



Comments on Eskom's Revenue Application for MYPD 3. Submitted to NERSA by groundWork, Friends of the Earth, South Africa

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Introduction

Eskom says its application aims to create the basis for a sustainable electricity industry but it shows, to the contrary, that the model of building big coal fired base-load to supply 'cheap

and abundant' power to energy intensive industries is collapsing. This is not just Eskom's model. It is the model of the 'minerals-energy complex' that has shaped South Africa's development for over a century. It is unsustainable economically and is socially and environmentally catastrophic.

Eskom's prices have tripled over the last six years and, with this application, will double again in the next five years. This is essentially to pay for the expansion of the energy model: more coal mines supplying more big power plants to supply more big industrial users. All South Africans are thus to pay for a system that is primarily designed for the benefit of large minerals corporations. These beneficiaries, however, now balk at the costs of what they have demanded and look for someone else to pay for it.

The biggest consumer of electricity, BHP Billiton's aluminium smelters, is exempt from the tariff increases. What it does pay has been kept secret at Billiton's insistence but it is thought to be less than one tenth of what Eskom says is the real cost of producing electricity.

The application

Eskom has in effect put in two applications.

1. A formal application through to 2018 and the completion of the current 'new build'. In this application the 'standard' tariff rises by 16% a year from 61c/kWh now to 128c/kWh in 2017/18. In real terms (in 2012 Rands without inflation) that would be a rise from 61c to 96c/kWh (VAT not included).¹ This, says Eskom, is what we should be paying now. It is the 'cost reflective' price allowing for operating costs, fuel costs and capital costs for replacing and expanding the system. It says that bringing in the price rise over 5 years will 'smooth the impact of these increases' particularly on 'energy-intensive and low-margin businesses' [53].
2. An Integrated Resource Plan (IRP 2010) application that takes account of the expansion of the power sector beyond MYPD 3 and includes building a fleet of six nuclear power stations totalling 9,600 MW. In this case, Eskom says it needs 20% increases in each year from 2013 to 2017 followed by 9% rises in each of the following five years. This would bring the 'standard' tariff to over 150c/kWh in 2017. Eskom argues that government must make decisions on expansion beyond the current new build soon. If Nersa considers only the formal 16% application, Eskom says it will have to ask for more when those decisions are made.

¹ Eskom doesn't say what it means by a 'standard' tariff but we assume it is the average. Some residential users will pay more than twice the standard.

What the money is for

Eskom identifies two main drivers of cost escalation:

1. rising fuel prices, and
2. the new build.

These two drivers are inter-related as the new build determines future fuel requirements: coal for Medupi, Kusile and the return to service plants and diesel for the Open Cycle Gas Turbine (OCGT) plants designed for peak hour demand.

In successive submissions since 2008, we have argued that Eskom's new build locks South Africa into dependence on coal but underestimates future fuel prices. Coal prices are now high and volatile and both price escalation and volatility will increase in the coming decades. Eskom is only partly protected by long term supply contracts and even this protection will erode as some long-term suppliers will over-invest on the highs and collapse on the lows. Some coal juniors are already going to the wall with the current price slump and Eskom itself notes that these mines are marginal [54]. Mining costs, and therefore the price of 'cost plus' contracts, will also escalate because coal quality is declining, the most easily accessible coal is mined out, and mining input costs are rising rapidly. The price of diesel for peaking plant is also high and volatile and will remain so.

The impact of the future cost of coal may be moderated by the early closure of Eskom's old plant, with equivalent capacity to Medupi and Kusile, as the new plants come on stream.

At the previous MYPD hearings, civil society organisations protesting the expansion of coal fired power and consequent carbon emissions were asked what alternatives there were to big base-load plants to supply South Africa's energy intensive industries. Nersa's question pointed to the wider energy economy: Eskom's plant is designed to serve big energy hungry corporations – particularly the mining, minerals and petro industries.

Higher demand adds to costs because, as Eskom notes, 'additional generation capacity' is needed to meet it [28]. However, future demand has been exaggerated by both sides in this relationship. The minerals-energy complex A-Team – Eskom and the biggest coal miners and energy users² – was well represented on the 'technical committee' that shaped the IRP 2010. The plan showed huge expansion of demand by ferrochrome and other smelters between now and 2030. Yet the transnational corporate owners were very happy to shut their ferrochrome smelters as part of Eskom's 'buy-back' programme earlier this year. These smelters were already running at a loss and the buy-back allowed them to be closed at a profit. In short, Eskom simply handed the owners a large freebie. More broadly, the 'cost reflective' price of building the big base-load eliminates the demand it is built to supply.

² Including Billiton, Anglo, Sasol, Xstrata and the Chamber of Mines.

