Comments on the draft IRP 2010
19th November 2010

The Fossil Fuel Foundation of Africa is the premier world-class, knowledge-based institution serving the techno-intellectual needs of the multidisciplinary fossil fuel and energy community in Africa, through communication, information distribution, coordination, education, promotion and networking.

Purpose of FFF presentation

- To lobby in the national interest for an Energy Plan supported by Government and Industry commitment;
- that will ensure South Africa's Energy security in the short and long term;
- through the adequate, timely, reliable, and affordable supply of quality power;
- for industrial growth, socio-economic development and stability, and job creation.

Context

The FFF understands that the IRP 2010 also serves as input to other planning functions, *inter alia* economic development, funding, environmental and social policy formulation for South Africa.

The Revised Balanced Scenario being considered aims to represent a fair and acceptable balance considering the divergence in stakeholder expectations and key constraints and risks, including:

- Affordability;
- Reducing carbon emissions;
- New technology uncertainties such as costs, operability, lead time to build;
- Water usage;
- Job creation;
- Security of supply.

All comments made are within this context.

FFF position

The FFF supports the view that nuclear and renewables are essential for the long-term future supply of South Africa's electricity.

However, coal should only begin to be phased out once renewables can supply sufficient energy in a secure, reliable and affordable manner. The burden of proof for this must rest squarely with the technology developers and proponents of renewable energies. Until then coal and society should not be burdened with unnecessary and damaging administrative and imposed costs.

A real threat lies in the premature imposition of coal taxes and emission caps for CO_2 emissions that could make coal uneconomic - with attendant socio-economic and political consequences.

The FFF has not opted to engage in the detail of the plan, but has rather confined its comments to the dangers lying in the risks noted and to the mitigating actions that can be taken.

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Coal's value proposition

Coal is a multi-product strategic commodity with multiple uses as gases, liquid fuels, solids, and chemicals.

It provides spin-offs of jobs, power supply security, export earnings and import savings, infrastructure development and fiscal revenues.

DMR statistics show coal has a higher sales value than gold and PGMs		
Revenue R bn	**2009**	**2010 (to July)**
Gold	49	49
PGMs	58	64
Coal	65	66

Moreover, the overall annual value of coal to the SA economy is estimated to be in the range R 100 - R200 bn (if coal and other products derived from them had to be imported), not including the benefits of employment, taxation and economic stimulation.

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Risks identified in the IRP draft plan (1)

1. Further slippage in Medupi as discussed in the Medium Term Risk Mitigation Plan (MTRMP):
   - Scenario 3 adopted;
   - Scenario 2 would give a cumulative shortfall of 8 TWh in the period 2013-2015.

2. Implications of Eskom operating its ageing fleet of coal-fired stations at a high EAF (84.5% as per Scenario 3 of the MTRMP), as compared to 82,5% if the existing fleet were to be given the requisite time to carry out major maintenance (ref. MTRMP 3.1.1).

3. New nuclear programme start date delayed beyond the planned 2023: this is premised on a concern that 12-13 years is not a long enough lead time for ordering, design, supply, construction and commissioning.

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Risks identified in the IRP draft plan (2)

4. Shortfalls in required supply if the Supply and Demand Options in the MTRMP are not realised, both within and beyond the timeline of the MTRMP.

5. The readiness and availability of industrial-scale renewable energy (solar, wind and hydro) on the timelines described.

6. The cumulative effect of the above 5 risks will curtail investor confidence and hence both economic growth and job creation.

7. Implications for national competitiveness based on the projected electricity price of ± R 1.10 (in ZAR 2010).

8. General risk to SA's economy of moving prematurely away from coal.

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Proposals (1)

1. Producers should be encouraged to produce up to 5 GW FBC capacity as soon as possible:
    - The draft plan includes installation of 5 GW of new coal capacity in the period 2027-2030 - this should be brought forward to act as a buffer against the risks noted;
    - While carbon emissions will rise slightly in the intermediate period, the annual emissions will be the same in 2030 as in the draft plan;
    - The new capacity should be used both to buffer against the risks noted and to allow replacement of ageing, expensive and inefficient coal plant.

Proposals (2)

2. Reductions in future emissions should be factored into the calculations, resulting from:
   - Improvements in coal combustion efficiency;
   - Carbon capture and storage.

   This will help to ensure that coal is not phased out prematurely in a rush to nuclear and renewables.

   As part of this, the emission factors (t CO_2/MWh) used in the calculations should be updated to reflect international best practice (for example, fluidised bed coal emissions are currently overstated in the model).

3. Coal should only begin to be phased out once renewables can supply sufficient energy in a secure, reliable and affordable manner. The burden of proof for this must rest squarely with the technology developers and proponents of renewable energies. Until then coal and society should not be burdened with unnecessary and damaging administrative and imposed costs.

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Benefits of proposals

1. Increases security of electricity supply, by making FBC coal capacity available as a buffer against the risks noted.

2. Facilitates economic growth and job creation.

3. Reduces reliance on ageing, expensive and inefficient coal plant.

4. Reduces risks of consequences of a premature rush to nuclear and renewables.

Current coal initiatives to mitigate CO_2 emissions

- Coal Resource Assessment - Eskom/CGS;
- Coal Roadmap Initiative - DMR/DME/Industry/FFF;
- Efficiency Initiatives – DSM/SSM by Eskom/Industry and the entire coal value chain;
- Local and International Clean Coal R&D and Technology Developments for the entire coal value chain;
- Carbon Capture and Sequestration (CCS) - SA Atlas and International Development Projects.;
- Underground Coal Gasification (UCG) – currently being tested by Eskom.