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SAFCEI submission to NERSA on Eskom Revenue Application for 2018-19

SAFCEI submits this input in the spirit of constructive engagement, and with the aim of helping government to ensure that electricity pricing aids the transition from old, non-renewable energy towards a sustainable, renewable energy future.

SAFCEI is an organisation of many faiths, working to promote environmental justice and good Earth keeping. The impacts of climate change have been predicted to be severe over Southern Africa, and it is the poor and vulnerable that are most at risk.

Energy justice is an integral part of environmental justice, and SAFCEI therefore participates in such consultative processes with a view to improving the governance of our natural resources, of which we are stewards, and for which we have to account.

SAFCEI is not able to provide complete in-depth analysis of the 163 page document, given the short time frame and the lack of information provided by Eskom. However, we are sure that other stakeholders have provided other analyses and we reserve the right to supplement this submission as needed.

SAFCEI believes that continuing to increase electricity tariffs without any meaningful transformation of Eskom operations is the equivalent of throwing good money after bad. It is not prudent to allow Eskom to continue to overestimate its demand and then claw back revenue it does not make.

All other operational expenditure are based on overestimation of demand, leading to lock in of coal contracts and water infrastructure, which is unwise as these are not needed.

SAFCEI believes that the manner in which renewable energy costs have been presented is misleading and creates a false impression of its potential.

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1. Summary

Over the past 5 years, Eskom has been granted a series of tariff increases by NERSA. This has led to a more than doubling of electricity prices, increasing the energy security burden on the poor and vulnerable.

This Eskom Revenue Application 2018-19 (ERA2018) shows that Eskom is spending more than it can raise from its electricity consumers. In our view, this is due to poor decision-making within Eskom governance structures. Such poor governance has been demonstrated in various documents (Denton Report¹, Public Protector South Africa. 2016. State of Capture². Corruption report of the South African Council of Churches 2017³, State Capture Research Project 2017⁴).

Issues that contribute to the unsustainability of Eskom and increasing energy poverty include:

1. Demand: Eskom overestimates the demand for electricity. When it fails to obtain the revenue it projected, Eskom goes back to the regulator (NERSA) to ask for further tariff increases.
2. Power stations: The building of large coal-fired power stations must be paid for. Currently, we have to pay for the cost of building Eskom's Medupi and Kusile power stations. When there are not enough funds, government continues to bail out Eskom, converting a loan into equity. This means that government is increasing investment into an unsustainable source of energy that we cannot afford.
3. Coal contracts: Due to decreasing electricity demand, Eskom is incurring increased coal costs, as it needs to buy expensive short-term coal contracts rather than locking into long-term ones. Most coal contracts are such that Eskom has to pay for the coal irrespective of whether it is used.
4. Nuclear: Eskom is proposing to use more money in nuclear research projects. This happens at a time when most countries in the world are turning away from nuclear energy, as it has been found to be too expensive and dangerous. The nearly 20% tariff increase that Eskom is asking for in this application does not include anything towards the nuclear build. If government were to restart the nuclear procurement process that was halted by SAFCEI and ELA through the courts earlier this year, Eskom will be asking for further increases in tariffs.
5. Water: Coal-fired power stations need water to be operated. Eskom has ordered water supply infrastructure to supply coal-fired power stations. Even if there is no need for additional coal-generated electricity, Eskom will still have to pay for the water infrastructure it ordered the Department of Water Affairs to build. The cost of this requires increasing tariffs.
6. Eskom is claiming that renewable energy projects are leading to higher electricity tariffs. This is a selective presentation of data, as research such as that by the CSIR has shown that renewable energy costs are 40% cheaper than new coal.

Eskom's decisions point to an unsustainable energy future, where ever increasing electricity prices

¹ <https://cdn.mg.co.za/content/documents/2017/02/09/150702dentonseskomlow-resocr.pdf>

² <http://cdn.24.co.za/files/Cms/General/d/4666/3f63a8b78d2b495d88f10ed060997f76.pdf.2>

³ <http://www.enca.com/south-africa/catch-it-live-south-african-council-of-churches-releases-corruption-report>
Betrayal of the Promise: How the Nation is Being Stolen <http://pari.org.za/wp-content/uploads/2017/05/Betrayal-of-the-Promise-25052017.pdf>

⁴ Betrayal of the Promise: How the Nation is Being Stolen <http://pari.org.za/wp-content/uploads/2017/05/Betrayal-of-the-Promise-25052017.pdf>

lead to increasing numbers of people unable to afford electricity, who are forced to use polluting fuels with the accompanying health and environmental risks (Myllyvirta 2014, Holland 2017)⁵.

