The Eskom factor: Power politics and the electricity sector in South Africa

1. Introduction

Eskom Holdings Limited (ESCOM) is a household name in South Africa, and has a long and influential history in the country, and on the African continent. Established in 1923 as the Electricity Supply Commission ‘ESCOM’, the state-owned utility1 is responsible for generating, transmitting and distributing electricity to industrial, mining, commercial, agricultural and residential customers. In essence, Eskom has an effective monopoly in the electricity sector, which also places a tremendous amount of responsibility in the utility’s hands.

Eskom has undergone some major changes from its origins in 1923: the utility has seen periods of almost complete autonomy, greater regulation, an oversupply crisis, rolling blackouts, and massive electricity price hikes. The result is that in 2012 the utility is almost entirely dependent on coal2, remains most responsive to mining and large corporate interests due to its central mandate of ‘driving economic development’, and continues to invest in large-scale, centralised electricity generation. However, the country simultaneously faces a host of major development challenges, exacerbated by the legacy and structures of apartheid. These include a dramatic gap between rich and poor, lack of infrastructure, high levels of urbanisation and unemployment, extreme inequality and poverty, and huge backlogs in service delivery to the majority of South Africans.4

But what is the real story behind Eskom’s decisions? This document seeks to outline Eskom’s role in South Africa, its evolution as a state-owned company, and its current status as a key player in South African politics.

The investment recommendations and decisions made by Eskom are particularly important, with wide-ranging impacts for all South Africans. The utility has publicly acknowledged the potentially negative impacts of climate change5 and the need to reduce the coal content of the electricity generation mix in South Africa. However, only a tiny proportion of Eskom’s electricity portfolio is currently contributing to this fundamental solution that Eskom CEO Brian Dames refers to.

Of the utility’s 237,000 GWh total generation, the electricity output from wind was only 2 GWh in 2010.6 Initially a commitment was made to reduce coal reliance by 10% by 2012 at the 2002 World Summit on Sustainable Development (WSSD).8 Instead, coal intensity has increased.

Carbon Dioxide (CO₂) emissions

Eskom states that it is necessary to double total capacity to around 80,000 MW by 2025 to keep the lights on in South Africa.9 In reality, the vast majority of this capacity will be used by industry and will remain coal-based. Some 9,000 MW of this will be provided by two of the world’s largest coal-fired power stations (Kusile and Medupi), both currently under construction. However, the decision to invest in more coal has significant implications.

By building Medupi and Kusile power stations, Eskom and the South African government have committed to significantly increasing South Africa’s annual emissions and contribution to climate change, combined with substantial health, coal mining and water use impacts.10 Kusile alone will generate an estimated 37 million tonnes of carbon dioxide (CO₂) equivalent emissions annually, increasing the country’s total contribution to climate change by an immense 10%.11

Eskom facts and figures8

Eskom can quite rightly be described as a giant:

- Ranked in the top 10 utilities in the world in terms of generation and sales;
- Has 27 (including one nuclear) operational power stations;
- Generates about 95% of the electricity used in South Africa, and over 40% of all electricity consumed in Africa;
- Mining alone used 14.3% of Eskom’s supply by 2011; and
- In 2011 had a net maximum capacity of 41,194 MW.7

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1 Eskom is a State Owned Enterprise (SOE). In its current form this means it is a commercialised entity incorporated with the Government of South Africa (GOSA) as its sole shareholder represented by the Department of Public Enterprises. The board is therefore accountable to public finance legislation in addition to the normal fiduciary responsibilities relating to profitability. This is a fundamental departure from the previous dispensation with regards to the legal character of Eskom where the mandate was to provide developmental power for neither profit nor loss.
5 All of these figures come from Eskom’s Integrated Annual Report 2011.
6 As at 31 March 2011 (Eskom, 2011).
13 Ibid.
Map: the location of the Medupi and Kusile coal power plants currently under construction in South Africa.
2. Historical, political and economic influence of Eskom

Eskom, a pivotal player in the governance of electricity, operates within a framework that is largely dominated by the needs of mining and other large industries.

