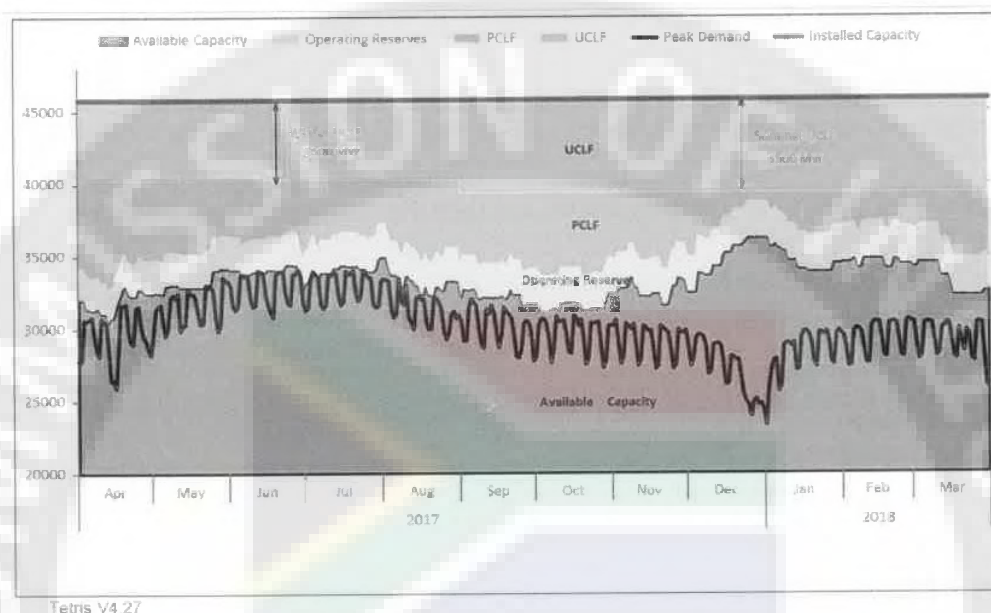


- **Maintenance-effectiveness assessments** – As part of continuous improvement in maintenance practices in Generation, the Maintenance Effectiveness Assessment (MEA) will comprise of the review of the maintenance work planning, scheduling and execution practices for Outage and On-line maintenance tasks at the respective power stations. In addition, Generation will continue to ensure the effective implementation of and adherence to the MS&MW (Maintenance Strategies and Manage Work) Project requirements.
- **Optimisation of maintenance planning** – Continue use of Tetris, a visual planning tool, to manage planned maintenance against capacity outlook (Exhibit 69).

EXHIBIT 69: CAPACITY OUTLOOK FOR APRIL 2017 TO MARCH 2018

This is under constant review and is subject to change

Generation will execute 463 outages over the next five years (Exhibit 70). This will significantly improve the integrity of Eskom's asset base and lead to long-term recovery of asset availability.

EXHIBIT 70: SUMMARY OF FIVE-YEAR OUTAGE PLAN

1 Outages longer than seven days reflected as at 15 February 2017

12.5.2 Maintenance optimisation through advanced analytics

Advanced analytics is the autonomous or semi-autonomous examination of data or content using sophisticated techniques and tools, typically beyond those of traditional Business Intelligence (BI), to discover deeper insights, make predictions, or generate recommendations.

Advanced-analytics techniques include those such as data/text mining, machine learning, pattern matching, forecasting, visualisation, semantic analysis, sentiment analysis, network and cluster

analysis, multivariate statistics, graph analysis, simulation, complex event processing and neural networks.

The differences between advanced analytics and traditional BI are shown in Table 42.

TABLE 42: ADVANCED ANALYTICS VERSUS BUSINESS INTELLIGENCE

	Business intelligence	Advanced analytics
Current approach to data analysis vs forward-looking approach	Examine historical data, extrapolate trends from past behaviour	Model the effects of likely future events
Shift to algorithm-based data analysis	Solve problems with known relationships	Looks for complex patterns via algorithms; draw insight from large quantities of unstructured data
Software and infrastructure requirements to enable change	Uses traditional software (Excel, statistical software, programming)	Requires advanced software that can process predictive analytics, data mining, location intelligence
Change in skills and capabilities required	Traditional IT skills used for analysis	Requires highly skilled data scientists and architects

Generation aims to focus on leveraging advanced-analytics capabilities in the areas of **predictive maintenance** and **energy efficiency**.

Predictive maintenance in Generation would entail the following:

- Using asset health and condition data for alerts on early fault and failure detection
- Utilising fault and failure predictions to:
 - Enable proactive optimisation of the maintenance plan to maintain components at risk before failure, adjusting the frequency within the limits of original equipment manufacturer (OEM) and insurance requirements
 - Optimise spare-part purchase orders and inventory
 - Create more accurate asset life modelling (life-cycle management)

This will require the business to create user interfaces to monitor and track the failure rate of assets.

The potential operational impact will be to reduce UCLF and improve reliability of assets.

For predictive maintenance, Generation will validate potential value creation and prioritise the main areas, which could include the following (subject to validation):

- **Year 1**
 - Completing live predictive models for mills at Majuba and commencing with plant data clean-up effort across additional components
 - Rolling out predictive maintenance and adapting the methodology developed at Majuba mills across other stations
- **Year 2** – Rolling out boiler concepts across high-impact stations and completing a proof-of-concept test on other potentially addressable items (e.g. mills, boilers, draught plant and feed water – all contingent on getting the data required)
- **Year 3** – Rolling out all maintenance initiatives across high-impact stations
- **Year 4 and 5** – Embedding predictive-maintenance practices in the business and identifying further opportunities to increase savings

Thermal efficiency in Generation would entail the following:

- Using advanced analytics to identify the factors (e.g. steam-cycle settings, condenser design and heat-spray water) that drive heat-rate efficiency difference between average and top-decile performance
- Enable training for power station personnel in EtaPRO to enable improved performance monitoring

The potential operational impact will be to improve steam-cycle efficiency and the total energy sent out of the power station.

In addition, Generation will look to drive heat-rate savings via increased discipline in using EtaPRO. In order to deliver on these opportunities, Generation will rely on the following enablers:

- Minimal disruption to outage duration and scheduling
- No or minimal cost reduction to heat-rate-related technical-plan projects
- Disciplined capturing of accurate and reliable data, sourced from the plant DCS, available in Enterprise Historian
- Investment in advanced-analytics systems and dashboards deployed to the business and integrated into the day-to-day business processes
- Training and development of Operating, Maintenance and Engineering staff to ensure effective utilisation of these tools
- Dedicated technical support from the Analytics Centre of Excellence (ACE), and a team of development personnel to develop and test the required advanced-analytics dashboards and systems
- A dedicated identified engineering team from PEIC to focus on each system targeted to develop implementation criteria and quantify expected results
- An identified site champion to drive a cross-disciplined execution and monitoring plan related to identified KPIs

12.5.3 Generation life expectancy and fleet renewal strategy

Eskom is moving from age-based end of life to fleet renewal based on economic feasibility. The fleet renewal strategy will study the feasibility of extending the life of coal fleet stations based on:

- Economic viability of the renewal
- All relevant legal requirements
- Regulatory requirements
- COP21 commitments
- Technical requirements

12.6 Production Planning

The purpose of production planning is to optimise Eskom production on a power station basis to meet Eskom demand in the short to medium term. This is done whilst maintaining least-cost dispatch given the known constraints, and legal and environmental policies. Constraints may include the following:

- Emissions
- Water shortages
- Coal shortage or surplus
- Network stability

- Plant technical capabilities

The production plan is used to provide the following:

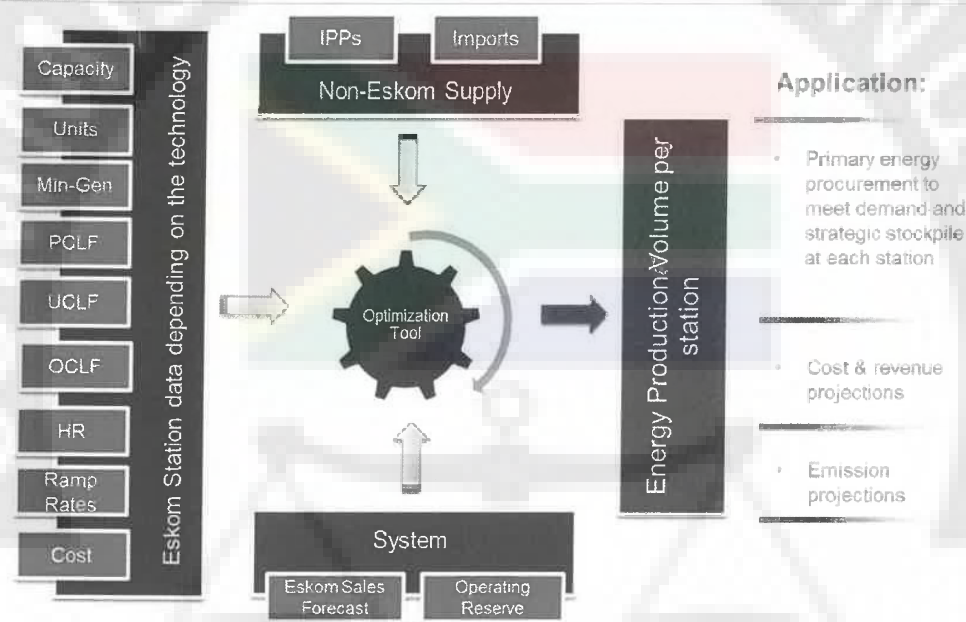
- The expected production level at each station, to establish cost and revenue projections
- The expected fuel requirements, to ensure adequate resourcing

Least-cash dispatch is mainly derived from primary-energy cost (coal and diesel cost). The process to prioritise stations is undertaken as follows:

- Koeberg is always dispatched first when available, owing to the operational requirements for nuclear
- Hydro plants are dispatched based on water-release agreements between Eskom and the Department of Water Affairs
- The remaining available units are dispatched from the cheapest to the most expensive

The production-planning methodology is shown in Exhibit 71.

EXHIBIT 71: PRODUCTION PLANNING METHODOLOGY



The production plan rests on the following assumptions:

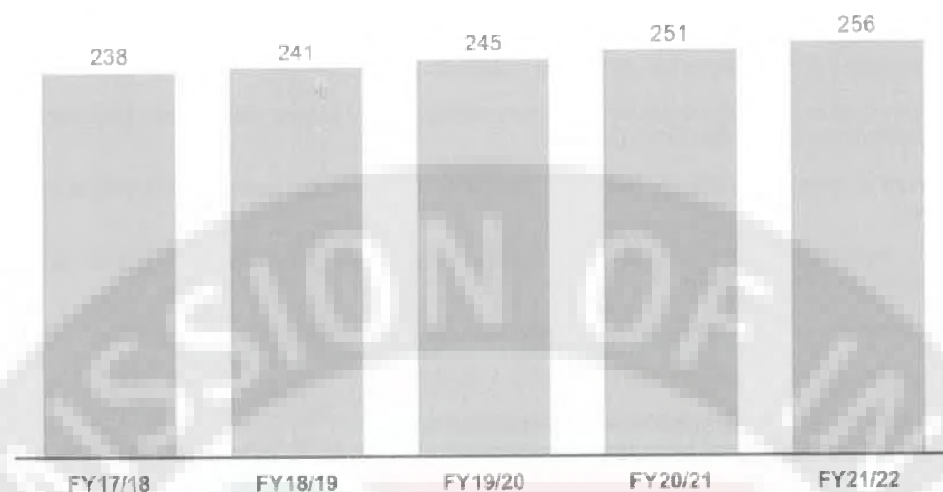
- The Eskom energy forecasts for the next five years (Exhibit 72).
- IPPs included up to Bid Window 4.5 with cost not more than 77c/kWh. This includes committed co-generation but excludes base-load coal, gas and new co-generation. Total energy for IPPs is up to 16 TWh by FY2019/20.
- Ingula units are assumed to be in commercial operation.
- Medupi and Kusile commercial operation dates are as per the schedules communicated by GCD

Generation

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EXHIBIT 72: FIVE-YEAR ENERGY FORECAST

TWh



The production plan is based on the currently approved 60-year life of power stations except Komati, Port Rex and Acacia. These three stations reach their end of life beyond the Corporate Plan period.

The production plan indicates that there is excess capacity (approximately 3 000 MW) that is not required from FY2018/19 onwards. This has been modelled in the production plan, and results in the ramp down of two assets. The business will develop a plan to ramp-down the power stations during the course of FY2017/18, taking into account operational, socio-economic and environmental considerations.

The results of the production plan are as follows:

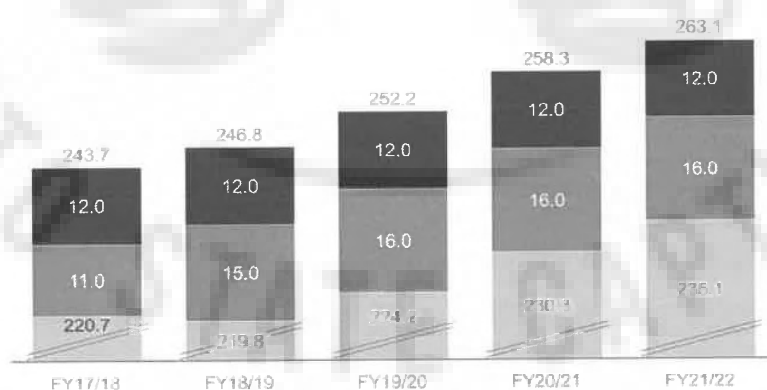
- Total coal-fleet EUF declines from 83% in FY2017/18 to 71% in FY2021/22.
- Total system EUF declines from 72% in FY2017/18 to 64% in FY2021/22.

The projected overall energy supply for the five-year period is shown in Exhibit 73

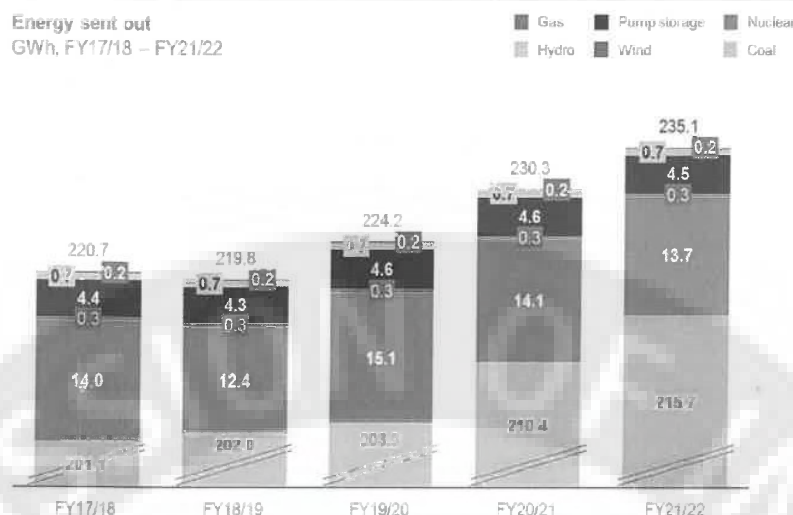
EXHIBIT 73: PROJECTED OVERALL ENERGY SUPPLY

Projected overall energy supply, including pumping energy
TWh, FY17/18 – FY21/22

Imports IPPs Eskom



Thus, Eskom plans the following production mix for its fleet in Exhibit 74 below.

EXHIBIT 74: ESKOM PRODUCTION MIX FY2017/18 – FY2021/22

Merit-order dispatch is mainly derived from primary-energy cost (coal and diesel cost). Thereafter, through an iterative process with ISEP, the least-cash dispatch will be determined to include opex and capex reductions at the power stations that are ramped down.

12.6.1 Planning Assumptions

In order to execute this plan, the following assumptions are required to hold true:

- Minimum-emission-standards requirements will be postponed. However, the DEA can only legally consider postponement in 2019 as it is done for a period of 5 years at a time.
- The requirement for FGDs on older plants is likely to be extended beyond 2025, as long as Eskom complies with existing commitments.
- Workforce numbers are contained without compromising the required skills in appropriate areas.
- The least-cash dispatch plan (in terms of Primary Energy, opex and capex) will be based on the outcomes of the Integrated Strategic Energy Plan (ISEP) as well as the production plan in order to develop an all-in cost approach.

12.7 Nuclear Power Generation

Koeberg is now in its 33rd year of safe operation. The focus remains on producing world-class nuclear energy through performance excellence and safety. Koeberg's five-year vision is to:

- Ensure the highest levels of Nuclear Safety
- Achieve 35-day refuelling outages
- Reduce Forced Loss Rate (FLR) to less than 1%
- Prevent Lost Time Injuries

There are four priorities around which deliverables have been developed and for which action follow-through processes have been set up and resourced:

Nuclear Safety: Koeberg continues to drive down the number of significant human-performance-related events as measured by station-clock resets, and employs the philosophy of ALARA (as low as reasonably achievable) for the reduction of collective radiation exposure.

Industrial Safety: The focus of this priority is to build on the existing robust safety, health and environment (SHE) management systems. This priority is measured by lost time injury rate (LTIR)

Plant Reliability: Koeberg monitors the FLR as a measure for this priority. Key deliverables are to implement an Equipment Reliability Indicator to help monitor overall equipment performance, implement the revised maintenance programme based on best industry practice; improve systems and component engineering monitoring and interventions; and implement a revised strategy for spares management. The plant reliability has been at the best level in the history of the station over the last two years.