Eskom is a state-owned company (100% government ownership). SAFCEI therefore calls on government to:

- cease using Eskom to earn money from the poor and vulnerable, and to prosecute those that undermine good governance within the parastatal.
- engage with civil society meaningfully on a transition to a sustainable energy future.

SAFCEI calls on the energy regulator NERSA to:

- halt any further tariff increases until Eskom has a plan for a transition towards a sustainable energy future. In particular, no tariff increases for any nuclear-related projects.
- ensure that the Regulatory Clearing Account (RCA) mechanism does not continue to be used to subsidise poor decision-making. Past collection of revenue, due to poor demand forecasting, indicates that NERSA is not applying its mind in its decision-making. We would remind NERSA that its mandate is also to protect the people of South Africa.

demand outstanding information from Eskom that would allow real comments in some areas. Such information must be put into the public arena for comment. SAFCEI has previously highlighted this shortcoming and we would ask NERSA to demand such outstanding information from Eskom that may be shared with the public.

SAFCEI also requests the opportunity to present at public hearings that will take place around the country.

The Following pages provide further detail on the points above.

2. NERSA's mandate

Past under-collection of revenue due to poor demand forecasting indicates that NERSA is not applying its mind in its decision-making. We would remind NERSA that it has a mandate to protect the people of South Africa. We refer to the objectives of the National Electricity Regulator Act, which include the following:

(a) achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa;

(b) ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic;

(c) facilitate investment in the electricity supply industry;

(d) facilitate universal access to electricity;

(e) promote the use of diverse energy sources and energy efficiency;

(f) promote competitiveness and customer and end user choice; and (g) facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public.

⁵ Health impacts of coal fired generation in South Africa, 2017, Dr Mike Holland (EMRC); Myllyvirta. Health impacts of Eskom applications 2014.

3. Overestimating the demand for electricity

ERA2018 (pg 14) admits that less electricity was sold than forecast. In other words, the previous forecast estimates were too optimistic. For those customers who remain with Eskom, they are now being asked to pay higher tariffs to compensate for the decline in electricity sales. The RCA mechanism allows Eskom to continue with bad planning and to claw back any revenue losses through imposing increasing tariff increases on current customers. In our opinion, this should not be allowed. A proper forecast would enable Eskom to cut its expenses in line with expected revenue.

According to Eskom, revenue increase for 2017/18 year is 3.6%. However, as the revenue is now being recouped from lower sales volumes, overall price increase is 19.9% for 2018/19 [89.13c/kWh in 2017/18 to rise to R106.87/kWh in 2018/19].

ERA2018 pg 16 indicates that this tariff application does not include any RCA increases that would subsequently be added. In our view, this means that Eskom is likely to return to NERSA in 2018 to further increase the tariffs to recoup revenue it has not earned in this year. This constitutes a piecemeal approach to the tariffs, and we would urge that NERSA limit any RCA application in 2018 to below 2%.

ERA2018 pg 20 indicates that sales volumes have remained fairly static over the multi-year price determination (MYPD) period. There is therefore no rationale to forecast any significant increases in sales over the next year.

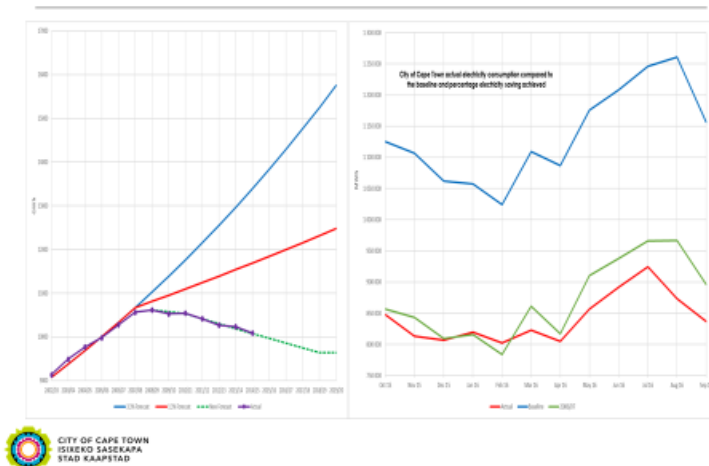
National Treasury forecast a GDP increase of 0.5% in 2016 and 1.3% in 2017 (ERA2018 pg 39). However, table 9 provides a series of forecasts ranging from 1.2% (IMF in 2017) through to 3% (Eskom Treasury for 2019). Eskom admits that commodity prices are at lower levels than in the past and that this trend will continue. ERA2018 assumes gold and platinum prices will increase, leading to increased electricity use, yet no substantiation is given.

