



Department of Energy

Conference Aim and Outline

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Director: Renewable Energy Initiatives



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Presentation Outline

- Contextual Background
- Conference Aim
- Conference Outcomes
- Outline



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Energy Policy and Legislative Framework

Energy Act No 34 of 2008 seeks to

- ensure that **diverse energy resources are available, in sustainable quantities and at affordable prices, to the South African economy** in support of economic growth and poverty alleviation, taking into account environmental management requirements and interactions amongst economic sectors;
- provide for energy planning, and
- **increased generation and consumption of renewable energy**
- **Gas Act 2001 (ACT NO. 48 OF 2001)** Section 28 of the Gas Act requires owners of operations involved in the production, importation and transmission of gas for their own exclusive use and small biogas projects not connected to the national gas pipeline grid to register such operations with NERSA. These operations are not required to be licensed, but must be registered with NERSA.

Integrated Energy Plan

- a draft is currently out for stakeholder consultation and input

Integrated Resource Plan 2010-2030 (IRP 2010)

- The IRP 2010 was promulgated in May 2011



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Energy Policy and Legislative Framework

The IEP seeks to:

- Describe the conditions in which the energy sector may need to operate.
- Determine the energy demand for the given conditions.
- Find the optimum mix of supply technologies and commodities to minimise the cost of the energy system within given constraints and considering interactions between all parts of the energy sector.
- Review policy options which may constrain or enable certain outcomes as part of case studies.
- Inform targets and investments.
- Define and advise legislation, regulations and policies.



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Energy Policy and Legislative Framework

The IRP 2010-2030 seeks to:

- Is a **“living” plan**, which will be updated on an ongoing basis to reflect the changing needs of South Africa and to learn from the inevitable changes in our economical, social and technological environment.
- **Primary objective is to determine long term electricity demand and detail how this should be met in terms of type of sources for generation, timing and cost.**
- Government directed that the IRP must seek to **find a balance** between these key objectives:
 - Affordability**
 - Reducing carbon emissions (*Towards a Green Economy*)**
 - Water conservation**
 - Localisation, and**
 - Regional development**



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Integrated Resource Plan 2010-2030 in brief

	New build options							
	Coal (PF, FBC, imports, own build)	Nuclear	Import hydro	Gas – CCGT	Peak – OCGT	Wind	CSP	Solar PV
	MW	MW	MW	MW	MW	MW	MW	MW
2010	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	300
2013	0	0	0	0	0	0	0	300
2014	500 ¹	0	0	0	0	400	0	300
2015	500 ¹	0	0	0	0	400	0	300
2016	0	0	0	0	0	400	100	300
2017	0	0	0	0	0	400	100	300
2018	0	0	0	0	0	400 ⁴	100 ⁴	300 ⁴
2019	250	0	0	237 ³	0	400 ⁴	100 ⁴	300 ⁴
2020	250	0	0	237 ³	0	400	100	300
2021	250	0	0	237 ³	0	400	100	300
2022	250	0	1 143 ²	0	805	400	100	300
2023	250	1 600	1 183 ²	0	805	400	100	300
2024	250	1 600	283 ²	0	0	800	100	300
2025	250	1 600	0	0	805	1 600	100	1 000
2026	1 000	1 600	0	0	0	400	0	500
2027	250	0	0	0	0	1 600	0	500
2028	1 000	1 600	0	474	690	0	0	500
2029	250	1 600	0	237	805	0	0	1 000
2030	1 000	0	0	948	0	0	0	1 000
Total	6 250	9 600	2 609	2 370	3 910	8 400	1 000	8 400

■ First Determination
■ Second Determination

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1. Built, owned & operated by IPPs 2. Commitment necessary due to required high-voltage infrastructure, which has long lead time 3. Commitment necessary due to required gas infrastructure, which has long lead time 4. Possibly required grid upgrade has long lead time and thus makes commitment to power capacity necessary



