energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank
of Southern Africa

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

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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

REIPPPP 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 - 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

energy
Department: Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department: National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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

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

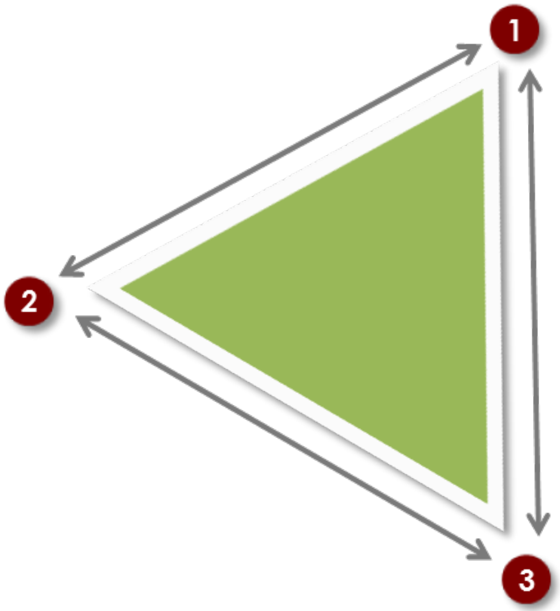
- **<u>Services Offered:-</u>**
  - Professional advisory services
  - Procurement management services
  - Monitoring, evaluation & contract management services

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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

energy
Department: Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department: National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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)

REIPPPP Progress to Date

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 - 11 December 2014 (except 2 projects to be signed by mid 2015)

BW 3.5

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

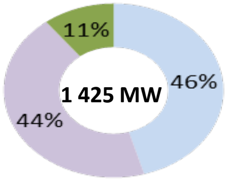
BW 4

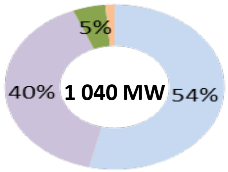
- Submission date: 18 August 2014
- 26 preferred bidders
- 2 205 MW of contracted capacity
- Announcement of 13 preferred bidders on 16 April 2015
- 13 additional bidders were announced on 7 June 2015
- 1 800 MW Expedited Bid Window due on 1 October 2015

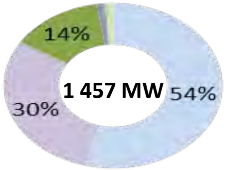
REIPPPP's Contribution to Generation Capacity

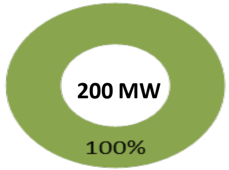
Since November 2011 more than 6 327 MW from 92 renewable energy projects have been awarded – wind projects contribute more than half of total capacity

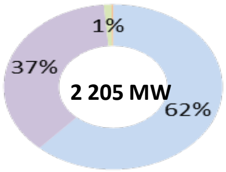
	BW1		BW2		BW3		BW3.5		BW 4		ALL	
	Capacity MW	Number of Projects	Capacity MW	Number of Projects	Capacity MW	Number of Projects	Capacity MW	Number of Projects	Capacity MW	Number of Projects	Capacity MW	Number of Projects
Onshore Wind	649	8	559	7	787	7			1 362	12	3 357	34
Solar PV	627	18	417	9	435	6			813	12	2 292	45
Solar CSP	150	2	50	1	200	2	200	2			600	7
Landfill Gas					18	1					18	1
Biomass					17	1			25	1	42	2
Small Hydro			14	2					5	1	19	3
	1425	**28**	**1040**	**19**	**1457**	**17**	**200**	**2**	**2 205**	**26**	**6 327**	**92**

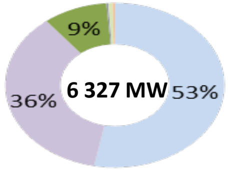












REIPPP Programme Successes
(up to June 2015)

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

REIPPPP North West Project Locations

District	Municipality	Nearest Town	BW	Project Name	MW	Tech
Bojanala	Rustenburg	Marikana	1	RustMo1 Solar Farm	6.8	PV
	Madibeng	Brits	4.5	De Wildt	50	PV
Dr Kenneth Kaunda	City of Matlosana	Matlosana	4.5	Bokamoso	68	PV
Ngaka Modiri Molema	Ramotshere Moiloa	Ramotshere Moiloa	4.5	Zeerust	75	PV
Dr Ruth Segomotsi Mompati	Naledi	Vryburg	4.5	Waterloo Solar Park	75	PV

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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.

energy
Department: Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department: National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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

<u>CONSTRUCTION PHASE</u>
<u>Electrical:</u>
- Materials Supply
- Cable Installations
- Design
- Sub-station Build

<u>Logistics & Other:</u>
- Security
- Labour Hire
- Accommodation
- Transport
- Crane Hire and Installation
- Cleaning
- Catering

<u>CONSTRUCTION PHASE</u>
<u>Civil:</u>
- Concrete Works
- Reinforcing Steel
- Fuel Supplies
- Storm Water Pipes
- Cement Supply
- Plant Hire
- Fencing
- Tipping Trucks

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa

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

energy
Department: Energy
REPUBLIC OF SOUTH AFRICA

national treasury
Department: National Treasury
REPUBLIC OF SOUTH AFRICA

DBSA
Development Bank of Southern Africa