Section 8.3.3 on price elasticity again fails to provide any substantive information. It is acknowledged that further research is needed to quantify the impact of price increases on sales volumes, but there is no indication that Eskom is investing in such research in order to improve its forecasting ability. In our view, this is because current pricing policy allows Eskom to overestimate revenue, and there is no accountability for a failure to be accurate. Inaccurate forecasts are simply rewarded by increasing tariffs to compensate for lost revenue.

ERA2018 pg 41 indicates that Eskom relies on its industrial and mining customer business plans to forecast its demand. However, Eskom's electricity supply model is based on ensuring it has sufficient electricity to meet a winter peak demand. Such winter peaks are mostly due to residential use of cooking and water/space heating appliances. There is certainly a gap in information needed to accurately forecast electricity demand, if there is no research to determine residential peak demand trends.

The City of Cape Town electricity forecast indicates that electricity demand in urban areas is in decline (See graph below).

Electricity demand Cape Town 2006/7 – 2015/16



Section 8.3.4 of the ERA2018 indicates that furnace utilisation is high (95%) in summer, but that an insubstantial amount of furnace load is used in winter. However, no figures are provided to substantiate such claims.

SAFCEI has consistently put forward the view that Eskom fails to prioritise energy efficiency. This is substantiated by the section on pg 41 which assumes no change in efficiency.

Section 8.3.6 describes how Eskom deals with variations in weather conditions. There is no reference to climate change impacts that are projected for South Africa. For example, increasing numbers of hot days in summer will lead to increasing use of air conditioning and decreasing numbers of cold days in winter may lead to decreasing use of space heating. Such changes occur over a longer time period than a one-year tariff application, but some reference to a changing climate in this section would be expected.

Overall, page 42, table 12 (ERA2018), provides a picture of declining sales until 2017 with negative year-on-year growth. It is difficult to understand the justification for the including sales 2018/19 forecast, given the trend of declining sales. There is nothing in this application which credibly suggests that sales will increase and SAFCEI strongly suggests that the sales forecast be adjusted to be in line with the previous years. This would mean a further 6% reduction, not an increase. This would mean a forecast of approximately 214 468Gwh for 2018/19 application.

The ERA2018 table 13 on page 43 specifically attributes sales increases to commercial and residential customers. However, SAFCEI has noted that increasing use of rooftop solar as shown by the solar PV is growing from 35MW to 159MW⁶.

ERA2018 pg 43 refers to new electrification customers with an assumed increase in residential consumption, but there is no reference to possible decreased assumption due to tariff increases. Eskom acknowledges that the trend is for lower sales and that there is a need to “rebase the sales volumes for 2018/19 so as to be in line with the sales trend and provide a realistic reference point for 2018/19”. However, it then fail to follow its own advice.

ERA2018 pg 44 provides some explanation for declining sales, although the paragraph claims it is about reasons other than electricity pricing. The wording is very confusing and the first point listed as a driving force for declining electricity sales is, “electricity price increases have played a part in constraining growth as the cost of electricity for certain industries is a high percentage of production costs”.

The following slide shows the Energy Intensive User Group of Southern Africa (EIUG) perspective on electricity demand:

⁶ <https://www.dailymaverick.co.za/article/2016-04-21-rooftop-solar-pv-will-be-a-game-changer/#.Wd8VLFuZzIU>
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Demand perspectives from the EIUG

- "South Africa's electricity demand has not grown since 2007, due largely to structural (not cyclical) changes in commodity markets, weak economic growth and energy efficiency. The lack of generation capacity was not the main reason for the drop off in demand, meaning the availability of new capacity will not automatically cause renewed demand growth."
- "Over-building, leading to over-capacity will result in severe price increases, stifling further growth and triggering a negative spiral, where above inflation price increases and falling demand feed on each other".