Outage Performance: Koeberg has three main deliverables for the improvement of outage performance, namely:

- Maintain a long-term outage plan which caters for work-scope optimisations and plant reliability
- Develop stable, reliable plans for outages (e.g. planned linking and updating) and on-line work control, including resource planning which utilises a single planning tool
- Implement relevant technology aimed at outage reduction for efficient, effective and safe use on the plant

12.8 Financial and operational targets

12.8.1 Financial Targets

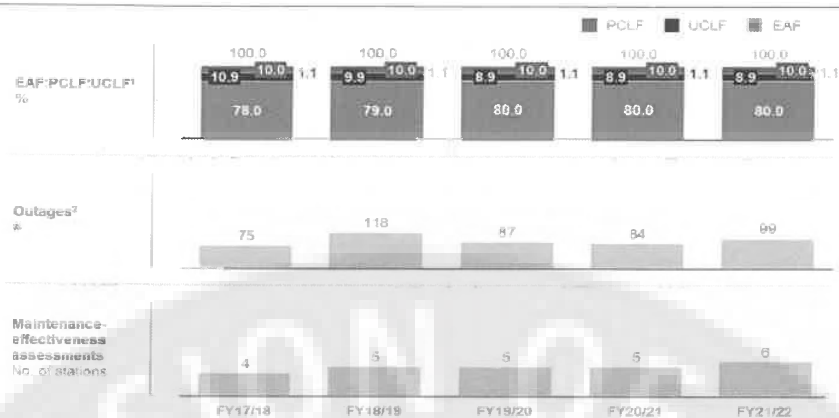
Financial targets are shown in Exhibit 75.

EXHIBIT 75: FINANCIAL TARGETS FY2017/18 – FY2021/22



12.8.2 Operational Targets

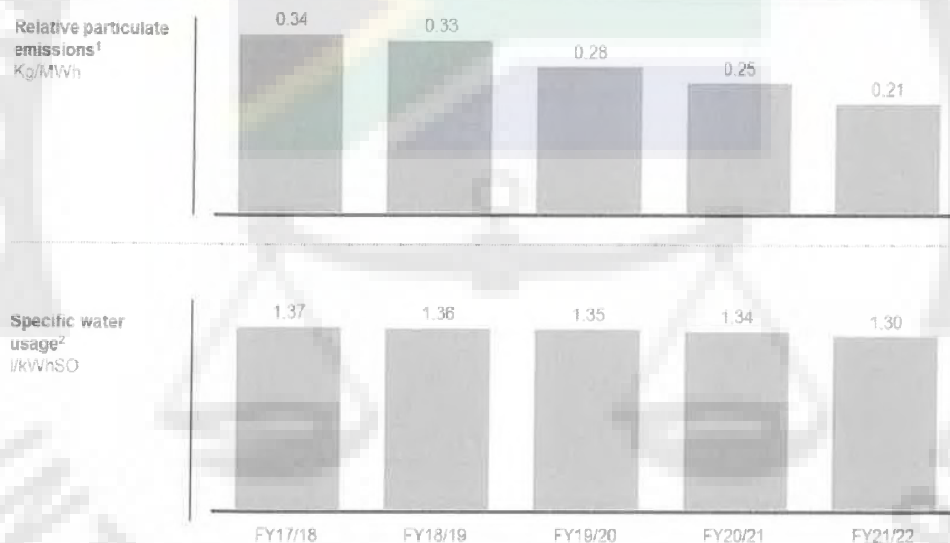
Operational targets are shown in Exhibit 76.

EXHIBIT 76: OPERATIONAL TARGETS FY2017/18 - FY2021/22

1 Because of the extended inoperability of Duvha Unit 3, the resultant lost energy and capacity will be excluded from the performance reporting from FY18/19 onwards until Duvha Unit 3 is returned to service.
 2 Outages are for > 7 days.

12.8.3 Environmental/regulatory compliance

- As part of being a responsible corporate citizen, Generation implements all safety requirements and respects its wider environmental responsibility while continuously taking steps to reduce any negative impact on the environment. (Exhibit 77)

EXHIBIT 77: ENVIRONMENTAL/REGULATORY COMPLIANCE TARGETS FY2017/18 - FY2021/22

1 The annual target is dependent on continued maintenance, effective operation of emission-abatement equipment and the retrofitting of Tutuka Fabric Filter Plant.

2 The annual target is modified based on actual load factor and rainfall figures at year end.

Emissions

- A revised Air Quality Improvement Plan (Emission Reduction Plan) was approved by Exco and the Social Environmental Sustainability (SES) Committee. The plan will ensure that Eskom meets

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commitments made to the DEA in the postponement application, and to the World Bank regarding funding commitments.

- Particulate-emissions performance has shown a steady improvement since February 2016. This is due to the general improvement from several power stations, owing to improved maintenance and operational controls.

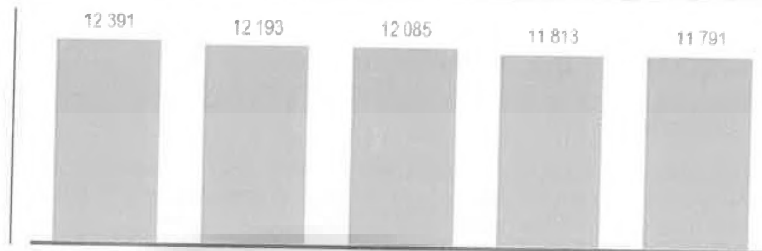
Water

- Excessive leaks on some systems, water wastage, and the contamination of water with ash and oil which impacts on the recovery of water for reuse.
- In some cases, half-station shutdowns or long outages are required to address major leaks, modifications or repairs.
- Climate conditions (dry, hot weather) will continue to impact on water usage. High temperatures, high evaporation and no rain will affect all wet cooled stations. The quality of water received may deteriorate due to the drought and impact on water use.
- All power stations have submitted water implementation plans (which cover short and long-term actions), of which the intent is to focus on actions to reduce water use and ensure compliance. More focus on implementation will lead to improved water consumption. Progress against the plans will be closely monitored.

12.8.4 Human resources

Eskom recognises the need for fundamental operational changes if it is to provide an affordable, sustainable electricity supply to all South Africans. Additionally, there have to be changes to the operating model, whilst delivering credibility and financial sustainability in the long term. Eskom's Corporate Plan is grounded in a DTC paradigm. Underpinning the DTC paradigm are two important maxims: firstly, cost optimisation and, secondly, moderate tariff increases.

Cost efficiencies of approximately 8–12% off the current cost base can be achieved by lowering coal-cost escalations and reducing headcount. Generation division will reduce manpower from 12 391 as at November 2016 to 11 791 by FY2021/22. Human-resource targets for Generation division are shown Exhibit 78.

EXHIBIT 78: EMPLOYEE HEADCOUNT TARGETS FY2017/18 – FY2021/22Staff numbers
FTEs¹Employee LTIR
12mm¹ As per HR plan**12.9 Risk and treatment plans**

There are currently no Priority 1 risks in Generation

13 Primary Energy Division

13.1 Summary of the operational plan

13.1.1 Overview

PED's mandate is to safely and sustainably identify, develop, source, procure and deliver the necessary amounts of primary energy (coal, water and limestone) of the required quality to Eskom's power stations, at the right time and at optimal cost.

13.1.2 Financial and operational highlights FY2016/17

PED achieved the following financial and operational highlights in FY2016/17:






- As set by the Corporate Plan of FY2016/17, PED is expected to attain savings of R3.2 billion in coal costs during FY2016/17. These savings result from a projected coal unit cost of R391/tonne against a target of R417/tonne, and a year-end forecast escalation of 3%, four times lower than the target of 12%.
- PED managed to contain water costs. As per the latest estimate for FY2016/17, water costs are expected to be R1 850 million against the budget of R2 232 million.
- PED's continuous improvement on coal qualities, in an effort to reduce coal-related load losses, has yielded positive results. The year-to-date (YTD) coal-related other capability loss factor (OCLF) figure is 0.27% against a target of 0.68%.

13.1.3 Objectives and five-year targets

For the planning period, FY2017/18 to FY2021/22 Eskom will leverage its coal-purchasing position to improve performance of the coal industry, whilst ensuring its transformation. Five strategic objectives have been developed to account for changes in Eskom's operating and financial environment. These objectives and targets are shown in Exhibit 79.

PED has set targets for the coal-supply profile over the next five years (Exhibit 79).

EXHIBIT 79: PED OBJECTIVES

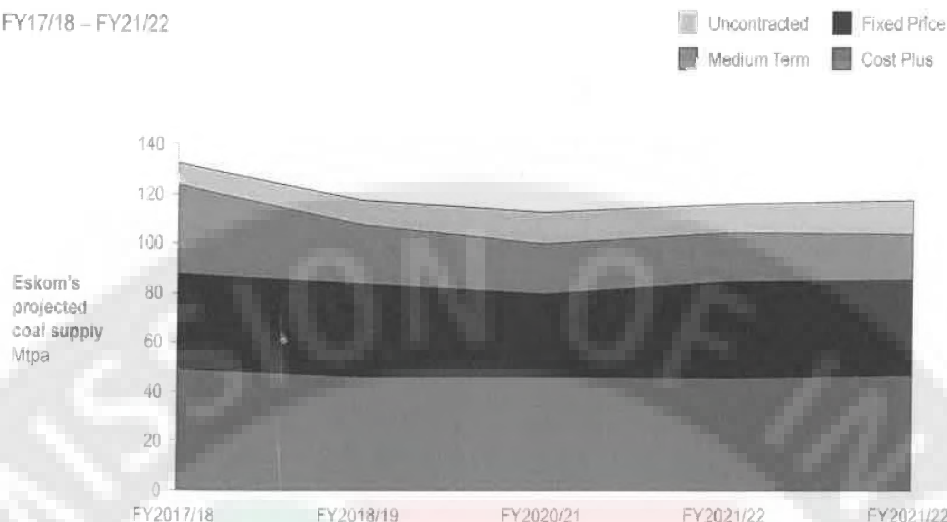
	Objective	Description
 Financial sustainability	Attain a delivered cost of coal reduction	<ul style="list-style-type: none"> Target a weighted average coal cost and escalation to achieve savings through identified initiatives
 Generation cost of production	Ensure optimal dispatch of coal-fired power stations	<ul style="list-style-type: none"> Dispatch coal plants on least-cost basis
 Security of supply	Achieve an acceptable balance of security of coal supply and risk exposure	<ul style="list-style-type: none"> Enter into a balanced portfolio of long- and short-term contracts with built-in flexibility on tenure, volume, quality, and logistics
 Logistics optimisation	Optimise logistics to drive cost efficiency while delivering the road-to-rail migration program	<ul style="list-style-type: none"> Deliver on Shareholder rail targets Reduce overall transport cost/ton/km of coal by optimizing routes, mode and rate Implement technology, e.g. real-time logistics management system
 Market transformation	Contribute to Eskom's transformation objectives	<ul style="list-style-type: none"> Support Government and Eskom's transformation objectives: <ul style="list-style-type: none"> Increase coal spend on black-owned¹ companies Use Eskom's buying power to shape the coal market

¹ 51% black-owned companies

PED has set targets for the coal-supply profile over the next five years (Exhibit 80).

EXHIBIT 80: SUPPLY PROJECTION FY2017/18 – FY2021/22

FY17/18 – FY21/22



Contracted/secured

- On average 89% of the coal supply for the next five years has been contracted.
- Eskom is fully contracted at Lethabo, Matimba, Medupi, Kendal, Duvha, Matla and Tutuka for the next five years.

PED will achieve its objectives by:

- Creating per-mine view status on all cost-plus mines improvement initiatives and developing plans for new prioritised initiatives
- Recapitalising overdue geographic expansion of the cost-plus mines to access remaining contracted reserves, and enabling contract extensions and increasing production
- Optimising coal-contract mix by upgrading the coal-sourcing model and creating a total cost-of-ownership model for each coal-fired power station, including coal-quality specifications
- Negotiating new coal-purchase contracts in line with the NERSA cost-of-coal determination and ensuring an optimal balance between volumes flexibility and lowest price possible
- Optimising logistics to achieve the optimal balance between minimal transportation costs and secure coal delivery

13.1.4 Risks

- Capital burden on Eskom driven by cost-plus mines contracts extension to achieve the lowest cost of electricity
- Business continuity and continuous implementation of cost-of-coal improvement initiatives in the event of leadership and management changes
- Higher development costs of new coal mines. Limited volume improvement at cost-plus mines. Bulk of the savings are from cost-plus mines
- Increase in Eskom's coal costs above MYPD3 allowance
- Uncertainties in the production plan by variance in power contributions by IPPs

13.2 Divisional Overview

13.2.1 Mandate

PED's mandate is to safely and sustainably identify, develop, source, procure and deliver the necessary amounts of primary energy (coal, water and limestone) of the required quality to Eskom's power stations, at the right time and at optimal cost.

Key responsibilities and activities of PED are:

- To meet the primary-energy requirements of the power stations over their full lifecycle at optimal cost
- To secure future primary-energy requirements and associated logistics by working with relevant stakeholders and government departments at a national level to ensure that adequate resources (coal, water and limestone) are available and accessible for power generation
- To source coal at the quality required to run the power stations efficiently. This will be achieved through effective contract negotiation, procurement and quality management or coal beneficiation, thereby minimising coal-related partial-load losses.
- To effectively manage and optimise the supply-chain operations and logistics solutions for the safe, environmentally conscious and efficient delivery of primary energy, as required at each of the power stations
- To ensure that the necessary water infrastructure is developed and current infrastructure and resources are optimally utilised through collaboration with government and other stakeholders

13.2.2 Regulatory environment

To fulfil its mandate, PED must work under various regulatory frameworks (Table 43):

TABLE 43: CURRENT REGULATIONS ASSOCIATED WITH PRIMARY ENERGY

Environmental, Health and Safety	Economic development
National Environmental Management Act 197 of 1998	South African Mining Charter
National Water Act 36 of 1998	South African Coal Policy (under development)
Occupational Health and Safety Act (No 85 of 1993)	Prevention and Combating of Corrupt Activities Act 12 of 2004
Environmental Conservation Act 73 of 1989	Preferential Procurement Policy Framework Act 5 of 2000
Mine Health and Safety Act 29 of 1996	
Road Transportation Act 74 of 1977	
National Road Traffic Act No 93 of 1996	
State Land Disposal Act 48 of 1961	

PED should also evaluate and consider implications of the following potential regulations shown in Table 44:

TABLE 44: CURRENT REGULATIONS ASSOCIATED WITH PRIMARY ENERGY

Environmental, health and safety	Economic development
National Environmental Management Act 197 of 1998	South African Mining Charter
National Water Act 36 of 1998	South African Coal Policy (under development)
Occupational Health and Safety Act (No 85 of 1993	Prevention and Combating of Corrupt Activities Act 12 of 2004
Environmental Conservation Act 73 of 1989	Preferential Procurement Policy Framework Act 5 of 2000
Mine Health and Safety Act 29 of 1996	
Road Transportation Act 74 of 1977	
National Road Traffic Act No 93 of 1996	
State Land Disposal Act 48 of 1961	

PED should also evaluate and consider the implications of potential regulation, shown in TABLE 13.2

TABLE 45: POTENTIAL REGULATION

Potential regulation	Current status
Mineral Petroleum Resources Development Act	The finalisation of the Mineral Petroleum Resources Development Act is required to understand the operating environment for PED and the coal suppliers.
National Coal Policy	Eskom, with other industry stakeholders, has provided input in developing the National Coal Policy. The finalisation of this policy is essential for incentivising investment in the coal mining sector.
National Environmental Management Act, Regulation GN 147	The regulation requires the mines to cost for annual rehabilitation. A potential increase in closure liability exists for the cost-plus mines owing to future residual impact of water treatment and subsidence.

13.3 Performance review FY2016/17

13.3.1 PED financial highlights

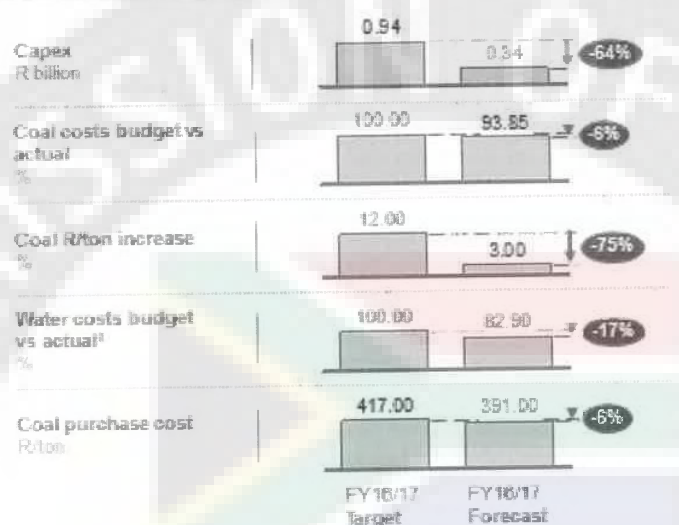
In spite of a challenging operational environment with rising coal costs and underperforming mines, PED has had significant achievements in FY2016/17 (as at the end of the third quarter), including the following:

- PED managed to contain coal cost, resulting in a YTD coal unit cost of R381/tonne against a target of R414/tonne. Based on the year-end latest estimate of R391/tonne, or R3.2 billion of expected coal-cost savings, the year-on-year escalation will be 3%. This is four times lower than the Corporate Plan target of 12%. This is a result of:
 - Price negotiations for coal purchases – The average YTD purchase price was lower than YTD budget by R33/tonne, even though the purchased coal volume exceeded the YTD budget by 4.7 million tonnes (Mt).
 - Higher-than-expected volumes of coal supplied by four out of five cost-plus mines, with a year-end forecast of 43.1 Mt against the 40.9 Mt budget. This has resulted in an overall unit cost-savings forecast on cost-plus mines against Corporate Plan targets.
 - Since the start of April 2016, the use of expensive stations has been reduced, resulting in a burn mix variance. The YTD burn mix variance has improved by R290 million with a year-end projection of a favourable variance of R179 million.
- PED successfully negotiated new contracts at or below the NERSA target.

