South African engineering, aerospace and automotive companies.

- **Construction/assembly:** most of the construction can be undertaken by South African companies.
Available Investment & Business Opportunities

Solar PV:-

➢ South Africa has potential for local production of several components that make up a Solar PV plant including:-
  – Module
  – Inverters,
  – Tracking systems
  – Steel structures
  – Cabling
  – Transformers
Most Accessible Contracting Opportunities

CONSTRUCTION PHASE

Electrical:
• Materials Supply
• Cable Installations
• Design
• Sub-station Build

Logistics & Other:
• Security
• Labour Hire
• Accommodation
• Transport
• Crane Hire and Installation
• Cleaning
• Catering

CONSTRUCTION PHASE

Civil:
• Concrete Works
• Reinforcing Steel
• Fuel Supplies
• Storm Water Pipes
• Cement Supply
• Plant Hire
• Fencing
• Tipping Trucks
Most Accessible Contracting Opportunities - Continued

**OPERATIONS PHASE**

- Cleaning
- Gardening
- Electrical Maintenance
- Panels Cleaning
- Transport
- Security
Contact Information

For any enquiries related to the IPPP Programmes, please contact the IPP Office by using the following email address:

query@ipp-renewables.co.za

Website address: www.ipp-projects.co.za