EIUG – Energy Intensive Users Group

There is no analysis of how Eskom should adapt to the declining sales. However, Eskom then puts forward its solution, which is to grow sales, and states that such growth should be part of a South African government policy intervention. This reflects a serious lack of critical thinking by Eskom leadership. In our view, Eskom is proposing to continue forcing people to pay high prices for electricity, rather than analysing the reasons for electricity decline and looking at how it can contain its costs and move to competitive electricity pricing.

Eskom has acknowledged it has under-recovered its revenue, with a cumulative shortfall of R68billion over the MYPD3 period. However, instead of forecasting less revenue to avoid continuing the same mistakes, Eskom is just continuing with the same idea that it can grow its sales volumes (ERA2018 pg 46). Again, Eskom appears to be repeating past mistakes, and this is a reflection on the lack of governance capabilities.

Another indication that electricity is becoming increasingly unaffordable is the increasing arrears that Eskom is experiencing. According to ERA2018 pg 49, the MYPD allows for a 0.5% arrears debt, but current debt levels are at 2%. There is no analysis of the reasons why Soweto and municipal customers have such large arrears. It might be assumed that the reason is that these residential customers are struggling to afford electricity, given the sharp increases over the last few years.

Eskom's proposals to decrease arrears are mostly technical solutions and they may very well prevent people from buying electricity that they can't pay for. Such interventions would then presumably also lower the sales volume.

4. Increasing costs of supplying electricity

Eskom outlines its plan of how it will supply electricity to meet its demand. This plan is dependent on an accurate forecast and as outlined above, SAFCEI is not convinced that this has been done.

The production plan is Eskom's plan to supply energy at least cost. But this plan seems flawed in a number of aspects.

Maintenance of the coal fleet into the future indicates increasing maintenance costs as power plants age. Currently, Eskom has a surplus of electricity and could therefore shut down and decommission the oldest plants that are high cost to maintain and are more polluting than newer plants.

According to Eskom, cheaper power stations will be used first. However, the definition of least cost is "not the actual running costs but rather approximate energy costs in R/MWh which is derived from fuel cost projections per station". Although Eskom describes its model and provides technical rationale for its plan, the following points of clarity are needed:

Section 9.3.1. Koeberg is regarded as a first order base load station i.e. the least cost, yet on pg 50 of the ERA2018, it is stated that for operational reasons related to nuclear energy, Koeberg has to be despatched first. No explanation is given, but this seems to contradict the least cost criterion.

If power plants are used more often, then their costs per kWh generated will appear lower compared to power plants that are not used often. This would then artificially lead to them being used more often in a spiral of self-promotion, which might not be close to reality if the comparison was carried out more equitably.

In addition, our view is that power stations that have been closed for a period of maintenance would appear more expensive compared to power stations that might be running inefficiently due to lack of maintenance. This logic, if taken to extreme, would lead to the conclusion that poorly maintained plants that are still running should continue to run until they collapse, rather than shutting down power plants for regular maintenance. Such logic is flawed in our opinion, and will lead to increased maintenance costs, as it will cost more to repair power plants that have been driven into the ground. Eskom has failed to give sufficient information to enable any real analysis.

Renewable energy Independent Power Producers (IPPs) are despatched first, due to the idea of using their power when it is available. Such power stations are least costs if one was to consider health and environmental costs of coal and nuclear, but appear more expensive without such costs included.

Eskom seems to have assumed that renewable energy power plants are all costed at bid window one prices, yet as highlighted in ERA2018 pg 140 and 141, it is very clear that the costs of Renewable Energy IPP costs are decreasing and are likely to be cheaper per kWh than Eskom's new coal costs. *Eskom is maintaining its resistance to renewables, despite the Council for Scientific and Industrial Research (CSIR) having shown that wind and solar are now 40% cheaper than new coal-fired power in South Africa.*⁷

The Eskom application appears to be manipulating its data to prevent further additions of renewable energy. SAFCEI refers to the CSIR modelled scenarios for the IRP, which clearly show the public good of increasing environmental savings and affordability that will arise from increasing amounts of renewable energy.