- A new tool for contract negotiations has been implemented to provide the fuel-sourcing team with new levers and targets to use when negotiating prices.
- PED managed to contain water costs. According to the latest estimate for FY2016/17, water costs are expected to be R1 850 million against a budget of R2 232 million. This achievement is mainly due to savings on Waste Discharge Charge and O&M.
- PED is updating the long-term planning model, to be based on the total-cost-of-ownership principle which is currently being used to identify additional initiatives to achieve savings.

FY2016/17 financial performance is shown in Exhibit 81.

EXHIBIT 81: FINANCIAL PERFORMANCE AND PRIMARY ENERGY COSTS FY2016/17



¹ The under-expenditure is due to savings for not incurring the Waste Discharge Charge and O&M.

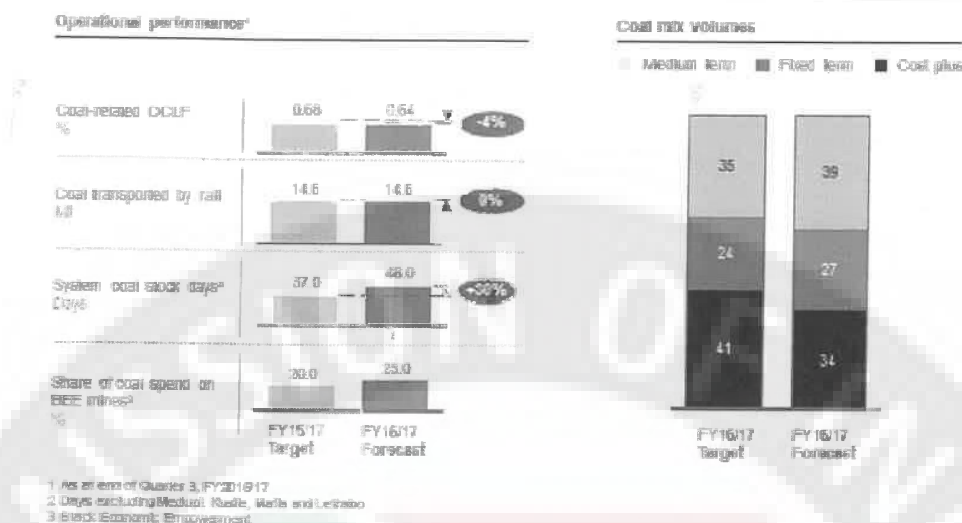
13.3.2 PED operational highlights

PED achieved the following operational highlights during FY2016/17:

- PED's continuous improvement in coal qualities, in an effort to reduce coal-related load losses, has yielded positive results. Coal accounted for only 0.27% OCLF as at the end of December 2016, against a target of 0.68%.
- A joint task team between Eskom and Transnet has been established to create opportunities to increase rail transportation and develop business cases per power station in order to reduce rail transport cost over the short and long term.
- Critical water transfers are on target and the recent rainfall is having a positive impact on dam levels.
- The Vaal River Eastern Sub-system Memorandum of Agreement with the DWS was extended until 31 March 2019.
- There were higher-than-expected volumes supplied by cost-plus mines, with a year-end forecast of 43.1 Mt versus the 40.9 Mt budget. Volume increases were largely due to cost-plus initiatives successfully implemented at three out of five cost-plus mines.
- The risk of water-supply restrictions to Eskom's power stations because of the drought conditions provided an opportunity for Eskom to put in place treatment plans to manage water demand and water supply.

The FY2016/17 operational performance is shown in Exhibit 82.

EXHIBIT 82: PED OPERATIONAL PERFORMANCE AND COAL MIX



13.3.3 Challenges

In the recent past, PED has faced challenging external and internal conditions. These include:

- Limited investment by mining houses in new coal mines, which resulted in reduced competition, mainly owing to:
 - The uncertainty regarding the promulgation of Minerals and Petroleum Resources Development Act and the associated Mining Charter
 - Limited access to coal-mines project funding owing to the poor outlook of the commodity sector, and coal seen as 'dirty' financing
 - Stricter environmental and safety requirements
 - Increasing coal-mining cost inflation above the general CPI, driven by the weak Rand and labour costs
- The shareholder road-to-rail target is at risk for FY2016/17 owing to current challenges regarding strategies around infrastructure and future stranding of assets. However, Eskom and Transnet Freight Rail (TFR) are working together to negotiate and strategise ways to provide solutions.
- Water restrictions were imposed to the domestic (15%) and agricultural (20%) sectors in August 2016. Actual water-use reduction is improving but has not achieved its target to date
- The risk of water-supply restrictions to Eskom's power stations because of drought conditions was successfully downgraded from Priority Level 1 to Priority Level 2

13.4 Aspirations and objectives

13.4.1 Objectives

PED will work toward the following objectives over the projected period:

- Financial sustainability** – Attain a delivered cost of coal in line with NERSA's MYPD determination and manage year-on-year escalation in the total cost of delivered coal

- **Generation least-cost dispatch of production** – Ensure optimal dispatch of coal-fired power stations on least-cost merit order
- **Security of supply** – Achieve an acceptable balance between security of coal supply and risk exposure, ensuring that Generation's burn plan is met and prescribed stockholding is maintained.
- **Logistics optimisation** – Optimise road-and-rail-transportation operations to drive cost efficiency while delivering the road-to-rail migration program.
- **Market transformation** – Leverage Eskom's buying power to enable coal-market entrance by emerging black miners and to drive Eskom's transformation objectives.

13.4.2 Assumptions

Key assumptions made in the completion of the operational plan relate to the key factors that may influence achievement of objectives and delivery of projects/initiatives:

Cost-plus mines

- Kriel cost-plus contract will be extended beyond December 2019.
- Eskom will re-capitalise cost-plus mines on individual viable business cases. This is the biggest lever to reduce the overall system unit cost of coal.

Uncontracted coal

- Future logistics contracts will continue on terms and conditions similar to those of existing contracts
- Least-cost production planning and dispatch for the coal fleet will be sustained.

Rail

- The Majuba 68 km rail project and power-station yard optimisation will be completed by the end of FY2017/18.
- Majuba excluded, all rail operations will continue with the existing infrastructure, i.e. no mechanisation or conversion from containerised solution to standard wagons.
- All unknown coal for the above stations can be sourced close to existing rail sidings.
- TFR and Eskom will implement a contract from 1 April 2017 with no minimum-volumes penalties, i.e. no take-or-pay clauses.
- Annual escalations of the TFR rates will be limited to the NERSA-determined escalation increases. This will also apply to the service providers at rail sidings.

Water

- Drought-contingency water-supply plans (e.g. mine-water reuse) have not been budgeted for during MYPD3, which will increase raw-water tariffs when implemented. The mine-water projects will be budgeted for in the MYPD4 application.
- Water tariffs introduced by the National Water Pricing Strategy 2 cannot be quantified in time for MYPD4 application owing to insufficient information from the DWS.

Production plan

- All coal volumes, targets and savings are based on the production-plan scenario ramping down two power stations.

13.4.3 Enablers

The identified savings target can be achieved through the following key enablers:

- Fast-tracking the approvals of capex business cases
- Resourcing and up-skilling the analytical and negotiation teams
- Negotiating a contract extension for the existing cost-plus agreements, where financially viable
- Agreeing and setting internal targets with regard to the return and transformation of the existing cost-plus contracts
- Negotiating/implementing alternative funding for cost-plus capex, and allocating capex budgets in the interim until alternative funding is put in place
- Utilising Eskom's stockpiles and excess electricity capacity as leverage for coal-supply negotiations

The latest Eskom Coal Strategy will ensure that PED is able to deliver on its objectives.

Successful implementation of this strategy will deliver Eskom's financial sustainability. The core objective of the Coal Strategy is achieving coal cost in line with NERSA's determination for base costs and cost escalation.

The following supporting enablers have been identified, in four different categories, to ensure the sustainability and success of the overall Eskom Coal Strategy:

Governance

- Develop coal-cost value-tree drivers and identify the stakeholders responsible for delivering the strategy. KPIs for end-to-end optimisation must be included in compacts across the PED business.
- Change cost-plus incentive mechanisms to support volume delivery and alignment with Eskom objectives
- Establish a steering committee that will meet quarterly to oversee the implementation of the strategy. This steering committee will be led by the PED Senior General Manager.
- Develop a clear decision-making framework that includes criteria for long-term strategy and objectives
- Establish a single steering committee for all coal-procurement decisions
- Establish clear reporting lines between the Group Chief Executive (GCE), GE and CFO to ensure efficient and transparent decision-making
- Report insights from annual strategy reviews to relevant committees to inform changes, e.g. Board Tender Committee

Process

- Adopt newly developed master coal-supply agreements for fixed-price and cost-plus contracts based on equitable risk sharing
- Enable coal testing at site for payment purposes
- Ensure that coal suppliers adhere to contractual agreements (volumes, qualities and prices) through proactive legal action and hold mine management to account

Systems

- Create a system-wide PED KPI dashboard to ensure oversight and tracking
- Enable coal testing at site for payment purposes
- Create an Eskom database for coal resources to enhance market intelligence
- Develop a mine-cost database which benchmarks production costs for different mine types
- Create an Eskom-owned logistics cost model

- Implement an automated management-information system to manage and control the coal-supply value chain from mine to power station boilers
- Implement the total-cost-of-ownership coal-supply optimisation model

People

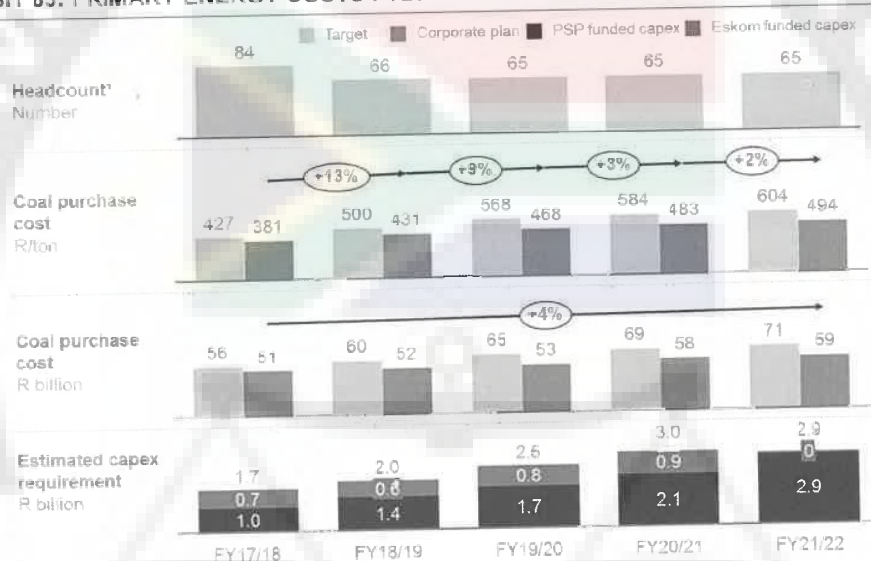
- Review and update the PED business model and organisational structure in line with new objectives
- Conduct PED skills-gap analysis to determine skills required for successful implementation of strategy
- Ensure an optimal PED structure that includes the required competencies to deliver on required initiatives

13.5 Financial and operational targets

13.5.1 Financial targets

Financial targets for the next five years are shown in Exhibit 83.

EXHIBIT 83: PRIMARY ENERGY COSTS FY2017/18 – 2021/22



13.5.2 Capex

Historically, Eskom has benefited from low-priced coal that came from cost-plus mines. These mines are close to power stations and hence logistics costs are minimal. However, most of these mines require re-capitalisation to match the extended life of the power stations, to return coal production to the contractual volumes, and to meet the latest power-station coal-quality specifications.

The approach of the Eskom Coal Strategy is to optimise value from the existing cost-plus mines by:

- Providing the required capital to cost-plus mines where a clear positive business case for Eskom's long-term coal cost exists
- Implementing initiatives to maximise the volumes of cost-plus mines while minimising unit costs

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- Ensuring the optimisation of any approved capital (e.g. capital scrubbing and timeous delivery of projects)
- Ensuring that increased cost-plus mine volumes also reduce the amount of short/medium-term coal and the overall Eskom coal bill.

Even without the required capital, PED has focused on cost-plus mine improvements which have yielded positive trends in production volumes. These improvements are limited and require further capex to be scaled up. The required capex has not been budgeted for. Alternative funding mechanisms will be investigated.

13.5.3 Operational targets

PED's operational targets for the next five years are shown in

EXHIBIT 84: COAL MANAGEMENT, OPERATIONAL PERFORMANCE FY2017/18 - FY2021/22



¹ Days excluding Medupi, Kusile, Mafika, and Sishulu ² Black Economic Empowerment excluding Bhebe

Note:

- PED capital requirements are not included in the Eskom capital budget. These need to be funded separately.
- All uncontracted coal is assumed to be sourced from 51% black-owned mines.

13.5.3.1 Coal-related OCLF (Coal quality)

PED has improved the coal-contract negotiations, contract management and Coal Supply Agreements to transfer the risk of quality of supply to the suppliers. The latest Coal Supply Agreement master template has stricter coal-quality remedial clauses which enable Eskom to randomly verify pre-certified coal results and physically reject the coal or apply severe price adjustment remedies.

Going forward, Eskom would like to migrate from coal pre-certification to coal-quality determination at the power stations. PED has engaged Research, Testing and Development to design real-time processes and systems to sample and analyse every single coal consignment delivered by truck upon arrival at the power stations before offloading. Part of the contract-extension feasibility study includes an option for the cost-plus mines to wash the coal.

13.5.3.2 Coal on rail

The 2008 Coal Strategy was built on the premise of high electricity demand, economic growth and maximising the burn at all stations. The coal-on-rail targets were set with the aspiration of reaching 32 Mt, and were based on the same assumptions and on maximised rail capacities at the associated stations. Since the inception of the Migration of Coal from Road to Rail Programme, Eskom has consistently increased the amount of coal transported by rail, and over the last three years has met or exceeded the shareholder-compact targets.

The targets have decreased since the FY2016/17 Corporate Plan and will continue to decrease beyond FY2019/20. The decrease is due to:

- A comparison between the previous production plan and the current plan, which shows:
 - Overall reduction in burn over the planning period based on declining electricity demand
 - A reduction in production at rail-enabled power stations currently receiving coal on rail
- To ensure Eskom's financial sustainability, efficiencies are built into the current plan:
 - From FY2019/20 there is an overall reduction in burn at the rail-enabled power stations and increased production at New Denmark Colliery, which is the tied mine supplying Tutuka. The increased production of the cost-plus mine is a result of the PED Improvement Programme to reduce overall coal costs.
- The principle of least-coal-cost dispatch results in reduced burn at expensive stations, which are the rail-enabled stations, resulting in reduced coal on rail
- The significant reduction in FY2017/18 is due to the planned yard shutdown of 40 days at Majuba in preparation for the heavy haul, and the slow ramp-up of Arnot rail operations

13.5.3.3 Coal-stock days

The high number of stock days needs to be reduced to improve Eskom's working capital targets. Opportunities to achieve this include selling the excess coal at Medupi and coal beneficiation at both Matla and Lethabo/New Vaal.

13.5.3.4 BEE spend

- BEE spend is reducing, predominately owing to the Exxaro ownership change being re-categorised, but the reduction in purchase volumes of coal is also affecting the target. There is, however, opportunity to improve the targets should the Anglo Ownership Restructure be in line with Eskom intentions.
- All uncontracted coal will be sourced from 51% black-owned mines

13.6 Initiatives to achieve targets

PED's focus is to attain a delivered cost of coal in line with the NERSA MYPD determination and maintain unit coal cost escalations to achieve the committed savings. Initiatives and associated KPIs and success factors are shown in Table 46.