2.1. Early Electricity Provision

In 1923, the Electricity Supply Commission (ESCOM) was founded. In line with the 1922 Electricity Act, ESCOM was established as a relatively autonomous entity, not subject to any form of parliamentary oversight, financial controls or state auditing. Importantly, ESCOM would produce and supply electricity neither for profit or loss. In this context, new generation and distribution capacity needed to be created at the lowest possible cost. This was to be done either through a new build programme or acquisitions to facilitate a ‘cheap and abundant’ supply of electricity.

In pursuit of this ‘abundant supply’, ESCOM made decisions with far-reaching economic consequences. However, because ESCOM was relatively independent of government, with no accountable board, the utility tended to align its objectives with the dominant electricity demands of the mining companies from its earliest days.

The continued accommodation of mining and industrial interests was achieved as ESCOM grew into an absolute monopoly by 1948. The rapid growth of industry after this period meant ESCOM needed to constantly build new capacity. During the period of massive economic growth in the 1960s, Eskom’s expansion plans became increasingly ambitious, and ever-larger MW units were being commissioned. However, throughout the 1970s, projects began to suffer from ‘diseconomies of scale’, where the logistics and associated delays (and consequent financing costs) in fact increased the comparative price of provision.

By the early 1980s, decision makers realised that growth predictions were wrong. Demand had been overestimated, but it was too late: the building of new power stations was irreversible, due to long lead times and cancellation penalties. Eskom responded in two ways, firstly by mothballing aging plants and thereby saving on input costs, and secondly by seeking new markets. Attempts to create such markets included the provision of electricity to black households, so-called ‘homeland’ states and neighbouring countries. An additional new market was created through supplying electricity to the energy intensive industries, such as smelters.

2.2. The Minerals-Energy Complex

Historically, South Africa has followed a heavily capital and energy-intensive development pathway, based almost entirely on coal. This pathway has been driven by resource extraction and the development of a connected set of interrelated economic activities termed the ‘Minerals-Energy Complex’.

Eskom has been the cornerstone of the Minerals-Energy Complex, and in turn, the Complex has become central to the economy. This Complex consists of mining, minerals processing, the energy sector and linked industries. It is primarily based on mining, and then on limited beneficiation, underpinned by the provision of some of the cheapest electricity in the world.
The Minerals-Energy Complex has historically accounted for the majority of South Africa’s electricity consumption and emissions, contributing far less to GDP.28 This system is based on the theory that in order to grow the economy, it is necessary to have the large centralised baseload production of electricity, which is distributed through a grid to energy intensive users.29 Eskom holds significant referential30 and representational power within important government departments, policymaking, policy influencing and regulatory bodies. This in turn, institutionalises the Minerals-Energy Complex.

The South African economy is extremely energy intensive compared to international standards31, with only a handful of countries having higher intensities. In addition, South African industrial energy efficiency is on average significantly lower than in other countries.32 This is an important factor, given that at the moment industry and mining consume over 60% of the electricity produced in the country, and the inclusion of commerce takes this figure to almost 75%.33 Therefore, residential energy use makes up a far smaller portion of final energy demand than in other countries, and demand from poor households is even smaller.34 Only 16-18%35 of South Africa’s electricity is used by residential consumers, an outcome of the energy intensive nature of the economy, and the extreme income differential in the country.36

Furthermore, industrial prices are substantially cheaper than average residential prices. Eskom has made frequent reference to its industrial tariffs as the cheapest in the world37, however residential consumers pay significantly higher prices.38 For example, secret price deals between Eskom and the Australian mining company BHP Billiton, are estimated at about 350% less than a related project in India and China.39,40 The “Corporatisation”41 of Eskom

As the layers of governance and planning increased from 1987, Eskom’s accountability became even more unclear. This lack of accountability makes it harder for society to control the Minerals-Energy Complex. Eskom plays a central role in this Complex, which serves to exploit resources and externalise environmental and social costs to society as a whole, while creating profits for local and international corporations. It seems clear that a more equitable, genuinely accountable system is required. This means that the dominance of the Minerals-Energy Complex and South Africa’s underlying electricity generation and supply paradigm must be challenged.