It is also not clear if apples are compared to apples. The cost per kWh which IPPs sell to Eskom presumably includes the cost of capex as well as opex. However, Eskom appears to be comparing the IPP costs (which include capex and opex) to the primary energy costs of Eskom power stations, which relates only to the opex. We ask for further clarity.

Transmission costs due to generating coal energy in Mpumalanga and distributing across the country could decrease if power stations were built close to demand. As increasing numbers of renewable IPPs come on line, such costs should decrease.

The product plan needs to take a longer term view. Older power stations might appear least cost from a fuel perspective, with (for example) coal mines on their doorstep. However, older power stations have higher maintenance costs and it is not clear how this has been factored into the merit order.

Our conclusion is that the model that Eskom is using to prepare its production plan was derived from a coal-fired power generation fleet and does not seem to be capable of integrating the benefits of increasing renewable energy. A model that optimises base load coal generation is likely to view RE IPPs as disruption to business as usual, rather than seeing how the combination of these technologies will aid a closer load-following profile.

⁷ <https://www.dailymaverick.co.za/article/2017-10-08-op-ed-eskom-a-laggard-in-electricity-utility-transition/#.Wd9mn1uCzIV>

5. The Costs of Capital.

Eskom paid R26bn interest on its debt for 2016/17. Eskom's debt is increasing and the price increases have failed to allow Eskom to cover its costs including its interests.

In 2016/17, Eskom appears to have less debt. However, that is due to the government converting a R60bn loan into equity. This means that government now has a larger stake in a non performing entity. For the 2018 application, Eskom has submitted that government receive less return on its shares. SAFCEI supports the idea that government not receive any return, as this will reduce the need for increased tariffs. However, Eskom still proposing to hand over 3% instead of 8.4%. "If Eskom were to apply for the full return on assets of 8.4%, the allowed revenue would be R261bn which corresponds to an average price increase of 44% for the 2018/2019 year". What further tariff reductions would be possible if the government took zero return?

Given that the government derives its income from taxes, and the more the economy grows, the more taxes will be generated, and given that Eskom has identified that the high cost of electricity is restraining the economy, it would seem logical for government to not take any returns on electricity revenue, thereby keep electricity prices low and therefore grow the economy. Such economic growth should lead to increasing taxes, increasing revenue for the state.

Furthermore, such increasing revenue would be drawn from productive sectors of the society, rather than being a tax on all electricity consumers, including those poor and vulnerable sectors of society. Furthermore, the increases in electricity have a knock-on impact on the prices of food, and goods and services, which further burden the poor.

Eskom Generation Capex spend.

Medupi and Kusile contribute R20 bn to the total generation capex of R46 494 million in 2018/19 (ERA2018 pg 63). This is almost half of the capex and so do we assume that half the debt interest repayments are due to this capex.

During the MYPD2 and other processes regarding Eskom generation build, civil society has consistently raised the problems of building large bulky power stations that are not needed but that electricity consumers have to continue to pay for. Such poor decision-making by Eskom governance structures has resulted in a massive debt burden and as there is little demand for electricity, so less and less chance of being able to meet the debt repayments. In order to cut costs, Eskom needs to shut down older power stations that need increasing maintenance and where the cost of coal supply is increasing or where environmental costs of refurbishing to meet new environmental standards would be costly. Obviously such shut downs must be carried out in a socially acceptable manner with associated jobs allocated in other places in Eskom.

ERA2018 pg 63 indicates that the future fuel costs of Eskom generation increasing substantially. From R114 mill to R3.9 bn.

It is assumed that these costs are investments in coal mines. Such investments are unnecessary with the increasing use of renewable energy.

Total primary energy costs CAGR (compounded average growth rate) stated as 8.7% per annum between 2013/14 to 2018/19 but with coal burn costs comprising 7% per annum (ERA2018 pg 65). Does this mean that coal burn costs are 80% of total primary energy costs?

6. Operations

According to ERA2018pg 95, over time the operating costs of new power stations will be about half of that of the older fleet of stations. SAFCEI does not agree with this as coal costs are not likely to reduce over time, so it is not clear what is included and no further details are supplied. However, even using this Eskom-claim,

logically this would provide further impetus to retire and decommission old power stations, rather than continue to incur expensive operating costs for power stations that are not needed.