TABLE 46: INITIATIVES, KPIS AND CRITICAL SUCCESS FACTORS

Initiative	Key actions	KPI	Critical success factors
Confirmed			
Cost-plus mine improvements	<ul style="list-style-type: none"> • Implement the PED Improvement Programme at cost-plus mines • Deploy cost-plus teams at cost-plus mines to aid in driving performance improvement 	<ul style="list-style-type: none"> • Coal unit cost R/tonne • Annual coal cost escalations 	<ul style="list-style-type: none"> • Capex required for cost-plus mines capitalisation • Extension of cost-plus contracts • Productivity improvement expert

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Initiative	Key actions	KPI	Critical success factors
	<ul style="list-style-type: none"> Develop and approve business cases to extend the life of cost-plus mines at Kriel and Matla Colliery Investigate the possibility of rerouting coal from Lethabo to other power stations 		teams at all cost-plus mines
Fixed-price contracts	<ul style="list-style-type: none"> Implement a fixed-price negotiation model to assist in identifying levers for negotiations to achieve better-negotiated outcomes Negotiate fixed-price contracts below the established targets Decrease uncontracted demand and spend owing to cost-plus initiatives 	<ul style="list-style-type: none"> Coal unit cost R/tonne Annual coal cost escalations 	<ul style="list-style-type: none"> Re-negotiation of Legacy, Arnot RFP and Kusile coal-supply contracts to be concluded within the first half of FY2017/18
Optimise logistics to drive cost efficiency while delivering the road-to-rail migration programme where financially viable	<ul style="list-style-type: none"> Reduce overall transport cost/ton/km of coal by optimising routes Retain a minimum portion of road transport for logistics flexibility, where rail may not be economic Implement road-rates improvements to realise a saving of R100 million from FY2018/19 to FY2021/22 	<ul style="list-style-type: none"> Coal on rail Reduce tonne/km on road and increase rail 	<ul style="list-style-type: none"> Capital injection to expand rail infrastructure and mechanised offloading at power station Early open-enquiry for new road transporters
Initiatives requiring further investigation			
Coal Supply Optimisation Model (CSOM)	<ul style="list-style-type: none"> High EAF and EUP for low-cost coal-fired power station Model CSOM to adjust the limits of energy set out by each coal-fired power station Optimise production model 	Reduction in overall Eskom Generation costs	Collaboration between Generation, Research and PED.
Heat-rate improvement	Increase the heat rate to reach a FY2020/21 target of 33.5%	Coal-burn volumes	Support from Generation
Coal-management system	Complete cost-benefit analysis to understand if savings will be realised	Reduction in overall PED costs	Dependence on automated IT/OT solution
Penalties	Reduce overall PED penalties payable and receivable	Reduction in overall PED costs	Support of legal team
Other Initiatives			
Achieve an acceptable balance of security of coal supply and risk exposure	Enter into a portfolio of coal contracts that ensure that: <ul style="list-style-type: none"> Long-term contracts are signed with mines in close proximity to the power station based on minimum burn requirements Short-term contracts will supplement long-term contracts with inbuilt tenure, volume, quality, and logistics flexibility 	Ensure shortfall coal for the current year and following year is sufficiently contracted	Expedition approval and signing of contracts after concluding negotiations (critical for multiproduct suppliers)

Initiative	Key actions	KPI	Critical success factors
Contribute to Eskom's transformation objectives	Support government and Eskom's transformation objectives by: <ul style="list-style-type: none"> • Ensuring a minimum coal spend on 51% black-owned companies • Establishing Eskom as a price maker in the coal market 	% of coal contracted from 51% black-owned companies	Suppliers to assist Eskom with transformation plans
Cost-plus mine ownership	<ul style="list-style-type: none"> • There is currently some debate around the physical ownership of the cost-plus mine assets. Eskom had historically adopted a certain accounting policy for the recording of the cost-plus mines within its accounting records • The investments made by Eskom were recorded as Future Fuel. There is a view that Eskom should be recording the cost-plus mine assets on its own balance sheet, with the principle reflecting that Eskom actually owns those assets. • Primary Energy, with Legal, Technical Accounting and the Treasury, will investigate whether an opportunity exists for improving the Eskom balance sheet and risks around the cost-plus mines with the capitalisation or further capitalisation of those assets. 	N/A	Support from Legal, Technical Accounting and the Treasury

13.7 Risks and treatment plans

13.7.1 Financial and Corporate Plan risks and treatment plans

Risks relating to the Corporate Plan and financial issues are shown in Table 47.

TABLE 47: FINANCIAL RISKS AND TREATMENT PLANS

Risk	Treatment plan
Capital burden on Eskom, driven by cost-plus mines contracts extension to achieve the lowest cost of electricity	Investigate alternative capital-funding opportunities
Continuity of implementation of cost-of-coal improvement initiatives if leadership and management were to change	Implement: <ul style="list-style-type: none"> • Automated information systems and business processes to manage and control coal-supply value chain • Value drivers and associated KPIs across PED • Revised coal strategy aligned to NERSA determination on cost of coal • Total-cost-of-ownership model across the coal value chain, from mining to utilisation of coal

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Risk	Treatment plan
Higher development costs of new coal mines	Maximise volumes from cost-plus mines
Limited volume improvement at cost-plus mines	Allocate capex required. Because Eskom has not made large-scale capex investments in the cost-plus mines for some time, it is uncertain that the supply chain (manufacture and delivery) will be able to respond agilely and timeously. Ensure completion of optimisation initiatives.
Bulk of the initiatives are in cost-plus mines	Adequate resources, skills and funding are needed to implement the cost-plus initiatives, as the bulk of initiatives are related to cost-plus mines

13.7.2 Operational risks and treatment plans

Operational risks and treatment plans are shown in Table 48.

TABLE 48: OPERATIONAL RISKS AND TREATMENT PLANS

P1 Risk	Treatment plan
Increase in Eskom's coal costs above MYPD3 allowance	<ul style="list-style-type: none"> • Eskom will re-structure existing long-term coal supply agreements where required. • The Fuel Sourcing team will look to conclude contracts within the given targets, which will ensure that coal costs are in line with MYPD. • The escalation baskets agreed with suppliers are currently being reviewed to be in line with MYPD.

14 Transmission

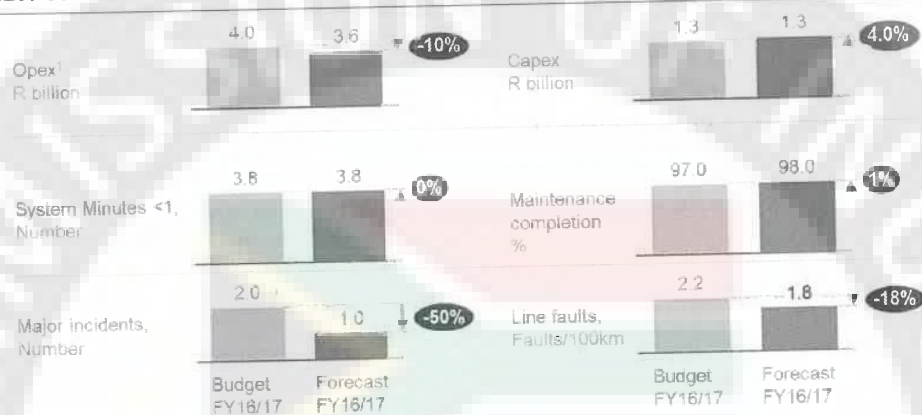
14.1 Summary of the operational plan

14.1.1 Context and mandate

Eskom Group Transmission has a mandate to reliably control, maintain, plan, expand and provide access to an interconnected transmission system, trade energy, influence customer demand and effect opportunities in the SADC region.

14.1.2 Financial and operational highlights FY2016/17

EXHIBIT 85. OVER THE LAST YEAR, GROUP TRANSMISSION ACHIEVED ITS SET TARGETS



14.1.3 Objectives and five-year targets

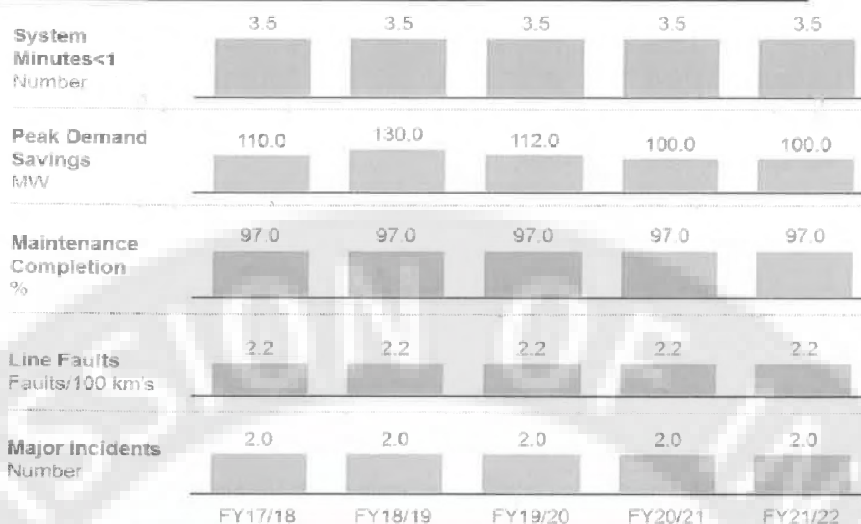
In the next planning cycle, Group Transmission will aim to achieve the following objectives:

- Sustain system performance for system minutes <1 at 3.53 and major incidents at 2 across the period
- Undertake grid expansion to unlock system capacity for IPPs and new load customers.
- Focus on balancing electricity demand and sales management through integrated demand management, and creating space for future sales growth initiatives by shifting demand from peak to off-peak periods
- Connect 2095 km of transmission line
- Increase revenue through cross-border electricity trade to attain a minimum of R55 billion in revenue over the five-year period and a target revenue of R71 billion
- Expand the transmission network into the SADC region to unlock constraints to growth

Group Transmission commits itself to the following operational KPIs for the next five years, taking current performance, challenges, funding and staff constraints into consideration

Transmission

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EXHIBIT 86: TRANSMISSION OPERATIONAL KPIS FY2017/18 – FY2021/22**FY17/18 – FY21/22****Transmission will achieve these objectives through:**

- Prioritised maintenance and refurbishments
- Close collaboration with the DoE and NERSA on optimisation and delivery of the IPP programme
- Development of projects to advance regional interconnectors
- 'Peak-shifting' demand-side management initiatives
- Continued effective systems operations ensure prudent dispatch of all generators and demand side resources
- Engagement with NERSA with respect to N-1 compliance

14.1.4 Risks

- Increasing costs owing to delayed grid connection for IPPs
- Expediting international sales expansion plan is dependent on co-operation from neighbouring SADC governments and energy utilities

14.2 Divisional overview

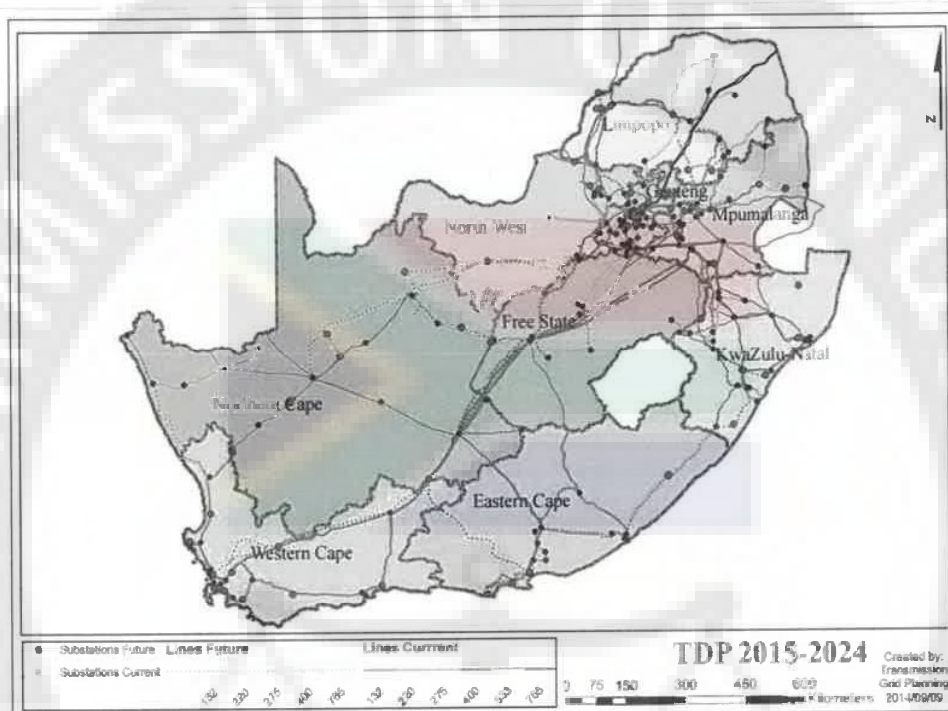
14.2.1 Mandate

Eskom Group Transmission has a mandate to reliably control, maintain, plan, expand and provide access to an interconnected transmission system, and to trade energy, influence customer demand and effect opportunities in the SADC region.

14.2.2 Asset base and facilities

Group Transmission's assets, as of March 2016, consist of 164 substations and 143 440 MVA (427 transformers) connected by 31 957 km of transmission lines across South Africa (Exhibit 87)

EXHIBIT 87: TRANSMISSION ASSETS ACROSS SOUTH AFRICA



14.2.3 Regulatory environment

NERSA strictly licenses and regulates Eskom's Group Transmission operations, including the design and operation of the transmission grid network. The Group Executive of Transmission is accountable for Eskom's transmission licence, and the technical rules that govern his decision-making are contained in the South African Grid Code. This includes the attainment of N-1 compliance for the transmission grid. Consistent effort is made to manage the licensee relationship with NERSA in a mutually beneficial way.

14.3 Performance review FY2016/17

During FY2016/17, Transmission outperformed against all its targets. Primary plant performance was supported by sustained high-maintenance execution.

14.4 Aspirations and objectives

In the next planning cycle, Group Transmission will aim to achieve the following objectives:

- Sustain system performance for system minutes < 1 at 3.53 and major incidents at 2
- Continue asset renewal and strengthening of the network towards attaining N-1 compliance
- Undertake grid expansion to unlock system capacity for IPPs and new-load customers
- Contract and facilitate the connection of IPPs into the Eskom grid
- Focus on balancing electricity demand and sales management through integrated demand management, and creating space for future sales growth initiatives by shifting demand from peak to off-peak periods
- Connect 2095 km of transmission line
- Increase revenue through cross-border electricity trade to attain a minimum of R55 billion in revenue over the five-year period and a target revenue of R71 billion
- Expand the transmission network into the SADC region to unlock constraints to growth
- Utilise advanced analytics to deliver the next wave of efficiencies

14.4.1 Review of the Eskom Africa strategy

Priority is being given to maximising sales through existing infrastructure, while also developing new interconnectors and strengthening the regional grid in the short to medium term. Parallel to these priority activities, South African Energy (SAE) will also initiate a process to review the Eskom Africa strategy. Based on preliminary consultations, it is expected that the following will be elements of the revised strategy:

- Reaffirming Eskom's goals on the continent, and defining its preferred roles in the energy sector
- Prioritising the development of transmission grids and interconnectors. In particular, focusing on interconnecting SAPP countries that are not yet connected, as well as interconnection between the power pools.

It is also intended that the review will align with the update of the Africa strategy being undertaken by DPE, as well as seeking synergies with SAPP regional capacity development plans.

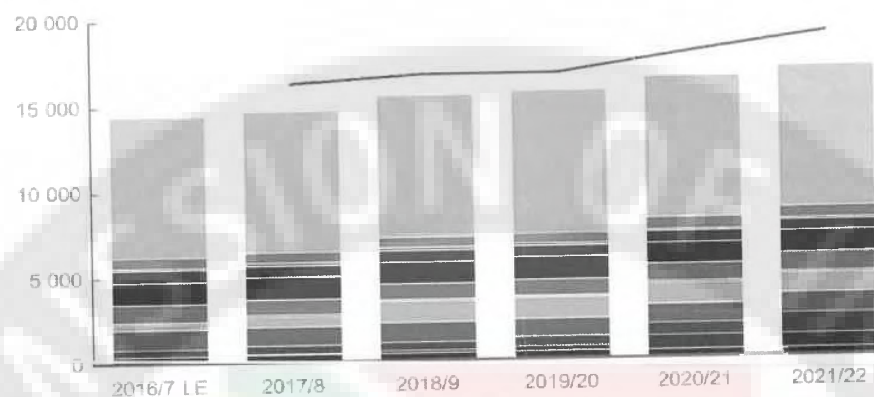
14.4.2 International sales growth strategy

Cross-border electricity trade

The organisation has set itself ambitious targets to grow the volume of electricity exports significantly since the last corporate plan. The potential to increase cross-border electricity trade volumes and revenues was analysed against historical performance and current market dynamics and is shown in Exhibit 88. Opportunities to grow sales will be significantly impacted by the following factors:

- Regional generation performance, (e.g. BPC's Morupule B) and new regional generation capacity development (e.g. BPC's Morupule B units 5 and 6)
- The depth and duration of the drought affecting the Zambezi River, which impacts hydro-generation performance in Zambia, Zimbabwe and Mozambique
- Recovery of commodity prices, such as copper, which could result in increased demand in Zambia and the Katanga region, including the commencement of underground mining
- The ability of Eskom to displace the emergency temporary power solutions that are currently deployed in various countries, e.g. the power ship supplying Zambia
- The attractiveness of Eskom electricity prices compared to the alternatives that regional trading partners may have

- The availability and reliability of the regional transmission network and strengthening thereof

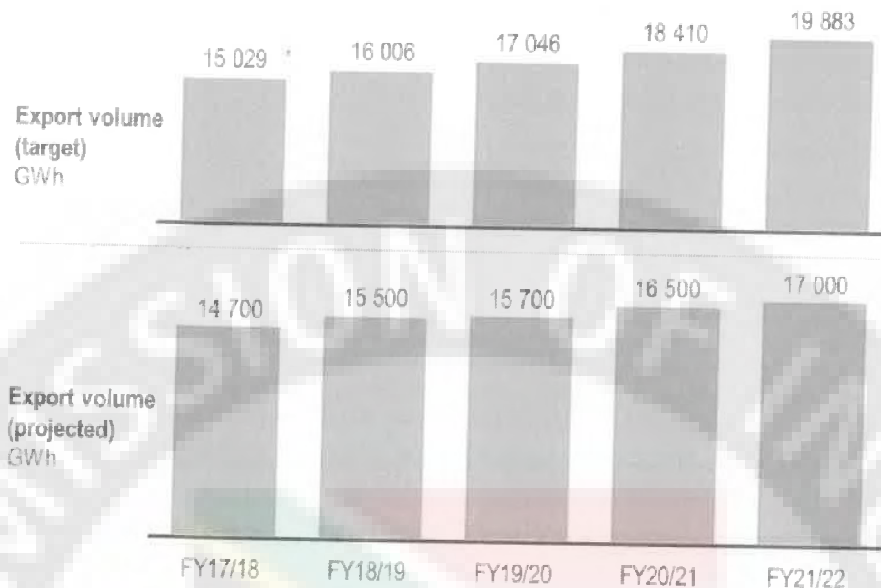
EXHIBIT 88: POSSIBLE REGIONAL ELECTRICITY EXPORT GROWTH MARKETS**Regional electricity exports**

Based on the analysis shown in (Exhibit 88) it is evident that there is potential for growth, particularly in Zambia (Zambian Electricity Supply Corporation) and the Democratic Republic of the Congo (DRC) (Katanga Province), while broadly maintaining current volumes in the other countries.