2.3. The “Corporatisation”46 of Eskom

In the middle of the 1970s, the global crisis in the capitalist economy saw a significant decline in growth, which led to a change in global economic policy. This was the dawn of the so-called ‘neoliberal period’ characterised by the rule of the market, deregulation and privatisation, decreased spending on social services, the disappearance of the

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29 Historically Eskom was created to centralise power supply in this paradigm. Residential access to electricity is a by-product and not the purpose of the current supply paradigm.
30 Eskom has historically retained tight control over information and modelling processes often considered confidential for commercial or competitive reasons. This has tended to hinder open policy and scientific debate around a number of key areas.
39 Ibid. p.79.
42 Ibid.
43 These companies are however, not identified in Eskom’s 2011 Integrated Annual Report.
45 Libya, Zimbabwe, Uganda, Nigeria, Malawi, Mauritania, Senegal, Zambia, Mozambique, Namibia, Swaziland and Mauritius. And Eskom Enterprises has also participated in energy-related projects in India and China.
46 In this context, ‘Corporatisation’ is defined as: to be influenced by or take on the features of a large commercial business.
ideas of the public good/community, and for much of Africa, the implementation of Bretton Wood’s imposed structural adjustment programmes.

The South African state started to adopt some neoliberal principles after the economy failed to recover significantly through the 1980s. The role of the state in the economy was deregulated and reduced. This was done through various means, including privatising state owned companies. ESCOM was not exempt from these reforms. The de Villiers Commission in 1985 marks the start of reform in the sector: first, corporatising and later commercialising Eskom. During this process, a system was established that continues to reflect the contestation between the government, vested business interests, and Eskom management until today.

A new corporate body named ‘Escom’, replaced the Electricity Supply Commission (ESCOM). The government appointed the new Electricity Council to govern Escom’s corporate body, which was made up of major stakeholders from business and the municipalities. The State President appointed a chairperson.

In 1986, Chairman Maree summarised the new character of Escom and its ethos of professional managerialism as “the only sure way to meet the challenges of electricity supply in South Africa is to run Escom as a professionally managed business undertaking”.

As part of the corporatisation, the 1985 and 1987 amendments removed the stipulation that “electricity should be supplied in the public interest [...] operations being carried out neither for profit or loss”. This was replaced by “consideration for consumer needs being satisfied in the most cost effective way, subject to resource constraints and the national interest”. The name of the utility was also changed to Eskom in 1987.

Eskom earnings
In 2009, the utility earned on average 24.7c for every kWh it sold. By 2011, Eskom was earning 40.3c on average, and recorded a net profit of R13.2 billion as at March 2012. Eskom has not paid dividends to its shareholder, the government of South Africa, since 2006 because of its capital expenditure needs.

The restructuring of Eskom resulted in an unmonitored electricity pricing policy. Instead of ensuring parliamentary oversight, the “drafters of the new Act, who included members of ESCOM’s legal department, managed to insert a clause that exempted Eskom from the requirement to have a license issued by the ECB [Electricity Control Board] and thus from having its prices regulated”.

Eskom’s reluctance to submit its prices for government regulation was at times met with resistance by industry. When Eskom raised tariffs to pay for the heavy debts it had incurred, this provoked industry and the mines “to call for tighter government control to force it to operate on ‘business principles’. If this sounded contradictory, Eskom then raised the alarm about “politicians in the engine room” even as it maintained its occupation of the DME [Department of Minerals and Energy]”. After a long period of relative autonomy, the utility resented the new interference by the state and tried to secure as much independence as possible.

Eskom’s corporate sense that it was a law unto itself was even more sharply revealed as the political transition began. “According to its then boss, Ian McRae, staff feared that the new ANC government would ‘nationalise’ the corporation.” Consequently, Eskom selectively embraced portions of the government’s emerging policy. At the same time, Eskom resisted the wholesale carving up and sale of the organisation.

2.4. The Post-Apartheid Transition period 1990-1994
By the end of apartheid, the dominant Minerals-Energy Complex combined with discriminatory race policies, had devastated South African society. Freedom brought with it expectations for change and a need for government to deliver a ‘better life for all’. It was a political imperative that government should deliver on this. At the same time business had expectations of improved economic growth and profits through the re-integration of South Africa into the global economy. At first, these seemed to be complimentary objectives. But the reality proved to be completely different.

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52 South Africa. 1922. Statutes of the Union of South Africa, Act no. 42 of 1922. Act to provide for the supply and control of electricity and for other purposes incidental thereto. Cape Town: Government Printers.
59 ibid.
60 The slogan ‘a better life for all’ became the mobilising call and campaign slogan in 1994 by the African National Congress.
'Cheaper' electricity for all: price deals and electrification

Eskom took the initiative in 1991 and proposed a price agreement with government to reduce the real price of electricity by 20% by 1996. The Eskom Chairman's review pledges, “Eskom is sufficiently confident of its future business performance to undertake to its customers that it will reduce the real price of electricity over the next five years by 20%”.

