



Revenue Application

Multi-Year Price Determination

2010/11 to 2012/13

(MYPD 2)

30 November 2009

Eskom's MYPD 2 Application (2010/11 to 2012/13)

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1 Executive Summary

Eskom engaged with stakeholders regarding its proposed Multi Year Price Determination for the three year period 2010/11 to 2012/13 (MYPD 2) application dated the 30 September 2009.

During that process it became clear that a significant strategic shift is required to achieve a successful outcome for Eskom and South Africa. Furthermore the expectations and roles of Eskom, Government and stakeholders should be consistent with this shift. This strategic shift is based on a deeper commitment to the following:

- The contextualisation of the MYPD 2 application within a long-term country vision. As a country we need to have a view of the overarching objectives and the outcomes that define success and sustainability for the economy and the electricity industry and ensure that the price path is consistent with that objective.
- It is crucial that the roles of the various parties in achieving our national objectives are clear. In particular, there should be clarity of roles regarding the implementation of key initiatives: aggressive demand side management initiatives, facilitating access to funding, introducing new capacity, ensuring integrated infrastructure development, reducing our carbon footprint, reducing energy intensity per GDP output and ensuring security of supply.
- Eskom cannot provide for all the future energy needs of the country on its own and therefore an enabling environment is required to attract new entrants to the market.
- A collaborative effort is therefore required between Eskom, Government, and all stakeholders including business, communities, customers and other role players in the electricity industry and, in order to succeed, Eskom should place its confidence in the ability of other stakeholders to contribute to a solution.
- Eskom needs to focus on executing its mandate within its own capability and capacity, while other role players in the country assigned with specific mandates must execute those mandates.

This submission has been informed by this approach, which has influenced the choices that have been made regarding the demand forecasts, capital expansion programme, demand management, cost reductions and various other interventions outlined herein.

In particular this has resulted in the following choices/initiatives:

Demand Forecast

- The sales assumptions have been changed to include 8,5TWh of DSM savings over 5 years, resulting in a lower sales forecast.

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- The demand forecast has also been adjusted to take into account the impact of solar water heating.

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- Optimisation of the schedule of Kusile to take into account certain delays that have already resulted relating to certain specific contracts, and given the lower demand forecasts, this also allows for further flexibility. In this regard it should be pointed out that the impact on the schedule of the major committed contracts is being assessed and may be unaffected.
- The rephasing of other build projects.
- The introduction of more IPP options in later years (after the MYPD 2 period).
- Removal of the initial expenditure to prepare for the next coal fired power station (coal 3) on the basis that Eskom need not build this capacity.
- Removal of the funding for the capital expenditure for the next nuclear option in Eskom's funding requirement for the MYPD 2 period.
- Delaying the wind option (Sere) for 1 year, and exploring whether it could be built by a third party.
- Removal of the expenditure for the Department of Energy IPP from Eskom's funding requirement for the MYPD 2 period has been recommended based on the revised demand forecast.

It should be noted that most of the above choices are subject to the final Integrated Resource Plan (IRP). Where cashflows have been deferred, it implies that the particular project, if required to be built by Eskom, would be built later. However, if built by another party, the initial timelines could still be met.

Cost Reductions

- Cost reductions in operating expenditure.
- Reducing the Primary Energy plan to reflect the impact of DSM initiatives, cost reductions and cost savings from efficiency initiatives.
- Removing the provision for the maintenance/repairs to roads after the first year on the understanding that the roads will be maintained by Provincial Government or South African National Roads Agency Limited (SANRAL) and that Eskom will only be liable for a shadow toll for its beneficial use of the roads for coal haulage.

Additional Funding

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- An assumption of additional borrowings of R8.5bn.
- An assumption for planning purposes that equity of at least R20bn will be sourced from the private sector at a project level within 24 - 36 months but the intention is to maximise the introduction of such private equity.

As a result of these choices that have been made, and relying on the commitment that an appropriate enabling framework would be established to mitigate the risks that could materialise, Eskom is in a position to apply for a revenue requirement that translates into a price increase of 35% for each year of the MYPD 2 period, assuming inflation as set out in annexure A. This will lead to a real price of 43c/kWh in FY2010/11, 55c/kWh in FY2011/12 and 70c/kWh in FY2012/13.

Eskom will still have a cash shortfall of R14.1bn in FY2011/12 and R7.9bn in FY2012/13. Eskom commits to addressing this shortfall by intensifying its efforts to raise the required borrowings and by facilitating the introduction of private equity as soon as possible. In the event that such initiatives are not realised, the rephasing of the capital expansion programme or other appropriate interventions may become necessary. As a last resort, if the required interventions do not succeed, an approach to NERSA during the MYPD 2 period to re-open the determination should not be excluded. However with the cooperation of all stakeholders this can be avoided.

In the absence of a collaborative approach with Government and other stakeholders, this approach may increase South Africa's exposure to risks related to security of supply. It will also increase the risk profile of Eskom's operations and financial sustainability. In particular, the assumed levels of borrowings and equity are optimistic and may not materialise. In addition, should the demand growth exceed the latest assumption, urgent intervention will be necessary to ensure that sufficient capacity is built timeously.

The country's vulnerability is therefore increased and in the event that the required interventions are not implemented as anticipated, security of supply could be threatened. Conversely, if the required interventions are successful, the risk profile would reduce.

A concerted effort would be required to ensure that these risks are effectively treated. However, the treatment of all of the resultant risks are not within the control of Eskom and the participation of all stakeholders is necessary to manage these risks to ensure a suitable outcome and the achievement of our long-term goals as a country. Success depends on a collaborative effort by Eskom, Government, customers, business, communities and other stakeholders. An effective partnership is therefore necessary to achieve success.

It is therefore critical that Government should ensure that an effective monitoring process is established to monitor the progress regarding the achievement of the necessary interventions.

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Eskom is committed to delivering on its obligations to ensure that South Africa is able to achieve its aspirations of growth and prosperity. This means that Eskom must be as effective and efficient as possible, manage the capital expansion programme effectively, and to the extent within in its control, drive demand side management.

Eskom's price application as set out herein will result in an integrated solution that balances the interests of Eskom, customers and the country. It has also mitigated the possible adverse impact on the economy and job losses by choosing a longer time period to achieve cost reflective tariffs.

2 Introduction

2.1 Process

Eskom submitted its proposed revenue application – the Multi Year Price Determination for the three year period 2010/11 to 2012/13 (MYPD 2) - to National Treasury and organised local government for comment in terms of section 42 of the Municipal Finance Management Act, as well as to the National Energy Regulator of South Africa (NERSA). The opportunity was also used for broader stakeholder engagement regarding Eskom's proposed application.

National Treasury and the South African Local Government Association (SALGA) have provided written comment as required. Eskom has also received input from various stakeholders through a process of stakeholder engagement and dialogue. Furthermore, Eskom engaged with Government in its capacity as shareholder in order to address the issue of Eskom's funding and for guidance on the country choices.

The comment received has been considered by Eskom and has guided the final choices to be made. As stated in its proposed application, certain country choices were necessary and these country choices should inform and guide Eskom's approach to its pricing application. A summary of the input received is set out herein.

This submission accordingly sets out Eskom's revenue application – the MYPD 2 application which has been revised taking into account the comment received.

Eskom's MYPD 2 application comprises:

- Eskom's proposed MYPD 2 application dated the 30 September 2009,
- The revised application as set out herein, and,
- The detailed information submitted to NERSA in accordance with the prescribed minimum information requirements

The proposed application dated the 30 September 2009 should therefore be considered as if specifically incorporated herein except to the extent amended or withdrawn in terms hereof. Where appropriate, sections of the proposed application have been repeated herein for ease of reference.

This application (proposed amendment) includes the following issues set out in section 42 (3) of the Municipal Finance Management Act:

- A motivation of the reasons for the application
- An explanation of how the application takes account of:

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- The national government's inflation targets and other macro economic policy objectives
- Steps taken to improve competitiveness or efficiency in order to reduce costs
- Any targets or objectives as outlined in Eskom's shareholder compact
- Written comments received from National Treasury and organised local government
- An explanation of how such comments have been taken into account

The first part of this submission provides a summary of the comments received and the extent to which such comments have been taken into account by setting out the choices that have been made and their implications. The second part explains the specific choices/initiatives and provides further detail requested by stakeholders. This includes information regarding the steps taken to improve competitiveness and efficiencies to reduce costs, the economic impact including government's policy objectives and Eskom's role.

2.2 Background

As explained in the proposed application, over the last decade there has been an increasing demand for electricity that has resulted in a low reserve margin (the capacity available above the maximum demand). The current application is being made in the context of a low reserve margin, which necessitated Eskom embarking on a massive capital expansion programme. Despite the economic downturn and lower demand, the need for additional capacity remains. Further decisions on new capacity will be needed in the relatively near future.

In addition, Eskom is also facing significant financial challenges to meet its operational costs. This is due partly to the increased costs that have resulted because of a low reserve margin. More importantly the price of electricity has historically not recovered the prudent costs of supply and did not allow for the building of reserves which could be used for the capital expansion.

In summary, the main drivers of the need for a price increase are therefore sustaining the current business, the capital expansion programme and the operating costs to run a viable and sustainable business. These factors are particularly challenging at this time because of the low reserve margin. These have resulted in a significant capital expenditure need to ensure security of supply and higher operating costs due to the higher plant utilisation levels.

Eskom's tariffs are not at the levels that they should be. The current average price of electricity approximately 33c/kWh, which in essence does not allow for the recovery of all the prudently incurred costs and the building of reserves to sustain the current asset base; nor does it support the capital expansion programme and the introduction of private sector participation.

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The appropriate level of prices that should be targeted, based on the current asset base and subject to generation choices assumed, is considered to be in the range of 80c/kWh to 88c/kWh in real terms¹. Even at this level, Eskom's wholesale price remains competitive when compared to international electricity prices (based on the assumptions made).

In order to meet these objectives, an appropriate price path and time period within which to migrate from the current price level to an appropriate price level has to be established. This should be determined in the context of the achievement of the overarching objectives and the extent to which it contributes to the country view of success.

Eskom had initially considered two alternatives in this regard.

The first option is to apply the provisions of the Electricity Pricing Policy (EPP) immediately and to the full extent necessary, insofar as they relate to an appropriate return and the valuation of assets. This will result in an increase of the unit cost to 75c/kWh (146% increase) in real terms (nominal 83c/kWh) in the first year of the MYPD 2 period. It is acknowledged that such a significant correction in one year may have a severe impact on customers and the economy.

The second option is based on the smoothing of the price increase together with appropriate additional interventions to address any shortfalls that may result. Eskom had recommended the smoothing option based on a price increase of 45% for each year of the MYPD 2 period. At that time Eskom believed that its approach sufficiently mitigated the impact of price increases on customers and the economy and provided for a more sustainable long-term solution.

There is support by all stakeholders for the smoothing option and Government has endorsed an approach based on the smoothing of the price increase, together with additional interventions to address any funding shortfalls as an integrated solution.

However, there is a concern that the trajectory of a 45% increase is too steep and that the negative impact of such an increase on the economy would be significant.

In the light of the concerns raised regarding, amongst others, the real risk of additional job losses and the adverse economic impact anticipated as a result of a 45% price increase, Eskom's application and the choices that could be made have been reviewed to assess if an alternative migration path could be found for increases to an appropriate price level.

¹ This excludes any capital expenditure for projects not included in Eskom's revenue requirement. The appropriate target price is therefore subject to the generation choices made. This target price includes generation, transmission and distribution costs.

2.3 Long -Term Vision and Objectives

The provision of reliable and affordable electricity is a critical strategic imperative to ensure sustainable economic growth in South Africa.

The MYPD 2 application should be viewed in the context of a long-term vision for South Africa. As a country we need to have a view of the overarching objectives and the outcomes that define success and sustainability for the economy and the electricity industry. The MYPD 2 application, and in particular, an appropriate price path and time period within which to migrate from the current prices level to an appropriate price level should be assessed in relation to the achievement of the overarching objectives and the extent to which it contributes to the country view of success.

A significant intervention to put the electricity industry on a sustainable path to ensure security of supply into the future is unavoidable. There is also a limit to what the market, Government and customers can bear in terms of addressing this challenge and an appropriate balance has therefore been proposed to address these challenges in a holistic and integrated manner. It is therefore in the best interests of all stakeholders that an appropriate price increase be allowed – one that reflects the need by Eskom to operate its business in an effective and efficient manner, whilst at the same time allowing for the recovery of prudently incurred costs, including costs to facilitate the capital expansion programme and meet its debt repayment obligations. This must be done in the context of ensuring that electricity remains affordable for the poor and small enterprises.

PART ONE

3 Summary of Stakeholder Comments

3.1 Overview

In general stakeholders were supportive of the need for additional capacity and Eskom's role in contributing towards economic growth. There was a growing appreciation of the need and the importance of engagement and dialogue on this crucial issue. The implications of the choices and trade-offs required were also better understood by all concerned.

Most stakeholders were not satisfied with the proposed increase but accepted that there was a need to move towards cost-reflective tariffs. Some stakeholders accepted that a significant increase was needed and that Eskom had no option but to request such an increase. However, there were considerable concerns about the impact of a significant increase on the economy. Particular concerns related to the impact on South Africa's competitiveness, GDP, inflation as well as the impact on jobs

There were concerns regarding the absence of a published Integrated Resource Plan (IRP) and the lack of an integrated vision for the industry and the economy. SALGA refers in particular to the need for clear policy leadership.

Eskom was requested to provide clarity and additional information regarding a number of issues including, for example, its process for forecasting sales, the assumptions used, details of certain costs, other capacity options, and alternative funding options.

Eskom was also criticized for being too conservative in its capacity planning, sales forecasting, and the use of the assumptions that it relies on.

Some of the key issues raised are set out below.

3.2 Capacity

There are concerns that Eskom's capacity plan is too dependant on coal-fired options and that more renewable options and nuclear should be included. It is also believed that Eskom's build programme is crowding out Independent Power Producers (IPPs) and the projections of IPPs to be introduced are too conservative.

Furthermore, it has been submitted that the planning has been too conservative and that the impact of Demand Side Management (DSM) and price elasticity should be taken into account in the demand forecasting for the capacity expansion plan. SALGA in particular was concerned that "Eskom may either be under-estimating the impact of these various programmes on demand, or is expecting these programmes to fail".

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In particular, it was felt that Eskom has not considered innovative or other cost effective options to manage the future, such as importing from countries in the region and involvement in cross-border projects.

3.3 Demand Management

There is overwhelming support for strong demand management interventions. However, some stakeholders are critical of Eskom's progress in this regard and suggested that demand side management be removed from Eskom. Others believed that it provided good opportunities for Eskom to partner with customers and local authorities. Another view was that DSM programmes form part of the policy framework and that Government should demonstrate strong leadership in this regard.

3.4 Price Path and tariff structure

National Treasury acknowledged the need for the move towards cost-reflective tariffs and supported in principle a smoothing of the price path in a balanced manner to mitigate the impact on the economy whilst addressing Eskom's cashflow requirements. However, they indicated that a smoothing at 45% was too high.

Most stakeholders were of the view that a different migration path was possible.

There were also numerous calls for tariff differentiation for different categories of customers (high intensity industrial; small businesses, retail, high-middle income households, etc.) and to address the imbalance between residential and industrial customers. Price differentiation based on consumption was also suggested.

3.5 Economic and Other Impacts

Whilst the economic impact is considered significant, stakeholders have accepted that the impact of insufficient capacity would be much worse for the economy. The impact of the tariff increase on smaller businesses and employment has been highlighted as a particular concern.

SALGA also expressed concerns regarding the possible increase of the number of households requiring free electricity, increase in non-payments and the resultant decrease in subsidies to other services. A knock-on effect of increased costs of other municipal services, such as street lighting and pumping of water could also be expected.

Eskom has been requested to clarify its pricing comparisons and there are concerns that the proposed increase of 45% would affect South Africa's competitiveness and also lead to high residential prices.

3.6 Protection of the Poor

Most stakeholders were of the view that appropriate interventions were necessary for the protection of the poor but that this was the responsibility of Government rather than Eskom.

3.7 Revaluation of Assets

Eskom has been requested to clarify its approach regarding the following issues: depreciation method; reason for using Modern Equivalent Asset methodology for calculating replacement costs of assets; calculation of replacement cost - Long Run Incremental Cost (proposal) vs. Long Run Marginal Cost.

3.8 Reduction in Operating and Capital Costs

Most stakeholders feel that Eskom is not doing enough to reduce its capital, operating and primary energy costs. There is also a view that Eskom needs to demonstrate how it continues to strive for efficiencies.

3.9 Funding and Alternatives to Address the Cash Shortfall

The responses received from key stakeholders were conflicting. Whilst National Treasury stated that it would not be able to provide additional funding support and that the scope for additional guarantees are limited, other stakeholders suggested that Government should provide further equity. Eskom took cognisance of the comments received, to propose a funding solution that should satisfy most key stakeholders.

The remaining funding shortfall after the increases was a reason for concern and a number of constructive proposals were made regarding interventions to address the cash shortfall. These include the introduction of private equity; selling of assets and the issue of a customer bond in lieu of an increase.

3.10 Eskom Response

Eskom has considered the written comment received from National Treasury and SALGA, as well as the input by other stakeholders and this application has been informed by the issues that have been raised.

During that process it became clear that a significant paradigm shift is required to achieve a successful outcome for Eskom and South Africa. Stakeholders required a more inclusive approach to addressing the country's challenges. For example, SALGA pointed out in the context of national

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policy that “[M]any aspects of these programmes have important public policy outcomes and are not simply internal Eskom matters.”

Eskom accepts that this approach is necessary. However, the respective roles and expectations of Eskom, Government and other stakeholders have not always been consistent with this approach. Therefore this application provides the opportunity for Eskom, Government and stakeholders to ensure that the response to our challenges reflect this collaborative approach.

The achievement of the long-term vision of the country is of paramount importance and the MYPD 2 application should be viewed in the context of the long-term country vision and objectives. As a country we need to have a view of the overarching objectives and the outcomes that define success and sustainability for the economy and the electricity industry

The provision of reliable and affordable electricity is a critical strategic imperative to ensure sustainable economic growth in South Africa.

In order for Eskom to fulfil its role in an effective manner it has to be technically and financially viable and sustainable. Furthermore, for Eskom to be sustainable it has to be as efficient as possible but critically, it also has to be supported by an appropriate funding model. This requires a holistic and integrated approach to tariffs, borrowings and equity – and an optimal balance between these funding sources. This funding balance is also significantly affected by the country choices regarding South Africa's energy future, as these choices determine the nature and extent of the future capital expansion requirements.

The funding model for Eskom, and by implication, Eskom's price increase application should therefore be made in the context of and taking into account a country debate and country choices regarding our energy future and should address, amongst others, the following questions:

- How much electricity generation capacity is required to enable economic growth and social development?
- What is the best mix of primary energy sources (i.e. coal, nuclear, solar, wind, etc) for such capacity?
- Who should build this capacity?
- How much will it cost?
- How should it be funded?
- What is the role of a competitive energy supply environment in the South African economy?

In this context, the objective of an appropriate electricity price should be to ensure security of supply and consequently facilitate economic growth, address access to and affordability of electricity for the poor, empower and encourage private players to enter into the market over time, facilitate a move towards cleaner generation technologies and support regional development.

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It is in the context of this long-term view that the MYPD 2 application should be viewed. As a country we need to have a view of these overarching objectives and the outcomes that define success and sustainability for the economy and the electricity industry. The MYPD 2 application, and in particular, an appropriate price path and time period within which to migrate from the current prices level to an appropriate price level should be assessed in relation to the achievement of the overarching objectives and the extent to which it contributes to the country view of success.

Admittedly, there is still a need for further clarity on a long-term vision for the economy and our energy future, and more effective integration at Government level. This has been recognised by Government in the Green Paper: National Strategic Planning where the following is stated:

“Lack of a coherent long term plan has weakened our ability to provide clear and consistent policies. It has limited our capacity to mobilise all of society in pursuit of our developmental objectives. It has hampered our efforts to prioritise resource allocations and to drive the implementation of government’s objectives and priorities. In addition, weaknesses in coordination of government have led to policy inconsistencies and, in several cases, poor service delivery outcomes.

This Government is determined to fix these weaknesses. Critically, it will work with all social partners to mobilise society in pursuit of objectives that are broadly accepted and enshrined in our Constitution. More focus on planning and more attention to coordination are related interventions to remedy what has not worked.”²

Government’s commitment to a more integrated and co-ordinated approach forms a fundamental pillar of Eskom’s approach to this price application.

Within this context, it is crucial that the roles of the various parties in achieving our national objectives are clarified. This MYPD 2 application has provided a basis for dialogue in this regard and Government has provided further clarity that has informed the revised submission. In particular, there should be clarity of roles regarding the implementation of key initiatives: aggressive demand side management initiatives, facilitating access to funding, introducing new capacity, ensuring integrated infrastructure development, reducing our carbon footprint, reducing energy intensity per GDP output and ensuring security of supply.

² Green Paper: National Strategic Planning, The Presidency , September 2009, page 1

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Eskom and the country need to accept that Eskom cannot provide for all the future energy needs of the country on its own and therefore an enabling environment is required to attract new entrants to the market. This is also consistent with the guidance provided by Government as shareholder.

A collaborative effort is therefore required between Eskom, Government, and all stakeholders including business, communities, customers and other role players in the electricity industry and Eskom should place its confidence in the ability of other stakeholders to contribute to a solution. This is discussed further in section 4.

Eskom needs to focus on executing its mandate within its own capability and other role players in the country assigned with a specific mandates must execute those mandates.

This submission has been informed by this approach which has influenced the choices that have been made regarding the demand forecasts, capital expansion programme, demand management, cost reductions and various other interventions outlined herein.