The analysis further shows that the projected sales fall short of the set targets and that additional initiatives would need to be undertaken to close the gaps (Exhibit 89). There is significant inherent uncertainty in the projected sales volumes and revenues, as binding agreements are not yet in place with key trading partners.

EXHIBIT B9: EXPORT FIGURES OVER THE PLANNING PERIOD FY2017/18 – 2021/22

FY17/18 – FY 21/22

**Proposed growth strategy to address shortfall of projected sales against set targets**

In order to meet the FY2021/22 target, SAE will focus on the following areas and initiatives:

- **Protecting the existing baseline.** SAE will develop a re-negotiation strategy to address three expiring contracts and to maintain these sales.
- **Utilising the available transmission capacity.** SAE will attempt to increase sales over the next two years, resulting in an approximate 2TWh increase in consumption. SAE will work with utilities and major consumers of energy within the region to increase demand and utilise maximum transmission capacity.
- **Expanding the transmission network.** To meet FY2021/22 export targets, Eskom and SAE would need to explore other engineering solutions to increase volumes further and also possibly expedite certain phases of the transmission network expansion plan into the SADC region.
- **Expediting the expansion programme.** Some of the initiatives Eskom and SAE could undertake to expedite the expansion programme include:
 - Concluding adequate supply agreements with receiving countries to ensure uptake
 - Exploring and where feasible implementing engineering solutions in the other countries to increase the transfer capacity while awaiting the new transmission lines.
 - Finding financing solutions to minimise impact on the Eskom balance sheet, and investigating possible SPV structures
 - Setting up a project management team to investigate actions to accelerate execution and minimise delays in construction, such as negotiating supply contracts, applying for environmental permits, identifying land acreage for acquisition and ensuring close collaboration between project design and construction teams

New regional transmission interconnectors

The shift from pursuing import projects to export sales has changed SAE's project list. Transmission across the region presents a serious limitation to Eskom's regional sales aspirations. The following

transmission projects have been identified and based on desktop analysis, could counteract this limitation.

- Nzhelele (RSA) to Triangle (Zimbabwe)
- Matimba (RSA) to Phokoje (Botswana)
- Phokoje (Botswana) to Insukamini (Zimbabwe)
- Insukamini (Zimbabwe) to Alaska (Zimbabwe)
- Alaska (Zimbabwe) to Leopards Hill (Zambia)
- Leopards Hill (Zambia) to Luano (Zambia)
- Luano (Zambia) to Karavia (DRC)

These 400 kV lines will provide a total transfer capacity between Zimbabwe, Zambia and the DRC of about 2 000 MW. The total estimated capital cost of this infrastructure is approximately R15 billion. The bulk of the work is in Zimbabwe, followed by Zambia, with very little of the work being done in South Africa. Eskom has the incentive to promote all of the lines, whereas the other utilities have very limited incentive and potentially more severe constraints. As such, appropriate funding mechanisms with suitable security arrangements need to be put in place to develop these projects.

A conservative, high-level estimate of the capital demands in the planning horizon of these projects is given in Table 49.

TABLE 49: INVESTMENT BUDGET FOR THE NEW REGIONAL TRANSMISSION INTER-CONNECTORS

Investment budget, R million	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22
BOSA	-	1 367	1 367	1 367	-
MOZISA	700	700	700	700	-
Matimba-Phokoje- Insukamini	-	-	-	1 545	3 605
Total	700	2 067	2 067	3 612	3 605

NB: BOSA was initially planned as an import interconnector, and its capability to support exports is being analysed. Should it not contribute meaningfully to the organisational priorities, the figures indicated may serve as a proxy for other potential transmission grid requirements.

The capex requirement over the planning period to FY2021/22 is estimated at approximately R12 billion, against a total cost for commercial operation of up to FY2025 of R15 billion, with the balance falling within subsequent planning horizons.

14.4.3 Advanced analytics for Group Transmission

Transmission aims to realise savings via advanced analytics to help meet its corporate plan targets, with two main potential areas of opportunity.

Firstly, Transmission will look into implementing predictive maintenance to improve the accuracy of asset life modelling and predict asset failure rates. Predictive maintenance creates value for the business by shifting from time-based maintenance to risk-based maintenance, in line with asset criticality. In addition, predictive maintenance can improve the lifetime of core assets, such as power transformers, thereby reducing capital spend on replacement assets.

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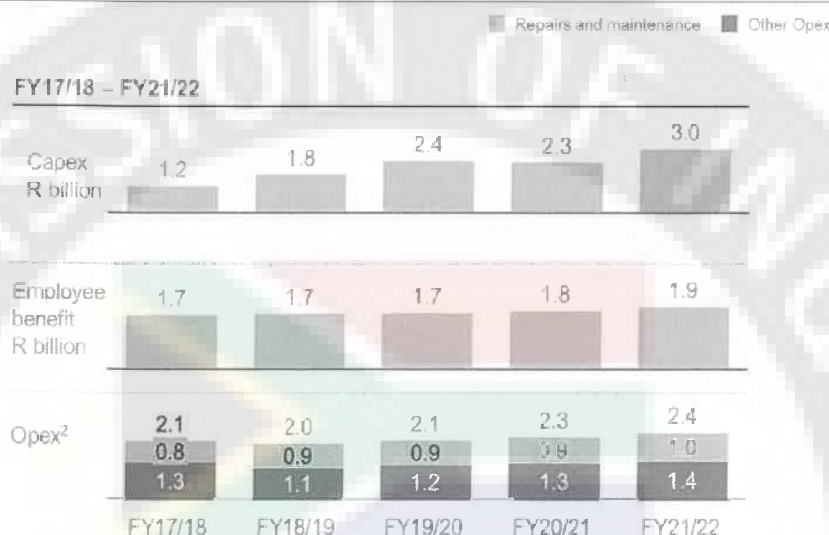
Secondly, the business will look to drive value from other data applications, including reprioritising the N-1 capex plan based on a risk based analysis of the transmission grid.

The business will leverage the Analytics Centre of Excellence to provide analytics support in the implementation of these solutions.

14.5 Financial and operational targets

Group Transmission aims to deliver the financial and operational targets shown in Exhibit 90 and Exhibit 92 as it works to deliver Eskom's DTC strategy and support South Africa's economic growth

EXHIBIT 90: OPERATIONAL AND CAPITAL EXPENDITURE FY 2017/18 - FY2021/22



² Includes Other Opex and repairs and maintenance

In the next planning horizon, expansions, refurbishment projects and the restocking of strategic spares will enable Group Transmission to meet its mandate and objectives. The capital investment plan shown in **Error! Reference source not found.** allows Transmission to pursue all its planned projects.

Capital investment for the proposed regional interconnectors are not included in the above figures and are included in the GCD budget.

The following projects in Table 50 are top priority for the Transmission Group, some of which are budgeted in Group Capital Division

TABLE 50: TOP STRATEGIC PROJECTS

Project	Approval status R billion	% ERA spent	FY2016/17 budget R billion
Medupi PS integration	Execution release approval (ERA) R7.7 bn	R4.0 bn 52%	R0.8 bn
Kusile PS integration	ERA R2.4 bn	R0.63 bn 26%	R0.16 bn
Johannesburg East strengthening	Definition release approval (DRA) R5.3 bn projected	Not in ERA	Not in ERA
Northern Cape strengthening	ERA	R0.74 bn	R0.45 bn

Transmission

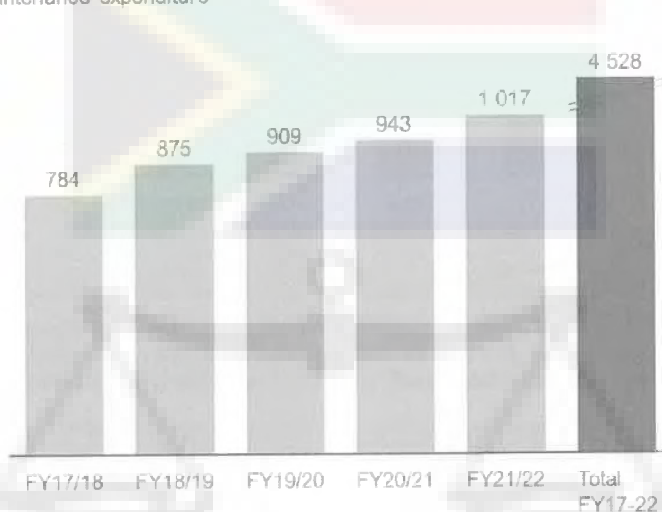
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Project	Approval status R billion	% ERA spent	FY2016/17 budget R billion
Aries - Nieuwehoop 400 kV line Ferrum - Nieuwehoop 400 kV line Uppington Substation	R2.07 bn	35%	
Erica (Mitchell's Plain) Substation	DRA R1.35 bn projected	Not in ERA	Not in ERA
Mpumalanga underrated equipment upgrade	ERA R0.64 bn	R0.004 bn 0.6%	R0.142 bn
Koeberg 400 kV Busbar reconfiguration	Concept release approval R1.7 bn	Not in ERA	Not in ERA
Refurbish assets and minor strengthening	R10.4 bn		1.3-

Transmission will continue to maintain assets to ensure the integrity of the transmission system, taking cognisance of financial and people-resource constraints. The annual maintenance expenditure plan is shown in Exhibit 91 and the technical performance targets planned for FY2017/18 – FY21/22 in Exhibit 92.

EXHIBIT 91: ANNUAL MAINTENANCE EXPENDITURE PLAN

R million, Maintenance expenditure



1 Quarterly targets are applicable to the Planning Period

EXHIBIT 92: TECHNICAL PERFORMANCE TARGETS FY2017/18 - FY2021/22

The peak demand savings target for FY 2017/18, as per NERSA's MYPD3, stands at 415 MW. This target has been reduced to 110MW in view of the improved power system status and outlook. In addition, Transmission Group has set people and safety performance targets in place (Exhibit 93)

EXHIBIT 93: PEOPLE AND SAFETY PERFORMANCE TARGETS FY2017/18 - FY2021/22

¹ As per HR Plan

14.6 Initiatives

Transmission will have to ensure disciplined execution of the following actions in order to achieve the targeted financial, operational and staff metrics over the next five years. Key actions and the associated KPIs are shown in Table 51.

TABLE 51: TRANSMISSION TARGETED OUTCOMES

Key actions	KPIs
1. Achieve IDM objectives	
Balance electricity sales and demand management	Demand savings and response (MW)
2. Connect IPPs to grid	
Connect IPPs to the grid as per schedule (parties: Transmission, Group Capital, Distribution and relevant Municipality)	Time to connect
3. Electricity trading, power imports and advancing regional projects	
Grow revenues from international electricity sales	International revenue Energy sales rate (R/MWh) Energy cost rate (R/MWh)
4. Transmission grid strengthening	
Deliver N-1 projects as per plan	MVA commissioned

14.7 Risks and treatment plans

The risks to meeting Transmissions' targeted outcomes are well understood, with clear treatment actions in place, as shown in Table 52, although some treatment actions may not fully treat the risks

TABLE 52: RISKS AND TREATMENT PLANS

Risks	Treatment plans
Increasing costs owing to delayed grid connection for IPPs, leading to Eskom paying for energy that the seller (IPP) would have otherwise sold to Eskom.	<ul style="list-style-type: none"> • Ensure prudent project management. • Encourage developers to opt for the self-build option when executing projects. • Undertake continuous review of Eskom's contractual liabilities and its adverse/negative impacts in all agreements • Manage energy claims at business review meetings of the provincial and national executives • Monitor and report on unavailability of hours and educate the business to understand the implications of exceeding the grid unavailability threshold • Influence the strategic spares philosophy and availability within Transmission and ensure that the philosophy is aligned to cater for quickest restoration to plant affecting IPP availability during failures • Support municipalities, technically and otherwise, where necessary
Expediting international sales expansion plan is dependent on co-operation from neighboring SADC governments and energy utilities	<ul style="list-style-type: none"> • Proactively engaging with relevant SADC governments & utilities from an early stage • Working closely with all relevant parties to ensure any challenges are resolved timeously & effectively • Providing all required supply assurances

15 Distribution

15.1 Summary of the operational plan

15.1.1 Overview

Distribution's mandate is to operate the asset and provide reliable electricity by building, operating and maintaining distribution assets, while also acting in the national interest by actively partnering with the wider industry in resolving distribution industry issues and enhancing stakeholder relations.

Distribution achieved its targets for System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) performance for the network in FY2016/17 (Exhibit 94).

EXHIBIT 94: SAIDI AND SAIFI PERFORMANCE IN FY2016/17



In the FY2017/18 corporate planning period, Distribution will add 201 000 connections and limit energy losses to 6.54% in order to sustain network performance within target and deliver on its mandate. Distribution will also invest in its networks to support the demand-stimulation strategy currently led by Group Customer Services.

15.1.2 Financial and operational highlights

During FY2016/17, Distribution achieved the following financial and operational highlights:

- Exceeded the **electrification connection** target of 200 000 connections, achieving **207 332 connections**, in line with the long-term objective of achieving one million connections over five years
- Limited **energy losses** to **6.51%** against a target of 6.54%
- Met grid compliance with a **90.2% high voltage/medium voltage (HV/MV) reduction** against a target of 88%

15.1.3 Objectives and five-year targets

Going forward, the Distribution journey follows three distinct phases:

- Immediate: Stabilise current performance** in conjunction with efficiency and productivity gains across all KPIs
- Medium term:** Building and positioning the Distribution business to be world class
- Long term:** Using this capability and expertise to support Eskom's aspiration to grow unregulated income

Distribution has eight objectives which it aims to achieve by:

- Implementing energy-protection initiatives to minimise losses
- Implementing technologies to prevent access to prepaid metering units, and to facilitate the conversion of customers to prepaid
- Delivering a focused roll-out of smart metering in Sandton, Midrand and Soweto
- Addressing the requisite needs in IT infrastructure to minimise restoration times
- Driving demand by establishing one million electrification connections over the next five years
- Actively partnering with the wider Electricity Distribution Industry (EDI) in South Africa to ensure provision of accessible and sustainable electricity services
- Implementing refurbishment, as a matter of high priority, of current network infrastructure and reliable investment plans to reduce backlogs
- Working with Group IT to successfully and sustainably implement advanced-analytics initiatives

The division will navigate the following risks while achieving the above objectives:

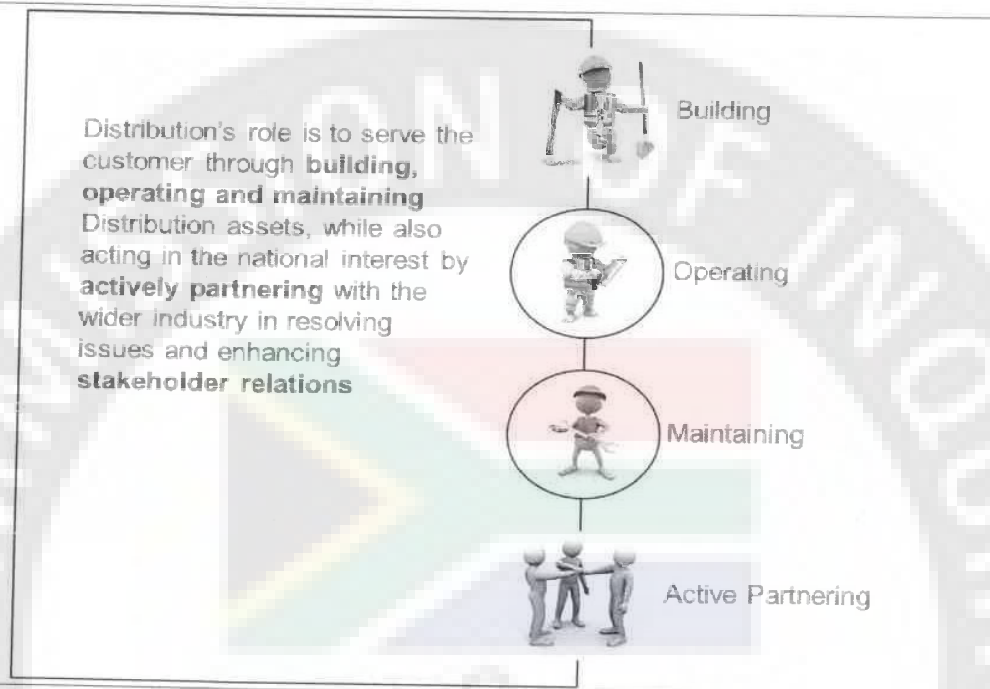
- Deterioration of technical performance caused by the lack of capacity to execute capex and maintenance plans by building capacity through skills development and localisation
- High levels of theft and vandalism to network equipment by:
 - Accelerating disposal and removal of decommissioned and redundant assets
 - Expanding the detection and surveillance-technology footprint
 - Implementing the National Guarding Strategy
 - Piloting technology solutions for lattice towers

15.2 Divisional overview

15.2.1 Mandate and overview

Distribution's mandate is to operate the asset and provide reliable electricity by building, operating and maintaining distribution assets, while also acting in the national interest by actively partnering with the wider industry in resolving distribution industry issues and enhancing stakeholder relations (Exhibit 95).