It is clear that the load profile is changing. According to Eskom (ERA2018 pg 97), the system is becoming more “peaky”, less power needed during the night and high peaks. According to Eskom, this leads to inefficiencies and resulting high generation costs. In our view, this is only if your perspective of the load is that it should be largely uniform with a morning and evening peak. Eskom proposes to shift the load profile to address the peakiness of the demand. But there is no analysis provided on why the demand profile is shifting. Once again, Eskom seems unable to adapt to a changing energy environment.

Increasing renewables leads to a flexibility and a renewable profile follows more closely the current peaky demand profile. There is therefore more of a need for flexible supply rather than dogged adherence to base load philosophy. Load shifting is useful but as part of an adaptation to a new profile, rather than an attempt to force society to fit the Eskom mould.

Earlier in our submission, we noted that little attention was paid to energy efficiency. On ERA2018, page 99, the costs of the demand reduction, and energy efficiency programme are noted as R2.5m/MW. Page 98 gives the average of 300MW savings off the evening peaks due to behaviour change power alert system. This power alert system was initiated as an emergency response and the public responded accordingly. It is not clear how sustainable such a system is. However, it does illustrate that energy saving is by far the cheapest form of action and additional priority should be given to it.

Eskom generation is still largely based on coal and given that this makes up a large proportion of the operational and capex costs, we have examined the coal part of the Eskom tariff application in some detail.

Coal contracts

Eskom has acknowledged that the commodity boom has ended and that contracting a coal supply needs to have some flexibility. Tying into short term coal contracts will make the contracts more expensive (ERA2018 pg 71). According to Eskom (ERA2018 pg 72), export coal prices are very low, which should mean Eskom can compete to buy coal cheaply. However if these mines close due to no longer being viable given that their investment decisions were made at the height of the boom, then there may be no coal for Eskom. What are the implications for coal availability?

If coal mines are further away from coal power plants, transport costs will rise. Increasing coal mining will impact further on water catchments and increasing coal fired power station burn will place additional burden on communities already affected by bad air quality. Hopefully Eskom should also be forced to come in line with air quality standards too.

In general, ERA2018 (page 72) highlights a number of factors which indicate that coal fired electricity costs are likely to rise into the future. This is contradiction to a statement by Eskom (ERA2018pg 94) which indicated that the costs of coal fired electricity were going to be less into the future. Maintenance costs for new plants should be relatively lower than old plants, but increased costs of maintenance for aging plants has to be and seems to have been accepted. If coal costs are going to rise into the future, and renewable energy costs are going to decrease, then why would we continue with coal fired electricity?

Medupi has resulted in an increase of 7% from 63% to 70% of coal procured on long term contracts, to match the life of the plant. In this case the life of the plant is given as 40 years (ERA2018 pg 73). However, earlier in the application, the life time of power plants was given as 60 years (ERA2018 pg 51). Such anomalies create confusion as it is not clear if the costs are being manipulated to present fuel costs as less of a burden and to try to present the capex as cheaper /MW compared to a life span of 40 years. We would ask NERSA to ask Eskom for clarity.

According to Eskom (ERA2018pg 75), most of the coal is bought on take or pay contracts. This would mean that if the coal is not used, it still needs to be paid for. This means that if Eskom overestimates the electricity demand, and then contracts coal on the basis of that demand which then doesn't materialise,

then Eskom will have to pay for the coal despite a reduction in revenue. Coal costs are increasing on average 5% per annum. (ERA2018 pg 75). However, earlier, Eskom referred to coal increases of 7% per annum.

The type of coal contracts influence the price. Long term plus coal contracts have increased by 8%, with long term fixed price contracts increasing by 14% and short/medium coal by 8%. (Unit cost increases ERA2018 pg 77).

Transport costs for coal can be road or rail. According to Eskom, rail has historically been cheaper but Transnet and Eskom have agreed higher than inflation tariffs over the past 5 years (ERA2018 pg 78). There is no explanation for this and it is assumed that “there will be a step change in the rate in that year”. There is no indication of what the step change will be but according to ERA2018 pg 78, the rate after the “step change” is predicted to increase at 12% per annum. Again, this does not seem to be linked to inflation and there is no explanation.

