

Eskom's regulatory clearing account submission for 2013/2014

OVERVIEW

Eskom has requested an increase in tariffs to cover a R23 billion shortfall in the 2013/14 financial year under the regulatory clearing account provisions set out by the National Energy Regulator (Nersa). The increase would add around 8% to the 8% increase planned for the year under the Multi-Year Price Determination (MYPD), meaning that electricity prices would climb by an average of around 16%, or about 10% above the inflation rate.

This briefing note considers the impact of the proposed compensation for Eskom on industrialisation and more narrowly manufacturing diversification, which is core to sustained job creation as well as increasingly equitable and inclusive development.

From this standpoint, responses to Eskom's request should be designed to favour labour-intensive and innovative producers rather than the traditional energy-intensive users, comprised mostly of mines and refineries. In particular, tariff decisions must not effectively compel or incentivise Eskom to externalise the costs of the electricity shortfall through loadshedding.

For manufacturing outside of the metals refineries, loadshedding is the most costly way to deal with electricity shortfalls. In contrast, the energy-intensive users have lobbied for continued constraints on supply in exchange for cheaper electricity. This reflects their immediate interests, given weak global demand for metals since 2011 as well as the importance of electricity in their production process, at up to a quarter of their total costs.

THE ESKOM REQUEST IN THE CONTEXT OF ECONOMIC DEVELOPMENT

Of the total R23 billion that Eskom has requested for 2013/14, R8 billion is for diesel generation used to minimise loadshedding, and R12 billion is because demand – and therefore Eskom revenues – lagged the projections in the MYPD.

The two main components of Eskom's pass-through proposals for 2013/14 have very different implications for industrialisation. We examine each in turn.

DIESEL GENERATION VERSUS LOADSHEDDING

The R8 billion for diesel aims to make up costs that Eskom incurred almost two years ago to avoid loadshedding. Inconsistency in meeting these costs risks incentivising Eskom's management to avoid diesel generation if electricity falls short in future. For Eskom, the alternative to buying diesel is to externalise the costs of electricity shortages through loadshedding and rationing, and to skimp on maintenance. Both of these outcomes have seriously negative effects on investment, production and job creation.

The costs of loadshedding to the economy are diffused across enterprises and workers, and therefore harder to see than an increase in the electricity tariff in order to avoid it. Research in 2015 found that the economic cost of scheduled loadshedding was close to R10 per kWh, compared to R3 for diesel and under R1 for Eskom's baseload coal plants. The costs arose from damage to machinery that was not designed to be shut off; crashing electronics; higher labour costs from the need to re-arrange shifts at relatively short notice; and reduced retail, restaurant and tourist trade.

The cost estimates from 2015 did not take into account two further kinds of cost:

- 1) The impact on investors and skilled workers, many of whom perceived loadshedding as an indication of something fundamentally wrong in South Africa's core governance systems.
- 2) The fact that loadshedding affected manufacturing and other enterprises supplied by municipalities, rather than energy-intensive users, largely refineries that create few jobs directly. Energy-intensive users were rationed, generally at 10% below their 2008 use, but they also saw decreased demand. In these circumstances,

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they lobbied to keep down tariffs even if it meant their electricity use was constrained. In contrast, the rest of manufacturing faced loadshedding with its attendant costs.

It is critical that the tariff system guarantee that Eskom will be reimbursed for any measure to avoid loadshedding, as long as the cost of the measure is lower than that of loadshedding itself. That means that any measure up to around R10 per kWh should be covered, including diesel generation.

If Eskom is not guaranteed that its costs for diesel will be met, it would have an implicit incentive to protect its cash flow by loadshedding. In effect, that would externalise the costs of any shortfalls in generation. In some months of 2015, uncertainty about compensation for diesel costs led Eskom to reduce its diesel generation and instead impose higher levels of loadshedding than would otherwise have occurred.

FOREGONE REVENUES DUE TO LOWER DEMAND

Compensation for revenues foregone because of lower electricity usage is less obviously necessary to stabilise the electricity system. The aim of the provision in the MYPD is to enable Eskom to plan its revenues and investment, and to sustain growth in generation capacity even during temporary slowdowns in electricity demand. Eskom's submission says that it excludes revenue losses due to loadshedding from its claims.

The challenge is that South Africa appears to be undergoing a structural break in electricity demand, which was not foreseen in the MYPD.