That the intended beneficiaries would be the energy intensive corporations of the Minerals-Energy Complex was made explicit by Chairman Maree: “This reduction in the price of electricity will place many of our energy-intensive customers in a much stronger position to compete on international markets and thus stimulate the export of raw materials and manufactured goods and encourage new investment in energy intensive industries”.

The focus on the low-price of electricity also features in Eskom’s 1992 vision: “Eskom is committed to being an efficient and effective organization [sic], so as to be able to make electricity available to its customers at the cheapest possible price. It is also committed to making electricity available to all in South Africa, who want it and can afford it [emphasis added]”.

However, the notion of “who wants it and can afford it” meant that communities needed to pay for it. The income requirement (cost recovery) needs of Eskom were very clearly stated by Maree, “It is therefore absolutely clear that any electrification programme can only be achieved if the community wants it and are prepared to pay for it”. In reference to the National Electrification Forum (NEF), which was a broad consultative mechanism including communities, he emphasised the notion of a negotiated process: “It is also clear that communities need to be involved in the planning and provision of electricity to them”.

Inevitably, community consultation became sidelined as the NEF consultation process became narrower and more technocratic with the establishment of the Electricity Working Group (EWG) – consisting of representatives from Eskom, ministries, and municipalities, but excluding labour and other civil society formations. The EWG gave rise to a government-based committee, the Electricity Restructuring Interdepartmental Committee. This committee then made the recommendations forming the basis of the 1998 White Paper on Energy Policy (which included measures such as regional distributors, a shift to cost reflective tariffs, and the opening of generation to competition).

Eskom undoubtedly has a dual role. On one hand, the utility can be seen as an extension of government and its policy. On the other hand, Eskom’s corporate (and later commercial) logic led to a preservation of its organisational position, and continued to facilitate the accumulation of wealth within a framework of the Minerals-Energy Complex. Due to the dominance of the Minerals-Energy Complex, since 1987 South Africa’s underlying electricity generation and supply paradigm has never been challenged. The reality is that the policy environment has become increasingly confusing, and sometimes contradictory. This, combined with overlapping roles and responsibilities within the governance of the utility has deflected attention away from the underlying paradigm of large centralised (baseload) generation, serving energy intensive users at the expense of both the environment, and people’s health and access to energy.

The objectives of the post-apartheid government have clearly influenced the actions of the utility in many fundamental ways. Transformations in terms of employment equity, addressing past discrimination and, more recently, broad based black economic empowerment, have all been appropriately high on the state’s agenda. Similarly, it was crucial that the discriminatory patterns of service delivery be addressed post-1994.

While some of Eskom’s actions were no doubt an accommodation of the new government’s developmental needs, the utility’s growing commercial motivation also played a role. The corporatisation of Eskom and a need to soak up excess capacity through the creation of new markets meant that many of the issues that would be central for the new government already had an existing commercial rationale within Eskom. The accommodation of government needs can therefore been seen as the intensification of a pre-existing commercial direction, rather than a reversal of it.

The role of electrification

The initial national electrification process was a clear imperative for the new government and Eskom responded accordingly, effecting 2 812 847 connections between 1991 and its commercial incorporation in 2001. Securing former Black Local Authorities (BLA) distribution networks meant that Eskom was able to ensure it remained relevant during the transition by positioning itself to take on the electrification backlog to predominantly black households. To date, 4 050 968 homes have been electrified since 1991, based largely on a prepaid metering system.

However, Eskom’s electrification drive was based on the commercial rationale that extending the domestic market would improve income generation as well as independence from the state. But average consumption fell far short of what Eskom assessed was needed to make the programme commercially viable. People simply could not afford to buy enough electricity to make this profitable. Indeed, providing large-scale electrification to a large proportion of South Africa’s population since 1990 has actually had relatively little impact on overall electricity consumption. The addition of over three million new (primarily low-income) residential customers between 1990 and 2004 only increased Eskom’s sales by approximately 4%.

