Renewable Energy IPP Procurement Programme (REIPPPP) for South Africa

Department of Energy

"...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
Outline

- Context for the IPPP Programme
- Outcomes of the first bid windows
- REIPPPP programme successes
- Future of REIPPPP
## Context for the IPPP programme

<table>
<thead>
<tr>
<th>NDP</th>
<th>IRP</th>
<th>Determinations</th>
<th>IPPPPP</th>
</tr>
</thead>
</table>
| 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. | 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. | In May 2011, the DoE gazetted the **New Generation Regulations** under the Electricity Regulation Act (ERA) and made the following determinations:  
- **13 225 MW RE**  
- 2 500 MW designated from coal-fired plants  
- 1 800 MW of cogeneration under the MTRM plan  
- 3 126 MW of Gas-fired power plants  
- 2 609 MW of imported hydro | 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. |
REIPPPP: OUTCOMES OF FIRST 5 BID WINDOWS
REIPPPP progress to date

To date there have been 5 Bid Windows (BW) of the REIPPPP...

**BW 1**
- Submission date: 4 November 2011
- 28 preferred bidders
- 1 425 MW of contracted capacity
- Signature of the PPAs - 5 November 2012

**BW 2**
- Submission date: 5 March 2012
- 19 preferred bidders
- 1 040 MW of contracted capacity
- Signature of the PPAs - 9 May 2013

**BW 3**
- Submission date: 19 August 2013
- 17 preferred bidders
- 1 457 MW of contracted capacity
- Signature of the PPAs - 1 December 2014

**BW 3.5**
- Submission date: 31 March 2014
- 2 preferred bidders
- 200 MW of contracted capacity
- Signature of the PPAs - expected mid 2015

**BW 4**
- 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

...contributing 6 327 MW in total
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></th>
<th>BW1 Capacity MW</th>
<th>BW2 Capacity MW</th>
<th>BW3 Capacity MW</th>
<th>BW3.5 Capacity MW</th>
<th>BW 4 Capacity MW</th>
<th>ALL Capacity MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onshore Wind</td>
<td>649</td>
<td>559</td>
<td>787</td>
<td>1 362</td>
<td>3 357</td>
<td></td>
</tr>
<tr>
<td>Solar PV</td>
<td>627</td>
<td>417</td>
<td>435</td>
<td>813</td>
<td>2 292</td>
<td></td>
</tr>
<tr>
<td>Solar CSP</td>
<td>150</td>
<td>50</td>
<td>200</td>
<td>200</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Landfill Gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Biomass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Small Hydro</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>1 425</td>
<td>1 040</td>
<td>1 457</td>
<td>2 205</td>
<td>6 327</td>
<td></td>
</tr>
</tbody>
</table>

Wind projects contribute more than half of total capacity.
Key REIPPPP Energy Triangle facts (for period 11/2013 – 06/2015)

4 294 GWh
REIPPPP Actual energy contributed to National Grid

16%
of the Renewable Energy production in the Free State is available during system peak time (as defined by the Megaflex tariff)

4.4 Mton CO₂ equivalent RE emissions reduction achieved relative to Eskom generated power (0.3 Mtons CO₂ in the Free State)

Decreasing renewables price path

The REIPPPP is delivering energy at increasingly cost competitive rates

Note 1. MAC Consulting report (extract presented by Eskom), EIUG analysis on a levelised cost scenario of Eskom’s New Build programme, NERSA media statements (2012). Latest industry estimates are about R1.05/kWh (SAWEA)
REIPPPP Succesess
Up to June 2015
REIPPPP Programme Successes (up to June 2015)

WITH ONLY THE FIRST 37 IPPs CONNECTED TO THE GRID BY JUNE 2015, THE REIPPPP IS ALREADY CHANGING THE SOUTH AFRICAN ENERGY LANDSCAPE FOR THE BETTER

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

- **4 Rand Billion**
  
  More in financial benefit for the country than its cost\(^1\)

- **1.2 million Homes equivalent\(^2\)**
  
  Powered by electricity generated from RE

- **19 050 job years\(^3\)**
  
  Employment opportunities for South African citizens during construction and operation

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Note 1. Calculated financial benefit (As a result of fuel savings when displacing coal and diesel powered alternatives and the economic benefit of avoiding unserved energy during severe shortfalls – what would have resulted in power cuts if RE was not available) minus tariff payments made to IPPs (not reflecting any socio economic or secondary industry benefits); Assessment concluded by Council of Scientific and Industrial Research (CSIR), published January 2015. Note 2. Annual consumption per household based on Eskom data for residential sector and amps reported number of electrified homes in South Africa. Note 3. Equivalent of a full time employment opportunity for one person for one year.
The REIPPPP has attracted significant investment in BW 1, 2, 3, 3.5 & 4