This break results from:

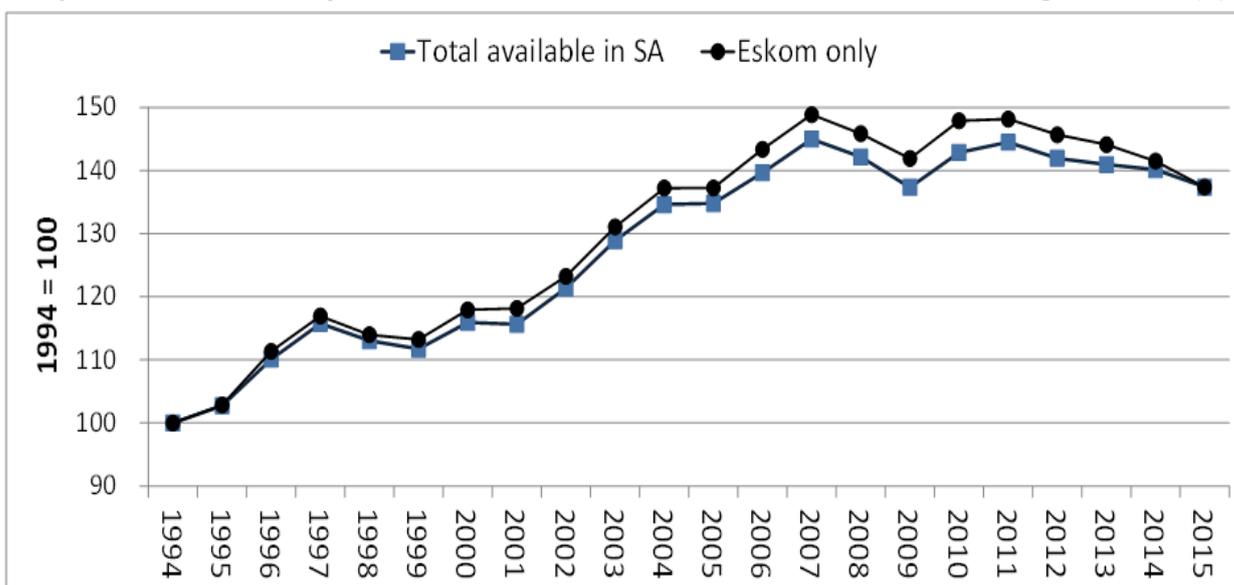
- The end of the commodity boom, with metals and energy prices falling sharply from 2011, and projected to remain stagnant at least through 2020. As a result, the energy-intensive users, which account for around 40% of total demand, have experienced a sharp slowdown.
- The rapid increase in electricity prices, which have more than doubled since 2008, due to both the need for new investment in generation, the extraordinary increase in coal prices in rand terms from 2005 to 2008 (see Graph 2, page 4), and various measures to reduce dependence on coal in light of the climate crisis.

Graph 1 shows the supply of electricity from 2010. It climbed 45% from 1994 to 2007. In the following eight years, it declined by 5%.

These circumstances mean that the MYPD vastly overestimated growth in demand. Eskom's MYPD3 proposal, submitted in 2012, assumed 1,9% growth in electricity demand every year and 4% growth in the GDP from 2012/13 to 2015/16. In the event, electricity demand, including exports, declined 2% over the past two years, while the GDP grew under 2% a year. In 2015/16, if total demand remains at levels seen in the first nine months of the fiscal year, it will be some 10% below Eskom's MYPD estimate. Moreover, domestic demand fell around 5% in the last six months of 2015 alone, largely as a consequence of the decline in steel and ferro alloys production (see Table 1, page 3).

In these conditions, decisions on Eskom's revenues should aim both to stabilise its cash flow as a way to support long-term efficiency, and to avoid

Graph 1. Total electricity available for distribution in South Africa and Eskom generation (a)



Note: (a) Electricity available for distribution includes imports; Eskom generation includes exports.

Source: Calculated from Statistics South Africa. Electricity generated and available for distribution. Excel spreadsheet downloaded from www.statssa.gov.za in February 2016, series on electricity available in South Africa and generated by Eskom, sum of months for each calendar year.