EXHIBIT 95: DISTRIBUTION MANDATE

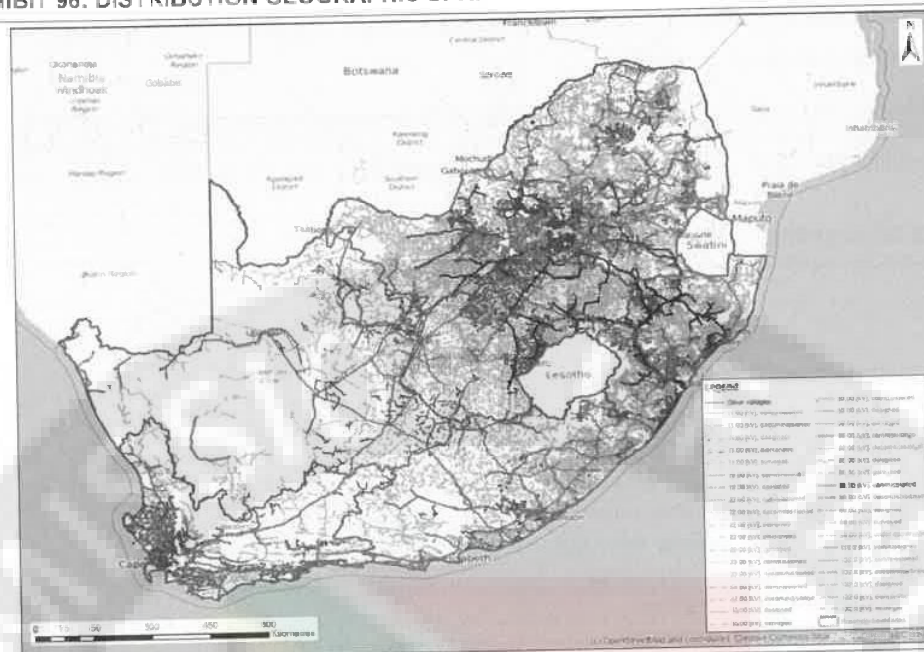


15.2.2 Regulatory environment

The regulatory environment of the business is defined by the Electricity Regulations Act (Act 4 of 2006, as amended), the Distribution Licence, the Distribution Grid Codes and applicable NRS specifications and Codes of Practice. Compliance with regulatory requirements is managed through a formal process as defined in the Eskom Compliance Management Policy and Framework. Distribution has registered several regulatory breaches, for which exemptions have been received. These were with regard to compliance with regulatory service standards such as time to connect customers, voltage regulation and outage-restoration times for unplanned outages. Non-compliance is managed through the implementation of operational-improvement plans, focused investments and ongoing compliance monitoring, as well as the application of temporary exemptions from NERSA.

15.2.3 Geographic spread

Eskom owns approximately 49 210 km of distribution lines, 288 550 km of reticulation lines, 2 900 substations and more than 7 500 km of underground cables in South Africa, representing the largest power-line system in Africa. It operates out of nine provincial operating units. Provincial operating units are divided into 27 operating zones that manage 306 CNCs. The CNCs are the smallest organisational building blocks that serve the network asset. CNCs are grouped into 68 sectors that report to the operating zones. The geographic spread of the distribution network is shown in Exhibit 96.

EXHIBIT 96: DISTRIBUTION GEOGRAPHIC SPREAD**15.3 Performance review FY2016/17**

Distribution dealt with the following challenges in delivering against its mandate:

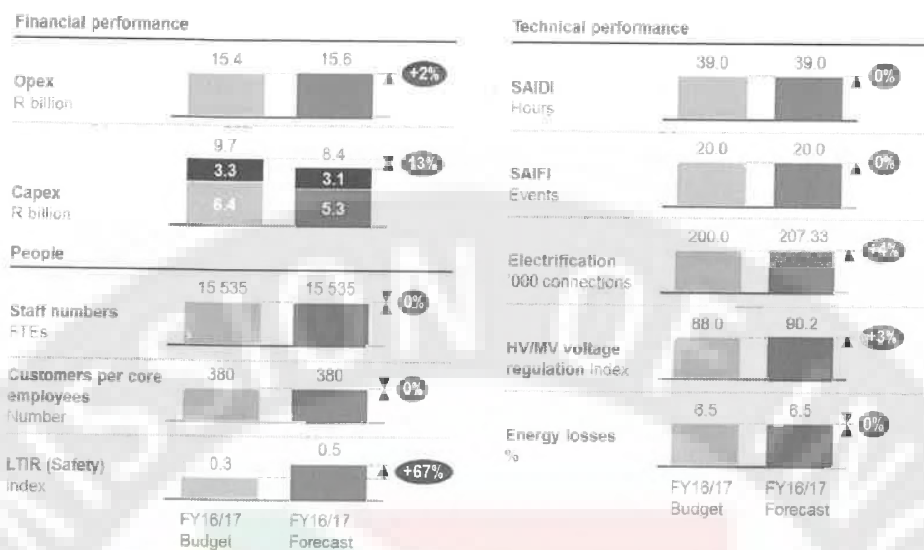
- Constrained financial environment, resulting in limited capital availability
- A regulatory compliance gap in time to connect customers, in voltage regulation and in outage restoration time
- High levels of vandalism and equipment theft, resulting in energy losses
- An increasing number of outages due to overloading from illegal connections

Despite these challenges, Distribution met or exceeded most targets:

- Achieved grid-code compliance in terms of HV/MV voltage regulations, with a 90.2% HV/MV voltage reduction, against a target of 88%
- Exceeded the electrification connection target of 200 000 connections, in line with the long-term objective of achieving one million connections over five years
- Limited energy losses to 6.51% against a target of 6.54%
- Financial and technical performance highlights for FY2016/17 are shown in Exhibit 97

EXHIBIT 97: DISTRIBUTION OPERATIONAL AND FINANCIAL PERFORMANCE FY2016/17

■ DOE grant

**15.4 Aspirations and objectives**

The division's objectives and key deliverables for the next five years are as follows:

- **Operational and business sustainability** – Distribution aims to build and maintain its ageing network by:
 - Maintaining current network performance levels
 - Limiting energy losses to 6.54% through targeted interventions
 - Reducing refurbishment and reliability investment backlogs through disciplined execution
- **Regulatory compliance** – The business is required to meet a number of regulatory requirements, addressed through targeted interventions that will have to be delayed due to constrained budgets.
- **Human capital** – Distribution will improve safety performance through zero-harm and supplier-education programmes. Employee productivity will be improved by reviewing Eskom's business model, making a step change from unplanned to planned maintenance and ensuring a motivated workforce. Emphasis will also be placed on retaining core skills and the management of skills and talent.
- **Partnering with the Electricity Distribution Industry (EDI)** – Eskom Distribution will actively partner with the wider EDI in South Africa to provide accessible and sustainable electricity services.
- **Electrification** – Electrification remains a priority for Distribution, with one million households to be connected over the planning period, and Eskom hopes to expedite the implementation of Government's Universal Access Programme.
- **Demand stimulation** – Distribution plans to invest sufficiently in the networks to support the Group Customer Services sales-growth strategy, alongside the advanced-analytics initiatives.

15.4.1 Advanced analytics

Distribution aims to use advanced analytics as a lever to help achieve the savings target in the corporate plan, with two main potential areas of opportunity.

Segmented and predictive maintenance

The division will look to accelerate its transition from time-based to condition-based maintenance across priority asset classes by:

- Launching a data-gathering and cleaning effort across its MV and HV assets, to improve on its existing maintenance-planning process
- Utilising the dataset to run predictive algorithms, to prioritise maintenance activities by clustering probability of failure of these assets, and to change the frequency and timing of maintenance repairs and maintenance, based on a segmentation of the asset base

Field-force effectiveness

The division will ensure discipline in the implementation of its maintenance strategy by accelerating the roll-out of its mobility and real-time dispatching tools. Using real-time data of employee time and productivity, Distribution can improve the scheduling, dispatch and allocation of tasks for dispatch staff. These field-force tools and applications have the potential to improve crew-dispatch schedules and shorten the response time to customer calls, as well as monitoring and improving productivity per FTE.

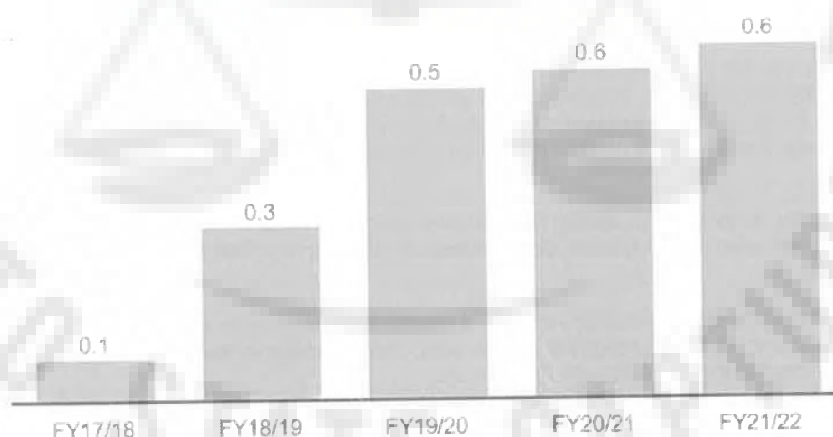
To act on these opportunities, Distribution will rely on the following enablers:

- Accurate and reliable data gathered from the various databases
- Improved integration between systems (Maximo and SAP)
- Roll-out of existing mobility tools and real-time monitoring

The business will leverage the Advanced Centre of Excellence to provide analytics support in the implementation of these solutions.

EXHIBIT 98: ADVANCED-ANALYTICS SAVINGS FY2016/17 - FY2021/22

Advanced analytics savings,
R billion



15.4.2 Financial and operational targets

Distribution's targets for financial performance, technical performance, and manpower and safety for the next five years are shown in Exhibit 99, Exhibit 100 and Exhibit 101 respectively.

EXHIBIT 99: FINANCIAL PERFORMANCE TARGETS

FY17/18 – FY21/22, Financial performance



EXHIBIT 100: TECHNICAL AND OPERATIONAL TARGETS

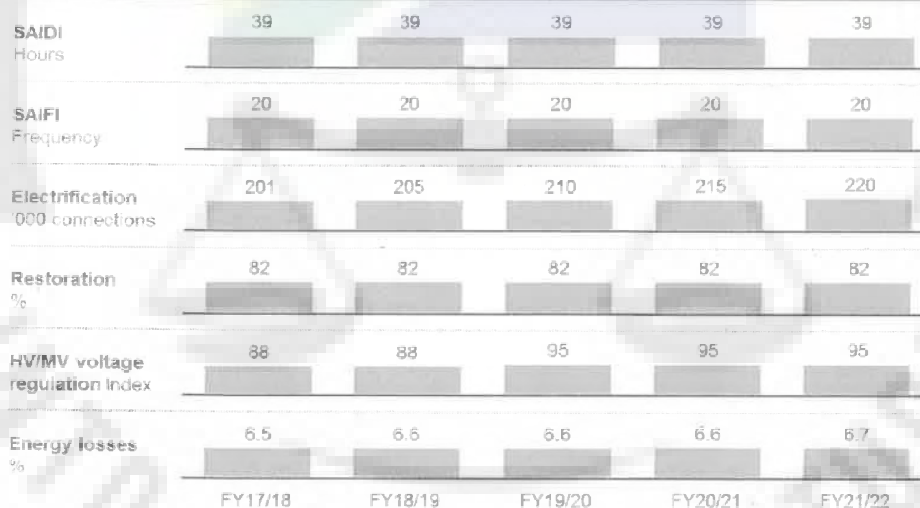


EXHIBIT 101: PEOPLE AND SAFETY TARGETS¹ As per HR plan**15.5 Capital-expenditure plan**

Maintenance and capital investment remain a priority for Distribution over the next five years. This is in line with the objectives of reducing the investment backlogs and keeping the asset base in a condition that supports sustained network performance. Investments will be made in the refurbishment and strengthening of existing networks, in building new networks for customers and in connecting IPPs. Expenditure has been prioritised in accordance with the Network Development Plans methodology, enabling Distribution to sustain network performance, comply with regulatory and licence conditions and satisfy demand growth. Capex and projected maintenance spend for FY2017/18 – FY2021/22 are shown in Exhibit 102 and Exhibit 103 respectively.

EXHIBIT 102: CAPITAL-EXPENDITURE PLAN FY2017/18 – FY2021/22

R billion, FY17/18 – FY21/22

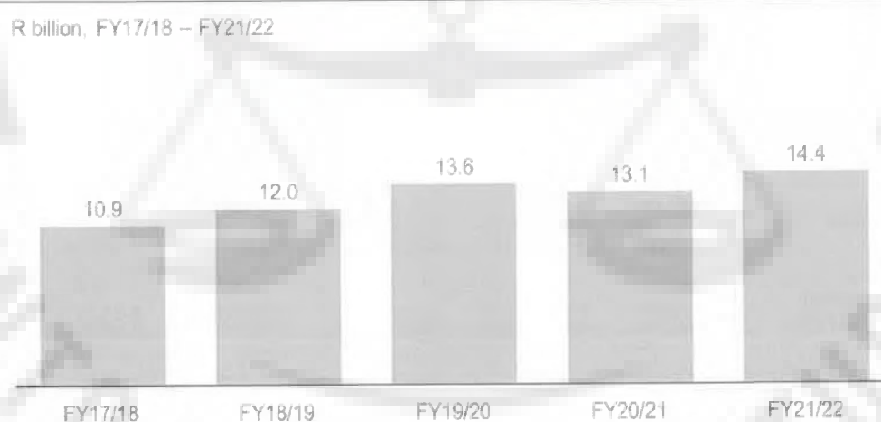


EXHIBIT 103: MAINTENANCE-SPEND TARGETS FY2017/18 - FY2021/22

R billion, Maintenance expenditure

**15.6 Initiatives**

The following strategic projects and initiatives will allow Distribution to achieve its objectives. Initiatives, associated KPIs and critical success factors are shown in Table 53: Initiatives.

TABLE 53: INITIATIVES

Year	Key initiatives/actions	KPIs	Critical success factors
Sustain network performance			
FY17/18 –FY21/22	<ul style="list-style-type: none"> Maximise capital-investment strategies and improve planned vs unplanned maintenance ratios Move low-voltage maintenance from run-to-fail to planned maintenance Reduce restoration time by driving timeous maintenance execution Improve asset management by focusing on capital effectiveness and disciplined execution, including: <ul style="list-style-type: none"> Vegetation management Wood-pole replacement Reduction of maintenance backlogs 	<ul style="list-style-type: none"> Sustain SAIDI and SAIFI performance HV/MV regulations 	<ul style="list-style-type: none"> Resource and skills availability Closing the regulatory compliance gap
Limit energy losses			
FY17/18 –FY21/22	<ul style="list-style-type: none"> Limit illegal connections and meter-tampering through targeted energy-protection initiatives Educate customers through campaigns Invest in protected networks to limit network access Continue investment in feeder balancing Improve data management 	<ul style="list-style-type: none"> Limit energy losses to less than 8.65% over the planning period 	<ul style="list-style-type: none"> Directing more resources to energy-loss management Enabling legislation to prosecute illegal connections
Active partnering			
FY17/18 –FY21/22	<ul style="list-style-type: none"> Build industry partnerships to deal with common industry challenges and influence industry policy 	<ul style="list-style-type: none"> Industry partnerships 	<ul style="list-style-type: none"> Collective industry mindset and a willingness to co-operate

Year	Key initiatives/actions	KPIs	Critical success factors
			<ul style="list-style-type: none"> • Sound industry relationships • Executive advocacy • Dedicated resourcing • Shareholder support • Political support
Zero harm to employees			
FY18/17–FY20/21	<ul style="list-style-type: none"> • Implement targeted safety interventions • Implement zero-harm culture and practices 	<ul style="list-style-type: none"> • Zero fatalities • LTIR 	<ul style="list-style-type: none"> • Move from a reactive and independent safety culture to an interdependent safety culture • Visible, felt leadership

15.7 Risks and treatment plans

Identified risks and associated treatment plans are shown in Table 54.

TABLE 54: RISKS AND TREATMENT PLANS

Risks	Treatment plans
Deterioration of technical performance, caused by not meeting the capex and maintenance plans and a constrained MYPD4 outcome, leading to non-compliance with Distribution licence conditions	<ul style="list-style-type: none"> • Build capacity through skills development and localisation • A risk-based MYPD4 application that supports compliance with licence conditions
Unacceptable levels of theft and vandalism to network equipment, leading to: <ul style="list-style-type: none"> • Revenue loss • Loss of life and injury to employees • Increased maintenance costs • Negative Eskom image 	<ul style="list-style-type: none"> • Accelerate disposal and removal of decommissioned and redundant assets • Expand detection and surveillance technology footprint • Implement National Guarding Strategy • Implement pilot technology solutions for lattice towers
The ability to sustain technical performance in a constrained and changing resourcing environment	<ul style="list-style-type: none"> • Develop short- and long-term tactical plans to drive technical operational efficiency

16 Group Human Resources

16.1 Summary of operational plan

16.1.1 Overview

Group Human Resources (Group HR)'s mandate is to 'create a high-performing culture through partnering with and empowering line management to recruit, develop and retain a highly skilled, committed, engaged and accountable staff base across the organisation'. In line with this mandate, Group HR has set targets to achieve the optimal staff headcount and skills mix to capture efficiencies and employee-related cost savings across the business.

