



energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

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STAKEHOLDER INFORMATION PACK

IRP 2010



Executive Summary

The Integrated Resource Plan (IRP) in the South African context is not the Integrated Energy Plan but purely an Electricity Plan and is therefore only a subset of the Integrated Energy Plan (IEP). The IRP is not a short or medium-term operational plan but a medium to long-term plan that directs the expansion of the electricity supply over the given period (at least 25 years).

1. Integrated Energy Plan (IEP)

The Department of Energy (DOE) is responsible for developing the National Integrated Energy Plan (IEP), which incorporates the formation of a general equilibrium model involving the economy as a whole, and energy component specifically. This plan is significant due to the inherent interaction between components of the energy industry.

From an electricity point of view the IEP should incorporate the interaction between electricity and liquid fuels and between electricity and coal. Whereas the interaction is bi-directional (including the demand of refineries and mines for electricity), the significant impact is the demand placed by existing and new power stations on the fuel capacity in the country.

2. Integrated Resource (Electricity) Plan

The policy environment provides the direction to the Integrated Resource Plan (IRP). The DoE remains responsible for the development of the IRP as described in the “Regulations for New Generation Capacity” published on 5 August 2009.

The plan is a mechanism by which key electricity system, sustainability and government policy requirements are met, so that the following questions are answered:

- What are the electrical energy requirements for South Africa?
- By when is the capacity needed to provide for the electrical energy requirements?
- What is the appropriate mix of technologies to meet these needs that meet the required policy objectives?

The Electricity Regulations on New Generation Capacity states that the process for developing the integrated resource plan shall include:

- a) Adoption of the planning assumptions;
- b) Determination of the electricity load forecast;
- c) Modelling and scenario planning based on the planning assumptions;
- d) Determination of the base plan derived from a least cost generation investment requirement;



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- e) Risk adjustment of the base plan, which shall be based on:
 - i. The most probable scenarios; and
 - ii. Government policy objectives for a diverse generation mix, including renewable and alternative energies, demand side management and energy efficiency.
 - f) Approval and gazetting of the integrated resource plan.

3. Stakeholder Engagement Process

The Stakeholder engagement process is a multi-stage process to ensure sufficient and effective, but not endless consultation. This consultation process does not replace the Public Participation process, which will proceed from the publication of consultation sheets and finally the IRP. The major stages of the consultation process are:

- a) Registration as an Interested and Affected Party on the DOE Database;
- b) Receive the Stakeholder Information Pack;
- c) Stakeholders provide written input on the Proposed Planning Assumptions;
- d) Workshop with Stakeholders on the feedback received and the final agreed parameter values;
- e) Stakeholders receive the modelling outputs (based on the input parameters) and the draft IRP;
- f) DOE host a workshop on the draft IRP with stakeholders; and
- g) Stakeholders provide final written comments.

The invitation to register as a stakeholder has been published as an advertisement. The process of the consultation will be brief and intense due to the timeframes allocated for the IRP to be published. The consultation process will be managed by DOE and will use structures and processes, which currently exist to ensure broad and effective consultation. These include, amongst others:

- NEDLAC;
- NERT;
- Other Industry and Stakeholder fora; and
- Other bi-lateral and multi-lateral fora (as required).

The primary approach to the consultation process will be to provide the registered stakeholders with information, collate the written feedback and then workshop with those stakeholders that provided the written input on the outcomes of their inputs.

It is crucial that all stakeholders will only be invited to participate in workshops and / or fora only on receipt of written responses to the stakeholder information pack.



4. Draft Parameters for Consultation

29 input parameters have been identified as critical to the modelling process for the IRP. Each of these Parameters has an associated Fact Sheet, which describes to the stakeholder the nature, impact, value, ranges of values and other pertinent information on the parameter and its importance to the final IRP.

The first stage of consultation (post registration) will be to comment on the values of these parameters. Once agreement has been reached on the values, these values will then be used in the modelling process.

No	ID	Parameter	Owner
1	D1	Demand (Energy & Maximum Demand) Forecast: (Demand Input)	System Operator (SO) Forecasting Department
2	D2	Gross Domestic Product (GDP) : (Demand Input)	National Treasury
3	D3	Electricity Intensity – Short Term : (Demand Input)	Department of Trade and Industry National Treasury Department of Economic Development Department of Planning
4	D4	Electricity Intensity – Long Term: (Demand Input)	Department of Trade and Industry National Treasury Department of Economic Development Department of Planning
5	D5	Price Elasticity of Demand: (Demand Input)	National Treasury
6	D6	Demand side management: (Demand Input)	Department of Energy
7	D7	Energy efficiency : (Demand Input)	Department of Energy
8	D8	DMP / DR: (Demand Input)	Eskom
9	D9	Energy Conservation: (Demand Input)	Department of Energy NERSA
10	D10	Own Generation: (Demand Input)	Department of Energy
11	S1	Cost of Unserved Energy (COUE): (Supply Input)	NERSA
12	S2	Reserve Margin: (Supply Input)	Department of Energy with input from NERSA and System Operations Planning Department
13	S3	Discount Rate: (Supply Input)	National Treasury Department of Public Enterprises
14	S4	Renewable Energy (RE): (Supply Input)	Department of Energy Department of Environmental Affairs
15	S5	Exchange Rate: (Supply Input)	National Treasury
16	S6	Cogeneration: (Supply Input)	Department of Energy
17	S7	Nuclear: (Supply Input)	Department of Energy



No	ID	Parameter	Owner
18	S8	Imports: (Supply Input)	Eskom: Regional Development
19	S9	Generation Life Cycle Cost - IRP 2010 Input Parameter information sheet (Supply input) – provide a unique sheet per technology	Department of Energy with input from the SO Planning function Department of Science and Technology
20	S10	Generating Plant Location: (Supply Input)	Department of Energy
21	S11	Generation Mix: (Supply Input)	System Operator, Energy Planning
22	S12	Funding & Financing : (Supply Input)	National Treasury
23	Ex1	Climate Change: (Externality)	Department of Environmental Affairs
24	Ex2	Carbon Tax: (Externality)	Department of Environmental Affairs National Treasury
25	Ex3	Water: (Externality)	Department of Environmental Affairs Department of Energy
26	Ex4	Distribution Infrastructure: (Externality)	The Electricity Distribution sector, with direct influence from the Electricity Regulator (via tariffs)
27	Output 1	Base Scenarios: (Output)	Department of Energy
28	Output 2	Generation Cost Cone : (Output)	Department of Energy NERSA
29	Output 3	Rate of Inflation: (Output)	National Treasury

5. Conclusion

The development of the IRP is a crucial step in ensuring South Africa's continued growth. Its impact not only on the electricity industry, but economic growth, climate change and other natural resources means that effective consultation is crucial. The DOE is committed to ensuring that this IRP has been significantly interrogated by all interested parties to ensure that the country can unite behind this crucial strategy for the electricity security of the country.