Where appropriate, Eskom has included the specific comment received and also provided specific responses to some of the key concerns. This submission therefore reflects the extent to which such comment has been taken into account. As is evident from what is set out herein, Eskom has by and large taken into account most of the significant comment by stakeholders and such comment has influenced the outcome of this submission.

4 Summary of Country Choices, Key Risks and Enablers

Eskom's proposed application sets out certain country choices that needed to be considered. In the process of stakeholder engagement and in the comments received from SALGA and National Treasury, suggestions have been made regarding various alternatives, including alternatives regarding the current capital expansion programme.

Government has also provided guidance on some of the key country choices and this has informed a different price trajectory.

The revised price trajectory has been based on the country choices that have been made regarding demand management, the capital expansion programme, cost reductions and various other interventions outlined herein

In particular this has resulted in the following choices/initiatives:

Demand Forecast

- The sales assumptions have been changed to include 8,5TWh of DSM savings over 5 years resulting in a lower sales forecast.
- The demand forecast has also been adjusted to take into account the impact of solar water heating.
- Alcan

Responsibility for New Capacity and Rephasing

- Optimisation of the schedule of Kusile to take into account certain delays that have already resulted relating to certain specific contracts, and given the lower demand forecasts, this also allows for further flexibility. In this regard it should be pointed out that the impact on the schedule of the major committed contracts is being assessed and may be unaffected.
- of the schedule of Kusile to take into account certain delays that have already resulted regarding the placing of additional contracts and also taking into account that the lower demand forecasts allows for further flexibility. In this regard it should be pointed out that the schedule of the major committed contracts may be unaffected.
- The rephasing of other build projects and contracts
- The introduction of more IPP options in later years (after the MYPD 2 period)
- Removal of the initial expenditure to prepare for the next coal fired power station (coal 3) on the basis that Eskom need not build this capacity

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- Removal of the funding for the capital expenditure for the next nuclear option in Eskom's funding requirement for the MYPD 2 period
- Delaying the wind option (Sere) for 1 year
- Removal of the expenditure for the Department of Energy IPP from Eskom's funding requirement for the MYPD 2 period has been recommended based on the revised demand forecast.

It should be noted that most of the above choices are subject to the final Integrated Resource Plan (IRP). Where cashflows have been deferred, it implies that the particular project, if required to be built by Eskom, would be built later. However, where the IRP calls for capacity and if such capacity is to be built by another party, the initial timelines would remain unaffected.

More importantly, to the extent that any recommendation regarding the deferral of cashflows is not aligned with the expectations of Eskom's role in terms of the final IRP, additional funding may be required to ensure complete alignment.

Cost Reductions

- Cost reductions in operating expenditure.
- Reducing the Primary Energy plan to reflect the impact of DSM initiatives, cost reductions and cost savings from efficiency initiatives.
- Removing the provision for the maintenance/repairs to roads after the first year on the understanding that the roads will be maintained by Provincial Government or the South African National Roads Agency Limited (SANRAL) and that Eskom will only be liable for a shadow toll for its beneficial use of the roads for coal haulage..

Additional Funding

- An assumption of additional borrowings of R8.5bn.
- An assumption that equity of at least R20bn will be sourced from the private sector at a project level within 24 - 36 months.

With regard to equity from the private sector at a project level, the intention is to maximise this source of funding to the extent possible. For planning purposes an assumption of R20bn has been used but the target is to achieve much more, but at least R40bn as a minimum.

As a result of choices that have been made, and relying on the commitment that an appropriate enabling framework would be established to mitigate the risks that could materialise, Eskom is in a position to apply for a revenue requirement that translates into a price increase of 35% for each

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year of the MYPD 2 period Assuming inflation as set out in Annexure A. This will lead to a real price of 43c/kWh in FY2010/11, 55c/kWh in FY2011/12 and 70c/kWh in FY2012/13.

Eskom will still have a cash shortfall of R14bn in FY2011/12 and R7.9bn in FY2012/13. Eskom commits to addressing this shortfall by intensifying its efforts to raise the required borrowings and by facilitating the introduction of private equity sourced from the private sector as soon as possible.

As set out in the proposed application, even with a 45% price increase Eskom had significant cash shortfalls and was exposed to certain risks. The current approach has increased that risk profile. We have made aggressive assumptions, thus increasing the margin for error. Any one change could therefore have a significant knock on effect.

In the absence of a collaborative approach with Government and other stakeholders, this approach will increase South Africa's exposure to risks related to security of supply. It will also increase the risk profile of Eskom's operations and financial sustainability. In particular, the assumed levels of borrowings and equity are optimistic and may not materialise.

The power system vulnerability is therefore increased and in the event that the required interventions are not implemented as anticipated, security of supply could be threatened. Further information in this regard is set out in section 6: Country Plan – Security of Supply and Infrastructure Investment: The major risks include:

Security of supply

- With the delay in certain capital expansion projects, Eskom's reserve margin is finely balanced
- An undue delay in the maintenance of the roads will affect delivery of coal to power stations
- Higher plant utilisation could affect operations and maintenance
- The projected demand reduction and energy efficiency is not achieved
- Should the demand growth exceed the latest assumption, urgent intervention will be necessary to ensure that sufficient capacity is built timeously
- IPPs need to enter the industry as planned

Financial stability

- The revised funding plan is finely balanced, and based on best estimates of future trends (including assumptions on interest rates, inflation, exchange rates, GDP growth cost of primary energy and commodity prices). Should the actual experience vary adversely from these forecasts, Eskom will not be in a position to fund the planned capital expenditure programme.

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- The funding plan, which results in a funding shortfall of R14bn in FY11/12, assumes that Eskom will be able to raise R10bn equity or quasi-equity funding in each of FY11/12 and FY12/13. This capital is required by Eskom to fund capital expansion projects, but is likely to be significantly more expensive than the debt funding Eskom intends to raise.
- To close the funding shortfall as set out above, Eskom will need to access additional debt opportunities, in excess of the prudently estimated R40bn per annum, and/or increased equity in order to break-even by raising an additional R7bn in both FY10/11 and FY11/12. Access to additional debt may not be feasible.
- Although it is likely that Eskom will be able to source in excess of R40bn in FY09/10, funding in excess of R40bn in FY10/11 and FY11/12 may not be feasible and will need to be raised from unconventional sources, which may be more expensive than projected.
- To be able to raise equity funding, direct or indirect Government support will be required. Equity funding by the private sector will require, *inter alia*, a long term power purchase agreement (PPA) and is likely to be more expensive than Eskom's required returns, putting further upward pressure on tariffs.
- A credit rating downgrade, which will constrain Eskom's ability to access debt markets, whilst increasing funding costs

A concerted effort would be required to ensure that these risks are effectively managed. However, the management of all of the resultant risks are not within the control of Eskom and the participation of all stakeholders is necessary to manage these risks to ensure a suitable outcome and the achievement of our long-term goals as a country. Success depends on a collaborative effort by Eskom, Government, customers, business, communities and other stakeholders. An effective partnership is therefore necessary to achieve success.

Eskom is committed to delivering on its obligations to ensure that South Africa is able to achieve its aspirations of growth and prosperity. This means that Eskom must be as effective and efficient as possible, manage the capital expansion programme effectively, and to the extent within in its control, drive demand side management.

The contribution of stakeholders is necessary regarding the following initiatives that are required to ensure success:

New Entrants

- The necessary enablers to ensure that the IPPs are commissioned in time needs to be driven at a co-ordinated country level.

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- Additional government guarantees could be required to enable PPAs to be signed with IPPs.

Roads

- The necessary enablers to ensure that the IPPs are commissioned in time needs to be driven at a co-ordinated country level. The immediate focus should be on the medium term power purchase programme and the renewable energy power purchase programme.
- The Provincial Governments or the South African National Roads Agency Limited (SANRAL) should maintain the roads to a standard that enables Eskom to transport coal securely. National Treasury has indicated that it is in discussion “with the relevant stakeholders to implement a “shadow toll” to be paid by Eskom“ to the entity responsible for effecting road repairs, e.g. provincial government or SANRAL.”

Demand Management

- In order to ensure effective DSM execution the necessary funding must be made available from Government to enable that the required level of demand reduction (a minimum of 2000 MW and 8.5TWhs as set out in the proposed application) to ensure security of supply. It is critical that all the demand management initiatives be implemented effectively; and this includes the installation of solar water heating and energy efficiency in commercial buildings. National Treasury has already indicated that R1,5bn of funding has been set aside for additional DSM projects.
- The institutional framework for the implementation of the Power Conservation Programme should be finalised by Government as soon as possible.
- Customers should ensure that demand is reduced by at least 10% of current consumption.

Funding

- Eskom, with the support of Government, should ensure that equity from the private sector is found in respect of an Eskom project or existing power station/s to ensure access to additional capital within the next 24 months.
- Government should allow the increased utilisation of government guarantees to support an increased borrowing programme. National Treasury has already indicated that the Government guarantees would be brought forward to align with Eskom's revised borrowings requirement. In addition flexibility on non-traditional sources of funding may be required.

Capacity

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- There should be support by Government that the DOE IPP should be postponed.
- Fundamentally the achievement of success rests on the timeous implementation of all of the above initiatives; and most importantly, the successful implementation of intense demand reduction and the timeous commissioning of new generation capacity by IPPs.

In addition to what is summarised above, further information on the respective roles of stakeholders is more fully set out in section 5 and 6.

Without this partnership, Eskom will not be able to ensure medium- and long-term adequacy of supply for the country, and this will restrict or even eliminate the country's economic growth and development potential.

It is therefore critical that Government ensures that an effective monitoring process is established to monitor the progress regarding the achievement of the necessary interventions. The risks could be better managed through such a process and will allow for proactive responses where required to mitigate any risks.

In the event that the assumed funding is not realised, there would be no option but to rephase the capital expansion programme to align with the available funding. This would impact the schedule of certain capital expansion projects and would also result in an increased security of supply risks.

If cancellation was necessary, this would also limit the knock-on benefits for job creation, industry development and GDP growth. Finally, there would be significant commercial costs associated with project cancellation, as well as national reputation issues that could deter future foreign investment.

As a last resort, if the required interventions do not succeed and security of supply is threatened, an approach to NERSA during the MYPD 2 period to re-open the determination should not be excluded. However, with the cooperation of all stakeholders, this can be avoided.

Further detail regarding the initiatives referred to above are set out in the sections that follow.

PART TWO

5 Funding Options for Eskom

5.1 The 30 September 2009 proposed application

In its proposed application, Eskom provided details of the available funding options. In essence the following was set out:

Equity

The shareholder has made available a R60 billion subordinated loan, which has the characteristics of equity. The loan will be drawn over three years as follows: R10 billion in 2008/9; R30 billion in 2009/10; and R20 billion in 2010/11

Further options for raising equity finance were also addressed.

Debt

Currently, Eskom's ability to raise funds beyond the tariff increase is limited by its credit rating as assigned by the various rating agencies (for example BBB+ by S&P). The R176 billion (R150 billion of new debt) Government guarantee for Eskom debt, as announced in the budget speech on 11 February 2009, will facilitate access to debt and limit the average cost of debt. Given the capacity of its balance sheet, anticipated revenue streams and the Government guarantees, Eskom estimates it will be able to raise and sustainably afford an on average debt raising ability of up to R40 billion per annum over the three-year MYPD 2 period if required, and therefore Eskom has applied a constraint of R40bn per annum for debt.

Regulated revenue and tariffs

These are relied upon by Eskom and providers of capital to earn returns on capital investment over the longer term, and would need to be sufficient to satisfy the requirements of both debt and equity providers.

Funding plan

In its comments on the proposed application, SALGA mentioned that the application does not present a clear funding plan for the period.

Based on the debt and equity constraints as set out in Eskom's proposed application, and based on the proposed tariff regime, Eskom's five year funding plan is outlined in Table 1 below.

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	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Tariff increase	31%	45%	45%	45%	5%	9%
Cash outflows/Application of funds Capex	65,363	96,999	97,092	103,783	110,090	139,489
Interest durign construction	4,684	9,188	14,518	20,877	20,878	24,683
Loan repayments including CPBs in FY09/10 only	16,669	1,044	132	6,606	224	312
Swap cash flows	4,872	-	-	-	-	-
Total funding required (A)	91,588	107,231	111,742	131,266	131,192	164,484
Opening cash balance	17,921	22,141	-2,150	-32,666	-28,459	-18,094
Assets maturing	4,232	551	-	-	-	-
Operating cash flows	8,169	20,307	48,820	95,473	106,557	124,033
Government loan	30,000	20,000	-	-	-	-
Committed and planned loans	53,407	42,082	32,406	40,000	35,000	40,000
Total available funding (B)	113,729	105,081	79,076	102,807	113,098	145,939
Funding surplus (shortfall) (B) - (A)	22,141	-2,150	-32,666	-28,459	-18,094	-18,545

Table 1: Eskom 5 Year Funding Plan (30 September 2009 – 45%)

As can be seen from Table 1, Eskom was projected to have substantial shortfalls in funding, even when front end loading the tariff increases 45% p.a. during the first three years. In particular, the funding plan deviated from the assessment that no more than R40bn p.a. can be raised in the debt markets.

In the light of the comments received and also having regard to discussions with government as shareholder, the funding plan has once again been reviewed to identify further solutions, without negatively impacting investors.

5.2 Approach to the revised funding plan

In determining the revised funding plan, Eskom has taken a holistic funding approach to re-instil investor confidence, taking cognisance of the interrelationship between the sources of funding available to Eskom. Although each one of the building blocks making up the composite funding plan can be adjusted, such adjustment will have a knock-on effect, either on another source of funding, or on Eskom's ability to provide the country with security of supply.

To assess Eskom's ability to fund its capital investment programme, we have reviewed, *inter alia*, the equity funding options available to Eskom, the extent and timing of the Government guarantees, Eskom's credit rating and implications of the funding plan on the credit rating, financial market capacity, locally and abroad and debt servicing ability. Eskom has considered both conventional and unconventional sources of funding and the likelihood and cost of securing these sources of funding in the difficult markets, both locally and abroad and the appetite of the shareholder to pursue certain options. Following the financial crisis, liquidity in financial markets

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reduced substantially, whilst the cost of finance increased. All these aspects are dealt with in further detail below. Furthermore, we have once again interrogated the assumptions which formed the basis for the 30 September MYPD2 proposed application and, with the exception of those matters listed in this document, we have found them to be appropriate.

5.3 Funding solution

To achieve both **long-term sustainability** and **cost efficiency**, Eskom needs to find the appropriate **balance** between all three sources of funding. In this regard, it is important to understand the interrelationship between these sources of funding.

The ability to attract debt funding is largely a function of lenders' (and the credit rating agencies') view of Eskom's ability to service and redeem the debt, whilst continuing to have a healthy balance sheet. Credit rating agencies play a pivotal role in Eskom's ability to secure the requisite debt funding both to Eskom, as the primary obligor, and to Government as the guarantor. Although the agencies are likely to have some flexibility on Eskom's credit ratios, considering the compensating Government guarantee, significant negative deviations are likely to result in a credit rating downgrade. A credit rating downgrade will have a material adverse impact on Eskom's ability to raise debt funding, and will increase the cost of debt funding substantially. Furthermore, should Eskom's credit rating fall to below investment grade, certain holders of Eskom debt may be obliged to sell their investments to comply with investment mandates and some loan covenants could be triggered.

The regulated revenue and tariffs should give the lenders and credit rating agencies guidance as to whether Eskom will have sufficient internally generated net cashflow to service and redeem its debt, whilst Eskom's equity position will determine whether Eskom has the financial stability (equity buffer) to withstand unforeseen events. The higher the regulated tariff and the stronger the equity position, the more likely it is for Eskom to raise substantial debt funding at a reasonable cost.

To attract equity finance, the equity financier will require an appropriate return on its investment, which is a function of, *inter alia*, the regulated tariff and the cost of debt funding. Equity investors will require a clear insight into the Eskom business plan, and will need to gain confidence in the governance structures and the ability of management to implement the business plan.

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To the extent that Eskom can raise sufficient equity funding, it will be in a position to moderate tariff increases in the short term. However, equity is the most expensive form of funding, which will have an adverse impact on tariffs in the long run. As equity participation is traditionally a long-term relationship, Eskom must ensure that it brings broader benefits than purely a cash injection.

Alternatives

Whilst it is possible to alleviate Eskom's financial constraints by either delaying the capital investment programme, or by securing an IPP to build one or more of the planned infrastructure developments, the consequences to the country need to be borne in mind:

- Should Eskom delay its capital investment programme, it will place additional pressure on the security of supply.
- Should an IPP build a power plant, it will require a long term PPA from Eskom or Government at an appropriate return.

5.4 Funding sources

Equity

Additional funding could potentially be sourced from increased Government borrowings, which will be a challenge considering its own increased borrowing requirements.

Importantly, it should be noted that National Treasury has indicated that “[A]t this time, additional fiscal support would come at the expense of other pressing obligations of the fiscus...On balance it appears that it will not be possible to provide additional shareholder support in the form of funding...” Accordingly, in this submission we have not relied on additional equity funding from Government.

In addition to the potential of sourcing additional equity from Government, we have assessed the possibility of sourcing equity funding from alternative sources:

Equity raised from state owned financial institutions

Equity funding could potentially be sourced from state owned financial institutions such as the IDC and the DBSA. As is the case for central Government investment, such equity investments provide Eskom with the ability to smooth the price path over

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a longer period. These investors need to be provided with a price path to provide them with an appropriate return on investment, whilst loans are being serviced.

Equity raised from the private sector

As mentioned in Eskom's proposed application, new equity investment by the private sector should not be ruled out. The following will be explored:

- An equity investment at a project level in one of Eskom's current or planned expansion projects
- A sale of an existing power plant, either in part or in its entirety

It should be noted that equity options include quasi equity such as subordinated debt, with characteristics of equity, but which is likely to carry a coupon.

An equity investment at project level is deemed to be the preferred alternative. Such an investment is likely to take significant time to implement (at least 18 months, but more likely to be in the order of 2 years). For Eskom to be in a position to access the equity market in this time frame, it will need to start preparation of the investment proposition immediately. Accordingly, this option should probably be seen as only a medium-term opportunity, and as part of a long term integrated solution. As a result of this delay in accessing the equity markets, Eskom needs to have substantial access to debt markets in the interim to fund its uneven funding requirements. Existing loan covenants deal explicitly with Eskom boundaries in this regard and Eskom will certainly respect the parameters and processes therein.

Eskom has not considered raising equity at Eskom level, whether from a strategic investor, private equity investor or in the form of initial public offerings (IPO) as this is not considered to be an optimal solution, as the cost of equity is likely to far exceed Eskom's projected returns, placing further upward pressure on tariffs.

To attract such investors at project level and to reduce the cost of equity, either Eskom or Government will need to enter into a long term bankable Power Purchase Agreement ("PPA"), amongst other things. A bankable Power Purchase Agreement will have, *inter alia*, the following characteristics:

- Allow for a cost reflective tariff, whilst providing the equity investor with an appropriate return
- Have a duration of significantly longer than the 3 year MYPD window
- Provide bankable security of off-take

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- Will need to be underwritten either by Eskom or Government. An Eskom underwriting will only suffice if it retains its credit rating. The contingent liability will encumber either Government or Eskom's balance sheet, and will be taken into account by credit rating agencies and lenders.

The funding plan assumes that Eskom will be able to raise R10bn equity or quasi-equity funding in each of FY11/12 and FY12/13. This capital is required by Eskom to fund the capital expansion project, but is likely to be significantly more expensive than the debt funding Eskom intends to raise. To the extent that Eskom fails to raise the equity funding, it is likely it will need to source this funding from Government, as contracts would already have been placed by the time the funding is required.

Debt

As mentioned in Eskom's proposed application, Eskom's funding model was based on the following assumptions:

- The fact that Eskom's ability to raise funds beyond the tariff increases is limited by its credit ratings.
- The R176bn Government guarantee facilitating access to debt market whilst limiting the average cost of debt
- The assumption that Eskom anticipates that it will be able to sustain an average debt raising ability of R40bn per annum, and
- Market depth in the midst of the international credit crisis

It was also stated that debt can be raised directly from the various debt markets/lenders by Eskom itself (on the back of the South African Government guarantees or on a standalone basis), and/or by the Government itself which in turn can be on-lent to Eskom in the form of debt, or invested in the form or equity into Eskom.

In addition to the factors mentioned above, a number of additional factors should be considered in order to determine Eskom's total borrowing capacity, especially in the context of this revised revenue application. These factors are being listed in

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APPENDIX B and is accompanied by an analysis of how the current status applicable to each of these factors potentially impact upon Eskom's debt capacity.

For the reasons mentioned in Eskom's proposed application as well as the additional factors set out, even with the existence of a Government guarantee, total demand for Eskom debt, both in the local and the international funding markets, remains finite.

Whereas the proposed application indicated estimated demand for Eskom at R40bn per annum, current indications are that total capacity for Eskom debt issued on a Government guaranteed basis totals c. R30-40bn per annum. The utilisation of the Government guarantee was initially limited to R30bn new debt per annum – this results in a constraint which necessitates the need to partly fund the remaining debt requirement (the portion in excess of R30bn per annum) on a standalone basis. Eskom's capacity to raise funding on a non-guaranteed/standalone basis is expected to remain limited given the current financial profile of Eskom (especially the impact of the uncertain tariff regime, pressure on revenues and cashflows). National Treasury has indicated its willingness to accelerate some of these guarantees to align with Eskom's borrowing requirement in each of the three years of the MYPD 2. Total demand for Eskom debt issued on a non-guaranteed basis is estimated at R10bn per annum.

Eskom's key credit ratios (highlighted above) and credit ratings remain of vital importance as stated in the proposed application. Additional consideration should be given to the potential impact of Eskom raising a portion of its funding requirement on a standalone basis given the need to retain sound investment grade ratings. Whilst the provision of the guarantee alleviates pressure on debt cover ratios it does not negate the need to retain standalone financial stability.