Details of coal stock levels are supposedly supplied in appendix 1. However, Table 42 which indicates volumes of coal per power station has been blacked out. It is therefore not possible to analyse the coal volumes per power station. We ask NERSA to make the detailed data in the table available to the public.

22 Appendix 1 - Coal Burn Costs

22.1 Coal Burn Costs and Volume(Kt) per Power Station

Table 40: Assumed Coal Burn Costs per Power Station

Power Stations	Coal Burn Costs (R 'M)			Purchasers cost ratio FY19			Burn allocation FY19 (R 'M)			
	Actuals 2016/17	Projection 2017/18	Application 2018/19	Cost Plus	Fixed Price	MT	Cost Plus	Fixed Price	MT	Total
Kusile										
Medupi										
Duika										
Kendal										
Luthaba										
Majuba										
Matimba										
Mtata										
Tubuka										
Amot										
Camden										
Grootvlei										
Hendrina										
Komati										
Kriel										
Total Coal Burn Costs (R'billions)	44 164	45 642	48 687				17 149	11 642	20 105	48 687

Water infrastructure costs

Eskom pays for its water through tariffs. New water infrastructure needs to be built and these costs are then recovered through tariffs to Eskom (ERA2018 pg 80-81). Such infrastructure such as the Komati and Mokolo projects are recovered through a take or pay pricing. This implies that should Eskom not need the water because it shuts down ageing coal fired power plants, this would be wasted costs. Such water costs are related to the coal generation part of Eskom’s generation and should be allocated accordingly. This increases the cost of coal generation compared to renewable energy.

This also has knock on cost implications for government as it is Department of Water Affairs that is going to have to build the infrastructure, increasing the debt of government overall.

Eskom is currently using the water consumption of the city of Cape Town, about 2% of the country’s water supply.

Nuclear fuel costs

Correctly, nuclear fuel costs should be part of the operating expenditure of the nuclear power station. However, the costs of spent fuel disposal is not included in these costs as there is no commercial operating final disposal site in the world (ERA2018 pg 84). This lead to the underestimation of the costs of nuclear

power stations. So in effect by not including the full costs of nuclear, Eskom is not comparing apples with apples in its comparative costing of renewables vs nuclear. Motivating for continuing with an electricity supply mix based on expensive energy sources such as nuclear is disingenuous and it is the public who will pay for the real costs in the future?

Additional operating costs of Koeberg should include the costs of the NNR as no other energy source requires such stringent and costly regulation.

Environmental levy

The environmental levy methodology appears to spread the levy over both renewable and non-renewable energy sources through allocating a percentage of system costs which are spread over renewable and non-renewable costs (ERA2018 pg 87). This defeats the purpose of having an environmental levy which is supposed to add to the coal generation costs. The explanation offered is not totally clear but SAFCEI would urge NERSA to ensure that the environmental levy costs must be allocated to the generation costs of non-renewable energy as an additional 3.5c/kWh for such energy.

Jobs

According to Eskom, part of being efficient would be to reduce the number of employees. SAFCEI believes in decent work which includes permanent work with decent working conditions. "Containing the workforce numbers without compromising the required skills in appropriate areas will be possible". (ERA 2018 pg 89). If employees can be reskilled, and redeployed without losing any benefits this sounds reasonable.

Eskom is planning to reduce its staff by 4454 employees but no further details are given. In the current state of unemployment in the country, SAFCEI cannot support this without further details. For example, given the environmental impact of coal and nuclear power stations, there could be a need to increase health and safety officers or environmental officers at power stations and trade unions have raised the issue of the inefficiencies of contract labour vs Eskom permanent employees in previous tariff applications.

Renewable energy generation projects are delivering jobs and increasing the share of renewable energy in the country would increase jobs instead of having to shed them.

7. Planned research projects

Eskom has highlighted a number of planned research projects for the application year. According to ERA2018, pg 101, Eskom will undertake a stakeholder consultation process to provide feedback on its research projects. To date, Eskom has not published any further detail on its planned research projects for us to comment on. Given that it is public money, the public is a key stakeholder in such consultations.

SAFCEI rejects any nuclear and coal related projects. Eskom is a government owned entity and therefore should be able to draw on other government entities that can provide research that is needed for its operations. We do not support any further funding for research projects. There is also no budget for such projects in this application.