In April 2001, the Department of Minerals and Energy began funding the Integrated National Electrification Programme (INEP) directly. Nonetheless, Eskom retained a strong influence over the process: Eskom personnel were simply seconded to the Department. According to Clarke (2007: 17) “Macro [electricity] planning is currently undertaken by the Integrated National Electrification Programme Business Planning (INEP BP) Unit. Previously housed within Eskom, this unit is now separate from it, though most of its staff have been seconded, on ministerial request, from Eskom.”

References


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Eskom, which had been funding the programme from tariffs to this point, was about to start paying taxes and dividends to government in its commercialised form (South Africa, 2001) and therefore argued electrification should come out of these payments.
In more recent times, the pace of electrification has slowed as a result of rising costs per connection and the level of government funding for electrification. According to a parliamentary briefing by the Department of Energy, Eskom and the South African Local Government Association (Salga), by 2012 there has actually been “a decrease in real terms of the electrification allocation”. In addition, it was reported that the INEP operational budget is “not sufficient to plan, implement and monitor projects effectively”. At the same time, the South African government has an ambitious timeline for establishing universal access to electricity in South Africa by 2014. Eskom has raised doubts about meeting this deadline, and in 2011, Eskom was unable to meet its electrification target. The utility’s current 10-year electrification programme does not cater for universal access by 2014, but claims that a 2021/2022 timetable is more realistic. According to Eskom “If this programme has to be expedited, it will severely limit the ability to execute the spend in other categories and increase the operational expenditure due to increased connection numbers”, once again highlighting the contested nature of this country’s electricity sector.

The government’s managed liberalisation of the electricity sector

In the late 1990s international globalisation trends meant that the focus was not on whether to liberalise, but rather on how to liberalise the electricity sector. The South Africa government had opted for what they referred to as ‘managed liberalisation’. As a result of this approach, the cabinet prevented Eskom from engaging in any further generation capacity development from the time of the 1998 White Paper on Energy Policy, to 2004.

In a speech to the Africa Energy Forum in 2001, Minister of Minerals and Energy at the time, Phumzile Mlambo-Ngcuka, summarised the government’s objectives thus: “The energy sector is being restructured in order to ensure that we reduce the cost of energy, improve economic efficiency, attract local and foreign direct investment, diversify energy resources for environmental reasons, and ensure security of energy supply. This will ensure the delicate balance between State’s imperative to spur on economic growth and its social responsibilities...[In] order to limit the expected upward pressure on electricity prices due to Eskom’s new dividend and tax payments status, there is a need to build new generating capacity, to encompass environmental considerations, and to reform the...[sector]. Government will ensure that these price increases will be kept as low as possible, so that South Africa maintains its competitiveness, cross subsidies for the poor, and free basic services to bring relief to the poor.”

However, the state’s emphasis on social responsibilities nevertheless meant that in practice those duties were increasingly shifted to individuals. The large-scale introduction of prepaid metering systems was one outcome of this process. It ensured consumer discipline with disturbing consequences: households would simply cut themselves off when they could not afford to pay for electricity. The potential social benefits of extending electricity access were therefore completely undermined.

Eskom’s electricity customers

Only 139 customers account for 34.9% of Eskom’s total revenues, however these customers generally pay less than half what the majority of customers pay. In 2011, mining and industry customers paid an average of 36.2c/kWh, while 4.5 million direct residential customers paid on average 66.4c/kWh.

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Following on from the Eskom Conversion Act in 2002, Eskom was converted from a statutory body to a public company (Eskom Holdings Limited), with the South African government as the sole shareholder. A board was then established, but was “comprised almost entirely by big business, with a handful of academics and a sole representative of the DPE”. The impacts of the government’s managed liberalisation approach are clear, with the Eskom Conversion Act attempting to balance the competing narrative of Eskom’s ‘developmental role’ and the need for ‘affordable electricity’. In reality, these competing interests have never been resolved.

Indeed, it was this approach that prevented Eskom from investing in new capacity before 2004, and precipitated an electricity supply crisis in 2007, which continues to date, despite policy acknowledgement of the problem ten years previously. The crisis in 2007 meant that Eskom was told to accelerate building new capacity quickly, and urgently began investing in a ‘new build programme’. This programme consists almost entirely of new major coal-fired capacity (Medupi and Kusile) as a supposedly ‘least cost’ and ‘proven technology’ solution. Thus, the earlier policy immobility, followed by the urgency to seek solutions to the supply crisis meant that the necessary space to develop better alternatives was completely absent.