On a practical level, the view is that funding in the region of R40bn per annum should be achievable in the short term. However, it is expected that the sustainability of securing these volumes of debt funding on a recurring basis will become more challenging over time. Eskom intends to raise in excess of R40bn p.a. in the early years, in order to facilitate access to equity funding once the foundations for an equity raising are in place. It is anticipated that funding at levels of R40bn per annum as per the revised funding plan in FY10/11 to FY11/12 is possible, but challenging, and may have to be funded from unconventional sources or short term bridge funding, provided adequate security is available to refinance the bridge funding.

5.5 Revised funding plan

Considering the changes in assumptions discussed in this document and based on the revised tariff regime as discussed in section 13 the revised funding plan is as outlined in Table 2 below.

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	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Tariff increase	31%	35%	35%	35%	13%	13%
Cash outflows/Application of funds Capex	60,232	87,646	94,417	86,239	68,783	88,905
Interest durign construction	4,197	8,657	13,903	17,752	17,527	17,778
Loan repayments including CPBs in FY09/10 only	16,669	1,044	132	6,606	224	312
Swap cash flows	4,872	-	-	-	-	-
Total funding required (A)	85,970	97,347	108,452	110,597	86,534	106,995
Funding sources						
Opening cash balance	17,921	22,611	1,852	-14,102	-7,875	18,089
Assets maturing	4,232	551	-	-	-	-
Operating cash flows	8,521	16,037	39,498	66,824	77,498	102,208
Government loan	30,000	20,000	-	-	-	-
New equity participant	-	-	10,000	10,000	-	-
Clean technologies funding	-	-	3,000	-	-	-
Committed and planned loans	47,907	40,000	40,000	40,000	35,000	35,000
Total available funding (B)	108,581	99,199	94,350	102,722	104,623	155,297
Funding surplus (shortfall) (B) - (A)	22,611	1,852	-14,102	-7,875	18,089	48,302

Table 2: Eskom 5 Year Funding Plan (Revised – 35%)

Key observations and risks to be highlighted are as follows:

- The current debt plan has been increased from R114.5bn to R123bn over the MYPD2 period. This increase of R8.5bn of funding is believed to be achievable if all other enablers are in place.
- The net impact results in a peak cumulative shortfall of R14.1bn (year 2011/12). Eskom will target responsible access to additional debt responsibly and/or increased equity in order to break-even by raising an additional R7bn in each of FY10/11 and FY11/12.
- The five year cumulative reduction in revenue as a result of moderating the tariff increases from the profile in the proposed application to the revised application profile, is in excess of R140bn.
- The rephasing of capital expenditure reduces the required funding substantially.
- The operating cashflows reduce substantially, especially in latter years, mainly as a result of the reduced tariff increases, but moderated by the reduced operating expenditure.
- The funding plan is subject to R20bn of private equity capital being raised from the private sector.
- Eskom has planned to raise substantially more than R40bn p.a. in debt funding in the early years.
- Although the Fund From Operations (FFO) to interest cover will breach the targeted ratio of 3 times up to 2012, it is likely that funding levels could be sustained from a rating and debt service perspective, considering the improving trend, the implicit and explicit government

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support and the fact that the debt to equity ratio of 1.5 times will not be breached. Funding at these increased levels will however place pressure on Eskom's financial flexibility.

	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Debt to equity	1.01	1.14	1.27	1.14	1.06	1.03
FFO to interest cover	1.77	1.9	2.66	3.09	3.17	3.52

Table 3: Debt to Equity and Interest Cover Ratios (restating government funding as equity)

5.6 Risks

- The revised funding plan is very finely balanced, and based on best estimates of future trends (including assumptions on interest rates, inflation, exchange rates, GDP growth cost of primary energy, commodity prices, etc). Should the actual experience vary from these forecasts, Eskom will not be in a position to fund the planned capital expenditure programme
- The funding plan, which results in a funding shortfall of R14bn in FY11/12, assumes that Eskom will be able to raise R10bn equity or quasi-equity funding in each of FY11/12 and FY12/13. This capital is required by Eskom to fund capital expansion projects, but is likely to be significantly more expensive than the debt funding Eskom intends to raise. To the extent that Eskom fails to raise the equity funding, it is likely it will need to source this funding from Government, as contracts would already have been placed by the time the funding is required.
- To close the funding shortfall as set out above, Eskom will need to access additional debt opportunities, in excess of the prudently estimated R40bn per annum, and/or increased equity in order to break-even by raising an additional R7bn in both FY10/11 and FY11/12. Access to additional debt may not be feasible.
- Although it is likely that Eskom will be able to source in excess of R40bn in FY09/10, funding in excess of R40bn in FY10/11 and FY11/12 may not be feasible and will need to be raised from unconventional sources, which may be more expensive than projected.
- To be able to raise equity funding, direct or indirect Government support will be required. Equity funding by the private sector will require, *inter alia*, a long term PPA and is likely to be more expensive than Eskom's required returns, putting further upward pressure on tariffs.
- A credit rating downgrade, which will constrain Eskom's ability to access debt markets, whilst increasing funding costs.

5.7 Implications should Eskom not be able to secure the requisite funding

Should Eskom fail to raise the requisite funding, it will have little option but to rephase the capital investment programme. Such delays will further increase the security of supply risk.

As a last resort, the option of reopening the price determination should not be excluded.

6 The Country Plan – Security of Supply and Infrastructure Investment

In the light of the comments received following the proposed application as well as discussions with Government as shareholder, the Capacity Plan as set out in the proposed application has been reviewed. Certain information requested by stakeholders is now included herein along with the amendments to the Capacity Plan as explained below.

To put this revision in context, it should be highlighted that the Department of Energy (DoE) is accountable for the development of an integrated resource plan which would set out the energy needs of the country supported by the System Operator. This national plan or Integrated Resource Plan (IRP) should answer the question – *How much energy, and in particular, electricity will be needed for South Africa and how should such a need be addressed?*

An interim Integrated Resource Plan (IRP) has been developed and the Department of Energy has been consulting within Government on the IRP. The Minister of Energy will approve the IRP and subsequently make the final determination on the allocation of generation capacity that Eskom should build and the capacity that has to be purchased from independent power producers. The choice of the technology is also determined from the IRP. The National Energy Regulator of South Africa (NERSA) has to licence new generators according to this determination as well as ensure that the energy buyer will procure the energy according to the approved IRP.

The MYPD Capacity Plan as documented in the 30th of September 2009 application was developed on the basis of plans available at that time. This Capacity Plan (which is not an official Government plan) requires the completion of the current generation build programme, the introduction of independent power producers (IPPs) and potentially an increased level of imported generation from the Southern African region. It needs to meet the needs of a growing economy and be consistent with Government's energy policy (such as emissions targets, the use of renewable energy, nuclear energy and the promotion of an energy efficiency culture in South Africa).

Since the 30 September 2009, the role of Eskom in providing security of supply and the extent to which it will build new capacity has been further clarified. Eskom will proceed on the basis that it will continue with its current capital expansion programme as this is necessary to restore a suitable reserve margin for security of supply, notwithstanding the growth rates assumed.

However, Eskom's current programme does not fully meet the energy needs of the country and guidance regarding the further build decisions has been provided and the resultant choices have to be considered as a part of the process of addressing the MYPD 2 application and the funding model.

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In short, the energy needs of South Africa will be based on the IRP to be approved by Government.

In the meantime and in the absence of a final IRP, in November 2008, the country's electricity demand forecast has been determined for three scenarios; high, moderate and low growth scenarios, over a 25 year period. A review of the electricity demand over the next 10 years was done in June 2009 taking into account the current economic climate and feedback from customers on their growth prospects. A further review occurred in July 2009 as an input in the interim Integrated Resource plan. This review resulted in a forecast that aligned with the MYPD reference forecast documented in the 30th of September 2009 application over the first 10 years. This forecast also included the RioTinto-Alcan aluminium smelter in Coega as well as the anticipated impact of an assumed demand side management (DSM) programme.

We believe that inputs submitted for the finalisation of the IRP are consistent with the information relied on herein and any changes that are necessary, once the final IRP is approved, will not require significant reworking of the assumptions.

An updated sales forecast was developed in October and November 2009, taking into account the cancellation of the Alcan contract and excluding the impact of significant demand side management programmes. This became the base scenario from which two additional scenarios were developed with differing trajectories for the demand side programme, with a 3-year and a 5-year implementation.

Based on these adjustments, the sales forecast has been reduced. In addition, the demand forecast, which took a longer term view and was always higher than the sales forecast, was reduced to take into account the impact of 2TWh of energy reduction due to solar water heating.

The implications of the changes are as follows:

- The short to medium-term security of supply position improves but is still vulnerable.
- The capacity needs by 2020 is reduced by at least 1GW allowing for flexibility regarding certain supply options.

An assessment of the security of supply from an energy perspective in the next 3 years is provided below as well as an assessment of the adequacy of supply from a capacity perspective in the next 10 years to test the robustness of these choices

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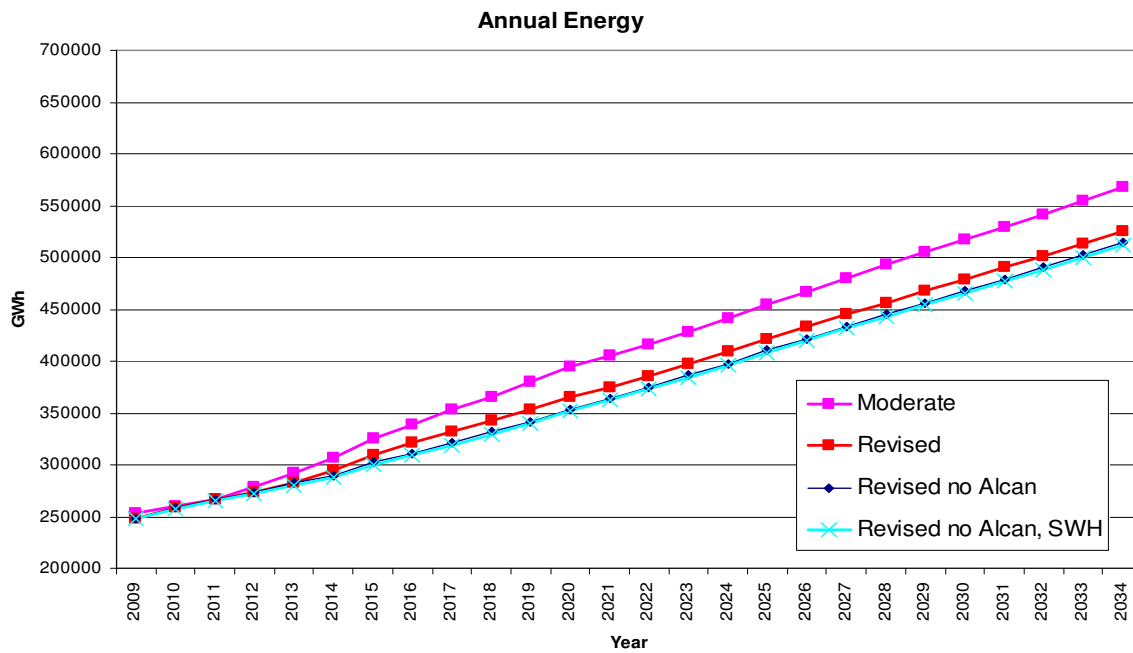


Figure 1: Revisions to the Electricity Energy forecasts

	Original MYPD energy forecast (GWh)	Alcan reduction (GWh)	SWH reduction (GWh)	Revised MYPD Capacity plan energy requirement (GWh)
2009	248089		203	247886
2010	258003		812	257191
2011	266630		1222	265408
2012	273999		1691	272308
2013	283226	853	2030	280343
2014	294832	5322	2030	287480
2015	309833	7413	2030	300390
2016	321696	10546	2030	309120
2017	332348	11203	2030	319115
2018	343036	11203	2030	329803
2019	352951	11203	2030	339718
2020	365181	11203	2030	351948

Table 4: Electricity Energy Forecast (30 September 2009 and Revised)

Note: These energy numbers represents the electricity demand forecasts for the country in calendar years. These are higher than the Eskom sales numbers discussed under the section on the Sales Forecast.

The following adjustments, subject to the caveat below, have been made to the Eskom Capacity Plan outlined in the proposed application.

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- Optimisation of the schedule of Kusile to take into account certain delays that have already resulted regarding the placing of additional contracts, and given the lower demand forecasts, this allows for further flexibility. In this regard it should be pointed out that the schedule of the major committed contracts may be unaffected. Kusile power station commissioning is moved by 1 year to mid 2014 from mid 2013.
- The introduction of more IPP options in later years (after the MYPD 2 period)
- Removal of the initial expenditure to prepare for the next coal fired power station (coal 3) on the basis that Eskom need not build this capacity. The next coal fired power station (Coal 3) will be replaced by various IPPs through, for example, the multi-site base load IPP programme and regional options. The timing and size of this capacity will be based on the implementation of the various demand side management programmes and the timing of the nuclear power plants
- Removal of the funding for the capital expenditure for the next nuclear option in Eskom's funding requirement for the MYPD 2 period and this means that if the nuclear station is required to be built by Eskom, it can only be built by 2022 unless additional funding is secured in 2012/13.
- Delaying the wind option (Sere) of 100MW for 1 year to 2012
- Removal of the expenditure for the Department of Energy IPP from Eskom's funding requirement for the MYPD 2 period has been recommended based on the revised demand forecast.
- Eskom will not implement a combined cycle gas turbine between 2017 and 2018 and this will be replaced by IPP options.
- Eskom will continue with the development of a pilot concentrating solar power plant (100MW) and a pilot underground coal gasification plant. It is anticipated that more solar plants will be built from 2019 onwards and this could be done by Eskom and IPPs. This does not impact the cashflows in the MYPD period.

It should be noted that most of the above choices are subject to the final Integrated Resource Plan (IRP). Where cashflows have been deferred, it implies that the particular project, if required to be built by Eskom, would be built later. However, where the IRP calls for capacity and if such capacity is to be built by another party, the initial timelines would remain unaffected.

More importantly, to the extent that any recommendation regarding the deferral of cashflows is not aligned with the expectations of Eskom's role in terms of the final IRP, additional funding may be required to ensure complete alignment. In addition, for capacity planning purposes the impact of

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the DOE IPP is included but the impact of a change in this regard is not significant from a system adequacy perspective.

The following adjustments have been made to the cashflows associated with the IPP programme.

- Eskom will provide for the cashflows associated with the Pilot National Co-generation Programme (PNCP), Medium Term power purchase programme (MTPPP) and an initial phase of the Renewable Energy Feed-in Tariff programme (REFIT).
- Eskom will not provide for the cashflows associated with the DoE OCGT IPP programme within the 3 year MYPD 2 period. However the cashflows associated with this programme, expanded MTPPP and REFIT programmes, regional baseload options and a multi-site base load programme have been provided to NERSA for information to assist in the tariff setting process and to understand the possible tariff path over the next 10 years.

The cancellation of Alcan together with the other adjustments above results in the need for more baseload generation capacity from 2018 onwards. It is assumed this will be provided by IPPs. It is possible that this may come on-line earlier if there is a country choice to accelerate the introduction of IPPs. It is anticipated that about 4200MW will be required between 2018 and 2024. This may change based on the effectiveness of the demand side management programme implementation

Table 5, below contains the possible supply options – for Eskom and IPPs or other entities. This is subject to the final IRP which may have different options.

	ESKOM Build						Country Options										Total new build	Total system capacity	
	Grootvlei	Komati	Medupi	Kusile	Ingula	Sere	MSBLP	Nuclear fleet	Regional options	DoE OCGT IPP	OCGT	MTPPP 1	REFIT Wind	REFIT Other	Other (including decommissioning)				
	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	
2009	570	202	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	772	44157
2010	380	303	0	0	0	0	0	0	0	0	0	168	0	175	30	0	0	1056	45213
2011	0	404	0	0	0	0	0	0	0	0	0	168	200	150	55	0	0	977	46190
2012	0	0	738	0	0	100	0	0	0	1020	0	84	200	0	0	0	0	2142	48332
2013	0	0	738	0	666	0	0	0	0	0	0	0	0	0	0	0	0	1404	49736
2014	0	0	1476	723	666	0	0	0	1858	0	0	0	0	0	0	0	0	4723	54459
2015	0	0	738	723	0	0	0	0	0	0	0	0	0	0	0	-160	0	1301	55760
2016	0	0	738	723	0	0	0	0	0	0	0	0	0	0	0	-80	0	1381	57141
2017	0	0	0	1446	0	0	0	0	0	0	0	0	0	0	0	0	0	1446	58587
2018	0	0	0	723	0	0	0	0	0	0	0	0	0	0	0	0	0	723	59310
2019	0	0	0	0	0	0	600	0	0	0	294	0	0	0	0	0	0	894	60204
2020	0	0	0	0	0	0	600	1650	0	0	0	0	0	0	0	0	0	2250	62454

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Table 5: Capacity Plan (Revised)

Note: The cashflows associated with the PNCP, MTPPP and REFIT phase 1 programme remain but the cashflows associated with the DoE OCGT IPP is not included until 2014 although the capacity may still be included in the IRP. In the event that this IPP is not rephrased, and the cashflows for the MYPD 2 period are affected, an additional increase would be required to address this difference. In addition choices around the REFIT and MTPPP programme may result in addition capacity requirements and cashflows in this period.

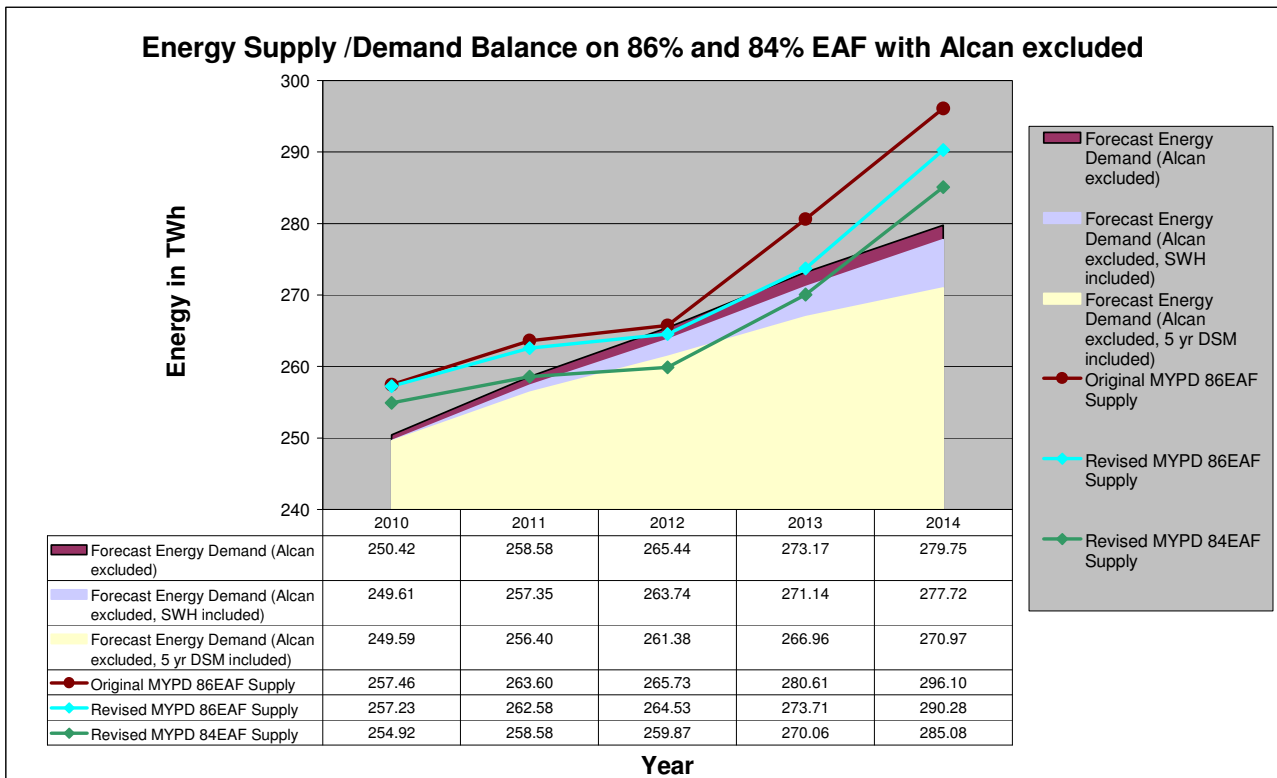
6.1 Security of Supply assessment

Risks

Generally, there are inherent risks of delay in any construction programme. Also, Eskom's technical performance in terms of availability does affect the supply availability position. However, over and above these risks the risk profile has changed in the light of the choices that have been made for the revised Capacity Plan.

6.2 Security of Supply in the medium term

Figure 2 indicates the security of supply situation in the medium term, in particular whether the generation capacity is sufficient to cope with the expected demand as well as significant events that would adversely impact on generation capacity.



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Figure 2: Energy balance with Alcan excluded

The above figure reflects the following:

- Under most scenarios the adequacy of supply in 2012 is a concern
- DSM and energy efficiency are essential over the next 3 years to ensure system adequacy
- A worse than planned generation performance (from 86% to 84% availability) will result in higher risk and reduce system adequacy especially during 2011 to 2013
- Relatively high load factor supply side options are needed in this time period making wind and OCGTs unsuitable

Below are additional risks that may negatively impact the demand and supply balance and affect the medium-term security of supply position negatively.