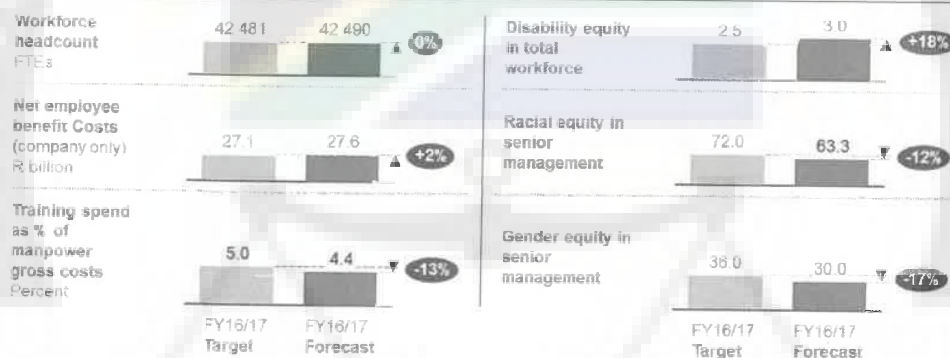
Group HR will focus mainly on fulfilling its mandate over the planning period through:

- Managing and driving the reduction of headcount in line with the DTC targets.
- Identifying and implementing efficient methods of managing and/or eliminating manpower cost drivers such as overtime, ad-hoc salary increases, band creep, x-scheme cars and premiums amongst others
- Reviewing and implementing the new operating model, by rationalising managerial span of control; reducing organisational reporting layers, implementing rules to govern the development and review of structures, implement productivity measures to ensure optimal headcount

16.1.2 Financial and operational highlights FY2016/17

Financial and operational highlights for FY2016/17 are shown in Exhibit 104

EXHIBIT 104: PERFORMANCE REVIEW FY2016/17 - COMPANY



Although the overall headcount has decreased during the FY2016/17 period, over-expenditure of R0.5 billion is projected in net employee-benefits cost. This is predominantly due to:

- Higher than budgeted annual salary increases for bargaining-unit employees
- Ad hoc remuneration increases for managerial and bargaining-unit employees
- Over-expenditure in overtime costs
- Salary increases owing to promotions

It is forecast that the company will not achieve its racial and equity targets.

16.1.3 Objectives and five-year targets

The following objectives will be key to fulfilling Group HR's mandate:

Contribute to the Eskom cost savings through a reduction in manpower and other related costs by FY2021/22. This will be achieved through a number of initiatives, including

- Reducing headcount to 36 746
- Reducing overtime spend by 50%
- Identifying and implementing efficient methods of managing and/or eliminating manpower cost drivers such as overtime, ad-hoc salary increases, band creep, x-scheme cars and premiums

Ensure that Eskom has a productive workforce that is efficiently organised and appropriately skilled to drive optimal performance

Create a culture of high performance that fosters manager accountability and strives to build authentic leaders.

Ensure an effective HR function that is positioned appropriately to attract and retain core and critical skills, and ensure that the workforce is engaged

16.1.4 Risks

Not achieving the headcount target: Missing the FY2021/22 target owing to an inability to effectively implement levers aimed at reducing headcount.

Uncertainty amongst staff: Uncertainty relating to job security amongst non-core skills staff owing to the impact of the manpower ramp-down over the next five years.

Lack of skills retention and employee morale: Inability of the business to balance continuity and retention of skills, resulting in suboptimal operations and loss of productivity caused by low employee morale and a perceived declining employee value proposition (EVP).

Industrial action: Breakdown in the relationship with organised labour (including their perceived increased influence) resulting in possible industrial action both internally and externally.

16.2 Divisional Overview

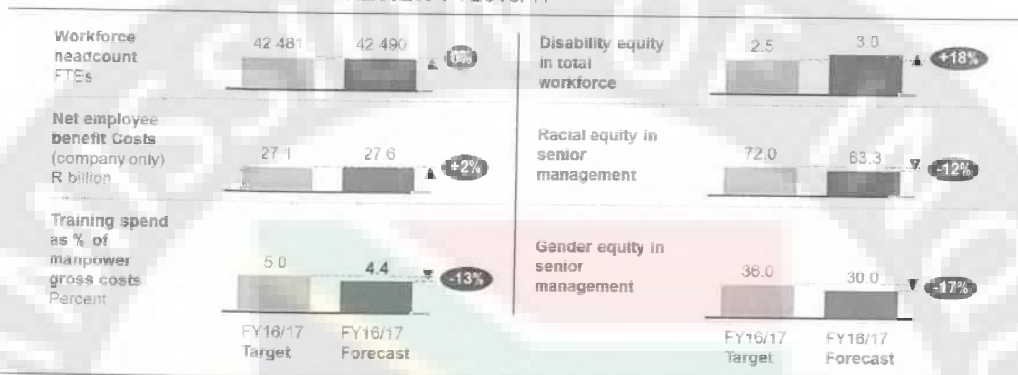
16.2.1 Mandate

Group HR's mandate is to create a high-performing culture through partnering and empowering line management to recruit, develop and retain a highly skilled, committed, engaged and accountable staff base across the organisation.

16.3 Performance review FY2016/17

Group HR operational performance against target and forecast for FY2016/17 is summarised in Exhibit 105 below.

EXHIBIT 105: PERFORMANCE REVIEW FY2016/17



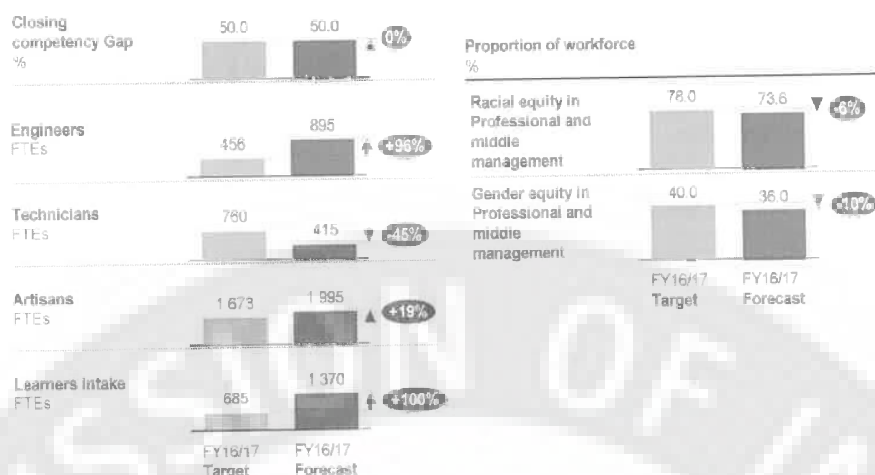
Overall, headcount has decreased in line with targets across the business; however, this did not translate into employee-benefit cost savings. Employee-benefits cost estimates indicate a R0.5 billion over expenditure by the end of FY2017. The following are some of the reasons attributed to lack of employee benefit cost saving in line with headcount reduction:

- Higher-than-budgeted annual salary increases for bargaining unit employees
- Ad hoc salary increases
- Over-expenditure in relation to overtime
- Promotions resulting in salary increases

The following metrics were utilised to measure employee productivity and performance during FY2016/17:

- **Employee engagement** – Group HR has established the Eskom employee-engagement programme, across eight platforms, to ensure that Eskom rebuilds relationships with employees and other stakeholders to create a harmonious workplace and increase employee engagement levels. The programme aims to enable and empower Eskom guardians' to feel a sense of connection and alignment to the business and to each other as fellow stakeholders.
- **Industrial relations** – the industrial relations index was utilised to measure three key performance indicators (KPIs): grievances lodged, disciplinary cases and disputes referred to the Commission for Conciliation, Mediation and Arbitration. In addition, Group HR monitors the number of suspensions with pay.
- **Leadership** – The leadership-effectiveness index provides for leadership bench strength.

Operational performance metrics relating to training spend and learner recruitment for FY2016/17 are summarised in Exhibit 106. Learner-intake includes both new learners and new contracts entered into as per the definition of 'learner' in the shareholder compact. Eskom will achieve the targeted learner intake by end of FY2017.

EXHIBIT 106: TRAINING AND EQUITY PERFORMANCE REVIEW FY2016/17

Equity targets with the exception of disability remain a challenge. Specific initiatives are, however, implemented to drive towards achieving the training spend and gender equity at senior management targets.

16.4 Aspirations and objectives

16.4.1 Aspirations

The following objectives are key to fulfilling the HR Group mandate:

- Contribute to Eskom cost savings through a reduction in manpower and related costs by FY2021/22. This will be achieved through a number of initiatives, including but not limited to:
 - Reduction of headcount to 36 746
 - Reducing overtime spend by 50%
 - Identifying and implementing efficient methods of managing and/or eliminating manpower cost drivers such as overtime, ad-hoc salary increases, band creep, x-scheme cars and premiums amongst others
- Ensure that Eskom has a productive workforce that is efficiently organised and appropriately skilled to drive optimal performance
- Create a culture of high performance that fosters manager accountability and strives to build authentic leaders
- Ensure an effective HR function that is positioned appropriately to attract and retain core and critical skills, and ensure that the workforce is engaged

16.4.2 Focus areas for HR in order to deliver on its objectives:

Attain manpower cost savings and reduce headcount to 36 746 by FY2021/22

Manpower cost savings levers will be implemented to ensure the optimal staffing and skills mix:

- Reduced organisational reporting layers – elimination of executive and managerial layers that are not adding value to the delivery of Eskom's mandate (e.g. same-level reporting)
- Rationalisation of managerial span of control – increasing responsibilities and accountabilities of managerial staff members and reduction of a significant number of managers and executives. This

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should result in increased efficiency and productivity (enhanced accountability, faster, more reliable communication, better decision-making, more-competitive cost structure)

- Management of Eskom structures – ensuring that organisational structural changes are informed by the operating model and/or changes in the divisional or group strategy
- Continuous monitoring of attrition with possible use of redeployment and separation packages where attrition is not sufficient

Create a culture of high performance

To drive culture of high performance, Group HR will facilitate the implementation of the following initiatives:

- Intensify leadership development to drive culture change
- Build accountability through enhanced performance management processes
- Build collaborative relationships with unions and bargaining councils
- Employee Value Proposition

16.4.2.1 Ensure a productive workforce

- Utilise productivity measures in the implementation of the operating model to ensure optimal headcount level and minimisation of cost
- Prioritise retention of core competencies and manage skills gaps

16.4.2.2 Build an effective HR function

Group HR reviewed its strategy, operating model and organisational structures during FY2016/17 and will therefore focus on:

- The implementation of the new HR operating model
- Improvement of HR internal processes and procedures
- Implementation of proposed actions from the organisational structure and strategy review
- Ensuring alignment of the HR strategy to business and divisional priorities

16.4.3 Challenges

There are a number of challenges in the following areas:

- Retention of technical skills, particularly in areas where staff are most likely to migrate to IPPs
- Disempowered managers
- Inconsistent levels of employee engagement at divisional levels
- Decreased opportunity to achieve equity targets as a result of headcount reductions
- Shifting levels of commitment across divisions regarding headcount reductions
- Management of conflicting priorities (reduction in manpower numbers, cost reduction and employment equity)
- Band creep and /or promotions, which often offset headcount-reduction cost savings

Group Human Resources

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16.5 Targets

Workforce management – manpower targets

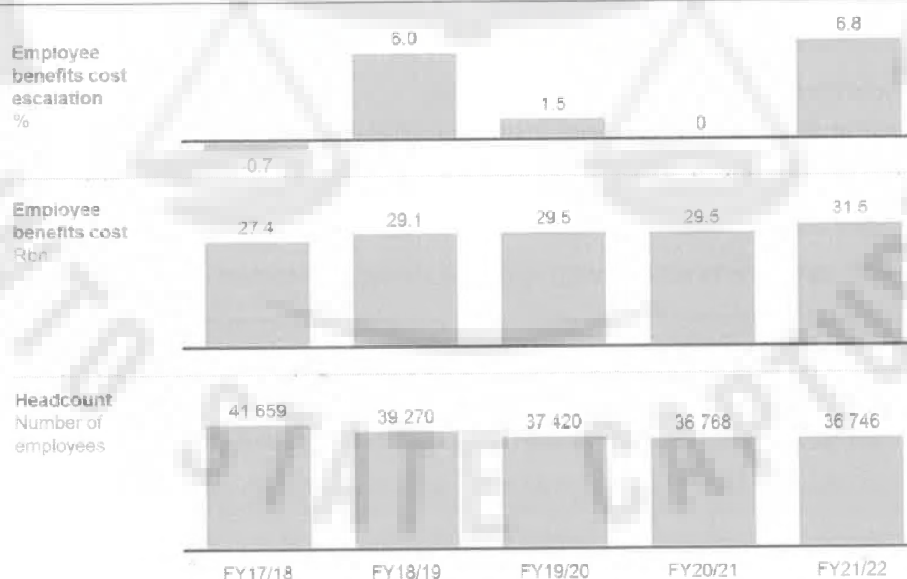
Five year headcount targets are shown in Exhibit 107.

EXHIBIT 107: ESKOM COMPANY MANPOWER DIVISIONAL ALLOCATIONS, FY2017/18 - FY2021/22
Headcount¹, FTEs

Division	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22
Distribution	14 990	14 117	13 553	13 344	13 344
Generation	12 391	12 193	12 085	11 813	11 791
Customer Services	2 369	2 280	2 263	2 228	2 228
Finance	3 405	3 232	3 149	3 100	3 100
Transmission	1 923	1 784	1 709	1 682	1 682
Group Capital	2 183	1 806	1 306	1 286	1 286
Human Resources	1 278	1 041	761	749	749
Security	1 276	1 246	1 189	1 169	1 169
Group IT	884	750	750	750	750
Risk and Sustainability	582	504	432	426	426
Corporate Affairs	199	154	101	100	100
Assurance and Forensic	104	81	52	52	52
Strategic Support	41	35	28	27	27
Legal and Compliance	31	29	28	27	27
Company Secretary	15	13	10	10	10
Executive Support	7	6	4	4	4
ESK Office of the GCE	1	1	1	1	1
Total	41 659	39 270	37 420	36 768	36 746

¹ Based on the HR view

The approach to headcount reduction prioritises the retention of critical workforce segments. These allocations also exclude the different Eskom Holdings subsidiaries. The five-year manpower cost budget is shown in Exhibit 108.

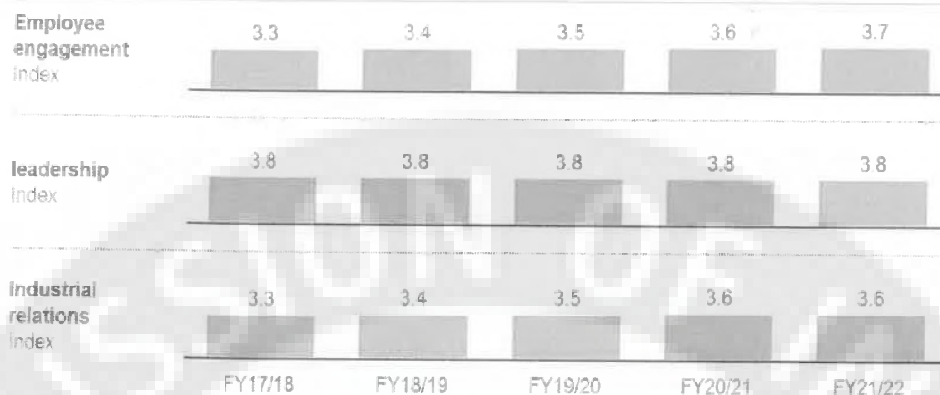
**EXHIBIT 108: ESKOM COMPANY MANPOWER COSTS AND HEADCOUNT TARGETS
FY2017/18 - FY2021/22**


Group Human Resources

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Culture of high-performance targets

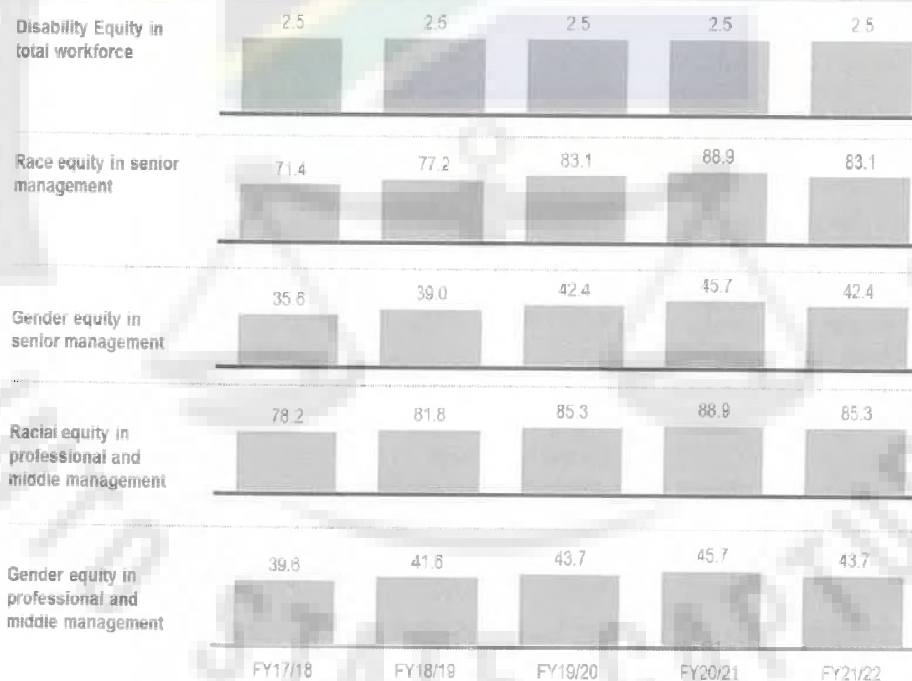
Performance targets for employee engagement, leadership and industrial relations are shown in Exhibit 109

EXHIBIT 109: ESKOM COMPANY PERFORMANCE TARGETS, FY2017/18 - FY2021/22

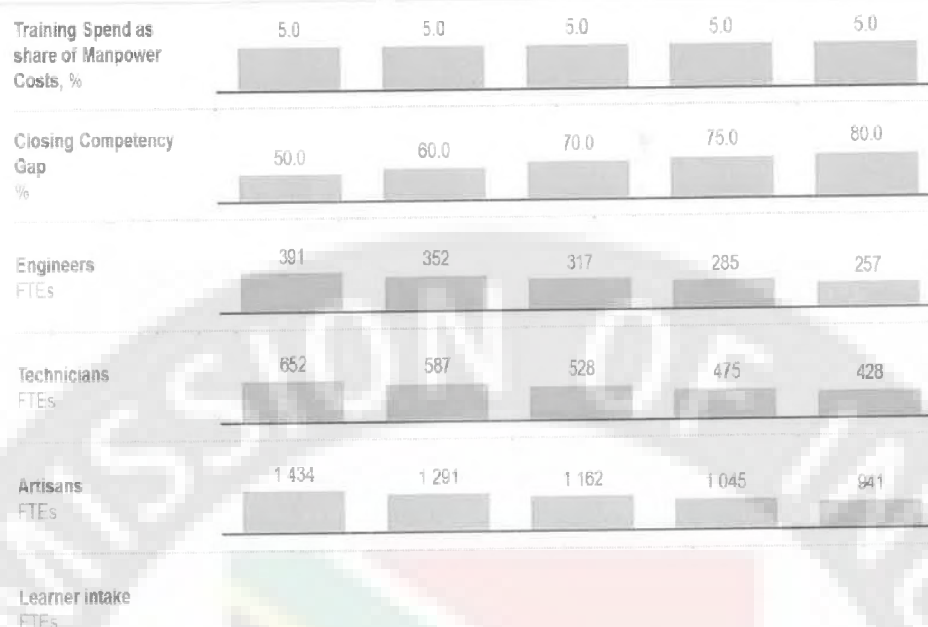
Culture is a gradual process geared towards creating leadership capability and improving employee and workplace relationships with all stakeholders.