Table 1. Comparisons of MYPD estimates and outcomes for electricity demand and GDP growth, 2012/13 to 2015/16 (a)

	Total demand (including exports)		Growth in total demand (including exports)		GDP growth	
	MYPD	Actual	MYPD	Actual	MYPD	Actual
2012/13	253 000	246 000			4%	2.1%
2013/14	259 000	248 000	2.4%	0.8%	4%	2.2%
2014/15	264 000	248 000	1.8%	-0.2%	4%	1.6%
2015/16	272 000	244 000	2.9%	-1.8%	4%	1.2%

Notes: (a) Figures for 2015/16 are extrapolated based on growth, in electricity demand from March to December 2015 compared to the same period in 2014, and for GDP for the second and third quarter of 2015 compared to the same period in 2014. Sources: For demand, Statistics South Africa, Electricity generated and available for distribution. Excel spreadsheet downloaded from www.statssa.gov.za in February 2016, series on electricity available in South Africa and exported. For GDP, Statistics South Africa, GDP to third quarter 2015. Excel spreadsheet downloaded from www.statssa.gov.za in February 2016, series on GDP at market prices in constant rand. For MYPD figures, Eskom, Revenue Application: MYPD, 2013/14 to 2017/18. 2012. Downloaded from www.nersa.org.za in February 2016, table 6, p. 27 and table 7, p 28.

incentivising over-investment while imposing excessively high costs on the economy and households. In other words, Nersa should consult with Eskom and Treasury to ensure Eskom has adequate cash flow, while reviewing demand projections for the next few years. Furthermore, as the Integrated Resource Plan pointed out in 2013, the build programme should be revised to support mostly smaller generation plants so as to maintain flexibility in the face of hard-to-forecast demand in the medium term.

Summary

In sum, in determining the pass-through tariff, for manufacturing two issues are critical.

- Eskom should be guaranteed full compensation for any reasonable measures required to avoid loadshedding, and specifically the purchase of diesel.
- Compensation for foregone revenue as a consequence of low demand should be evaluated in terms of both (a) the need to stabilise Eskom and ensure it is adequately resourced to meet the tasks it faces, and (b) a review of electricity projections in the coming five years based on realistic evaluation of likely demand growth, taking into account both the slowdown in the GDP and low metals prices.

EFFICIENCY AND THE TARIFF-SETTING MECHANISM

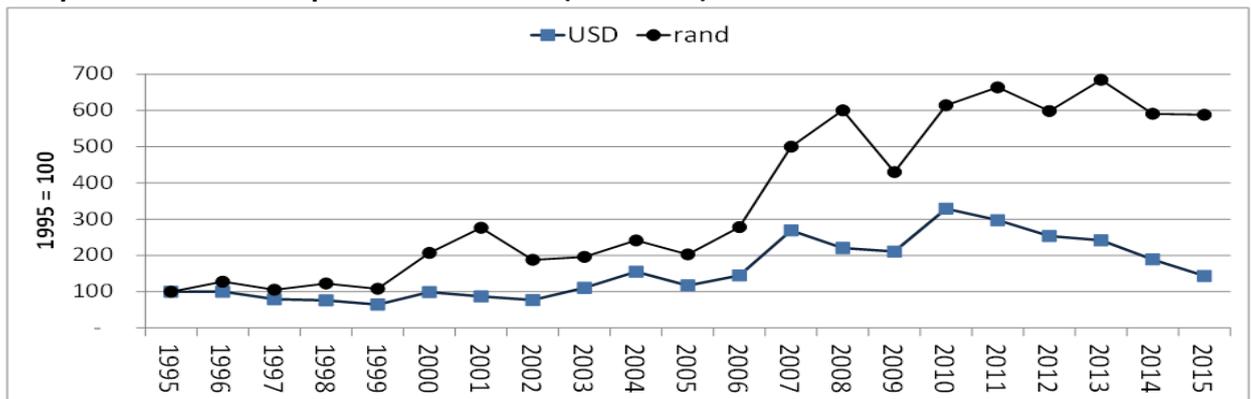
Some observers have argued that Nersa should suppress tariffs so as to force Eskom to improve its efficiency. Experience has demonstrated, however, that using tariffs in an effort to drive Eskom toward greater efficiency has unintended consequences. In particular, it has deterred new private and public investment and effectively incentivised loadshedding. In light of these experiences, tariffs decisions should rather focus on ensuring stable cash flow, in line with

the Electricity Regulation Act's requirement that tariffs secure a reasonable rate of return, albeit with appropriate incentives for efficiency. (Electricity Regulation Act 2006, Para 16).