Description of Risk	Controllable / Uncontrollable	What can be done to make things happen?	By whom?
1. Maintaining Eskom's generation fleet performance at 86%	Mostly controllable	• Ensure that there is sufficient funding provided for maintenance of the generation fleet.	Eskom / NERSA
		• Ensure that maintenance is scheduled and executed as needed. This will depend on the space created by demand side management and energy efficiency in the next 3 years.	Eskom
2. Increase in the demand due to faster than expected recovery.	Somewhat controllable	• Robustness of the demand forecasting process.	Eskom
		• Implementation of the energy conservation scheme to obtain a certain level of demand certainty.	DoE / NERSA
3. Implementation of the demand side management programmes and energy efficiency programmes	Controllable	• Clear policy on funding and implementation strategy	DoE
		• Catering for the programme in the tariff determination.	NERSA
		• Execution of the programmes as scheduled.	Eskom / customers
		• Education and awareness campaigns	DoE/Eskom/ All businesses
4. Commissioning of the capacity provided for in the Medium term power purchase programme	Controllable	• Approval of the cost recovery mechanism and tariff implications.	NERSA
		• Signing the PPAs.	Eskom/IPP
		• Commissioning the capacity.	IPPs

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5. Commissioning of the capacity provided for in the REFIT Phase 1 programme	Controllable	• Policy on renewable energy and whether there will be targets for the various technologies.	DoE
		• Approval of the cost recovery mechanism, procurement process and tariff implications.	NERSA
		• Signing the PPAs.	Eskom/IPPs
		• Commissioning the capacity.	IPPs

6.3 Security of Supply in the long term

The long-term security of supply is based on the choices to be made in the IRP. Considering all the available options indicated in the table above the reserve margin will increase from 2013 and will be within internationally acceptable norms up to 2020. However this does assume that the indicated options will be commissioned on time. Any delays in decision making and execution will extend the vulnerability of the power system.

6.4 The road map to security of supply for the next 3 years

The goal must be to keep national electricity demand below 42 GW and the Eskom sales below 242 TWh by FY2012/13 while implementing the build programme. This will provide an adequate balance between supply-demand without having to resort to additional expensive supply side options and even worse, load shedding or rationing. An effective partnership is required between the key stakeholders to ensure a successful outcome.

GOVERNMENT:

Government should:

- Publish a country electricity plan to provide clear direction on the vision for the electricity sector in the next 20 years and the role of Eskom and independent power producers. This also starts the process of public consultation for input into the next plan.
- Clarify policy on renewable energy and nuclear energy.
- Create an effective enabling framework for the funding and implementation of demand side management programmes
- Promulgate regulations to facilitate the implementation of the power conservation programme.
- Ensure that a funding mechanism for the repair and maintenance of roads used to transport coal to the power stations is in place.

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STAKEHOLDERS:

NERSA should:

- Approve and publish the cost recovery mechanism rules.
- Approve and publish the procurement rules for the renewable energy programme
- Approve and publish rules for the power conservation programme
- Set a tariff path that caters for the completion of the current build programme and the introduction of independent power producers.

SANRAL or Provincial Government should:

- Ensure that the repairs and maintenance of the roads on which the coal for certain power stations is transported is carried out.

Independent Power Producers (IPPs) should:

- Commission the capacity indicated in the medium term power purchase programme and the first phase of the renewable energy feed-in tariff programme.
- Based on the country plan, commission the required capacity on time.

Eskom should:

- Ensure that an 86% energy availability factor is achieved for its current fleet of power stations excluding the return to service plants.
- Bring on line the planned return to service plants as planned.
- Sign the power purchase agreements for the medium term power purchase agreements and the renewable energy feed-in tariff programmes subject to the cost recovery mechanisms and the tariff level.
- Execute the demand side management programme.
- Support Government in the establishment of the power conservation programme.
- Support customers with the education programme on energy efficiency and in their own adaptation strategies.

Customers should:

- With respect to the large industrial and commercial customers (up to 500 customers), confirm their energy base-lines and targeted savings to provide some level of demand certainty over the next 3 years.
- Educate their staff and families on energy efficiency.

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- Consider their electricity utilisation patterns and make changes in behaviour and technology to bring this utilisation down.
- Consider an overall target of 8 to 15% energy efficiency improvements for the country over 5 years.

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7 Independent Power Production

Based on the revisions as described in section 5, the options for IPPs included in Eskom's proposed application has changed from Table 6 to Table 7. The full suite of IPP options based on information available to Eskom is contained in the proposed application and has been provided to NERSA. The decisions on which IPPs will go ahead will be made as part of the IRP process and the funding of those options will have to be finalised with NERSA and the Department of Energy.

Non-Eskom Generation included in Revenue application (for coal procurement projections)	2010/11	2011/12	2012/13	2013/14	2014/15
Energy (GWhrs)	2,918	4,365	5,313	5,169	5,059
Capacity (MW)	519	1,909	2,189	2,145	2,115
Potential Cash Flows (Rm)	2,304	6,302	7,822	7,949	7,899
Average cost c/kWh	79	144	147	154	156

Table 6 : Options included in the proposed application

Eskom's revised position for non-Eskom Generation takes into account delay of the DOE IPP and the introduction of additional IPPs over the 5 year window.

Non-Eskom Generation changes from 30 Sept	2010/11	2011/12	2012/13	2013/14	2014/15
Non Eskom Generation - 30 Sept	2,304	6,302	7,822	7,949	7,899
Change	0	-2,003	-2,003	4,518	7,946
Non Eskom Generation - 30 Nov	2,304	4,299	5,819	12,467	15,845

Table 7 : Options included in the revised revenue application

Non-Eskom Generation included in Revenue application (for coal procurement projections)	2010/11	2011/12	2012/13	2013/14	2014/15
Energy (GWhrs)	3,091	4,208	5,155	8,902	10,797
MW	517	862	1,142	2,743	3,012
Potential Cash Flows (Rm)	2,304	4,299	5,819	12,467	15,845
Average cost c/kWh	75	102	113	140	147
Impact on overall tariff in c/kWh	1	2	3	6	7
Impact as a % on standard price	1%	1%	1%	1%	1%

Table 8: Non-Eskom Generation

8 Eskom Building Blocks for Application

8.1 Costs and Efficiency

As previously explained, the main drivers of Eskom's price increase are the capital expansion programme costs and the operating, maintenance and fuel costs to run a viable and sustainable business. These factors are particularly challenging at this time because of the low reserve margin. This has resulted in a significant capital expenditure need to ensure security of supply. In addition, Eskom is facing significant financial challenges to meet its operating costs.

This is due partly to the increased operating costs that have resulted because of a low reserve margin, resulting for example in higher plant utilisation and consequently an increase in maintenance requirements.

Notwithstanding these pressures, Eskom is committed to operating its business in an effective and efficient manner. Stakeholders have requested further information on the steps taken by Eskom to improve its effectiveness and efficiency regarding costs set out in the proposed application (section 6).

Eskom concedes that some of the cost increases are steep but the reasons for these costs have been explained. Eskom now sets out further information regarding the initiatives Eskom has embarked upon to reduce its costs.

In addition to explaining the initiatives undertaken, we have also identified further cost reductions which we are willing to commit to and the details in this regard are also set out below.

8.2 Sales Forecast

The first and crucial building block of Eskom's price increase application is the sales forecast. It is based on certain assumptions and in turn forms the basis of projections of the costs to be incurred. For example, the amount of primary energy to be purchased depends on the level of generation and plant utilisation that is expected, which is in turn dependent on the sales forecast.

Since the 30th of September, there have been a number of issues that resulted in a review of this forecast.

The contract with the RioTinto-Alcan aluminium smelter in Coega was cancelled.

A detailed "bottom-up" sales forecast was once again developed in October and November 2009 as per the process described in the proposed application.

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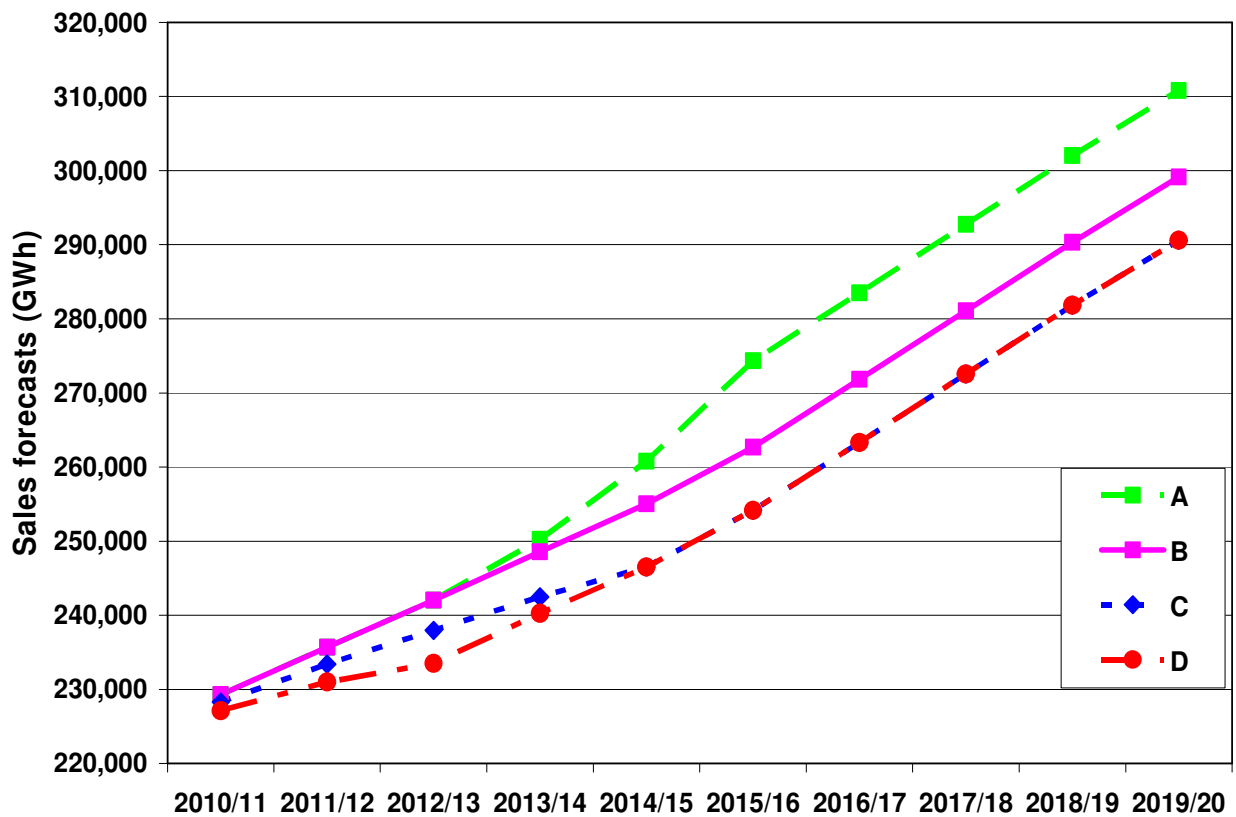
Based on stakeholder interactions and Eskom's own review process, the impacts of demand side management, price elasticity and the power conservation programme were considered in more detail.

A new MYPD reference forecast was developed which included and excluded the Alcan aluminium smelter but still excluded a significant uptake of demand side management programmes or the possible impact of price elasticity. This adjusted forecast was then amended to take into account the impact of a 5 year demand side management programme as per the MYPD application (about 8.5TWh over the 5 years) and an accelerated 3 year programme. These four scenarios are provided below in Figure 3.

The impact of price elasticity was assumed to be similar to a significant uptake of the demand side management programmes and was not added on as an additional impact. Studies commissioned by Eskom indicated a possible impact of 8TWh over 3 years based on the price trajectories published by NERSA.

The impact of the proposed power conservation programme was also not considered as there is some overlap with impact of the demand side management programmes and price elasticity. It is possible that additional demand reduction can be obtained from this programme but this requires a clear implementation strategy in consultation with all stakeholders. It is an important tool to provide demand certainty and deal with the security of supply challenges identified for the period leading up to the commissioning of the new power stations in 2012.

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- A: MYPD forecast, including Alcan smelter (less likely scenario)
- B: MYPD forecast, excluding Alcan smelter
- C: Forecast allowing for DSM being ramped up over five years
- D: Forecast allowing for DSM being ramped up over three years (less likely scenario)

Figure 3 : Reviewed sales forecasts (GWh)

In summary, the changes to the sales forecast are as follows for each year:

Year	MYPD forecast, including Alcan smelter (less likely scenario)	MYPD forecast, excluding Alcan smelter	Forecast allowing for DSM being ramped up over five years	Forecast allowing for DSM being ramped up over three years (less likely scenario)
2010/11	229,260	229,260	228,266	227,127
2011/12	235,674	235,674	233,400	230,982
2012/13	242,033	242,033	237,932	233,502
2013/14	250,250	248,564	242,472	240,246
2014/15	260,787	255,025	246,494	246,494
2015/16	274,336	262,671	254,140	254,140
2016/17	283,522	271,856	263,325	263,325
2017/18	292,756	281,091	272,560	272,560
2018/19	302,025	290,359	281,828	281,828
2019/20	310,809	299,144	290,613	290,613

Table 9: Reviewed sales forecasts (GWh)

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Eskom recommends that:

- The sales forecast incorporating the 5 year demand side programme implementation be used to determine Eskom's revenue requirements, Eskom's primary energy requirements and the funding requirements for the DSM programme.
- The DSM programme as provided for in the MYPD 2 application be approved for implementation. This is also needed to ensure security of supply in the next 3 to 5 years.

Risks to the chosen scenarios:

Description of Risk	Controllable / Uncontrollable	What can be done to make things happen?	By whom?
1. Success of the DSM Programme	Somewhat controllable	• Policy on funding and implementation of the programme.	DoE
		• Tariff implications are resolved.	NERSA
		• Execute and Monitor Performance.	DoE/ Eskom
		• Energy efficiency awareness programmes	DoE/ Eskom
2. Impact of PCP	Once legislated it will be controllable	• Commitment to promulgate regulations and associated rules	DOE/ NERSA
3. Impact of Price Elasticity	Uncontrollable	• Ongoing analysis of the impact in order to understand better.	Eskom
4. GDP assumptions	Uncontrollable	• Ensure that a wide spectrum of different views is used to arrive at an appropriate assumption	Eskom/ Government
5. New Project assumptions	Controllable for projects greater than 20 MVA.	• Use the EGM process to provide a schedule indicating project for which specific starting dates and phasing of consumption have been agreed.	Eskom/ Customers
	Projects less than 20 MVA are uncontrollable.	• Review the Eskom stance on the connection of projects less than 20MVA	Eskom
		• Agreements with customers to provide a longer term forecast.	Eskom
6. Weather Impact	Uncontrollable	• Quantify the impact of weather and highlight the risks so that the users of the forecast can allow for it accordingly.	Eskom
7. Other Economic Indicators (Commodity prices, exchange rates)	Uncontrollable	• Ensure that a wide spectrum of different views is used to arrive at a consensus view.	Eskom/ Government
8. Unreliable Customer information	Controllable	• Need a "social compact" with customers to provide demand certainty and to share in risk on supply decisions made.	Eskom/ Customers
9. Huge unforeseeable Events	Uncontrollable	• Develop scenarios to simulate the impact of such events on the forecast and allow for the impact accordingly.	Eskom

8.3 Primary Energy

The strategy related to improving the performance of primary energy is set out in the proposed application and is not repeated herein.

As previously indicated, expenditure on primary energy costs, which is increasing at a compound annual growth rate of 14% nominal (including volume growth) for the FY2010 – FY2015 period, is affected by insufficient generating capacity and higher utilisation of coal fired power stations. This forces the existing power stations to operate at higher than normal output levels, and hence requires long-term coal supply contracts to be supplemented with additional short-term coal contracts, with a duration of less than 5 years. The short-term contracts, inclusive of logistics costs, are significantly more expensive than the coal from linked mines on cost-plus and fixed-index based contracts. Eskom is currently implementing specific actions in order to reverse this trend.

The changes to the primary energy costs have resulted from cost reductions through the identification of further efficiencies and the impact of a lower demand forecast on the production plan.

The reduction in demand is due to the inclusion of the energy impact of DSM initiatives. This has resulted in a reduction in the coal burn plan, with a consequential reduction in coal and water costs.

Furthermore, Eskom will be implementing several efficiency initiatives in coal procurement. The potential savings from these initiatives have also been taken into account in this revised submission.

The resultant impact of the above reductions is reflected in Table 10, which details the total reductions in Primary Energy costs:

The changes from 30 September results in a savings and cost reduction of R12,6bn over the MYPD and R20,5bn over the 5 year period. Factors contributing to reductions include efficiency and change in production from lower volumes.

Change in Generation Primary Energy from 30 Sept to 30 Nov R'm	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Generation Primary Energy 30 September	31,909	37,473	43,279	49,317	55,604
Changes	-1,601	-2,403	-3,735	-7,159	-9,889
Generation Primary Energy 30 November	<u>30,308</u>	<u>35,070</u>	<u>39,544</u>	<u>42,158</u>	<u>45,715</u>

Table 10: Primary Energy Changes (30 Sept – 30 Nov)

The revised components of the total primary energy are presented below.

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Primary Energy 30 Nov R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Generation	25,474	30,308	35,070	39,544	42,158	45,715
	11%	19%	16%	13%	7%	8%
Total Non-Eskom - MTPPP,REFIT,DME,PNCP, IPPs	270	2,304	4,299	5,819	12,467	15,845
SAPP Utility contribution to 2010	25	694	-	-	-	-
Imports	1,937	2,211	2,614	2,635	2,816	2,944
DMP	534	646	706	726	747	792
Road maintenance	185	950	931	1,332	1,458	1,495
Environmental levy 2c/kWh	3,647	5,099	5,169	5,255	5,299	5,353
TOTAL	32,072	42,212	48,788	55,311	64,945	72,143
	26%	32%	16%	13%	17%	11%

Table 11: Primary Energy (Revised)

8.4 Operating Cost

The stakeholder comments received highlighted a number of issues to be clarified relating to the growth in operating cost and Eskom's approach to driving efficiencies within the business.

After consideration of inputs from stakeholders as mentioned in section 3 of document, Eskom has undertaken more risk and adjusted the operating cost base to reflect a R6.9bn in cost reductions from the initial proposed application. These reductions are predominantly concentrated in manpower and maintenance expenditure- shifting Eskom's risk profile from the initial proposed submission, to one that is more risky and uncertain

	FY2009/10	FY2010/11	FY2011/12	FY2012/13	MYPD 2 Total	FY2013/14	FY2014/15
Total operating costs (Rm)							
Initial submission (September 30)							
Human capital	14,581	16,456	18,103	19,862	54,421	21,790	23,925
Maintenance	6,545	8,209	9,916	11,130	29,255	12,556	13,897
DSM	800	1,521	1,882	2,809	6,212	3,123	4,090
Cost of Cover	3,711	3,136	2,418	2,648	8,202	3,483	4,212
Other	5,380	8,045	8,934	10,226	27,205	10,772	11,089
Total	31,017	37,367	41,253	46,675	125,295	51,724	57,213
Cost reductions							
Human capital	-104	-347	-648	-1,060	-2,055	-1,350	-1,522
Maintenance	70	-158	-282	-306	-746	-332	-387
Other	882	-1,133	-1,400	-1,614	-4,147	-1,391	-1,268
Total	848	-1,638	-2,330	-2,980	-6,948	-3,073	-3,177
Cost of cover adjustment	-553	-108	-143	-1,039	-1,290	-1,921	-1,763
Total adjustment from initial submission	295	-1,746	-2,473	-4,019	-8,238	-4,994	-4,940
Final submission (November 30)							
Human capital	14,477	16,109	17,455	18,802	52,366	20,440	22,403
Maintenance	6,615	8,051	9,634	10,824	28,509	12,224	13,510
DSM	800	1,521	1,882	2,809	6,212	3,123	4,090
Cost of Cover	3,158	3,028	2,275	1,609	6,912	1,562	2,449
Other	6,262	6,912	7,534	8,612	23,058	9,381	9,821
Total	31,312	35,621	38,780	42,656	117,057	46,730	52,273

Table 12: Comparison of final proposed operating cost to initial submission

In order to describe the increases in operating costs over the MYPD2 period, it is important to explain the cost base by means of cost benchmarks to understand Eskom's existing cost

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performance. Moreover, the costs relating to the new business activities have been distinguished from the costs relating to the current operations. The new business in Generation includes a new peaking station, commissioning of return-to-service (RTS) stations and new base-load stations. In Distribution the new business includes electrification, low voltage maintenance and new technical services centres. In Transmission the new business relates mainly to the build programme and strengthening of the network.

In addition, Eskom's reserve margin is inadequate which, in turn, has had a profound impact on the reliability of supply as well as on the cost of operating the existing business. Operating costs for the existing business will rise by 8% (roughly in line with CPI) over the MYPD2 period as reflected in Figure 4 – real cost per MW is decreasing by 0,7% p.a. While the new business costs will increase from R2.4bn in FY09/10 to R6.9bn in 2012/13, the real operating cost per MW installed for the entire business is increasing by 2,0%. This is due to the fact that operating cost for the new business is incurred before generating capacity actually comes online. The combination of these two trends is an overall increase in Eskom's operating costs of 11% over the MYPD2 period.