The National Energy Regulator (NERSA) became operational in 2008, but given the monopolistic nature of South Africa’s electricity market, the regulator’s dominant role thus far has been to adjudicate Eskom’s price applications. The nature of these decisions has had the effect of deflecting accountability from both the state and the state-owned enterprise.

Since 2001, government roles in the electricity sector have become increasingly complicated with the following departments involved in one way or another: The Department of Public Enterprises, The Treasury Department, The Department of Energy, The Department of Minerals, The Department of Environmental Affairs and The Department of Local Government.

In fact, by 2012 the contestation for control of Eskom from different economic interests (including the Minerals-Energy Complex and Eskom itself), inappropriate governance and regulation structures, role confusion and policy uncertainty have in fact resulted in less accountability to the real owners of the utility: the people of South Africa.

In 2012, South Africa’s electricity sector looks like this:

- An estimated four million households have been connected to electricity since 1991, but these connections are characterised by chronic under consumption of less than 100kWh per month;
- The social development potential of electricity has been largely negated by cost recovery policies resulting in disconnections and self disconnection through prepaid metering systems;
- Domestic consumption is still a fraction of industrial consumption and poor households an even smaller fraction of this;
- Service related protests are common place and often relate to electricity;
- No significant renewable sources of energy have been developed;
- The carbon footprint of the utility continues to grow substantially;
- Dwindling water resources are further threatened by technology choices;
- Coal mining has boomed along with the negative impacts of acid mine drainage and toxins;
- Allegations of corruption in the award of tenders for capital expenditure projects continue to surface;
- Real prices for electricity reduced by around 67% over 20 years, and then have escalated by 300% in just a few years;
- A supply crisis in 2007 followed by ‘scheduled’ outages referred to as ‘load shedding’ resulted in large scale economic harm and job losses;
- Debt and spiralling prices limited the country’s ability to respond to the global economic crisis;
- A controversial World Bank loan has been sourced for building additional coal-fired generation capacity (Medupi); and
- Amidst these problems large bonuses continue to be paid to the utility’s leadership.

Salaries

In 2011, Eskom’s CEO earned R478 000 per month (including bonuses). Compared to this, the median minimum monthly wage in South Africa was R3162 per month in 2011. Based on these calculations, the ratio of the CEO’s salary to a minimum wage income is thus 151:1.

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5. Eskom and Water

In a water-scarce country like South Africa, the decisions taken around the consumption of water have major implications. As a strategic water user, Eskom’s investment decisions do play a role in the equation: in 2011 alone, Eskom consumed 327.252 Ml of water. The new power stations currently under construction (Medupi and Kusile) are to be ‘dry-cooled’ as part of Eskom’s climate change adaptation strategy and its claimed commitment to the environment. Importantly, because both of these power stations are being built in already polluted areas, both stations will require the installation of a flue gas desulphurisation plant, significantly increasing the water usage of these power stations.

But using dry-cooled technology is not a shift in Eskom’s strategy. Over 20 years earlier, Eskom had already opted for dry-cooled technology in the previous build programme. This was out of necessity as there were insufficient water resources to support the intended power stations. The annual report of 1983 describes Kendal, Matimba and Majuba stations as air-cooled based on lessons learned from the smaller Grootvlei station that was already dry-cooled, as not enough water could be found to service the station.

These three stations were planned during a severe drought in 1982/3. During this period, many existing power stations were unable to run at capacity because of insufficient water supply. It cost R100 million to augment water to the large power stations during the drought, which was done through emergency pumping schemes in the Eastern Transvaal. In a demonstration of the Minerals-Energy Complex at work in a crisis, the 1983 annual report describes the measures taken, “water affairs developed a scheme to augment the supplies of water in the Eastern Transvaal by reversing the flow of the Vaal River by pumping water up the river over a series of seven weirs. The scheme was completed in 20 weeks at a cost of some R28 million, to which ESCOM contributed R19 million and SASOL, another large water user in the Eastern Transvaal the remaining R9 million. However, the lessons of the drought were quickly forgotten, as the construction of Majuba in the late 1980s shows. In 1995 it was decided to go ahead with the last three units. Costs had spiraled, as the coal reserve was far lower than the geological survey had predicted. This meant that coal had to be transported by road and rail, and Majuba’s cost of generation was far higher than anticipated. As a consequence, the last three units commissioned were once again cheaper, water-inefficient, water-cooled options.