Certainly Eskom suffers from a number of obvious inefficiencies that push up its costs and make them less predictable. They include:

- Staffing levels rose by 33% from 2008 to 2014 even as total generation fell by 2%. As a result, Eskom's total employment climbed from 35 000 in 2008 to 47 000 in 2014. Despite the growth in employment, the maintenance section has a vacancy rate of around 30%. Meanwhile, in real terms, compensation for the chair and directors climbed from R49 million in 2011/2 to R60 million in 2013/4 – in large part because the then CEO, Brian Dames, saw his compensation almost double from 2012/13 to 2013/14, rising from R8 million to R15 million. The average compensation for members of the executive committee came to around R4 million, while the compensation for the chair doubled from R900 000 in 2011 to R1,8 million in 2013/14.
- Eskom has contracts with Hillside and Bayside smelters that link the price of electricity to the aluminium price in London translated into rand. Since metal prices dropped from 2011, it has effectively subsidised the smelters to the tune of R10 billion a year. As a result, while the price of electricity for other consumers increased by 150% from 2008 to 2014, for the smelters it only went up by 110% – and virtually all of that cost was borne by the ferrochrome and steel smelters, with aluminium seeing little or no price increase.
- Eskom has seemed unable to take advantage of the stabilisation of coal and diesel in recent years. In rand terms, as Graph 2 (page 4) shows, coal prices soared from 2006 to 2008, but they declined slightly from 2013.

Graph 2. Index of coal price in December (199 = 100) in US dollars and in rand



Source: Figures for monthly South African coal price in rand and US dollars from Index Mundi, downloaded in February 2016.

- Eskom’s debt costs have increased, in part as a result of revenue shortfalls and in part because of delays and cost overruns in completing major capital projects. Construction delays are in fact the norm for major electricity plans everywhere, but Eskom failed to plan for them. Inadequate revenue, carrying debt for investment longer and, in the case of dollar-denominated debt, the depreciation of the rand meant higher debt costs. The ratio of debt to equity climbed from 1,68 in 2009/10 to 2,21 in 2013/14, while interest payments rose from R8,3 billion to R11,8 billion. The debt-service coverage ratio was more variable, but it fell from a high of 3,5 in 2011/12 to 1,21 in 2013/14.

- Maintenance has been inadequate and often of poor quality. Cash shortages in themselves have led to underfunding of maintenance. As noted, the maintenance division suffers from high levels of vacancies. Eskom officials say that procurement of key inputs has been delayed due to cash-flow problems. Moreover, Eskom’s procurement procedures do not ensure adequate oversight of contractors, leading to delays and poor work on major projects. In part, this reflects the split between responsibility for procurement and operations.

In an effort to force Eskom to deal with these inefficiencies, in the past few years Nersa has avoided granting Eskom the full cost it has claimed for generation plus maintenance, interest payments and investment. This strategy has been largely counter-productive because:

- The shortfall of revenue in itself makes Eskom more inefficient, ultimately imposing far greater costs on the economy in the form of rationing and load-shedding. Above all, cash flow problems mean Eskom could not carry out the required maintenance, in turn leading to higher costs for delayed repairs and breakdowns.
- Addressing inefficiencies and the maintenance shortfall would require a clear turnaround strategy.

In the absence of such a strategy at least through 2015, managers externalised the costs of foregone revenue through loadshedding.

- Eskom cannot cut many of its costs to match tariffs in the short run. Many of the inefficient costs, notably around personnel, primary energy, subsidies to refineries and interest rates, are contractually fixed for months or years. Moreover, changing systems to improve efficiency requires at least a few months in organisations as large as Eskom.
- Current wholesale Eskom tariffs are so low that they discourage investment by both private and public interests. The state has argued instead that Eskom should borrow and then use revenue from future sales to pay off its debt. That is problematic if the tariff is set too low. For their part, except for some renewable producers, private generators all require higher rates per kWh than the Eskom average wholesale price. As a result, Eskom has been unable to afford private supplies to compensate for shortfalls.

In sum, the current pricing system is unnecessarily rigid, imposes excessive delays in responding to changes in supply and demand, and cannot target the roots of inefficiency in Eskom. Holding tariffs down in an effort to improve efficiency has had the unintended consequences of delaying new investment and effectively incentivising loadshedding.

A more effective strategy for ensuring reliable and affordable electricity would entail:

- Developing more responsive pricing systems and strategies. These systems should secure a rate of return for Eskom in the short run that stabilises its revenues and is sufficient to cover both necessary new investment (based on realistic demand projections) and maintenance.
- Support for efforts by the state as shareholder, with other stakeholders, to address key areas of structural inefficiency in Eskom, in particular around maintenance, staffing, procurement, subsidies to refineries and debt management.