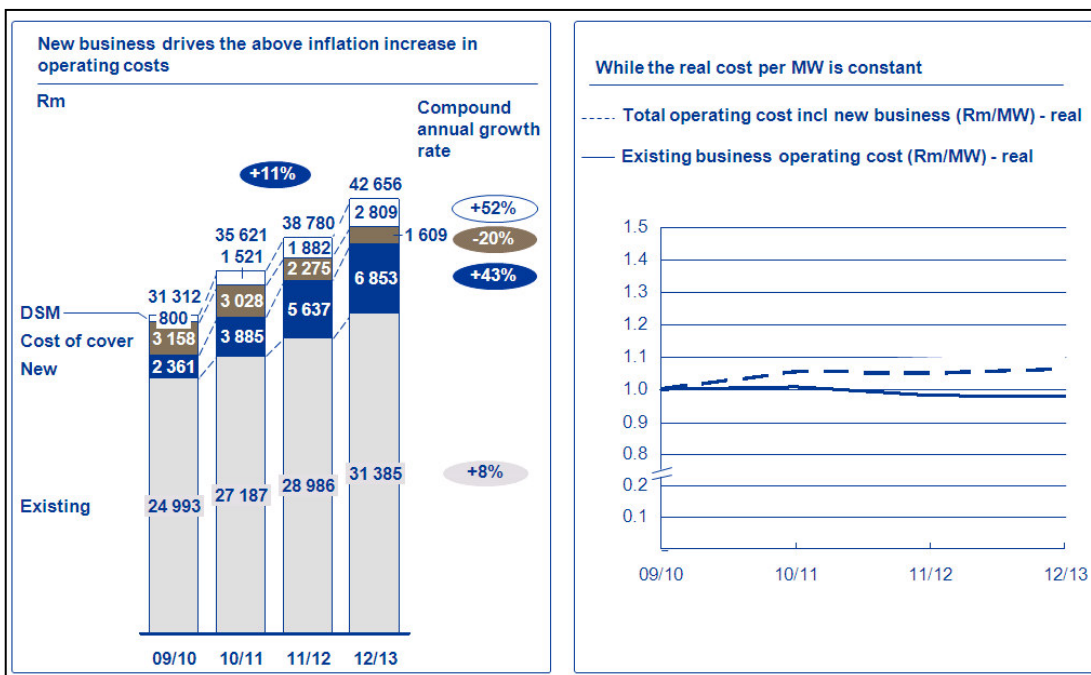


Figure 4: Operating cost trends for new and existing business

8.4.1 Overview

Eskom's total 2009/10 operating cost base of R61.2bn consists of two components, namely primary energy (R29.9bn), and operating costs (R31.3bn). This section is solely focused on **operating costs**, which can be broken down as follows for 2009/10:

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- **DSM: R0.8bn** – DSM includes all activities related to the reduction of electricity demand and is expected to see high initial growth over the next 5 years
- **Cost of cover: R3.2bn** – Premiums payable on foreign exchange contracts will see substantial fluctuation over the MYPD2 period, in line with imported nuclear fuel and new build components
- **Manpower: R14.5bn** – Efficiencies in the existing business will create manpower capacity to fill positions in the new business, thus containing manpower costs
- **Maintenance: R6.6bn** – The new business and scheduled additional maintenance resulting from the aging of the existing stations will drive maintenance cost increases above CPI
- **Other operating cost: R6.2bn** – Once-off and running costs relating to the new business are the main drivers behind increases in other operating costs

It should be emphasised that Eskom is currently redressing a long period of relative underinvestment. A shrinking reserve margin also means that Eskom will have to manage plant availability much more tightly than in the past, to ensure the stability of the national grid. In addition, the 2007/08 power crisis has highlighted the need to make investments in improving maintenance, as well as staff complement and capabilities.

Simultaneously recovering from historical underinvestment and installing new capacity – after a decade of operating cost increases below CPI – will mean that operating costs will inevitably increase above CPI during the MYPD2 period.

Eskom's total operating cost base of R31.3bn (FY 09/10) is broken down as follows by division:

- **Generation:** R13.9bn
- **Distribution:** R11.2bn
- **Transmission:** R1.9bn
- **Other:** R4.3bn

8.4.2 Operating cost performance

The benchmarks shared in this section, provide insight into the Generation and Distribution businesses of Eskom and represent 60-80% of the cost base. The results show that Eskom's costs are in line with good international practice, and in some areas highlight lower than average investment in maintenance.

Details of the international benchmark comparisons for the Generation and Distribution businesses are outlined below.

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Generation

The Generation division's R10.8bn in operating cost (excl. cost of cover) is divided as follows:

- **Manpower** – R5.1bn
- **Maintenance** – R3.8bn
- **Other** –R1.9bn (admin, insurance, engineering)

In April 2008, NERSA conducted a benchmarking study comparing Eskom power stations to other utilities worldwide. The study found that “Eskom Generation has managed to become a world leader in power station operations. Its non-fuel O&M cost per kWh and plant availability factors place Eskom in the upper ten percent of large integrated power companies worldwide.”

Subsequently, Eskom conducted its own study comparing Eskom stations to one hundred international peers, including 100% of the generation operating cost base. This study confirmed findings consistent with NERSA's report, that

- Overall, Eskom's FY09 operating costs are very low compared to peers worldwide (see Figure 5)
- Five of Eskom's stations were benchmarked as the lowest cost stations out of the one hundred stations in the database
- A breakdown of operating costs into operations, maintenance and overhead costs shows that most Eskom stations are placed in the 1st or 2nd quartile (see Figure 6)

It should be noted that relatively low maintenance expenditure has technical implications for operations performance in an aging fleet (see later section on maintenance cost).

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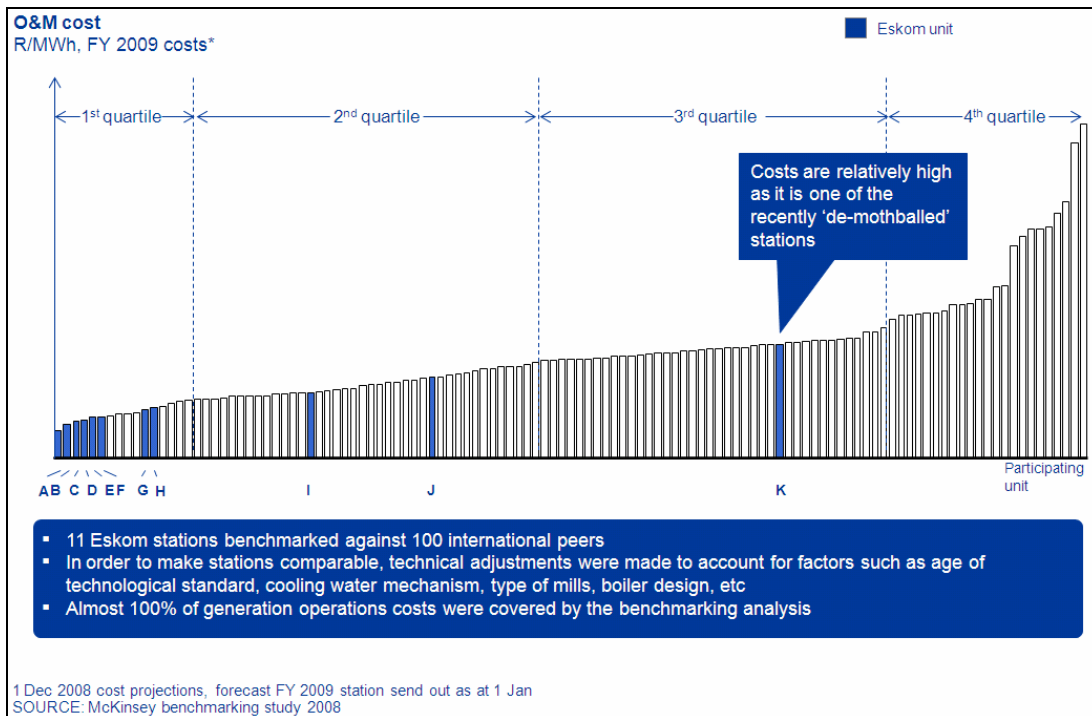


Figure 5: Power station O&M costs relative to international peers

Figure 6 provides more granular benchmarking of Eskom's operating costs by cost category (operations costs, comprising mostly manpower; maintenance costs and O&M overheads) and compares Eskom power stations with those of other international utilities. It can be concluded that Eskom power stations are either within the first or second quartile for most cost dimensions, implying that spending is well contained at power station level. Another insight is the low labour costs in South Africa compared to other countries. This contributes to the very low operations costs observed in power stations.

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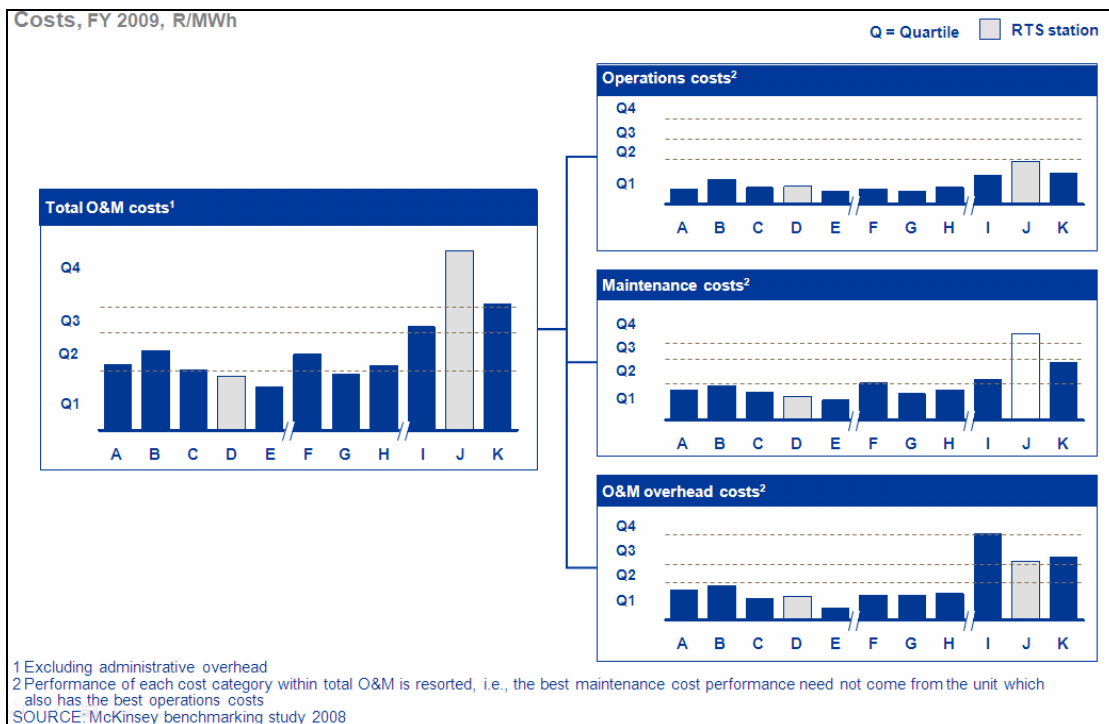


Figure 6: Power station cost comparisons for major cost categories

Distribution

The Distribution division's R11.2bn in operating cost is divided as follows:

- **Manpower** – R6.1bn
- **Maintenance** – R2.5bn
- **Other** –R2.6bn (arrear debt; T&D losses; continuous business improvement costs; fuel; property)

Benchmarking of Distribution operational costs shows that Eskom distribution spends relatively less on maintenance compared to international peers. The international comparative benchmarks show that operating costs on wires and retail are 7% and 19% lower, respectively.

The benchmarking assessment below focuses on operational expenditure, T&D losses and management of arrear debt.

- **Operational expenditure:** Distribution benchmarking conducted in 2007 shows that operational spending is below international benchmarks. Both Wires and Retail expenditure is less than the international benchmark, 7% and 19% respectively. The international comparative analysis therefore implies that Eskom Distribution is currently under funded in terms of operational expenditure. In addition, the key cost drivers for Eskom Distribution are assets, customers and to a lesser extent, energy.

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- Transmission and Distribution losses:** Eskom has been able to significantly curb the previous increasing trend in T&D losses, and is now managing energy losses at a level in the first quartile compared to benchmarks (see Figure 7). Further reduction in losses will present ongoing challenges as the balance between disconnections and management of energy losses due to illegal connections is always difficult to manage – estimated 2.4% of generated energy lost due to theft in FY08/09.

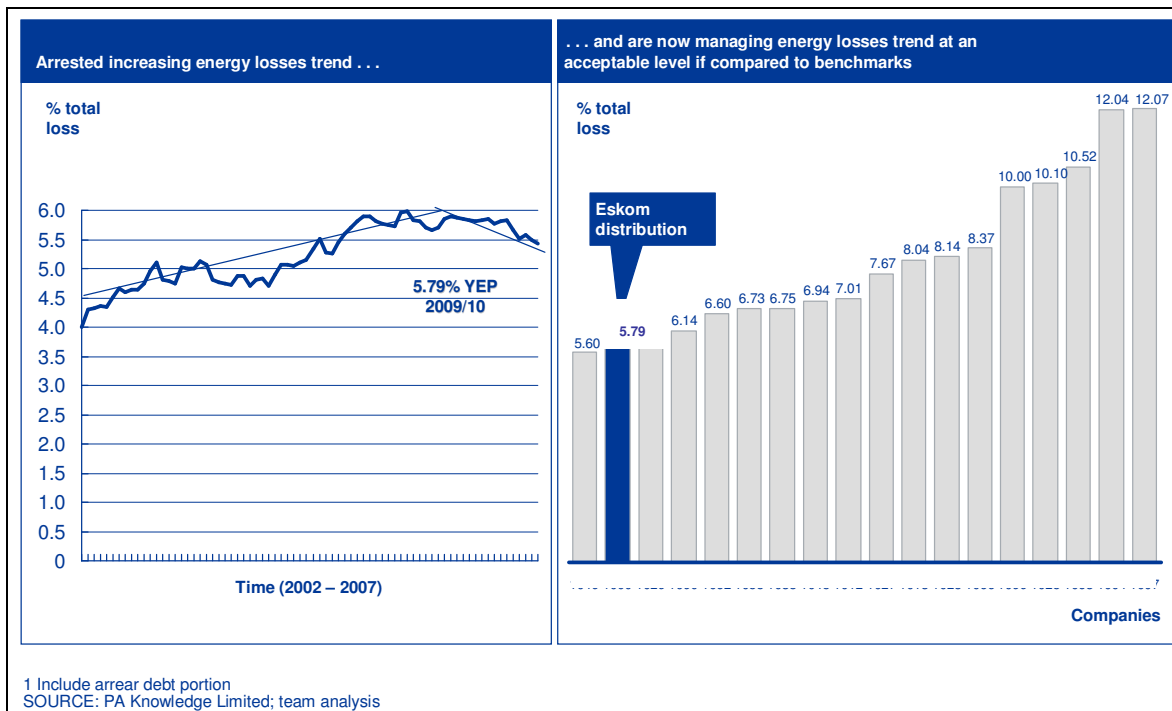


Figure 7: Management of T&D losses

- Arrear debt:** Eskom's share of outstanding debt in Distribution is in line with good business practices (only ~4% of revenues are outstanding over 90 days and only 1% of total revenues written off as bad debt). The challenge with Distribution debt collection is localised to Gauteng, with 90% of outstanding debt over 90 days coming from Soweto. The Distribution division has recently launched strategies which will help to improve Distribution collection efforts over MYPD2 period. The strategies include segmentation and targeted interventions to achieve higher cashflows and payment levels, e.g.
 - Reporting of defaulting municipalities to NERSA when other internal avenues fail
 - For Soweto specifically, placing more emphasis on the 'higher income' or 'more affordable areas' for targeted collection as well as piloting split metering

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8.4.3 Evolution of manpower costs

In order to achieve ongoing efficiencies, Eskom is developing a strategy to contain manpower numbers through reallocating headcount from the existing business to the new business, with the impact of this being visibly reflected in years 2 and 3 of the MYPD2 period.

Manpower costs (Rm)	FY2009/10	FY2010/11 11%	FY2011/12 8%	FY2012/13 8%	FY2013/14 9%	FY2014/15 10%
Existing business	13,335	14,482 9%	15,432 7%	16,513 7%	17,875 8%	19,367 8%
New business	1,142	1,627 42%	2,023 24%	2,289 13%	2,565 12%	3,036 18%
Total	14,477	16,109	17,455	18,802	20,440	22,403

Table 13: Evolution of manpower costs

For the **existing business**, salary allowances in the MYPD2 period have been kept in line with CPI – see Table 13. However recent labour actions undertaken in South Africa and the resulting above inflation increases granted, indicate this may be difficult. In order to manage this risk, Eskom management will develop a strategy that will ensure CPI related increases through a collaboration with labour.

Manpower costs for the **new business** will increase as a result of staffing the new build stations, but salary increases will be escalated in line with CPI. Efficiencies will be created within the existing business in order to redeploy staff to the new business – 50% of positions in the new business for FY11/12 will be filled by redeployment and 100% thereafter (see Figure 8). Eskom will have to manage increases in overtime and monitor ongoing adherence to public safety requirements resulting from these efficiencies, to ensure compliance to legislation. Shifting the balance from the existing to the new business is only possible if adequate skills levels can be redeployed in critical areas (e.g., maintenance and delivery on the new build).

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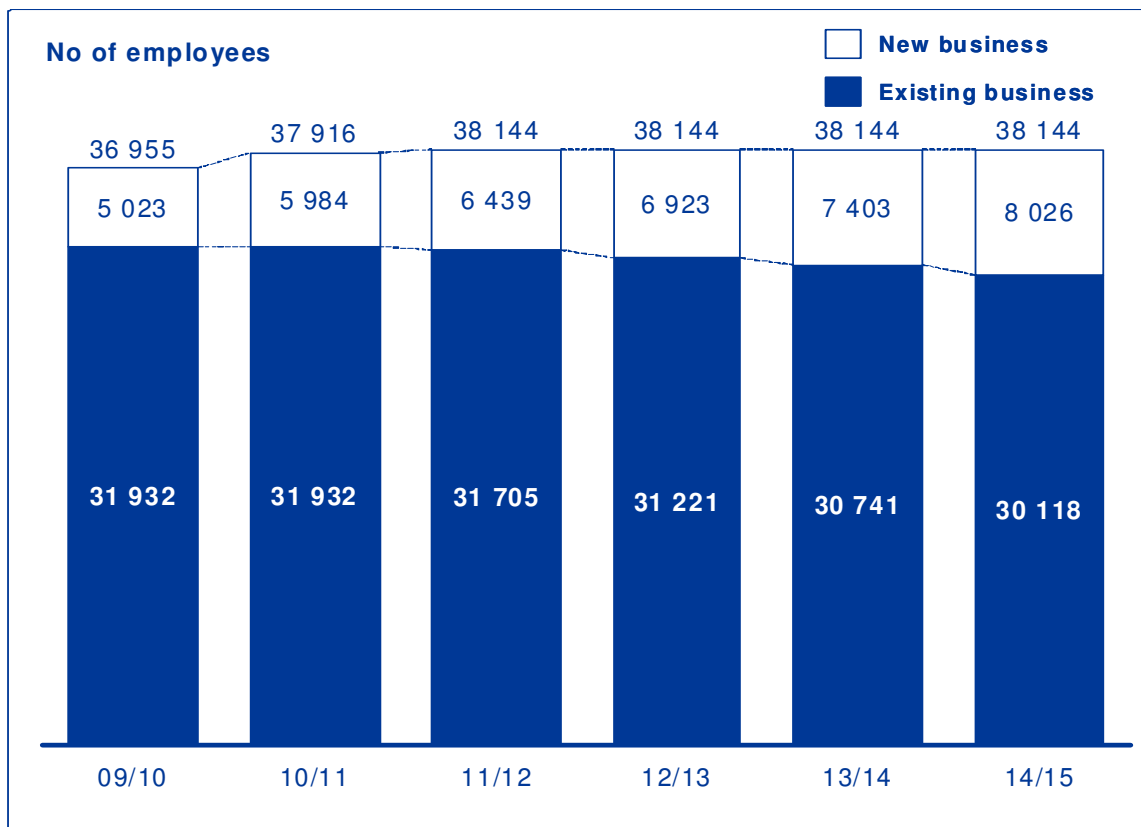


Figure 8: Number of employees split by existing and new business

8.4.4 Evolution of maintenance costs

Maintenance cost increases (see **Table 14**) are primarily driven by the new business and by Eskom's ageing asset fleet in the existing business, which will require additional scheduled maintenance. These requirements, coupled with the new business, will result in cost increases above CPI. There are significant maintenance backlogs to be addressed, due to reduced availability of maintenance windows – as indicated by the increase in utilisation due to constrained reserve margins and the decrease in availability as a result of overall ageing in assets.

The focus on containing maintenance and operating costs is placing a strain on plant performance. Eskom will continue to monitor plant performance levels, and will notify NERSA should the cost reduction factored into the revised application put undue strain on the system.

Maintenance costs (Rm)	FY2009/10	FY2010/11	FY2011/12	FY2012/13	FY2013/14	FY2014/15
Existing business	6,133	7,060	7,762	8,510	9,429	10,076
		15%	10%	10%	11%	7%
New business	482	991	1,872	2,314	2,795	3,434
		106%	89%	24%	21%	23%
Total	6,615	8,051	9,634	10,824	12,224	13,510

Table 14: Evolution of maintenance costs

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Maintenance costs below are split according to operating divisions – Transmission, Generation and Distribution.

Transmission

Maintenance spend for the division (see Table 15) will be roughly in line with inflation over the MYPD2 period, as no maintenance provision has been made in the new business. Potential maintenance costs have been absorbed through creating efficiencies in the existing business.

Transmission maintenance costs (Rm)	FY2009/10	FY2010/11	FY2011/12	FY2012/13	FY2013/14	FY2014/15
Existing business	271	294 8%	307 4%	325 6%	344 6%	365 6%
New business	-	- n/a	- n/a	- n/a	- n/a	- n/a
Total	271	294	307	325	344	365

Table 15: Evolution of Transmission maintenance cost

Generation

In the existing business, ongoing maintenance cost increases will be roughly in line with CPI, although maintenance cost in the new business will grow significantly due to new RTS stations being added to system (see Table 16).