It is often accepted that Eskom is the source of knowledge and expertise in the electricity sector. However, the lessons of the past are clear: demand projections can be wrong, coal reserve estimation is far from exact and the nature of South Africa’s water supply is incredibly fragile. Despite this, Eskom continues to make the same decisions, and potentially the same mistakes that it did in the past.

It is estimated that the hidden costs of Kusile could be as much as Three Trillion Rand over its 50 year lifespan. The water impacts dominate these externality costs – approximately 70% of the external costs are water-related, and per unit of electricity produced, Kusile will use 173 times more water than wind power would. Building in inflexibility, instability, and water uncertainty into South Africa’s electricity system.

References:

- The report measured the ‘scarcity value’ or ‘opportunity cost’ of water.
6. Conclusion

Eskom clearly plays an influential role in South Africa’s electricity, policy and regulatory environment. The utility has staff seconded to numerous government bodies, and is often called upon to offer technical, logistical and financial support to the government, as well as participating in forming parliamentary opinion through various subcommittees. However, it is inherently difficult to analyse the sustainability performance of a state-owned utility like Eskom.

The question becomes: to what extent does one focus on Eskom itself, as opposed to the relevant government departments, policy processes, parliamentary oversight, and regulatory institutions? Drawing the lines as to where Eskom’s responsibility and accountability lies often proves difficult, given that the utility occupies an effective monopoly position in the absence of any real competition. Eskom’s shift in an increasingly commercial direction has had two key consequences: while government oversight has increased, overall accountability has decreased. The outcome is clear: a lack of genuine accountability for Eskom, as well as the government. And this lack of clarity works for both parties, in that they are continuously able to shift responsibilities from one to the other – pointing out that it is not them making the decisions, or with the expertise.

Eskom’s decisions have repeatedly confirmed the utility’s commitment to the central paradigm of large scale centralised generation and grid-based distribution to energy-intensive corporations, which lies at the heart of the Minerals-Energy Complex. Government holds a series of roles or spheres of influence and accountability with regards to the utility. These are, amongst others, that of shareholder, regulator, policy creator and political patron. This leads to confusion over accountabilities and the extent of strong directive influence and control by the state, introduces the possibility for corruption, ad hoc interference, and most importantly, a lack of accountability amongst all players.

As a result Calland and Pienaar make the comment that “Picking holes in the governance of electricity supply, and energy policy more generally, is like shooting fish in a barrel. Whether it is the development and sequencing of key policy documents, the absence of proper stakeholder consultation, leadership failure, or the lack of clarity about intra-governmental roles and responsibilities, there are more hooks on which to hang a public debate than in a cloakroom”. The results of a quarter century of electricity sector reform have been excellent from the perspective of the mines, banks and heavy industry. However, from a social and environmental sustainability perspective, the results have been deeply worrying. The Minerals-Energy Complex remains central to the type of electricity investment Eskom decides to make. Indeed, Eskom is at the heart of this paradigm, and both promotes and benefits from it.

But one thing remains clear: the ground-breaking decisions South Africa needs to make today cannot become the victim of play-offs in responsibility and a lack of accountability. The question of “Who is responsible” demands urgent answers in the face of an accelerated climate crisis, the growing gap between rich and poor, unacceptably high levels of inequality and unemployment, lack of service delivery, lack of access to affordable electricity, a potential water crisis, and the continued dominance of big industry and vested interests.

Continuing along South Africa’s current pathway is clearly not going to address any of these problems. The country’s electricity system relies on coal, large scale centralised generation and decision-making behind closed doors. The centrality of energy-intensive industries comes at the expense of all South Africans, making profits for a privileged few. Therefore, the dominance of the Minerals-Energy Complex and South Africa’s underlying electricity generation and supply paradigm must be challenged.

In the pursuit of a sustainable future, a major paradigm shift is required. This means that it is time for real accountability from the government, and from Eskom. The utility needs to stop building new coal-fired power stations, and should instead invest in the substantial rollout of large-scale and decentralised renewable energy projects. It is also time for the Minerals-Energy Complex to become far less central to the South African economy. A just transition away from coal and towards renewable energy is required to secure the country’s electricity supply, create jobs, ensure energy access, and avoid a water crisis exacerbated by catastrophic climate change. It is time for Eskom to finally learn the lessons of the past. It is not yet too late.