The Energy Intensive Users Group (EIUG) now suggests that the higher prices are making South Africa uncompetitive. This is effectively a demand for the revival of the policy of 'cheap and abundant' power for big industry. The sub-text is that the rest of the country should pay. On Eskom's account, the rest of the country is already paying since the biggest users take the biggest subsidy from below cost electricity: 'wealth is effectively being transferred to large consumers of electricity' [16].

In particular, several billions are transferred every year to BHP Billiton, the world's richest mining house. In 2010, former Eskom CEO Jacob Maroga said it would cost US\$800-900 billion to 'buy back' the power from Billiton.³ This presumably indicates the long term value of the contract to Billiton. Later that year, Billiton and Eskom agreed to renegotiate the special pricing agreement, purportedly in the interests of both parties and of the public. Evidently the interests of the public could not be reconciled with Billiton's interest in profiting at the public's expense and the company has stalled the negotiations. This contract should be repudiated to cut the largest slice from subsidised demand and hence from the revenue requirement as well as relieving the pressure on the system. Government should make provision for a just transition for the workers who are employed there.

In this MYPD application, Eskom sees demand growing at 1.9% a year to 2018. This is reduced from the 2.8% annual growth forecast in its MYPD2 application and the 2.9% annual growth forecast in the IRP 2010. In fact, there has been hardly any demand growth from the peak year of 2007 and Eskom forecasts a contraction in demand this year (2012/13). Even the reduced MYPD3 forecast of 1.9% growth looks decidedly optimistic. It is premised on a steady 4% annual growth in GDP to 2018 which is in turn premised on global economic recovery. This is not in prospect.

In the IRP 2010 application, Eskom assumes that lower growth to 2018 will be compensated for higher growth later and the IRP demand projections for 2030 will be met. The IRP's growth projection (2.9% pa) was not plausible in 2010 and is less so now. This cannot be used to justify decisions on expansion 'beyond Kusile'. In particular, it cannot be used to justify building a nuclear fleet. The IRP 2010 should be subject to wholesale review before any decisions on future expansion are taken. The review should be undertaken through an open process of consultation and without privileging the corporations of the minerals-energy complex.

The choice of very large plant creates 'lumpy' investments which are expensive to fund. The cost of funding Medupi and Kusile is vulnerable to rising interest rates and currency depreciation and these plants contribute to the likelihood of both. Government's credit rating was recently downgraded and this is not incidental to the R350 billion guarantees it has given for Eskom's loans. The massive import bill also contributes to pressure on the currency and becomes more significant in a period of economic fragility. The choice of a nuclear fleet

³ Business Report on March 31, 2010.

beyond Kusile would compound this vulnerability and provide a short cut to national bankruptcy.

We note that the levelised cost of wind power already appears to come in below the cost of Medupi and Kusile. In addition, wind and other renewables can generally be added more quickly in response to short term demand projections. They are therefore less vulnerable to exaggerated projection and less exposed to funding risks. If externalised costs are included, coal-fired power is many times more expensive and finally costs the earth.

Tariffs and protecting the poor

Eskom says its tariff proposals are based on a cost-to-serve study. This study evidently takes no account of whose demand results in the big lumpy and expensive investments in generating plant. The largest part of the costs of these investments should be attributed to the big energy users.

Eskom indicates that the largest increase should be imposed on municipalities [Pt.2; 6] and, within the municipalities, on the suburban middle classes [Pt.2; 10] who are projected as paying R2.75/kWh in 2017.

For MYPD 2, Nersa introduced a inclining block tariff for residential users ‘to cushion poor households’ [35]. Eskom says it is too complicated and results in a cross-subsidy from industrial to residential users. It then proposes a new tariff structure which, it says, will protect the poor. In our view, the proposed structure has more to do with Eskom’s administrative convenience than the interests of the poor.

Eskom proposes differential rates per type of connection. Only those on tricklefeed (Homelight 20 Amp) are accounted poor and the price rises are moderated for these customers to arrive at R1.06/kWh in 2017. Increases for ‘Homelight 60A’ arrive at R1.50 in 2017 while Eskom’s ‘homepower’ customers arrive at R2.06.

Tricklefeed in itself penalises poor people by restricting their energy options unless there is supplementary energy that is affordable, safe and clean. The social costs of not providing adequate energy include indoor air pollution, burn accidents and repeated fires in shack settlements.

Moreover, it cannot be assumed that a 60A connection means that a household is not poor. It should be recalled the bottom 60% of households have just 11% of total household income: more than half the people are poor. Most of the people who get electricity are already struggling and many have cut down on their use of electricity in favour coal, paraffin and burnable waste.