Generation maintenance costs (Rm)	FY2009/10	FY2010/11	FY2011/12	FY2012/13	FY2013/14	FY2014/15
Existing business	3,343	3,746 12%	3,756 0%	3,931 5%	4,355 11%	4,525 4%
New business	482	665 38%	1,025 54%	1,226 20%	1,432 17%	1,561 9%
Total	3,825	4,411	4,781	5,157	5,787	6,086

Table 16: Evolution of Generation maintenance cost

The major drivers of maintenance cost in the existing business will be the extraordinary strain placed on assets as a result of tight reserve margins (see Figure 9). Deteriorating plant performance will lead to more scheduled maintenance in the next 2 years.

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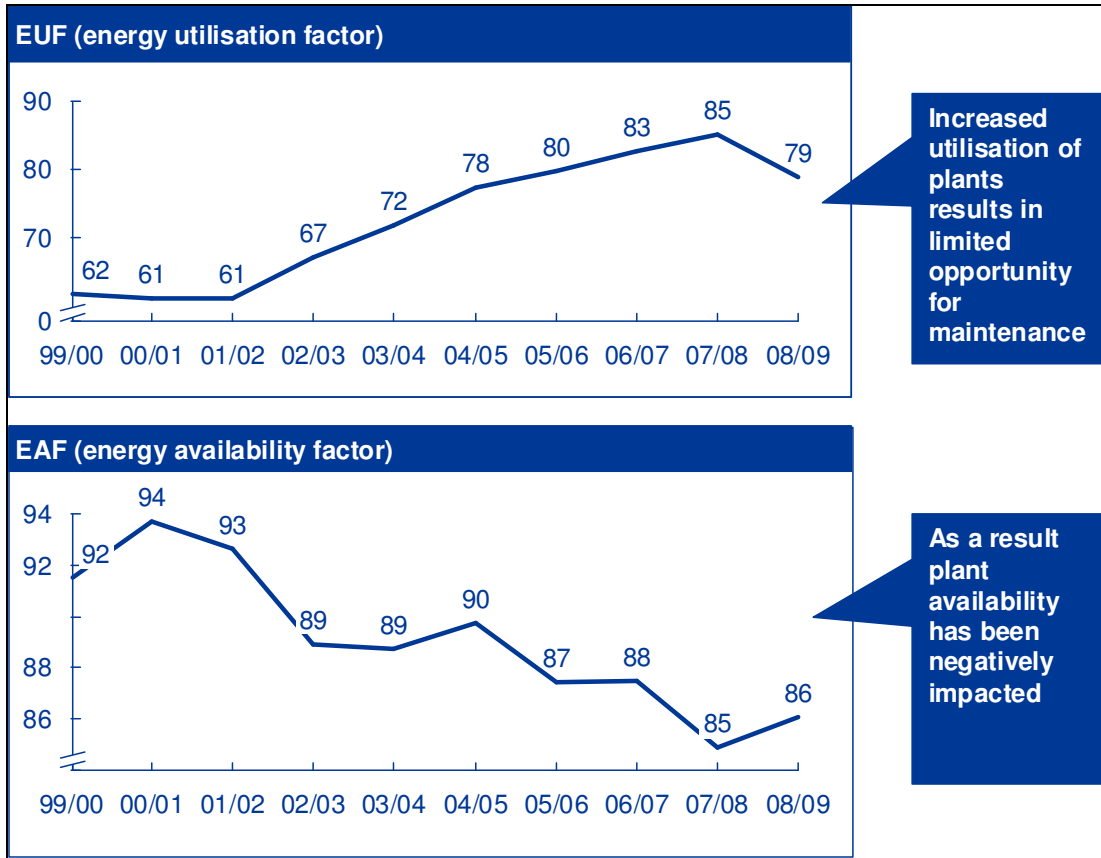


Figure 9: Deterioration in plant availability over time

In the new business, maintenance cost will rise due to inspections and outages for newly returned-to-service (RTS) stations, and increased maintenance at OCGT stations. Savings of 30-40% in maintenance on RTS stations have been factored into future spend, given that these stations have recently been refurbished.

Distribution

In the existing business, increasing costs will be mainly due to an ageing network (e.g. wood pole maintenance), insurance and high incidence of equipment theft (see Table 17).

	FY2009/10	FY2010/11	FY2011/12	FY2012/13	FY2013/14	FY2014/15
Distribution maintenance costs (Rm)		33%	36%	18%	14%	16%
Existing business	2,519	3,020	3,699	4,254	4,730	5,186
		20%	22%	15%	11%	10%
New business	-	326	847	1,088	1,363	1,873
		100%	160%	28%	25%	37%
Total	2,519	3,346	4,546	5,342	6,093	7,059

Table 17: Evolution of Distribution maintenance cost

In the new business, additional funding will be required due to the need to change maintenance practices on low voltage systems, continuous expansion of electrification and the need for master

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planning. Another source of additional cost will be additional technical service centres (especially in rural areas) to ensure improved service and safety.

8.4.5 Evolution of other operating cost

The new business drives the rise in other operating costs (see Table 18), with efficiencies created in the existing business resulting in increases lower than CPI during the next two years.

Other operating costs (Rm)	FY2009/10	FY2010/11 10%	FY2011/12 9%	FY2012/13 14%	FY2013/14 9%	FY2014/15 5%
Existing business	5,525	5,645 2%	5,792 3%	6,362 10%	6,592 4%	6,999 6%
New business	737	1,267 72%	1,742 37%	2,250 29%	2,789 24%	2,822 1%
Total	6,262	6,912	7,534	8,612	9,381	9,821

Table 18: Evolution of other operating cost

In the **existing business**, increases in expenses will be roughly in line with CPI. In the **new business** other costs are special projects, engineering and contract costs relating to the new build and development costs. . Allocation of resources to the new business will be monitored and managed during the initial years to ensure that any negative effects are contained.

Conclusion

It can be concluded that Eskom's operating cost base is in line with good international practice, with potential underinvestment in areas such as maintenance. Cost increases for the existing business is roughly in line with inflation, in fact, with a slight decline in real costs per MWh output. Eskom's expansion programme is the primary driver for the cost increases over and above inflation. Furthermore, Eskom has committed to an additional R6.9bn in operating cost reduction over the next 3 years, by rebalancing manpower from the existing to the new business, limiting salary increases, maintenance and other operating cost increases to CPI and reducing maintenance activity for the newly refurbished RTS power stations.

8.5 Road maintenance

It has been accepted that to the extent that the lack of road repairs could become a security of supply risk that Eskom has no option but to proceed with the repairing of roads. However, the Ministers of Finance and Public Enterprises have endorsed a policy which proposes a 'shadow' tolling approach whereby the responsibility for such road repairs is placed with SANRAL and Eskom is responsible for paying a 'shadow' toll to SANRAL to account for its beneficial use of the roads for coal haulage.

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Consequently, Eskom has amended its application to reduce the costs for the repairs of roads in the second and third years of the MYPD 2 period. In those years the costs have been replaced with a toll fee (road usage costs) that will be payable to SANRAL. It must be noted that Eskom is only accounting for costs related to its use of the roads for coal haulage.

The costs for the road repairs for the first year have been included to allow some time for the new arrangements to be finalised. Whilst the issue is being finalised, Eskom may need to repair roads where necessary. As already indicated, any funds not utilised for roads would be taken into account in the reconciliations carried out by NERSA. Furthermore, the costs that Eskom has now included in the amended application for roads could be negatively impacted, should SANRAL not be able to fund the balance of the portion of total cost attributable to non-coal haulage.

The impact of this approach is set out below:

Road maintenance R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
	185	950	931	1,332	1,458	1,495
% Growth	-65%	414%	-2%	43%	9%	3%
Cumulative costs	720	1,670	2,601	3,933	5,390	6,885

Table 19: Road maintenance costs

The savings in costs as a result of Eskom not being totally accountable for road repairs and maintenance, (those costs related to non-Eskom usage) is reflected in the table above. The approach assumes that SANRAL, through the relevant national and provincial structures, will fund the balance of the costs for road repairs.

8.6 Capital Expenditure

The detailed capital expenditure is set out in Eskom's proposed application. In the light of the stakeholder comment and the guidance provided on the country choices required, Eskom's capital expenditure has changed based on the capacity choices as set out earlier in section 5. In addition, Eskom has also been requested to provide further information and benchmarks regarding its construction costs.

Eskom's capital expenditure costs have been compared to international benchmarks.

Benchmarking capital costs for the purposes of comparison is usually quoted as a US\$/kW overnight cost. This is the cost that would be incurred if a plant was to be built immediately, or "overnight". This means that all the time based cost components, such as interest during construction

Comparisons are made difficult due to site specific conditions, differing plant design specifications and the variability in market conditions from year to year. Notwithstanding this, benchmarking is a useful indication of how a plant compares to other plants.

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International benchmarking studies for similar coal fired plants are as follows:

- Lazard (2008) quotes a range of US\$2550–5350/kW
- The Electric Power Research Institute (2007) quotes a range US\$2500–3700/kW
- A CRS report (2008) noted an average overnight cost of US\$2519/kW.
- The US Department of Energy (2008) quotes a US\$2000–4000/kW range.
- Mckinsey currently estimates new European coal fired plant at US\$1800-US\$2250/kW

Medupi and Kusile, Eskom's baseload coal fired pulverised fuel plants will be approximately US\$2000/kW³. If calculated at the current exchange rate the number would, however, be higher (closer to US\$2500) even though the rand cost of the project has not changed. The impact of the exchange rate on the capital cost benchmark quoted in USD illustrates the point that benchmarking information must be used with care⁴

The main conclusion is that Eskom's capital expansion costs are generally comparable with such costs of similar projects internationally. Cost comparisons reflect that, although Eskom costs are more expensive than those of Asian peers (building plants in host countries), they are more comparable to peers operating in similar environments or Asian plants built outside the host country. With some cost references higher or lower, Eskom's capital costs per kW are nonetheless broadly aligned with the sample of Australian, Romanian and US data points.

It should be pointed out that costs are extremely sensitive to technical specifications, synergy effects, country factors, definitions of capital costs included and other macro economic factors. True benchmarks normalize for all of these dimensions.

Medupi and Kusile have higher capital costs than Chinese and Indian benchmarks primarily due to sourcing of key sub-systems and materials from low-cost country suppliers.

Large capacity expansion programmes have allowed these countries to achieve cost savings due to the learning curve effect; economies of scale; investment in a local power construction industry, and local factor costs and productivities.

³ As calculated in early 2009, which is comparable to the date of the benchmark studies.

⁴ . Even though the plant cost estimates in rand stay the same, the ZAR/USD rate, which is completely delinked from the cost dynamics of the plant, creates the impression that plant cost has increased from \$2000/kW to \$2500/kW.

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As an example, between 2004 and 2007 Chinese industry-wide power plant capital expenditure costs decreased by 11% on an RMB/kW basis, despite a global price surge due to a capacity bottleneck. Over the same period, budget accuracy for Chinese plant construction improved by 11%. The Korean nuclear industry is another case example of increased independence through full technology transfer and increased localisation with each project – Korea has built approximately 28 units since 1970.

These benefits are however not easily transferable to new markets and geographies.

Despite being lower on this learning curve than Chinese and Indian utilities, Eskom has previously already taken a number of design decisions to lower capital costs (even at the expense of higher levelised-costing in some cases). These design choices on Medupi and Kusile trade off reduced capital costs for increased lifecycle costs and changes to risk profile.

Eskom has incurred some additional costs to develop local skills and industry as part of a national development strategy, which does add additional cost in the short –term but this approach brings significant benefits for South Africa:

The Medupi and Kusile projects contribute significantly to local **economic growth**. 58% of contracts awarded on Medupi have been to local suppliers; R6.0bn of this is BEE spend, R2.1bn is with BWO businesses, and a further R2.2bn is SME spend. The projects also bring significant employment creation, with up to 60,000 jobs local jobs created during project construction.

The projects will significantly contribute to **skills development**, with extensive investment in local training and skills development being included. Investment in local power station design and construction expertise lowers the future reliance on international providers and will lower future capital costs.

Eskom is also driving an ongoing initiative to closely manage capital costs on Medupi and Kusile (in cases with associated operating cost trade-offs and changes to Eskom's risk profile) to ensure that these projects remain within budget. These initiatives under consideration include:

- **Cashflow deferrals** through deferring items not immediately necessary; retrofitting certain items at a later date (e.g., removal of one mill and retrofitting it at a later date);
- **Savings** through negotiation on unplaced contracts
- **Cash savings** through technical scope changes (e.g., removing Condensate Reserve Tank); changing the risk profile (e.g., not purchasing diesel generators); renegotiating with suppliers (e.g., removing transport of heavy cargo to site from contractor's scope of works).

These capital cost savings will translate into tariff reductions during the MYPD3 application period.

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The proposed application split capital infrastructure costs across the divisions and between the new and existing business as outlined in Table 20

Capital Expenditure (incl IDC excl Cost of Cover) R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Generation	34,805	51,832	77,894	83,852	90,228	93,616	117,930
Transmission	6,587	9,609	15,110	11,877	17,706	18,315	24,284
Distribution	5,825	6,390	8,654	10,705	12,784	14,893	17,129
Corporate (incl ED)	460	1,123	679	372	423	317	366
Research and Development	269	671	3,838	4,790	3,518	3,828	4,465
TOTAL	47,945	69,625	106,175	111,596	124,660	130,969	164,173
Cumulative	47,945	117,570	223,745	335,341	460,000	590,969	755,143

Table 20: Capital Expenditure Costs as submitted on 30 September 2009

Table 20, above indicates cumulative capital infrastructure costs requirements of R460bn over a period of five years to 31 March 2013 submitted on 30 September 2009.

After the review for costs reduction/deferment opportunities, the requirement over the same five year period is R425.9bn.

The reduction of R34bn over the three-year MYPD 2 period and R136bn over a five year period is summarised in the table below per year as well as cumulatively.

Change in Capital Expansion from 30 Sept to 30 Nov R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Capex 30 September	47,945	69,625	106,175	111,596	124,660	130,969	164,173
Changes	-	-231	-9,873	-3,275	-20,668	-44,659	-57,490
Capex 30 November	47,945	69,394	96,303	108,320	103,991	86,310	106,683
Cumulative Difference	-	-231	-10,103	-13,379	-34,047	-78,706	-136,197

Table 21: Capital Expenditure Costs after the review for cost reduction/deferment opportunities

The changes in capital costs can be summarised as follows:

- Pilot projects that were planned in the submission on 30 September have been reduced significantly.
- Kusile power station will be delayed from 2013 to 2014. Two dimensions are important in this regard. Firstly, as a result of not placing contracts since December 2008, Kusile has been delayed by default from an execution point of view. Secondly, the revised assumptions on electricity demand growth results in Kusile being required a year later. The cashflow consequences of the delay of Kusile are that roughly R8bn is moved outside of

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the MYPD2 window⁵. The cost to completion of the project will however increase as a result of this delay.

- Nuclear costs have reduced based on the basis of two year delay in commissioning date (from 2020 to 2022) as well as a downward revision of costs.
- Komati business case is under review. The non-placement of contracts due to the financial crisis has resulted in the delay of the Komati project (similar to Kusile) and this has contributed to cost increases. The poor plant condition (Komati being the oldest and most problematic of the return to service stations) is also a contributor to additional cost increases, in particular the boiler section of the power station.

The table below provides the changes as described above:

PROJECT NAME	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Kusile	-4,046	-2,740	-1,682	6,374	7,684	8,950
Sere	-19	-2,880	3,068	105	-	-
Coal 3	-	-	-142	-4,511	-15,173	-28,894
Nuclear 1	-	-476	-928	-21,566	-36,120	-34,259
Majuba Rail	12	-1,204	-1,038	79	1,129	-
Komati	10	20	1,328	588	-	-
TOTAL	-4,043	-7,280	605	-18,931	-42,481	-54,202
Cumulative	-4,043	-11,324	-10,719	-29,650	-72,131	-126,333

Table 22: Changes in capital expenditure on major projects

After effecting the changes as set out in Table 22 the revised total capital expenditure is as follows:

Capital Expenditure (incl IDC excl Cost of Cover) R'm - 30 November	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Generation	34,805	51,832	71,009	82,660	69,449	50,510	64,375
Transmission	6,587	9,609	15,110	11,877	17,706	18,315	24,284
Distribution	5,825	6,390	8,654	10,705	12,784	14,893	17,129
Corporate (incl ED)	460	1,123	679	372	423	317	366
Research and Development	269	441	851	2,706	3,628	2,275	529
TOTAL	47,945	69,394	96,303	108,320	103,991	86,310	106,683
Cumulative	47,945	117,339	213,642	321,962	425,953	512,263	618,946

Table 23: Total Capital Expenditure

⁵ This does not preclude certain placed contracts from being executed on the original timeframe.

9 Electricity Pricing Policy

In our proposed application Eskom highlighted aspects of the Electricity Pricing Policy (EPP) relevant to cost recovery, the return on assets, and the manner in which the (regulatory) asset base is to be determined noting that: "The revenue requirement for a regulated licensee must be set at a level which covers the full cost of production, including a reasonable risk adjusted margin or return on appropriate asset values. The regulator, after consultation with stakeholders, must adopt an asset valuation methodology that accurately reflects the replacement value of those assets such as to allow the electricity utility to obtain reasonably priced funding for investment; to meet Government defined economic growth". It was also noted that the valuation of assets and rate of return are essential components of the funding model put forward in the application.

Stakeholders have commented on the benchmark rate of return proposed by Eskom and the valuation methodology applied in revaluation of the asset base. Although Eskom has provided further information below, based on Eskom's price application, the projected rates of return, even on a historical asset base, is below an acceptable level in any event. We therefore acknowledge that this is an area that may require further discussion in future. Due to the lower returns earned by Eskom during the MYPD 2 period, we submit that this matter can be addressed later.

9.1 Depreciated Replacement Valuation of Assets

Eskom's treatment of asset valuation has been aligned with the EPP which requires the use of "an asset valuation methodology that accurately reflects the replacement value of those assets." As noted in the application, Eskom engaged independent specialists in 2008 to determine the depreciated replacement valuation of its regulated assets. The valuation was conducted on the basis of Modern Equivalent Asset (MEA), taking into account service capacity, age, usage and the remaining useful life of assets. As indicated in our application we have now updated these calculations as of 31 March 2009.

Stakeholders have asked that Eskom explain why MEA methodology has been used for calculating replacement costs of assets rather than other methodologies such as depreciated replacement costs of "like for like" assets, and there was concern that MEA is overly subjective. The view was also provided that the valuation should include those assets actually required to deliver the service, and exclude assets that are under-utilised or not needed for the generation of electricity.

MEA is defined as an asset having a similar service potential as the subject asset, judged by its comparative performance and output, not its physical characteristics. MEA is an internationally recognised approach to replacement cost valuation. It has the advantages of tracking the actual cost movement on new assets while also factoring in technological improvements and the

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productive efficiencies created by technological innovation. In this regard, we also note that only regulated assets have been included in the valuation, and that these assets are indeed fully utilised. In the jargon of the trade, they are 'used and useful'.

In considering the range of options at hand, Eskom assessed the relative merits of inflation indexed historic cost valuation, and 'like-for-like' valuation approaches. A key weakness was identified in both these approaches in that neither account for efficiency related technological change. By way of example, some of Eskom's older generating plants were built utilising relatively smaller generating units than current technology allows for. Technologies developed since these older stations were commissioned allow for enhanced scale of production and in this case, considerable cost efficiencies as compared to technologies available in the 1970s.

In our review of inflation indexed valuation methodologies we had concern over the margin of error that often occurs when applying this approach over long time periods. The real cost of plant and equipment is not well tracked by general indexes of inflation such as CPI, and we have found that even more narrowly defined indexes such as PPI or specialist engineering data sets suffer the same problem. The margin of error stemming from indexed valuation approaches was found to become even more severe where assets are purchased in foreign currencies. The movement of the Rand relative to USD and the Euro over the last 20 years has been so pronounced that the dominant factor influencing trends has been changes in the exchange rate rather than movement in the underlying cost of the asset on which the trends are based.

Having regard for the comments by stakeholders and the balance of advice we have obtained from specialists in the field of valuation, we have utilised the MEA valuation approach as set out in our application, and provide below revised figures updated to 31 March 2009:

Updated tables are in APPENDIX A

9.2 Rate of Return for MYPD 2

In our application we have provided a phased approach to implementation of the EPP such that the medium to long term benchmark rate of return is not fully recovered during MYPD 2. Indeed, the average real pre tax return on assets projected for under the application was roughly 4.1% - well below any sustainable long term benchmark. While not affecting the price increase applied for during MYPD 2, we also provided our view of Eskom's benchmark real pre tax Weighted Average Cost of Capital (WACC) at 10.3%.

Stakeholders have queried the basis for Eskom's proposed rate of return in comparison to previous levels applied to the MYPD. In addition, some stakeholders have provided the view that

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Government as the owner of Eskom does not require a return on equity thereby lowering the overall required rate of return

The two key components of the rate of return are the cost of debt and return on equity. In regard to the view that Government does not require a return on equity (i.e. dividends) we first note that this is a matter for the shareholder to decide, and that dividend payments are not projected during MYPD 2. The shareholder has an interest to ensure capital for further expansion rather than to extract profits from Eskom.

However, what is often overlooked is that return on equity provides the capability for a business (and shareholder) to re-invest in the industry. This also has a direct bearing on the ability of Eskom to borrow funds, as lenders require a sound earnings profile that demonstrates the ability to repay these funds in uncertain economic and commercial environments. This goes to the heart of the financial sustainability of the business.

In regard to the cost of debt, the borrowings required to fund the capital programme are well above that able to be sourced in domestic capital markets. Eskom now needs to tap foreign sources of borrowings which will come at a substantially higher cost than previously experienced by Eskom. This has been factored into our application and is one of the key reasons for the increases in the benchmark rate as compared to MYPD 1.

