Auctions as a tool to improve investor confidence

IRENA ASEAN Regional Workshop on Accelerating Renewable Energy Investments in Southeast Asia

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A WORLD ELECTRIFIED BY RENEWABLE ENERGY
Overview

> Introduction to Mainstream Renewable Power
> Case Study – the South African REIPPPP
> Lessons learned
Introduction to Mainstream
Overview

- Mainstream Renewable Power Limited (“Mainstream”) is a leading global international developer of large utility-scale renewable energy projects

**DELIVERED INTO OPERATION**
- **804 MW**

**IN CONSTRUCTION**
- **549 MW**

**OFFSHORE ASSETS SOLD WITH CONSENT**
- **3,450 MW**

**IN DEVELOPMENT**
- **9,000 MW**

- **Four** platforms – onshore wind and solar ASEAN, LATAM, Africa and global Offshore wind
- **ASEAN** – actively developing wind and solar projects in Vietnam and the Philippines. Looking at Thailand, Malaysia and Indonesia
- **Offshore** – developing SE Asia’s largest offshore wind farm – 800MW Soc Trang, Vietnam
Competitive tenders won to date

- **SCOTLAND**
  - **2009 & 15**
  - **450 MW**
  - The Scottish Government awarded Mainstream the licence to develop the Neart na Gaoithe offshore wind farm in 2009.
  - In 2015, the UK Government awarded the project a Contract for Difference (CfD).

- **ENGLAND**
  - **2010**
  - **4,000 MW**
  - The Crown Estate awarded SMart Wind the licence to develop the Hornsea Zone.
  - SMart Wind, a JV between Mainstream and Siemens was the only non-utility to be successful.

- **S. AFRICA**
  - **2011-15**
  - **848 MW**
  - The South African Government has awarded Mainstream eight projects through its Independent Power Producers Programme (REIPPPP).
  - Jeffreys Bay wind project was one of the first and largest wind energy power plants on the continent of Africa.

- **EGYPT**
  - **2015**
  - **250 MW**
  - The Egyptian Government awarded a 250MW wind project in the Gulf of Suez through the BOO program to our joint venture Lekela Power.

- **CHILE**
  - **2015 & 16**
  - **1,286 MW**
  - The National Energy Commission awarded contracts to build and operate nine wind and solar projects through its competitive energy tender.
  - The 2016 award of 986MW represents 27% of the total allocated capacity and a total investment value of USD $1.65bn.
Case Study

South Africa – the REI4P
South Africa – the REI4P

**National Development Plan**
Sets the context for the country to invest in critical infrastructure to deliver economic growth and meet a range of policy goals

10GW of additional electricity capacity required by 2025

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**Integrated Resources Plan**
Sets out the optimum generation mix for the country to meet its electricity obligations under the NDP

Gives a twenty year projection and is updated every political cycle

2018 Draft IRP forecasts additional Solar PV (8GW), Wind (11GW) and large-scale Hydro (4.7GW)

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**Ministerial Determination**
New Generation Regulations issued by the Minister of Energy cognisant of the objectives set out in the NDP and IRP Determinations in 2011, 2012 and 2015

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**I4P**
The Independent Power Producer Programme is established by the National Treasury, the Department of Energy and the Development Bank of South Africa

The IPP Office exists as a standalone entity to administer the I4P and procure the power sought under the Ministerial Determinations
The impact of certainty

REIPPPP weighted average (ZAR/kWh)

Bid Window 1, 2.52
Bid Window 2, 1.66
Bid Window 3, 1.34
Bid Window 4, 0.82
Bid Window 5 ?, 0.5

The IPPO, through their mandate, have established a transparent procurement process that has attracted international and local investment.

REIPPPP has delivered 6.4GW of new generation capacity in 8 years, by successfully aligning to the NDP, IRP and RFP in a well-structured process.

As of June 2017, REIPPPP had created 32,532 direct, Full Time Equivalent (FTE) person-years of employment.

Over ZAR201.8bn (USD14bn) raised in committed capital to project costs, of which 24% has been sourced from foreign investors and financiers.

Local industry has grown out of the RFP requirements and this includes factories for wind turbine tower fabrication, PV panel assembly, logistics companies sourcing large cranes and abnormal local fleets and interconnection infrastructure (e.g. high voltage transformers).

Local investment entities have broadened their asset investment classes to include renewable generation facilities.
Why REI4P works

> Openness and Transparency
  • Clear government medium term policy framework
  • Multiple bid windows
  • Independent IPP Office
  • Transparent bidding and evaluation process – objective criteria
  • Implementation Agreement and non-negotiable PPA

> More than simple price discovery
  • Socio-economic criteria
  • Supply chain criteria
  • Wider government economic development and just transition objectives
New pathways

In the CSIR Re-Optimised case, 100 GW of wind & 60 GW of PV by 2050

As per Draft IRP 2016

Draft IRP 2016 Base Case
Draft IRP 2016 Carbon Budget
CSIR Re-Optimised

Total installed net capacity in GW

250
200
150
100
50
0

2016
2020
2030
2040
2050

Solar PV
Wind
Gas (CGT)
Nuclear
CSP
Peaking
Hydro-PV
 Coal

40 bn l/yr

CSIR Re-Optimised case without renewables limits is R90 billion/yr cheaper than both IRP 2016 Base Case & IRP 2016 Carbon Budget case

Draft IRP 2016 Base Case
Draft IRP 2016 Carbon Budget
CSIR Re-Optimised

CO2

200 Mt/yr

100 Mt/yr

70 Mt/yr

H2

40 bn l/yr

16 bn l/yr

11 bn l/yr

Sources: CSIR analysis

$580 billion/yr

$580 billion/yr

$490 billion/yr
Lessons learned

South Africa
Chile
United Kingdom
Lessons learned

> Build a market first – FiTs/ administrative round to encourage investment and clarify eligibility, offtake and grid rules

> Medium-term, rolling programmes give Investor certainty and allows government planning

> Clear Government (Finance Dept) backing and independent Bid Office

> Beyond price discovery – what do you want – cheaper than coal/ firm power/ new industry?

> Supply chain growth

> Socio – economic and just transition objectives
Thank you

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