Ministerial Determination

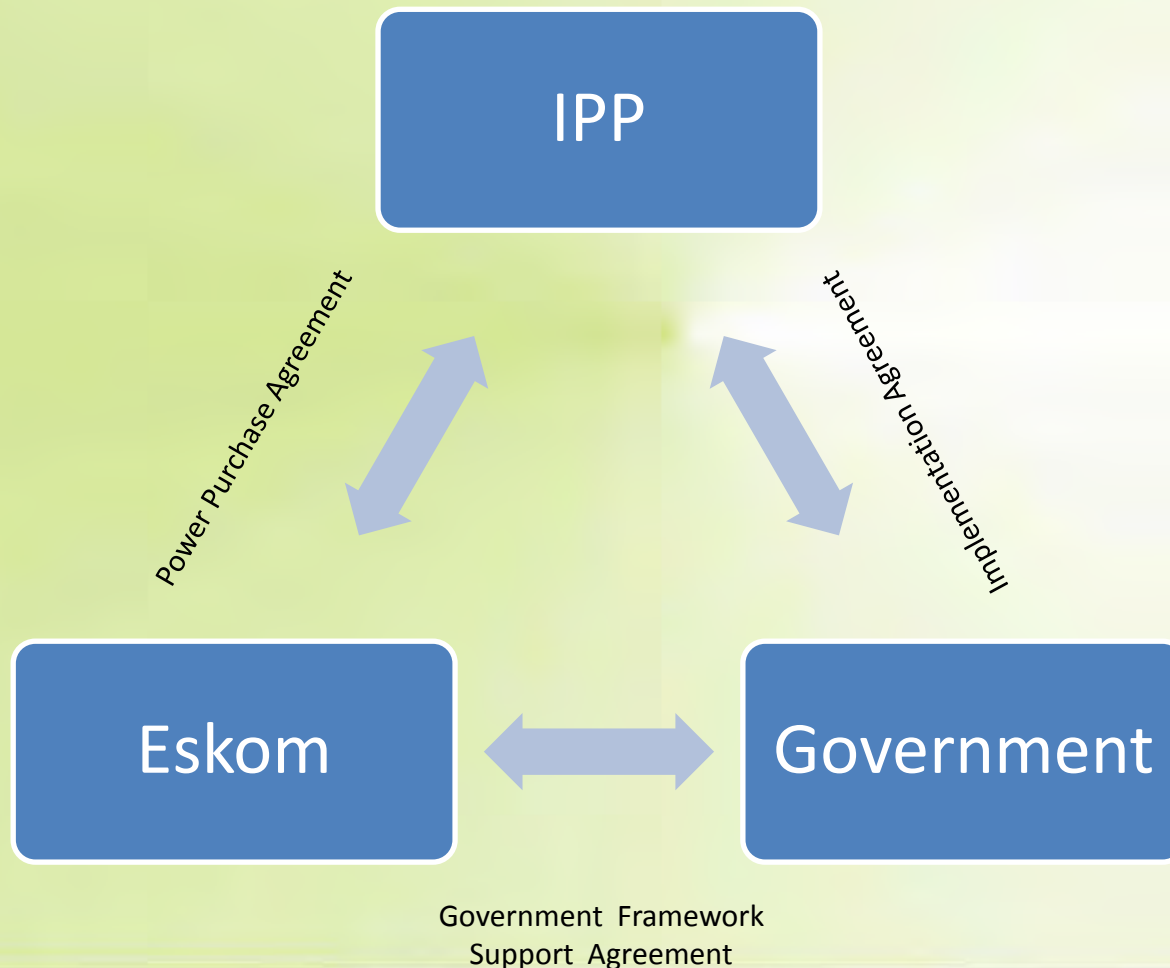
- The Minister determined, in consultation with NERSA, that New Generation Capacity is required in accordance with the IRP2010.
- The first determination provided for procurement of 3 725MW across different technologies (inclusive of 100 MW Small Projects).
- Procurement documents were prepared and approved by the Director General to procure power from the private sector, save for the 100 MW reserved for Small Projects.
- The second determination was issued in 2012 providing for 3 200 MW



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Contractual Arrangement



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First Ministerial Determination 2011

Analysis of MW allocated and remaining MW

Technology	MW First Determination	First Bid Submission Phase November 2011	Second Bid Submission Phase 05 May 2012	MW allocated to 3 rd Bid Submission Phases 19 August 2013
Onshore wind	1 850.0 MW	634.0 MW	562.5 MW	653.5 MW
Solar photovoltaic	1 450.0 MW	631.5 MW	417.1 MW	401.4 MW
Concentrated solar power	200.0 MW	150.0 MW	50.0 MW	400 MW
Small hydro (≤ 10 MW)	75.0 MW	0.0 MW	14.3 MW	60.7 MW
Landfill gas	25.0 MW	0.0 MW	0.0 MW	25.0 MW
Biomass	12.5 MW	0.0 MW	0.0 MW	12.5 MW
Biogas	12.5 MW	0.0 MW	0.0 MW	12.5 MW
Total	3 625.0 MW	1 415.5 MW	1 043.9 MW	1 165.6 MW



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Second Determination December 2012

RE MW allocation for the coming windows

Technology	MW Second Determination	4 th Bid Submission Phase	5 th Bid Submission Phase
	December 2012	August 2014	August 2015
Onshore wind	1 470 MW	600 MW	600 MW
Solar photovoltaic	1 075 MW	400 MW	400 MW
Concentrated solar power	400 MW	MW remaining from window 3	
Small hydro (≤ 40 MW)	60 MW	60 MW	MW remaining from window 4
Landfill gas		0.0 MW	MW remaining from window 4
Biomass	47.5 MW	47.5 MW	MW remaining from window 4
Biogas	47.5 MW	47.5 MW	MW remaining from window 4
Small projects	100 MW		Separate RFP
Total	3 200 MW	1 155 MW	1 000 MW



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Conference Aims

- To begin a conversation on the vast opportunities presented by biogas technology in South Africa as indicated at the back of the conference programme;
- To establish consensus on the steps that need to be taken to raise the profile of biogas technology, focusing on the roles of Government, Industry, Academia, Research institutions and the Media;
- To explore the possible options for increasing uptake and acceptance of this technology as a key component of increasing access to modern energy services in rural areas, farming communities etc. using experiences learned from India and elsewhere;
- To improve the uptake of biogas through the Renewable Energy Independent Power Producer Programme
 - Through sharing lessons learnt from local and international case studies/experience;
- To assist with launching the Southern African Biogas Industry Association as a first action step towards raising awareness on the potential of biogas technology in South Africa & increasing its uptake.



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Conference Outcomes

In summary, the conference will highlight:

- Biogas technology and the benefits of the industry with a focus on the added benefits of waste management;
- The production of free surplus thermal energy;
- Reduction in greenhouse gas emissions and the sale of carbon credits;
- Exciting prospects around manufacturing, job creation and enterprise development;
- Green skills development and skills transfer;
- Options for financing the biogas industry; and
- Supplying sustainable energy to the Rural, Municipal, Agricultural and Commercial sectors.



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Conference Outcomes

- The potential incorporation of the biogas programme into the off-grid solutions offered under the INEP off-grid electrification programme for funding purposes, and support towards providing universal access to modern energy services.
- The setting up of a temporary Steering Committee to facilitate the resolution of the challenges that will be identified by the conference delegates.
- Launch of the Biogas Industry Association to work with government on the promotion of biogas deployment



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Conference Outline

- Refer to programme.



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Thank you

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 - www.energy.gov.za and
 - www.ipp-renewables.co.za



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