10 Economic Impact

In setting out the basis of our application, Eskom has been acutely aware of the impact that large and sudden price increases can have on individuals, communities, industries and the broader South African economy. This was reflected in our fundamental position that the price increase application should be made within the context of our energy future - inclusive of how this interacts with our shared aspiration for robust and sustainable economic growth. Eskom's application was therefore based on balancing the short term economic impact of price increases against the severe long term consequences of insufficient electricity supply. From a practical perspective, this led to a smoothing of the price trajectory to allow for more efficient adjustments to be made at both micro and macro levels of the economy.

In consideration of these choices to be made, stakeholders have raised concerns over the ability of the economy to adjust to the price increase proposed, and the impact that it would have on individuals and the economy in regard to GDP, employment, investment and inflation.

We have also had regard to the view put forward by National Treasury that a delicate balance must be struck between moving to electricity prices to cost reflective levels while mitigating the short term negative impact on the economy and simultaneously ensuring that essential investment in electricity supply is made.

Where a benchmark scenario of 31% was compared to a 45% increase, it was found that in 2011 inflation increases by 0.6% over the base forecast.

In assessing this balance, we also considered the research carried out by the Human Sciences Research Council⁶ focused directly on this balance of choices whereby they found that the negative macroeconomic impacts of insufficient supply outweigh the adverse impacts of a large price increase on factors such as GDP and employment in the long term. However, the results also show that the economy is placed on a lower growth path, with higher inflation, lower GDP and employment.

In the light of the concerns and comments provided in regard to the economic impact of a 45% price increase Eskom has reviewed its application to assess if further smoothing of price increases could be achieved by a different paradigm regarding Eskom's role in ensuring security of supply and rebalancing risks to the economy of insufficient electricity supply against the cost of macroeconomic adjustment.

⁶ HSRC, "The Impact Of Electricity Price Increases And Rationing On The South African Economy", July 2008

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This has informed the choice of a different trajectory which we believe will mitigate even further the adverse consequences of a price increase.

11 Tariff Structures and Protection of the Poor

Eskom has set out a recommendation for protection of the poor in its proposed application. It has been pointed out that this is an issue that needs to be addressed by Government in terms of national policy. There was also a view that the proposal by Eskom was not capable of implementation by local authorities. It was agreed that the protection of the poor remained a critical priority and that a holistic and integrated solution was required in this regard.

SALGA has requested that Eskom continues to engage with SALGA and relevant government departments in order to agree on the optimal approach to protect the poor. National Treasury has indicated that “ the responsibility for determining the most effective measures for providing protection to the poor should vest with Government rather than Eskom.”

Eskom agrees with the views expressed. However, Eskom retains its recommendation in this regard as an input into the national dialogue on this issue.

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12 Revenue Requirement

The building blocks for the revenue requirement is made up of operating costs, primary energy, depreciation and a return on assets. Cumulatively this results in the revenue which Eskom would request from NERSA.

Table 24, below reflects the impact of Revenue requirement for Eskom

REVENUE BUILDING BLOCKS FOR MYPD2 (R'm)					
	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Primary Energy (excl imports)	40,002	46,175	52,676	62,130	69,200
Operating costs	35,619	38,781	42,655	46,730	52,272
Depreciation	30,279	32,860	37,220	41,553	47,658
Return on assets	-13,292	8,559	40,589	48,628	59,703
Total Eskom Costs	92,608	126,375	173,140	199,041	228,833
Revenue (excl SPAs, Exports)	92,608	126,375	173,140	199,041	228,833
Collected from:	98,355	132,579	180,107	206,757	236,550
- Tariff customers	92,608	126,375	173,140	199,041	228,833
- SPAs and exports	5,747	6,204	6,967	7,716	7,717
Cumulative cash surplus / (deficit)	1,852	-14,102	-7,875	18,089	48,302
% return on assets (pre-tax)	-1.9%	1.1%	4.7%	5.2%	5.5%
Regulated asset base	734,475	811,909	911,686	971,889	1,207,937
Standard tariff volumes (GWh)	204,551	210,219	214,737	219,204	223,149
Average price (c/kWh) (nom)	45	61	82	93	105
Average price (c/kWh) (real, 2009)	43	55	70	75	80
NOTES					
1. Primary Energy (incl imports)	42,213	48,789	55,311	64,946	72,144
2. Total Sales Volumes (GWh) incl SPAs & Exports	228,266	233,400	237,932	242,472	246,494

Table 24 Revenue Building Blocks

Table 25, below reflects the impact of non Eskom generation (IPPs).

Non Eskom generation (IPPs) (R'm)						
	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Non Eskom Generation - MTPPP, DoE, Refit, IPPs	270	2,304	4,299	5,819	12,467	15,845
Volumes (GWh)	1,137	3,091	4,208	5,155	8,902	10,797
Average price (c/kWh nominal)	24	75	102	113	140	147
Price impact	0%	1%	1%	1%	1%	1%

Table 25 Revenue Building Blocks (IPPs)

A summary of the reconciliation between the proposed application dated the 30 September 2009 (45%) and the revised submission (35%) is set out below.

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The cumulative cash shortfall was R28,4bn (2012/13) under the 45% application at the end of the MYPD 2 period. This position has now been revised to a R7,9bn cash shortfall at end 2012/13 using the revised 35% application, subject of course to the further interventions and country choices referred to earlier, and the risks that have been highlighted.

The main drivers of the change are as follows:

Positive cashflow impacts

- Reduction in operating costs
- Reduction in primary energy costs
- Savings and deferral of capital projects
- Increased borrowings
- Introduction of new equity

Negative cashflow impacts

- Lower price increase

12.1 Target Price

As already stated, Eskom's tariffs are not at the levels that they should be. The current average price of electricity is about 33c/kWh and this does not allow for the recovery of all the prudently incurred costs and the building of reserves to support the capital expansion programme.

The appropriate level of prices that should be targeted, based on the current asset base and subject to generation choices assumed, is considered to be in the range 80c/kWh to 88c/kWh in real terms⁷. Even at this level, Eskom's wholesale price remains competitive when compared to international electricity prices (based on the assumptions made). This target price is based on an assumption of the levelised cost of a coal base-load plant and will therefore change if a different technology mix is assumed.

The need to move to cost reflective tariffs is supported by stakeholders. For example, National Treasury recognises that in the medium to long term tariffs should be set at cost reflective levels to ensure a sustainable electricity supply industry.

⁷ This excludes any capital expenditure for projects not included in Eskom's revenue requirement. The appropriate target price is therefore subject to the generation choices made. This target price includes generation, transmission and distribution costs.

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In finding a balance regarding an appropriate migration path, Eskom has now chosen a path which will lead to the targeted price level over a longer period. In other words, the smoothing will be phased over a longer time period.

12.2 Price comparison

In the light of requests for more information about the international tariff comparisons additional information in this regard is set out herein. The comparisons have been updated to reflect the revised 35% tariff increase.

In determining the current and future competitiveness of Eskom's electricity price, it is important to note that electricity tariffs or prices vary widely from country to country. Studies aiming to benchmark electricity tariffs in various regions list the inconsistent application of the following components as challenges in an attempt at accurate price comparisons:

- Tariff setting goals and principles, e.g. energy efficiency vs. energy intensive industries
- Primary energy mix, e.g. hydro power is much cheaper than most other generation sources
- Tariff interventions (such as subsidies, cross-subsidies, taxes etc)
- Currency values and differences

Tariff comparison with Developed and Key Developing Nations

An analysis of industrial and residential tariff levels across major economies shows that South Africa's electricity is currently amongst the cheapest in the world, i.e. 50c/kwh (US6.76c/kWh) for residential and 28.99c/kwh (US3.92c/kWh) for industrial customers. (Data from the 2009 IEA Report were used for this analysis) A comparison of South Africa's anticipated tariff in FY2013, with other countries' 2009 tariff levels, shows that South Africa will continue to offer competitively priced electricity after 35% annual increases for three years. If one considers that the comparison assumes no increases in other countries' tariffs over the next three years, then the Eskom tariff should be in line with the average of other countries' inflation adjusted tariffs, three years from now.

Eskom's average tariff levels are used as a proxy for the country tariffs, as opposed to municipal average tariffs, as municipal tariffs are often structured to subsidise unrelated municipal services and the tariff structure is not consistent across all municipalities. The tariffs compared to in other countries are generally averaged over several different utilities in an unregulated market.

The tariffs under special pricing agreements with selected industrial customers were not included in the calculation of average tariffs.

Assumptions Underlying Tariff Comparison

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- In the comparison all other countries' prices are assumed to be static, i.e. no increases are projected for the next three years.
- Only South Africa's tariffs are assumed to increase – an ultra-conservative assumption.
- South Africa's price in 2012/13 includes an increase of 35% per year, for three years.
- The comparison reflects two possible exchange rates, i.e. R/\$ = 7.4 and R/\$ = 10.
- The tariffs in other countries indicated in this submission are generally averaged over several different utilities in an unregulated market.

Industrial Tariff Comparison

Figure 10, reflects South Africa's average price of electricity for industrial customers increasing from US3.92c/kWh to approximately US7.13c/kWh by the end of the MYPD 2 period. It is important to note that the FY2012/13 price assumes a 10:1 Rand to US Dollar exchange rate, which is in line with the economic parameters in annexure A. For comparison purposes, the graph also shows Eskom's price in FY2012/13 as about US9.63c/kWh using the current exchange rate of US\$1:R7.4.

It is assumed that the industrial tariff would be the customer category proxy used by investors to compare country tariffs.

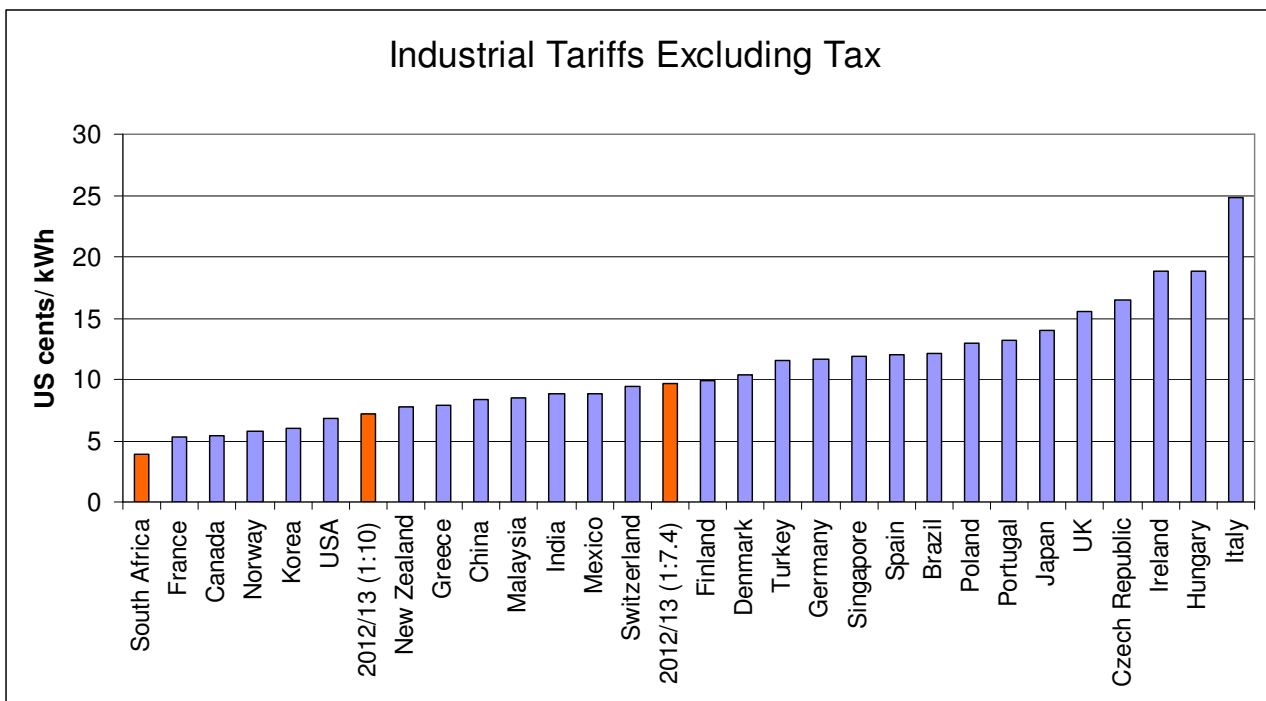


Figure 10: Price Comparison – Industrial Excluding Taxes (Source: International Energy Agency 2009 report)

Residential Tariff Comparison

Figure 11, reflects South Africa's average price of electricity for residential customers increasing from US6.76c/kWh to approximately US12.4c/kWh by the end of the MYPD 2 period. This graph uses the same assumptions as discussed in Figure 10, above.

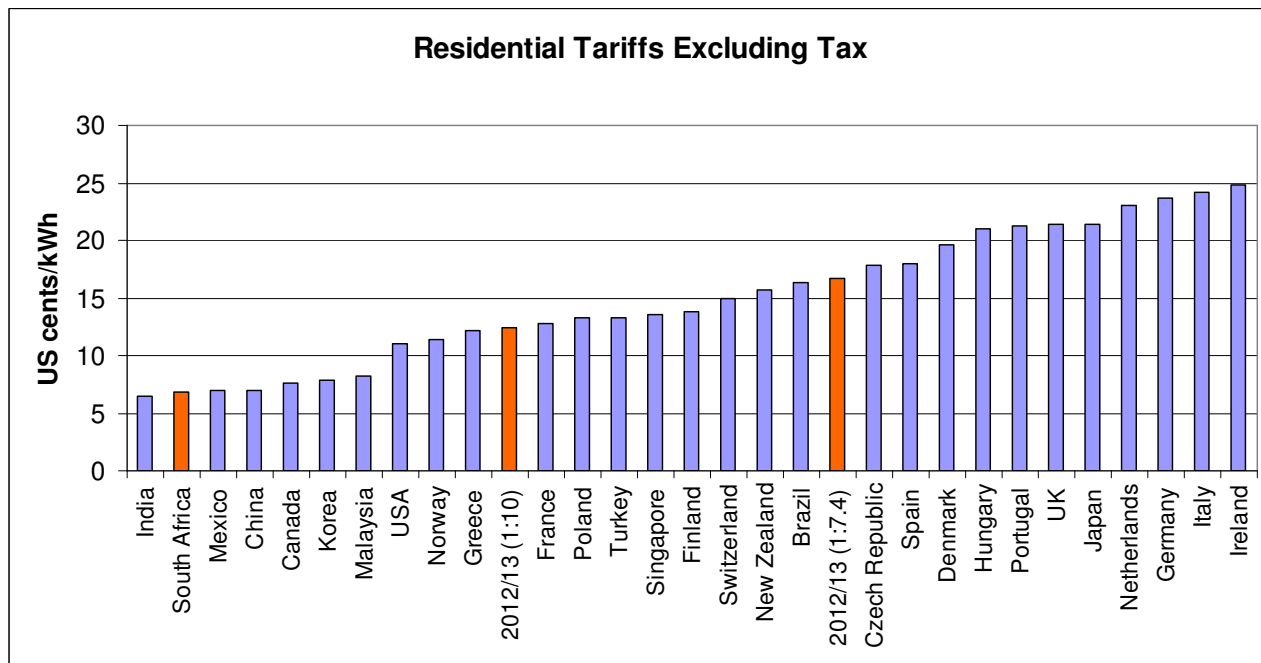


Figure 11: Price Comparison – Residential Excluding Taxes (Source: International Energy Agency 2009 report)

Residential Tariff Comparison with African Countries

Stakeholders have also suggested that prices of electricity in the residential sector in South Africa are higher than those in other African countries. Based on the reviews that we have done this is incorrect and South Africa's prices remain competitive. The interpretation of a residential tariff comparison is very difficult given the factors that distort the prices that customers ultimately pay. Firstly, it is important to note that the prices that consumers are charged are often not representative of the full selling price, due to subsidies offered to customers by the respective governments. Secondly, few, if any, of the other African countries' electricity supply is as reliable as South Africa's supply.

Conclusion

It should be noted that country competitiveness is not only a function of electricity prices. Even when neglecting energy efficiency opportunities, electricity costs make up only a portion of total business expenses. Other factors that influence competitiveness include:

- The reliability of electricity supply.
- Education levels of work force.
- Political stability.

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- Other infrastructure, such as roads, water and sanitation.
- Financial sophistication of the economy.
- Labour regulations.
- Climate.

A close and more important link with competitive electricity prices is reliability of supply and studies have shown that reliability plays a bigger role in business and investment decisions.

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13 Summary

In summary Eskom's application is based on the following:

13.1 Cost drivers of Revenue Requirement and Price Path

The building blocks for the revenue requirement is made up of operating costs, primary energy, depreciation and a return on assets. Cumulatively this results in the revenue which Eskom would request from NERSA.

Table 26 below reflects the impact of Revenue requirement for Eskom

REVENUE BUILDING BLOCKS FOR MYPD2 (R'm)					
	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Primary Energy (excl imports)	40,002	46,175	52,676	62,130	69,200
Operating costs	35,619	38,781	42,655	46,730	52,272
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Cumulative cash surplus / (deficit)	1,852	-14,102	-7,875	18,089	48,302
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Regulated asset base	734,475	811,909	911,686	971,889	1,207,937
Standard tariff volumes (GWh)	204,551	210,219	214,737	219,204	223,149
Average price (c/kWh) (nom)	45	61	82	93	105
Average price (c/kWh) (real, 2009)	43	55	70	75	80
NOTES					
1. Primary Energy (incl imports)	42,213	48,789	55,311	64,946	72,144
2. Total Sales Volumes (GWh) incl SPAs & Exports	228,266	233,400	237,932	242,472	246,494

Table 26 Revenue Building Blocks

Table 27, below reflects the impact of non Eskom generation (IPPs).

Non Eskom generation (IPPs) (R'm)						
	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Non Eskom Generation - MTPPP, DoE, Refit, IPPs	270	2,304	4,299	5,819	12,467	15,845
Volumes (GWh)	1,137	3,091	4,208	5,155	8,902	10,797
Average price (c/kWh nominal)	24	75	102	113	140	147
Price impact	0%	1%	1%	1%	1%	1%

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Table 27 Revenue Building Blocks (IPPs)

A summary of the reconciliation between the proposed application dated the 30 September 2009 (45%) and the revised submission (35%) is set out below.

The cumulative cash shortfall was R28,4bn (2012/13) under the 45% application at the end of the MYPD 2 period. This position has now been revised to a R7,9bn cash shortfall at end 2012/13 using the revised 35% application, subject of course to the further interventions and country choices referred to earlier, and the risks that have been highlighted.

The main drivers of the change are as follows:

Positive cashflow impacts

- Reduction in operating costs
- Reduction in primary energy costs
- Savings and deferral of capital projects
- Increased borrowings
- Introduction of new equity

Negative cashflow impacts

- Lower price increase
- Lower sales volumes

Summary cashflow impact

Due to the changes incorporated in the various areas of the business, the overall net cashflow benefit improves by R13,5bn over three years and R54,4bn over the five years disclosed in table 25 below. The main reason is that substantially all the cost savings and deferrals benefits were offset with the lower revenue from the price reduction and lower volumes.

It is important to note that the deferral of project related capital expenditure means that those costs will have to be borne in later years. Any positive cash balance contributes towards funding the deferrals and continuation of the expansion plans into the future.

Eskom's MYPD 2 Application (2010/11 to 2012/13)

Summary of Amendments to 30 Sept application (R'm)								
Reconciliation between 45% and 35%		Cash Flow Impact	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15	TOTAL
Revenue - 30 Sept			104,489	151,634	222,604	242,340	275,281	
Change	negative		-6,134	-19,055	-42,497	-35,583	-38,731	-142,000
Revenue - 30 Nov			98,355	132,579	180,107	206,757	236,550	
Total Primary Energy - 30 Sept			43,790	53,349	61,794	68,992	75,998	
Change	positive		-1,577	-4,560	-6,483	-4,046	-3,854	-20,520
Total Primary Energy - 30 Nov			42,213	48,789	55,311	64,946	72,144	
Operating costs - 30 Sept			44,249	49,496	56,973	65,043	74,077	
Change	positive		-1,000	-1,791	-3,416	-5,362	-4,760	-16,329
Operating costs - 30 Nov			43,249	47,705	53,557	59,681	69,317	
Capex costs (incl IDC) - 30 Sept			106,187	111,610	124,660	130,968	164,172	
Change	positive		-9,883	-3,290	-20,669	-44,658	-57,489	-135,990
Capex costs (incl IDC) - 30 Nov			96,303	108,320	103,991	86,310	106,683	
Costs savings, deferrals, lower revenues Restated as cash flow impact +ve/(-ve)	A		-6,326	9,414	11,929	-18,483	-27,372	
			6,326	-9,414	-11,929	18,483	27,372	30,839
Shareholder loan & Equity - 30 Sept			20,000	0	0	0	0	
Change	positive		10,000	10,000	0	0	0	
Shareholder loan & Equity - 30 Nov			30,000	10,000	0	0	0	
Total Funding - 30 Sept			42,082	32,406	40,000	35,000	40,000	
Change			-2,082	10,594	0	0	-5,000	
Total Funding - 30 Nov			40,000	43,000	40,000	35,000	35,000	
Additional new funding and equity	B		7,918	20,594	0	0	-5,000	23,512
Total cash outflows reduced/(increased)	(A+B)		14,244	11,180	-11,929	18,483	22,372	54,351
Excludes tax, interest and other changes								
Notes								
1. Primary energy includes, Non Eskom generation, Roads and environmental levy								

Table 28: Summary of Amendments to the 30 September 2009 Submission

13.2 Price Path

Eskom has revised its application from 45% over three years to 35% over the period.