106 A parliamentary subcommittee plays an oversight role of state owned enterprises while others focus on the development of policy and legislation in the areas that affect decisions relating to development, environment, energy etc.

107 Calland is director of Idasa’s Economic Governance Programme, which convenes the multi-stakeholder Electricity Governance Initiative of SA (EGI-SA), and associate professor in public law at UCT. Pienaar is senior researcher: public ethics and governance.


The Eskom factor: Power politics and the electricity sector in South Africa

**Poisoned POWER**
**ESKOM PROFITS, PEOPLE PAY**

- **Eskom’s electricity output in 2010**
  - 237,000 GWH

- **93% COAL, 0.008% WIND**

- **2002**
  - Eskom commits to reduce coal reliance by 10% by 2012
  - World Summit on Sustainable Development

- ** FAILED**

**MASSIVE WATER COST**

- A DRY-COOLED, ‘WATER-EFFICIENT’ COAL POWER PLANT

- **KUSILE WILL USE 2.6 MILLION LITRES/HR**

- THAT’S 173 TIMES MORE WATER THAN WIND POWER WOULD USE PER UNIT OF ELECTRICITY

- Total damage cost up to **R3,000,000,000,000,000** (3 Trillion Rand) over Kusile’s 50 year lifespan

- **Taxpayers will have to cover this cost**

**2. the BIGGEST power users**

- **18 YEARS SINCE DEMOCRACY**
  - 12.3 million South Africans still have no access to electricity
  - FAILED

- **WHO’S REALLY USING THE ELECTRICITY?**
  - **HOMES** 18%, **COMMERCIAL** 15%, **MINING & INDUSTRY** 60%

- **R13.2 BILLION ESKOM’S NET PROFIT AS OF MARCH 2012**
  - mining & industrial users: 36.2 cents/unit
  - residential users: 66.4 cents/unit

- single-handedly, 139 customers use more than a third of Eskom’s power

- & they pay almost 1/2 what you and I pay for electricity
Greenpeace Africa’s campaign to end South Africa’s coal addiction

South Africa is among the highest emitters of carbon dioxide in the world, and burning coal is one of the primary sources of these emissions.

Currently, more than 90% of South Africa’s electricity comes from coal. Eskom continues to insist that coal is the cheapest source of electricity, and is investing in two mega new coal-fired power stations.

The reality is that there is no future in coal. The true cost of coal is destruction at every step, and coal-fired electricity production uses massive amounts of scarce water, creates profits for a privileged few, has failed to deliver electricity to over 12 million South Africans, and destroys people’s health and wellbeing.

Greenpeace Africa campaigns for an Energy [R]evolution to end South Africa’s addiction to dirty and risky coal and nuclear energy, replacing them with renewable energy and energy efficiency.

If the country commits to this option, we can phase out coal in a just transition over the next 40 years, tackle energy poverty and avoid catastrophic climate change. This will mean that half of South Africa’s electricity could come from renewable energy by 2030, and an estimated 150 000 direct jobs could be created in the energy sector in less than 20 years.

To achieve this goal, Greenpeace campaigns for Eskom to stop the construction of Kusile to prevent its massive environmental, economic, and social impacts. By building new coal-fired power stations, Eskom and the South African government are locking the country into a dirty, expensive future. Instead, Eskom must become genuinely accountable to the people of South Africa by investing in the substantial rollout of large-scale and decentralised renewable energy projects.

**The True Cost of Coal is simply too high for South Africans to continue to pay.**
Greenpeace exists because this fragile Earth deserves a voice. It needs solutions. It needs change. It needs action!

Greenpeace is an independent global campaigning organization that acts to change attitudes and behavior, to protect and conserve the environment and to promote peace. It comprises of 28 independent national/regional offices in over 40 countries across Europe, the Americas, Asia, the Pacific and Africa as well as a co-coordinating body, Greenpeace International.

Greenpeace has been working in Africa to end environmental destruction and fighting for the right of Africans to a healthy environment since the early 1990s. Our campaigns focus on climate change, halting the destruction of tropical forests and preventing the degradation of marine ecosystems.