Committed investments
Bid window 1, 2, 3, 3.5 & 4 (Rand billion)

192.6
Rand billion
Committed (total project costs) for IPP development in BW 1, 2, 3, 3.5 & 4

of which
R53.2 billion from foreign investors and financiers

Technology share of investment
Total Project Costs (Rand billion)

R73.4 billion
38%

R62.4 billion
32%

R53.3 billion
28%

R1.0 billion
0.5%

R2.3 billion
1%

R0.3 billion
0.1%
The South African (local) equity shareholding across BW1 to BW4 equates to 47% (R30.7 billion) of total equity (R65.8 billion), which is substantially more than the 40% requirement. Foreign equity amounts to R35 billion and contributes 53% of total equity.

The REIPPPP contributes to Broad Based Black Economic Empowerment and the creation of black industrialists. Black South Africans own, on average, 29% of projects that have reached financial close.
Procured RE generation capacity

<table>
<thead>
<tr>
<th>Contracted (Total programme – BW 1 - 4)</th>
<th>Operational (online)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of projects</td>
<td></td>
</tr>
<tr>
<td># 92 projects</td>
<td>37 projects</td>
</tr>
<tr>
<td>Capacity (MW)</td>
<td></td>
</tr>
<tr>
<td>6 327 megawatts</td>
<td>1 827 megawatts</td>
</tr>
</tbody>
</table>

Note 1. As at June 2015
Procured RE generation capacity

Note 1. As at June 2015
Local Spend

Local content spend
(Rand billion)
planned

65.0
Rand billion

45% local content planned

21.7
Rand billion

48% local content achieved

The REIPPPP Programme represents the country’s most comprehensive strategy to date in achieving the transition to a greener economy. Local content minimum thresholds and targets were set higher for each subsequent bid window.

Actual local content spend reported for IPPs that have started construction (BW1, BW2 and BW3) amounts to R21.7 billion against a corresponding project value (as realised to date) of R45.2 billion. This means 48% of the project value has been locally procured, exceeding the 45% commitment from IPPs, the thresholds for BW1 – BW4 (25% - 45%)\(^2\) and the 45% target\(^2\) of BW1.

Note 1. IPP data reflects cumulative values over the construction phase and projected operational life (production phase) of the projects (i.e. 20 years); Note 2. Employment measured in job years (equivalent of a full time employment opportunity for one person for one year). Note 3. As at March 2015.
Preferential Procurement Spend

BBBEE spend\(^1\)
(Rand billion)

<table>
<thead>
<tr>
<th></th>
<th>Planned</th>
<th>Actual (inception to date + Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25.6</td>
<td>25.6</td>
</tr>
<tr>
<td></td>
<td>75.8</td>
<td>79.2</td>
</tr>
<tr>
<td>Total</td>
<td>101.5</td>
<td>101.5</td>
</tr>
</tbody>
</table>

\(^{1}\) Note 1. IPP data reflects cumulative values over the construction phase and projected operational life (production phase) of the projects (i.e. 20 years); Note 2. Employment measured in job years (equivalent of a full time employment opportunity for one person for one year). Note 3. As at March 2015.

The contracted target requirement for BBBEE is 60% of total procurement spend. However, the actual share of procurement spend by IPPs from BBBEE suppliers is currently reported as 89%, which is not only significantly higher than the target of 60%, but also the 72% that had been committed by IPPs.

The share of procurement that is sourced from Broad Based Black Economic Empowered (BBBEE), Small and Medium Enterprises (SME), Qualifying Micro Enterprises (QME) and women owned vendors are tracked against commitments and targeted percentages.

BBBEE share
Reported (percentage)

- **Target**: 40% 60%
- **Committed**: 28% 72%
- **Actual to date**: 11% 89%

**Note**: The actual to date for BBBEE share is 89%, which is higher than the pledged commitment of 72%.
Contributing to employment creation for South African citizens

Construction vs operations
Employment split (job years)

18 195
93%
Of planned

855

Numerous employment opportunities are being created by the IPPP programme. To date, a total of 19 050 job years have been created for South African citizens, of which 18 195 were in construction and 855 in operations.