Price Increases and Annual Funding	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Price increases	31%	35%	35%	35%	13%	13%
Impact of IPPs	0%	1%	1%	1%	1%	1%
Eskom own costs	31%	34%	34%	34%	12%	12%
Cumulative cash surplus/(deficit) R'm	22,611	1,852	-14,102	-7,875	18,089	48,302
Nominal c/kWh	33	45	61	82	93	105
Real c/kWh	32	43	55	70	75	80

Table 29: Price Increases and Annual Funding

Eskom has also provided a summary of the components of the prices. The primary energy has been split between non-Eskom generation (MTPPP, REFIT, DoE OCGT) and Eskom primary energy costs

Eskom's MYPD 2 Application (2010/11 to 2012/13)

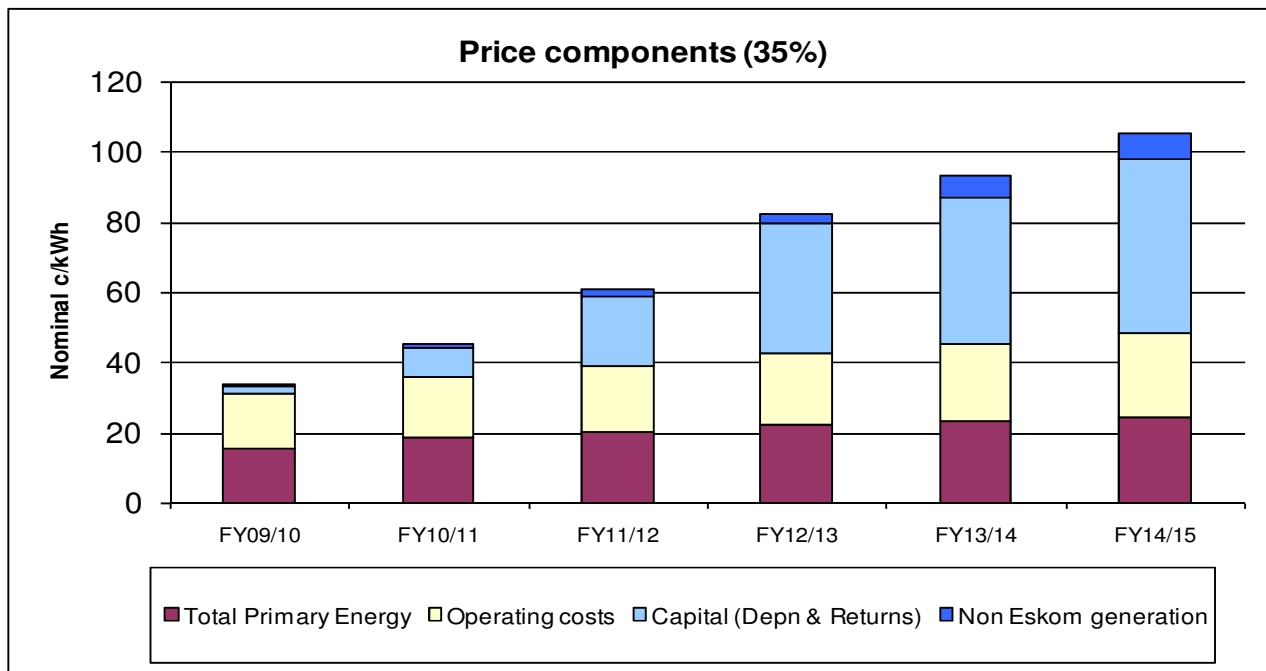


Figure 12: Price Components

13.3 Price Application Summary – Income Statement and Cashflow

PRICE INCREASES APPLIED	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Nominal price increase	31%	35%	35%	35%	13%	13%
Nominal c/kWh	33	45	61	82	93	105
Real c/kWh	32	43	55	70	75	80

ESKOM HOLDINGS LIMITED - BOARD APPROVED - : BASE CASE 35% X 3 YRS

	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Revenue	69 464	98 355	132 579	180 107	206 757	236 550
Environmental levy	3 647	5 099	5 169	5 255	5 299	5 353
Revenue excl levy	65 817	93 256	127 410	174 852	201 458	231 197
(-) Primary energy	32 071	42 213	48 789	55 311	64 946	72 144
Primary energy excl levy	28 424	37 114	43 620	50 056	59 647	66 791
(-) Operating expenses	36 683	43 249	47 705	53 557	59 681	69 317
EBIT	710	12 893	36 085	71 239	82 130	95 089
(-) interest	1 918	4 213	5 965	7 668	9 337	9 752
Profit before fair value adjustment & embedded derivative	(1 208)	8 680	30 120	63 571	72 793	85 337
(-) Net Fair Value gain/(loss) on other derivatives	(2 380)	813	815	760	0	0
(-) Embedded Derivative	4 650	0	0	0	0	0
Profit before tax	(3 478)	7 867	29 305	62 811	72 793	85 337
(-) current tax	0	0	2 917	5 211	9 352	5 227
(-) deferred tax	- 970	2 217	5 314	12 416	11 090	18 746
Net income/(loss)	(2 508)	5 650	21 074	45 184	52 351	61 364
Cashflow from operations	8 521	16 037	39 498	66 824	77 498	102 208
(-) Capex	60 232	87 646	94 417	86 239	68 783	88 905
(-) Interest during construction	4 197	8 657	13 903	17 752	17 527	17 778
Cashflow gap before funding	(55 908)	(80 266)	(68 822)	(37 167)	(8 812)	(4 475)
Opening cash balance	17 921	22 611	1 852	(14 102)	(7 875)	18 089
(-) loan repayment including CPBs in FY09/10 only	(16 669)	(1 044)	(132)	(6 606)	(224)	(312)
(+) assets maturing	4 232	551	0	0	0	0
(-) Swap cashflows	(4 872)	0	0	0	0	0
(+) Government loan	30 000	20 000	0	0	0	0
(+) New equity participant	0	0	10 000	10 000	0	0
(+) Clean Technologies Funding			3 000	0	0	0
(+) Other loans -committed/planned and signed	47 907	40 000	40 000	40 000	35 000	35 000
Cumulative cash surplus/(deficit)	22 611	1 852	(14 102)	(7 875)	18 089	48 302

14 Conclusion

Eskom has maintained that this application is a country application that requires country choices to be made. These country choices were necessary to charter a path that ensures economic growth whilst taking into account Eskom's financial and funding requirements. More importantly, these choices can only be made in this context of a long-term view of our overarching objectives and the desired outcomes that define success and sustainability for all stakeholders.

Some of these objectives should be to ensure security of supply and consequently facilitate economic growth, address access to and affordability of electricity for the poor, empower and encourage private players to enter into the market over time, facilitate a move towards cleaner generation technologies and support regional development.

Within this context, in finalising the MYPD2 application, choices were made regarding the following:

Eskom's role regarding the current capital expansion programme and the appropriate electricity capacity plan that should form the basis of the MYPD 2 application and in particular:

- The extent of capital expenditure costs to be included and Eskom's proposal
- The assumptions relating to non Eskom generation.
- The proposal for the protection of the poor
- The appropriate balance between funding sources
- The proposed price path.

The engagement with stakeholders has been extremely useful and has informed the choices that have now been made. These engagements have also enriched the debate and allowed Eskom an opportunity to better understand the expectations of stakeholders.

This MYPD 2 application, and in particular the price path and time period within which to migrate from the current price level to an appropriate price level, should be assessed in relation to the achievement of the overarching long-term country objectives. The MYPD 2 is therefore a stepping stone towards achieving the objectives of South Africa in the long-term. It is a stepping stone that has been forged through intense stakeholder discussions and relies for its success on an effective partnership between Eskom and all stakeholders

Eskom is concerned about the increased risk profile but is committed to working within this partnership to ensure that we all achieve success.

The provision of reliable and affordable electricity is a critical and strategic imperative to ensure sustainable economic growth in South Africa. Eskom's price application as set out herein will result in an integrated solution that is in the best interests of Eskom, customers and the country. It has

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also mitigated the adverse impact on the economy and job losses by choosing a longer time period to achieve cost reflective tariffs. It is our firm belief that it is in the national interest that the appropriate country choices have been made in a collaborative and participative process.

P M MAKWANA

ACTING CHAIRMAN

ESKOM

DATED THIS 30 NOVEMBER 2009

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APPENDIX A: 30 SEPTEMBER - 30 NOVEMBER NUMBERS

Replaces Table 1: Electricity sales forecast (year on year growth)

Sales (TWh)	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Volumes Forecast	215	216	231	236	240	244	248
% growth	-4.3%	0.5%	6.9%	2.2%	1.7%	1.7%	1.6%

Table 1: Electricity Sales Forecast (year on year growth)

Replaces Table 3: Production of energy by fuel type

Production GWh	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Coal	221,193	225,261	228,076	232,042	234,370	237,368
Nuclear	11,896	13,080	13,438	13,430	13,249	12,855
Gas	281	274	405	467	226	118
Hydro	580	580	581	580	580	580
Pum Storage	2,618	2,885	2,919	2,970	4,914	5,581
Wind	-	-	80	80	216	577
Gross Eskom Generation	236,568	242,080	245,500	249,569	253,554	257,079
Co-Gen and Non Eskom Generation	394	3,091	4,208	5,155	5,149	5,039
Imports	13,671	12,064	13,252	12,539	16,241	18,154
Gross Production	250,633	257,234	262,959	267,264	274,944	280,272
Less: Pumping Requirements	3,583	3,957	4,004	4,076	6,775	7,702
Net Production	247,050	253,277	258,956	263,188	268,169	272,570

Replaces Table 4: Primary energy costs excluding environmental levy, road maintenance, imports and non-Eskom generation

Primary Energy Costs ex Levy R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Coal burn	20,569	24,730	28,380	31,940	34,240	37,160
Water costs	1,262	1,510	2,020	2,260	2,530	2,810
Coal handling	618	657	692	728	771	818
Water treatment	225	232	233	246	249	263
Start-up gas&oil	1,168	1,271	1,339	1,400	1,545	1,606
Sorbent	0	0	0	60	160	370
Fuel procurement Department costs	643	670	650	660	780	770
Total coal fired stations	24,485	29,070	33,314	37,295	40,274	43,797
Nuclear	643	698	795	905	1,113	1,412
Ankerlig	165	301	561	807	446	276
Gourikwa	144	171	317	455	251	155
Acacia & Port Rex	2	11	20	15	9	7
Other	30	43	47	51	48	49
Total gas fired stations	-132%	43%	10%	7%	-5%	1%
UCG	340	525	945	1,328	754	488
Hydro	-	-	-	-	10	10
Generation Primary Energy	6	15	16	17	17	18
	25,474	30,308	35,070	39,544	42,158	45,715
	11%	19%	16%	13%	7%	8%
Energy GWh	236,568	242,080	245,500	249,569	253,554	257,079
Average cost (c/kWh)	11	13	14	16	17	18

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Replaces Table 5: Cost of liquid fuel

Cost of liquid fuel projects R'm	FY09/10	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Ankerlig and Gourikwa	258	308	472	878	1,262	696	432
		20%	53%	86%	44%	-45%	-38%
Acacia and Port Rex	1	2	11	20	15	9	7
		20%	600%	91%	-28%	-40%	-17%
Other	-95	30	43	47	51	48	49
		-132%	43%	10%	7%	-5%	1%
Total gas fired stations	163	340	525	945	1,328	754	488
Sent out/GWh	284	281	274	405	467	226	118

Table 5: Cost of liquid fuel

Replaces Table 6: Imports

International Imports (TWh)	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Energy (GWh)	12,777	11,848	12,884	12,171	12,121	12,120
Potential Cash Flows (Rm)	1,937	2,211	2,614	2,635	2,816	2,944
Average Cost (c/KWh)	15	19	20	22	23	24

Table 6: Imports

Replaces Table 14

Depreciation 30 Nov R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Generation	16,919	17,813	18,745	21,267	23,206	26,719
Transmission	5,485	6,088	6,838	7,725	8,872	10,275
Distribution	5,629	6,377	7,195	8,233	9,480	10,735
Total replacement depreciation	28,034	30,279	32,779	37,225	41,558	47,729
		8%	8%	14%	12%	15%
Historic depreciation	6210	7630	8924	10902	12951	17045

Replaces Table 15: Environmental levy

Environmental Levy R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
		3,647	5,099	5,169	5,255	5,299	5,353
% Growth			40%	1%	2%	1%	1%
Cumulative costs	-	3,647	8,746	13,915	19,170	24,469	29,821

Table 15: Environmental levy costs

Replaces Table 16: Net Energy generation sent out (GWh)

Net generation sent out R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Net Gx GWh sent out	247,050	253,277	258,956	263,188	268,169	272,570
% Growth			3%	2%	2%	2%

Table 16: Net energy generation sent out (GWh)

Replaces Table 17: Road maintenance costs

Road maintenance R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
	535	185	950	931	1,332	1,458	1,495
% Growth	-	-65%	414%	-2%	43%	9%	3%
Cumulative costs	535	720	1,670	2,601	3,933	5,390	6,885

Table 17: Road maintenance costs

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Replaces Table 25

Asset base values 30 Nov R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Asset values - Historic plus inflation	197,682	277,638	364,945	451,898	527,304	623,890
EPP - Revalued plus inflation	659,242	728,210	806,631	890,243	963,912	1,051,850

This has changed from 30 September due to the latest report.

Depreciation 30 Nov R'm	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Depreciation - Historic	6,210	7,630	8,924	10,902	12,951	17,045
Depreciation - Revalued (EPP)	28,034	30,279	32,779	37,225	41,558	47,729

Replaces Table 19

Generation Division R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Generation Technical Plan	4,346	7,082	7,901	7,238	7,223	7,196	13,901
New Build	21,877	37,279	52,565	64,000	52,731	32,435	38,398
RTS	5,944	3,909	2,883	660	-	-	-
Mpumalanga Projects (Refurb and Majuba Rail)	1,184	1,021	1,811	3,721	2,963	2,353	542
Future Fuel	1,096	1,900	4,654	5,616	4,948	6,836	7,720
Air Quality	-	93	124	516	1,139	1,028	2,368
Other	358	547	1,070	910	446	664	1,446
Total	34,805	51,832	71,009	82,660	69,449	50,512	64,375

Replaces Table 20

Transmission Capex R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Expansion	4,956	7,846	12,693	9,281	14,696	14,850	20,834
Refurbishment	667	744	812	883	1,235	1,505	1,529
Capital Spares	523	653	709	454	478	450	473
Land and Rights	127	293	569	681	839	750	804
OTHER	239	-	228	510	396	692	582
Production Equipment	76	73	98	69	62	66	63
Total	6,587	9,609	15,110	11,877	17,706	18,315	24,284

Replaces Table 21

Distribution Capex R'm	FY08/9	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Direct Customer+ Lands & Rights	2,033	2,104	2,726	3,432	3,712	3,518	4,625
Strengthening	1,979	2,263	3,252	3,420	4,785	6,193	7,315
Refurbishment and Reliability	858	1,179	1,602	2,380	2,595	3,060	3,101
Split Metering	0	90	156	324	398	553	436
Contineous Business Projects	272	253	194	236	284	395	260
Asset Purchases + Overhead Pool	683	501	724	913	1,010	1,174	1,392
Total Capital Excl Elec	5,825	6,390	8,654	10,705	12,784	14,893	17,129

Replaces Annexure A: Table of Assumption

Eskom's MYPD 2 Application (2010/11 to 2012/13)

Assumptions	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15
Total Sales (Dx and Exports) - Consensus	217,585	231,108	236,232	240,035	244,475	248,446
Growth	3.0%	6.2%	2.2%	1.6%	1.8%	1.6%
Energy Availability Factor (EAF)	84.7%	88.4%	88.7%	88.7%	88.6%	88.1%
Economic Assumptions						
CPI	7.2%	5.6%	4.6%	5.7%	6.0%	6.0%
PPI	2.3%	4.8%	5.0%	6.7%	7.5%	7.5%
GDP growth	-1.5%	2.3%	4.0%	3.5%	3.5%	3.5%
Human Capital Inflation	7.2%	5.6%	4.6%	5.7%	6.0%	6.0%
Prime Interest Rate	11.0%	11.0%	12.0%	13.0%	13.5%	14.5%
Exchange rate - Euro 1 = ZAR	11.62	11.9	12.83	12.35	12.8	12.72
Exchange rate - US Dollar 1 = ZAR	8.30	8.50	9.50	10.00	10.00	10.00
EURO PPI	-1.5%	3.0%	2.5%	2.2%	2.0%	2.0%
USA PPI	-2.0%	1.8%	2.0%	2.0%	2.0%	2.0%
Tax rate	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%
Oil \$/Barrel	70.00	85.00	95.00	110.00	125.00	125.00
Diesel price (inland Gauteng distribution)	7.80	8.50	9.10	9.60	10.15	10.15
IDC (general loans)	7.3%	9.4%	9.6%	10.0%	10.2%	10.2%

Annexure A: Table of Assumption

Eskom's MYPD 2 Application (2010/11 to 2012/13)

APPENDIX B: ESKOM'S BORROWING CAPACITY (FACTORS)

Shareholder support	Support as provided by the RSA Government through National Treasury appears to be at maximum capacity, R60bn sub-loan and R176bn guarantees (R26bn guarantee on existing Eskom debt and R150bn guarantees on new Eskom debt) – no apparent further scope to increase these levels although there is opportunity for Eskom to accelerate access
Financial sustainability of the borrower	Impacted by the overall business plan, stability in senior management, the extent of equity injections, tariff approvals, sustained ability to fund and execute the build plan as well as continued general Shareholder support
Ability to service debt (interest and principal)	Government guarantee alleviates pressure from a debt service perspective. Although the 'step-in' feature of the guarantee is facilitative, Eskom should retain financial flexibility to ensure independent debt service ability on an ongoing basis
Funding mix (tenor perspective)	Given the long-term nature of the assets being funded, it remains vital that Eskom secures an appropriate mix between short-term and long-term funding - requires a balance in order to ensure a sound liquidity position (current level of outstanding short term Commercial Paper of c. R10bn is assumed to be appropriate and leaves room for prudent urgent issuance if required)
Credit ratings	Credit Ratings form the basis of Eskom's ability to access debt markets. In addition to being dependent on Eskom's own financial and business profiles and performance, Eskom's credit ratings are also susceptible to movements in the RSA's sovereign ratings. Eskom's own rating could be downgraded as a result of a downgrade of the Sovereign rating, delays in securing funding and / or a delay in finalising the tariff model. A downgrade is likely to have severe implications on pricing and volume of debt achievable. Eskom should aim to maintain a minimum of Baa2/BBB credit rating to retain a safety margin above investment grade. Eskom's own credit ratings are not only a function of the Government support (explicitly and implicitly), but also of the company's capital a debt structure and its debt service cover ratios. In order to maintain the minimum required investment grade credit ratings, debt to equity and funds from operations ("FFO") to interest cover ratios should be maintained at levels of 1.5 times and 3 times respectively, or better.
Access to local bank markets	Whilst the local bank market has weathered the global financial crisis relatively well, local banks have been experiencing pressure on asset quality - remaining cautious on credit - single obligor limits are applied strictly (resulting in lower volume lending) and increased pricing remaining a constraint. Limited supply is expected from this market over the medium term
Access to international bank markets	A large number of international banks have been severely affected by the global financial crisis – accordingly, a number of international banks have scaled back exposure to emerging markets and to SA. Increased pricing and lower volumes remain constraints. Very limited capacity is expected from international banks in the medium term
Access to local debt capital markets	National Treasury's funding requirement for FY09/10 is expected to increase from R60bn to R100-120bn (increased spending is expected to continue over the next few years). In addition to this, the public sector (including Transnet, SANRAL, and various local authorities) has capital expenditure requirements in excess of R150bn over the next 5 years. Addressing the National Treasury

Eskom's MYPD 2 Application (2010/11 to 2012/13)

	funding shortfall is expected to contribute to a crowding-out effect, where the total infrastructural spend which requires funding will result in increased yields and limited supply over the medium term - even with a Government guarantee
Access to international debt capital markets	Majority of international markets have reopened to low investment grade issuers – the 2009 RSA USD sovereign bond well oversubscribed. Whilst these markets are expected to be able to provide some level of liquidity, pricing remains generally high and uncertainty remains over the depth of these markets - demand should be accessed as soon as practical (rating dependent)
Access to Developmental Financial Institutions (“DFI”) funding	A large number of initiatives are currently under way which could contribute to closing the funding gap. The timing of implementation, exact terms and conditions need to be considered to ensure a greater degree of certainty on these funding options
Retail sources of funding	Retail bonds are being used on a very limited basis – a large administration requirement and related costs with a low volume benefit. Considerable marketing is required along with a positive marketing message in order to attract consumer interest and investment in retail Bonds. It is anticipated that total consumer demand for Eskom retail bonds would be limited to c.R50m per annum
Single obligor limits	All lenders/investors apply lending/investment limits to any single name credit, and also to rating categories. As Eskom continues to raise debt funding, these single obligor limits will gradually become utilised and eventually exhausted – this is expected to become a challenge particularly in FY12/13 or beyond.
Regulation 28	In terms of Regulation 28, pension funds are allowed to invest up to 20% in non-government guaranteed bonds issued by Eskom – an increase in this limit could potentially result in an increased capacity for Eskom debt in the SA fixed income market
Historical vs. future sources of funding	Whereas Eskom has in recent history primarily availed of the local debt capital markets in order to raise debt funding, the revised funding plan necessitates Eskom to consider a much wider network (local and internationally) of funders and lenders in order to meet the funding needs. Foreign currency related funding is more expensive once it has been hedged back to Rand and absorbs bank lines for those hedging products. Whilst the local debt capital market is expected to remain an integral part of the funding plan, Eskom is specifically considering the availability of funding from DFIs) and Export Credit Agencies (ECAs).