We propose that an inclining block rate should apply universally but that the present blocks be revised. It should start with a dramatically expanded free provision adequate to real needs for the first block. The first step to paid-for electricity should be shallow with increasingly steep steps thereafter including additional steps at the higher end. The total bill for profligate consumers should rise higher than the overall price rise. Eskom's 'homepower' tariff proposals in fact have the opposite effect, raising the costs of low consumption and lowering the costs of very high consumption [Pt.2: 23ff].

Environment

Eskom's application contains one or two ritual mentions of climate and environment. It notes some renewable energy projects and speaks of 'improved performance regarding relative emissions, water usage and contraventions of legislation'[42]. The renewable initiatives are made insignificant by the scale of coal-fired investments while absolute emissions are rising. The real costs are rigorously externalised. Yet these costs will have increasingly dramatic effects not only on people and environment but also on the economy. As a report for the Africa Earth Observatory Network finds, 'continued investment in coal-based energy supplies will bankrupt the country'.⁴

The impacts of climate change are occurring earlier than previously anticipated. Government's own climate policy warns of temperature increases of '3 to 4°C along the coast, and 6 to 7°C in the interior' in the second half of this century. It will not be possible to adapt to such extremes and neither Eskom nor the economy will survive. Increasingly extreme weather is already taking a toll, particularly on poor communities, and this toll will rise. South Africa is already water-stressed and will become more so with climate change.

Coal fired power stations are both intensive water users and water polluters. Coal beneficiation made necessary by declining quality also uses and pollutes large quantities of water. Acid mine drainage (AMD) consequent on mining is the biggest threat to water resources. The Olifants catchment (not just the river) is severely damaged and likely to turn into a wasteland in the coming years. AMD will follow as new mines are opened to supply Eskom's expanded capacity in the Highveld and the Waterberg.

Greenhouse gases aside, Eskom is a major league polluter of more local environments. Coal combustion releases sulphur dioxide, particulate matter (PM), nitrogen oxides, mercury, and dozens of other substances hazardous to human health. Eskom has not installed sulphur scrubbers on any of its power stations and intends running Medupi without scrubbers until the first maintenance shut downs beginning 2018 or 2019. It is not clear if the cost of retrofitting scrubbers has been factored into MYPD 3. Scrubbers are made necessary by the choice of coal fired plant but, being an end-of-pipe technology, create new problems including high water consumption and the disposal of toxic sludge.

⁴ S. de Villiers and M. de Wit, 2010, H2O-CO2: Energy equations for South Africa, AEON Report Series No. 2.

The cost to people's health of air pollution is underestimated because the overall impact of multiple pollutants entering people's bodies through multiple pathways is only partially understood. The health effects include damage to the respiratory, cardiovascular, and nervous systems. In the US coal combustion has been shown to contribute to four of the top five leading causes of death.⁵ In South Africa pollution, and particularly indoor pollution, is a leading cause of death of children under five.⁶

In addition, the construction phase for the new coal plants imposes major social and infrastructure burdens as thousands of workers stream into a small town like Lephalale. Construction creates a local boom which is followed by the inevitable bust on completion. The social and environmental costs are left behind.

⁵ From the very wide literature, see for example:

A. Lockwood, K. Welker-Hood, M. Rauch and B. Gottlieb, 2009. Coal's Assault on Human Health, Report for Physicians for Social Responsibility at <http://www.psr.org/resources/coals-assault-on-human-health.html>

⁶ D. Bradshaw, D. Bourne, N. Nannan, 2003. What are the leading causes of death among South African children, Medical Research Council Policy Brief.

Conclusion

In conclusion, groundWork, Friends of the Earth South Africa:

- rejects Eskom's proposed residential tariff restructuring and calls for the implementation of a revised inclining block tariff with a wider lower band for which the tariff is set at 0c/kWh and more bands at the top;
- calls for the repudiation without compensation of the special pricing agreement with BHP Billiton;
- proposes that the cost of base-load new build be attributed to energy intensive industrial corporations in proportion to their consumption;
- calls on NERSA to consider the externalised costs of construction and operation to the environment and to people's health and well-being – which makes the price hikes even more burdensome;
- calls for the closure of equivalent capacity in Eskom's old coal plants as Medupi and Kusile are brought on line;
- calls for the wholesale revision of IRP 2010 before any consideration is given to funding further construction;
- proposes that the 2013 price determination should be for one year only to allow time for the revision of the IRP;
- calls on the South African government to turn away from fossil and nuclear technologies and focus national capacity on building a sustainable energy system under people's control and based on energy conservation and efficiency and renewable generation technologies.

End:

The logo for groundWork features the word "ground" in a black, lowercase, serif font, followed by "Work" in a green, uppercase, serif font. A horizontal green brushstroke underline is positioned beneath the "Work" portion of the text.