Even though BW3 projects have only just started construction, the employment opportunities that have been reported are already at 93% of the numbers planned during the construction phase (i.e. 19 517 job years), with 24 projects still in construction and employing people. The number of employment opportunities can reasonably be expected to continue to grow beyond original expectations.

Note 1. IPP data reflects cumulative values over the construction phase and projected operational life (production phase) of the projects (i.e. 20 years); Note 2. Employment measured in job years (equivalent of a full time employment opportunity for one person for one year). As at March 2015.

Note 3. IPP data reflects cumulative values over the construction phase and projected operational life (production phase) of the projects (i.e. 20 years); Note 4. Employment measured in job years (equivalent of a full time employment opportunity for one person for one year). As at June 2015.
Socio-Economic Development (SED) and Enterprise Development (ED) Contributions

SED and EnD

(Rand billion)

<table>
<thead>
<tr>
<th>Committed</th>
<th>Realised (ITD + Q)</th>
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<tr>
<td>R 19.1 billion</td>
<td>R 19.1 billion</td>
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</table>

2.2% of revenue 32% in last Q

ITD Q

R 76.7 million R 24.3 million

An important focus of the REIPPPP is to ensure that the build programme secures sustainable value for the country and enables local communities to benefit directly from the investments attracted into the area.

IPPs are required to contribute a percentage of projected revenues accrued over the 20 year project operational life toward SED initiatives. The minimum compliance threshold for SED contributions is 1% of revenue with 1.5% the targeted level over the 20 year project operational life.

Already at this early stage, with a limited number of IPPs operational, SED contributions amount to R 76.7 million to date. Of this, R 24.3 million or 32% was spent in the last quarter ending June 2015.

Note 1. 20 years operational life. Note 2. Actuals will grow exponentially as more projects reach COD; Actuals reported for period up to June 2015.
Enterprise and socio-economic development commitments have been made in six categories; namely, education and skills development, social and welfare, management and planning, healthcare, enterprise development and infrastructure.

All operational IPPs are required to report on the initiatives they have implemented to alleviate socio-economic challenges faced by the local communities in which they operate.

The majority of SED spend allocated by IPPs has been in the education and skills development (40%) and enterprise development categories (21%). The rest of the SED spend has been shared between social and welfare (14%), management and planning (7%), healthcare (3%) and infrastructure projects (7%). About 8% has not been allocated to one of the categories or is withheld for future SED spend.

Note 1. 20 years operational life. Note 2 Actuals will grow exponentially as more projects reach COD; Actuals reported for period up to March 2015.
Powering change
an investment in knowledge pays the best interest.

Benjamin Franklin
water is the
driving force
of all nature.
Leonardo da Vinci

FROM SOLAR POWER TO CLEAN DRINKING WATER

Droogfontein Solar Plant
45.6 MW capacity | Droogfontein, Northern Cape

energy
Department: Energy
REPUBLIC OF SOUTH AFRICA
There is nothing more important than a good, safe, secure home.

rosalynn carter
RUSTMO1 SOLAR FARM
6.93 Mw capacity  |  RUSTENBURG, NORTH WEST

HELPING STUDENTS MAKE THEIR DREAMS COME TRUE

Department: Energy
REPUBLIC OF SOUTH AFRICA
SCATEC SOLAR KAL KUILT
72,5 MW capacity | PHILLIPSTOWN, NORTHERN CAPE

FUNDING THE EARLY CHILDHOOD DEVELOPMENT PROGRAMME

REPUBLIC OF SOUTH AFRICA
FUTURE OF THE REIPPPP
The future of the REIPPPP
The DoE will further accelerate and expand the REIPPPP

1. IPP Office has issued a Request for Further Proposals for an expedited procurement process of 1 800MW from all technologies on 25 June 2015

2. IPP Office to redesign the current RFP for the BW 5, that is planned for issuing in 2nd quarter of 2016/17

3. Minister of Energy made a new determination for an additional 6300MW for the REIPPPP
Redesign the RFP for BW 5

• The Minister of Energy directed the IPP Office to redesign the current RFP for the 5th Bid Submission phase.
• Solicited views through Public Participative Process.
• Key aspects of the RFP that will be redesigned include:
  – The definition of local community,
  – The mechanisms to ensure early, efficient and equitable benefits to the communities
  – The local content / industrialisation regime

*The constrained distribution and transmission systems will also be taken into account in the redesign

The new RFP should be ready for release in the second quarter of 2016
THANK YOU