For example, wrt to the project labelled Future Customer (ERA2018 pg 101), this is not a research project but should be an integral part of Eskom's planning operations.

8. Insurance

SAFCEI is concerned that Eskom's insurance is not separate but actually part of its assets. Its insurance company should be a separate company that is not on Eskom's balance sheet. Failure to do so might mean that the money is not there when it is needed.

It would also be important to spell out the insurance which accrues to Eskom generation vs IPPs. It is assumed that IPPs have their own insurance which is included in their tariffs. Eskom generation related insurance must therefore be accrued to coal fired power stations and not included in the general tariff.

Nuclear insurance is correctly not included in Eskom's own insurance. However, this insurance needs to be off balance sheet too and the costs must be provided. The details of Eskom's contribution to the liability pool should be laid out as well as any additional fees that government pays. Such costs must be included in the nuclear related generation costs and not be spread across all the generation costs of Eskom.

9. Economic studies

According to ERA2018 pg 106, Eskom's study finds evidence of a strong correlation between GDP growth and electricity sales growth. Using a timeframe of 1997 to 2016, they obtain a correlation of .93. However, the study then looks since 2012 and finds that GDP expanded by 1.9% year on year from 2012 to 2016, electricity sales fell, averaging -0.9% y/y. However, the study then goes on to say that while GDP growth might be 1.8% per year until 2021, electricity sales are "unlikely to average more than 1% per annum particularly given evidence of a persistent trend-decline in electricity intensity". This seems inconsistent as it would seem that with a slower GDP forecast, Eskom sales are likely to continue to fall by almost 1% per year. The phrasing of "unlikely to average more than 1% per annum" is misleading.

Electricity prices rose 114% over 5 years, more than doubling. Tariff increases have been reduced at public outcry. Eskom's now experiencing a revenue shortfall.

However, such expenditure should not have been incurred in the first place as Eskom now has bought power stations which it doesn't need. Such power stations are coal fired, huge bulky machines for which there is no demand. Eskom has acknowledged that coal costs will increase.

Eskom's decisions were poor and for such bad choices, electricity consumers are now paying. However, it is incomprehensible that electricity consumers should continue to pay for such bad decisions into the future with Eskom continuing to be rewarded through the RCA mechanism.

Government, as the shareholders, has been complicit in such bad decision making, further subsidising Eskom's debt in the form of a R350bn guarantee and in further equity injections and conversions from debt to equity. These decisions have impacted negatively on the government's credit rating, making other government priority projects now more expensive as any funds that must be raised for such projects such as schools, and hospitals will now be expensive. SAFCEI believes that if Eskom had been forced to clean up its act in the past, South Africa would have been in a better place now from a credit perspective. This is a time to draw a line in the sand and stop the continuation of misgovernance.

ERA2018 pg 108 describes the economic harm that subsidies supposedly do. In general, these are accepted but in an inequitable society with high unemployment, it is the role of the energy utility and government to subsidise services to the marginalised and vulnerable to enable them to participate in the economy/ reduce poverty.

Deloitte (2017) quoted in ERA2018 pg 111, correctly laments the fact that government increasing support to Eskom results in "re-prioritising expenditure away from other government services and functions". However, it would be common sense not to incur expenditure if you cannot afford to repay it, and NERSA appears to have assumed such a prudent approach.

Eskom did incur expenditure it cannot afford and is now expecting both electricity consumers and government to bail it out. Furthermore, according to government, Eskom is expected to raise additional funds to build the new nuclear build. Who is going to bail out Eskom if this expenditure occurs? SAFCEI appeals to NERSA to carry out its mandate and to disallow any tariff increases as it appears that Eskom is once again motivating for tariffs based on unrealistic revenue projections.

ERA2018 pg 113 states that tariffs would need to rise further if the nuclear new build were initiated.

Downgrading leads to a negative spiral with increasing interest rates and further slowing economic growth and potential further downgrading. ERA2018 pg 115 notes that "countries take seven to nine years, on average, to recoup their investment grade rating, following a downgrade, to speculative grade".

The implication of this statement is that NERSA could not justify any tariff increases for any nuclear related expenditure. We therefore appeal to NERSA to make it publicly clear that any request for nuclear related expenditure would not be prudent or in the interests of the people of South Africa.