

# FISH HOEK VALLEY RATEPAYERS & RESIDENTS ASSOCIATION

*(Incorporating Fish Hoek, Clovelly and Sun Valley)*

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**TO: DIRECTOR-GENERAL: DEPARTMENT OF ENERGY**  
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**SUBJECT: COMMENTS ON DRAFT INTEGRATED RESOURCE PLAN 2018**

**DUE: 26 OCTOBER 2018**

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## 1. DISCUSSION

With grid electricity consumption now at the 2007 level<sup>2</sup> rather than the predicted growth in demand, a review of the previous models' assumptions is definitely in order. We agree with "Energy infrastructure is a critical component that underpins economic activity and growth across the country". However, electricity needs to be affordable. If tariffs continue to escalate above inflation, expect less demand as more consumers revert to embedded generation (rooftop photo-voltaic (PV)), switch to liquefied petroleum gas (LPG) and businesses relocating out of South Africa in all scenarios. Also, electricity needs to be reliably available, which the coal burners are not.

We are pleased to see the open-minded, more descriptive approach in this 2018 Integrated Resource Plan (IRP) and the use of least-possible cost scenarios, which are based on economic viability rather than state captured coal mines, etc. Note that the annual escalation rate of 2.5% from the January 2017 exchange rate (R13.57 / US\$1) is still woefully inadequate. We note that some of the cost and technical parameter tables used in the model were not provided. Also, it appears that some of the scenario assumed "very high costs assumed for the grid connection of renewables with very low costs for coal / nuclear" and "very low cost reduction assumed for renewables until 2050"<sup>3</sup>. This skews the comparisons, but mainly biases the results.

We are happy to see that "no new coal power plants will be built in the future unless affordable cleaner forms of coal-to-power are available" and the decommissioning of coal plants according to the 50-year life plan without the option for extending their lives. Given our local Koeberg example, Eskom is not good at maintaining plants. The costs per plant of "extensive emission abatement retrofits to ensure compliance with the" Air Quality Act #39 of 2004 needs to be considered with the likely result being that some plants may need to be retired early, especially when one factors in the compounding social discount rate.

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<sup>1</sup> <http://www.energy.gov.za/IRP/irp-update-draft-report2018/IRP-Update-2018-Draft-for-Comments.pdf>

<sup>2</sup> <http://www.eskom.co.za/news/Documents/DraftIntegrResourcePlan201827Aug2018.pdf>

<sup>3</sup> Presentation of "South Africa's Energy Transition" at NBI, Johannesburg, 20 September 2018 by Dr Tobias Bischof-Niemz

We don't want new coal builds by Eskom or Independent Power Producers (IPP). Redo IRP1 scenario using solar PV and wind rather. Our message to you is to stop spending at Kusile and Medupi and don't start any new coal plants. We have to stop the toxic emissions if you really want "environmentally sustainable through reduced pollution", "reduced greenhouse gas (GHG)" and your stated objective to "minimize negative environmental impact (emissions)". Irrespective of carbon based (CB) or price path model (PPD), emissions must be lowered now. We cannot see how South Africa can meet the United Nations' Paris Agreement to lower GHG by 2020 as agreed without early closure of coal plants.

We had hoped that concentrating solar power (CSP) would be increased in the mix as a provider of electricity during the peak demand hours when the solar PV panels are not receiving full sunlight and wind is variable in any case.

We disagree with the assumption that electric vehicles will not have a major impact. We expect the uptake of electric vehicles to be much higher than anticipated. Their battery costs are dropping with increased storage density and thus, their kilometre range is increasing. The various manufacturers are agreeing on a connector plug and induction charging now, which could include after peak demand smart charging.

## **2. RECOMMENDATIONS**

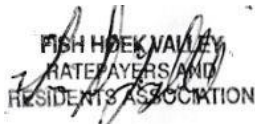
It is cost-optimal to aim for 85% renewable electricity share by 2050:

- Solar PV, wind and flexible power generators (e.g. gas, CSP, hydro, biogas, demand response, batteries, fuel cells) are the cheapest new-build mix for the South African power system while being cleaner and providing more local jobs; and
- From a pure cost perspective: please - no new coal and no new nuclear.

Furthermore, for the reasons set out in this report, we recommend the following:

- Set a new strategic direction: give a clear commitment to a new-build mix of solar PV, wind and flexibility (IRP);
- Implementation:
  - Award more tenders to IPP and enter into public-private-partnerships;
  - Introduce a spatial component into the implementation to ensure new power generators are closer to where existing power generators will phase out;
  - "Sweat" Eskom's coal fleet, avoid extensive emission abatement retrofits and gradually ramp them down;
  - Stop further expenditure on Kusile and Medupi;
  - Reskill the coal workers to become renewables workers;
  - Separate Eskom generation from Eskom grid in order for Eskom grid to be able to facilitate the transition better;

- Open up generation (and later retail) business for competition, but keep control over infrastructure assets (grid);
- Create two to three national South African champions on the renewables generation side; and
- Prepare for export: engage globally on export potential for renewable-electricity-based products.

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