Productive workforce – equity and upskilling targets

Employment-equity targets are shown in Exhibit 110 and upskilling targets in Exhibit 111

EXHIBIT 110: EMPLOYMENT EQUITY TARGETS FY2017/18 - FY2021/22

Given the limited opportunities to achieve employment equity at all levels, a deliberate effort is required from leadership to increase representation in terms of race and gender at senior-management and professional levels.

EXHIBIT 111: PRODUCTIVE WORKFORCE UPSKILLING TARGETS FY2017/18 - FY2021/22

Training spend will be optimised to technical and operational requirements without compromising the development of skills for existing employees and the skills pipeline.

16.6 Initiatives

Table 55, Table 56 and Table 57 lay out the initiatives associated with the five-year targets of the culture of performance and productive-workforce strategic thrusts.

TABLE 55: WORKFORCE-MANAGEMENT INITIATIVES

Initiatives	KPIs	Critical success factors
<ul style="list-style-type: none"> Implement changes emanating from review of operating model focusing on span of control and organisational layers to ensure optimal skills efficiency and effectiveness 	<ul style="list-style-type: none"> Headcount reduction Exco-approved operating model by 1st quarter of FY2017/18 Implementation within 18 months 	<ul style="list-style-type: none"> Acceptance by the shareholder and National Treasury
<ul style="list-style-type: none"> A redeployment strategy/ plan for stranded assets 	<ul style="list-style-type: none"> Number of employees redeployed Impacted headcount owing to redundant positions Signed-off redeployment plan 	<ul style="list-style-type: none"> Redeployment and placement of impacted employees

TABLE 56: EQUITY AND UPSKILLING INITIATIVES

Initiatives	KPIs	Critical success factors
<ul style="list-style-type: none"> A workplace that enables equity across the board 	<ul style="list-style-type: none"> Race equity at senior-management level Race equity at professional and middle-management levels 	<ul style="list-style-type: none"> Disciplined execution of the Employment Equity Plan by Exco

Group Human Resources

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Initiatives	KPIs	Critical success factors
	<ul style="list-style-type: none"> Gender equity at professional and middle-management levels Disability equity across the board 	
<ul style="list-style-type: none"> The prioritisation of core competencies and skills gaps, and delivery of training in a consistent, high-quality manner (e.g. operations and maintenance) 	<ul style="list-style-type: none"> Effective management of training costs Narrowed competency gaps of employees in operating and maintenance within Generation 	<ul style="list-style-type: none"> Capability and capacity at the Eskom Academy of Learning Availability of skills Audit data
<ul style="list-style-type: none"> A skills pipeline fed by learnerships and apprenticeships, especially in operations and future nuclear skills 	<ul style="list-style-type: none"> Achieve learner pipeline targets as per the shareholder compact 	<ul style="list-style-type: none"> Access to additional funding
<ul style="list-style-type: none"> A robust workforce model to understand people requirements, gaps and areas of oversupply, to meet business requirements and to capture efficiencies 	<ul style="list-style-type: none"> Achieve manpower numbers as per the DTC targets Contain manpower costs as per the budget 	<ul style="list-style-type: none"> Disciplined execution by divisions Limited ad-hoc salary increases

TABLE 57: CULTURE-OF-PERFORMANCE INITIATIVES

Initiatives	KPIs	Critical success factors
<ul style="list-style-type: none"> Culture change – leadership development to drive culture change from the top down 	<ul style="list-style-type: none"> Leadership-effectiveness index 	<ul style="list-style-type: none"> Regular talent review Robust talent and succession processes Investment in the development of leaders
<ul style="list-style-type: none"> Effective performance management system which ensures accountability and links total performance of business to individual and operational performance and behaviour 	<ul style="list-style-type: none"> Organisational performance 	<ul style="list-style-type: none"> Access to management toolkits Manager quality Regular performance reviews Ability to engage in critical conversations
<ul style="list-style-type: none"> Collaborative relationships with unions to enable peace and stability both in the operating businesses and on the New Build 	<ul style="list-style-type: none"> Industrial-relations index 	<ul style="list-style-type: none"> Exco members represented at key participative structures (Central Bargaining Forum/Contractor Consultative Forum/SF/Employment Equity Skills Development) Availability and willingness of stakeholders to participate
<ul style="list-style-type: none"> Increased employee-engagement level 	<ul style="list-style-type: none"> Employee-engagement index 	<ul style="list-style-type: none"> Leader visibility, alignment and support

Initiatives	KPIs	Critical success factors
		<ul style="list-style-type: none"> linked to employee engagement Action-plan implementation regarding survey results
<ul style="list-style-type: none"> A conducive environment to ensure that both men and women benefit equally and increased representation of women in leadership positions 	<ul style="list-style-type: none"> Proportion of women in key leadership positions 	<ul style="list-style-type: none"> Positions designated for gender transformation Executive support

16.7 Risks and treatment plans

Group HR has assessed the primary risks that could pose obstacles to its five-year plan, and has identified associated mitigation plans (Table 58).

TABLE 58: RISKS AND TREATMENT PLANS

Risk	Description	Treatment plans
<ul style="list-style-type: none"> Industrial action 	<ul style="list-style-type: none"> Breakdown in the relationship with organised labour (including their perceived increased influence) resulting in possible industrial action both internally and externally 	<ul style="list-style-type: none"> Continue to engage with organised labour in line with the recognition agreements
<ul style="list-style-type: none"> Lack of skills retention and employee morale 	<ul style="list-style-type: none"> Inability of the business to balance continuity and retention of skills, resulting in suboptimal operations and loss of productivity caused by low employee morale and a perceived declining EVP 	<ul style="list-style-type: none"> An acceptable workforce plan that aligns the skills requirement with the operational business needs Review the EVP and articulate and communicate it to employees so that they understand it fully
<ul style="list-style-type: none"> Temporary uncertainty amongst key stakeholders 	<ul style="list-style-type: none"> Uncertainty relating to job security amongst non-core skills staff owing to the impact of the manpower ramp-down over the next five years 	<ul style="list-style-type: none"> An Exco-led Manpower Working Group Steering Committee to identify and manage key stakeholder relations.
<ul style="list-style-type: none"> Not achieving the 36 746 manpower target 	<ul style="list-style-type: none"> Missing the FY2021/22 target owing to possible non-adherence to ramp-down levers 	<ul style="list-style-type: none"> An Exco-led Manpower Working Group Steering Committee to identify and manage key stakeholder relations.

17 Group Capital

17.1 Summary of the operational plan

17.1.1 Overview

Group Capital Division (GCD) is executing the largest capital-expansion programme in Africa. Additionally, GCD manages projects that ensure environmental compliance, transmission strengthening, customer connections and refurbishment of existing assets according to the PLCM. GCD is responsible for the development of future growth opportunities that will ensure a further 20.9 GW of new capacity.

17.1.2 Financial and operational highlights FY2016/17

GCD achieved the following highlights:

- Medupi Unit 5 was synchronised to the grid on 8 September 2016, earlier than the P50 date of March 2017, and all Ingula units were commissioned, adding 1 332 MW of peaking capacity.
- 1 800 MVA of transmission and other transformation capacity was installed and commissioned, meeting the year-end target ahead of schedule.
- Claims management strategies were successfully implemented at Medupi and Kusile, resulting in claims being settled at an average settlement rate of 10%.
- Kusile Unit 1 was synchronised to the grid on 26 December 2016, earlier than the P50 date of August 2017.
- The full permanent solution for the recovery of the coal silo at Majuba was returned to service on 21 December 2016, one year ahead of the scheduled date of 31 December 2017.
- Expenditure on N-1 compliance projects was above target (R2.8 billion vs R2 billion), as was generation of coal environmental compliance projects (R250 million vs R95 million) as a result of front-loading projects and pre-delivery of materials.
- Eskom Real Estate (ERE) space optimisation released the majority of its lease obligations, resulting in savings of R50 million a year.
- The capital expansion programme created 37 655 jobs in the financial year.

17.1.3 Objectives and five-year targets

In the next planning cycle, GCD will aim to achieve the following objectives:

- Deliver the New Build programme to add 8.7 GW of capacity to the grid by delivering within the approved P80 schedule and P50 cost, resulting in a R14 billion saving.
- Construct 2 095 km of transmission and other lines and commission of 10 775 MVA of transformation capacity.
- Complete refurbishment projects, including Matla, Duvha, and low-pressure retrofits.
- Execute environmental compliance projects such as nitrogen oxide, sulphur dioxide and fabric filter plants.
- Finalise the role of GCD in nuclear programme beyond development.

17.1.4 Priorities FY2017/18

GCD has set the following priorities for FY2017/18:

- Commercial operation of Medupi units 5 and 4 (794 MW each), and delivery of Kusile Unit 1

- Construction of 677 km of transmission and other lines and commission of 2 010 MVA of transmission and other transformation capacity for grid strengthening, expansion and N-1 compliance
- Development work for Nuclear New Build programme for the finalisation of the investment case
- Review and revise GCD long-term strategy and align operating model to agreed strategy
- Develop and implement ERE turnaround strategy
- Measure technical efficiency by project milestone comparisons
- Measure and track the monetary savings achieved without reducing project scope, in line with the commitment to the P50 costs

17.1.5 Five year capital investment plan

GCD is tasked with the execution of approximately R153 billion in capital projects over the next five years

GCD will achieve its objectives and deliver its capital plan by implementing the following DTC 2 initiatives:

- Scrubbing capex projects and optimising portfolio based on revised forecasts for a targeted saving of R9.6 billion over five years
- Implementing top package and employer-claims avoidance strategies to drive reduction in claims at Medupi and Kusile
- Conducting cash flow risk mitigation strategies through savings in discretionary spend from Project Development Department, ERE and Strategic Project Department
- Unlocking key enablers for current projects through the establishment of the Group Capital Division Construction Excellence Programme
- Disposing of non-core / surplus real estate for a targeted saving of R1.5 billion over five years
- Establishing private sector partnerships to reduce capital spend

17.2 Divisional overview

17.2.1 Mandate

GCD's mandate is the effective execution of capital projects and real estate management enabled by a project management centre of excellence in support of reliability, security and supply of power generation to foster economic growth and social prosperity.

17.2.2 Regulatory environment

The operation of GCD is regulated by national legislation applicable to Construction, Occupational health and Safety (OHS), Environment, and ERE. In addition, the division is regulated by legislation relating to the South African Council for the Project and Construction Management Professions (SACPCMP). The following legislation is applicable:

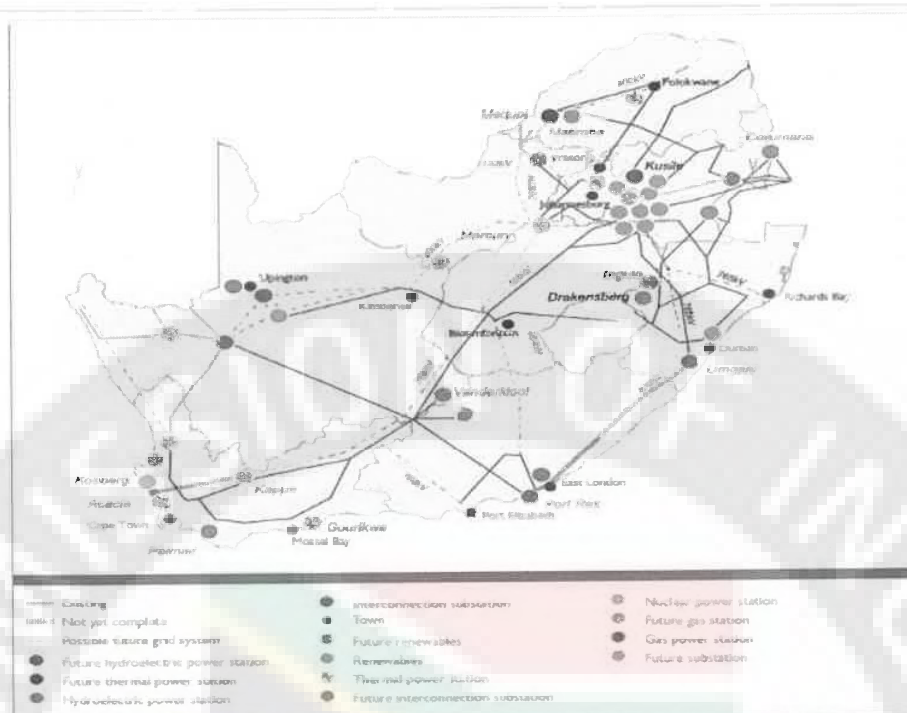
- Memorandum of understanding (MOU) signed with SACPCMP for the purpose of advancing Eskom personnel with the SACPCMP in compliance with Act 48 of 2000
- Environmental compliance, including Environmental Impact Assessments (EIA), Water Usage Licences, and compliance in accordance with ISO 14001 amongst others
- Occupational health and safety requirements in accordance with OHSAS 18001, and quality management system requirements in accordance with ISO 9001 across all projects
- Land reform and expropriation, including heritage matters
- Preferential Procurement Policy Framework Act (PPPFA) and BBBEE

Eskom is a member of the Construction Industry Development Board and as such, GCD promotes uniformity in construction procurement, efficient and effective infrastructure delivery, construction industry performance improvement, development of the emerging sector, including industry transformation, and skills development.

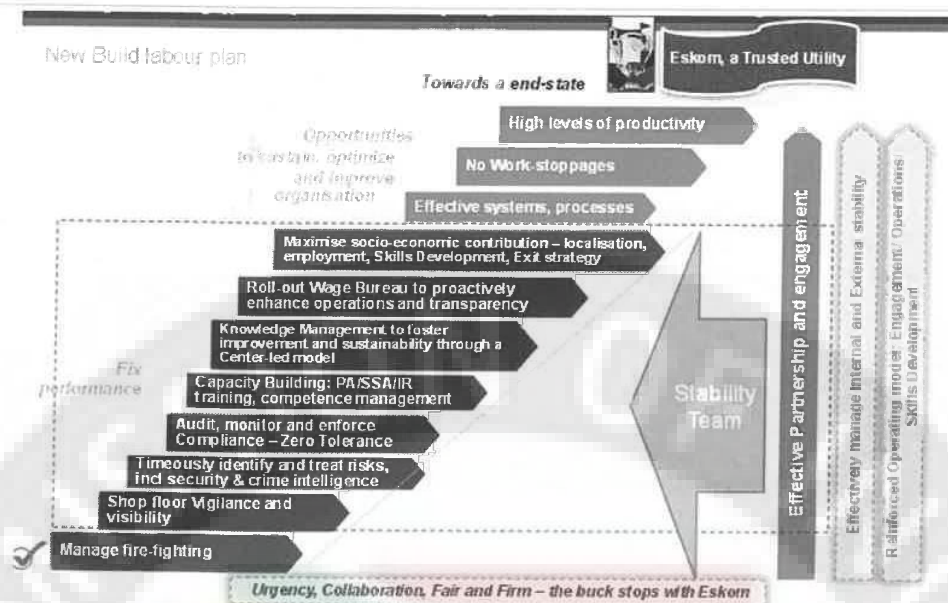
Regulatory compliance and commitment is supported by a Divisional Compliance Officer (DCO), and Functional Compliance Officers, as well as OHS and Environmental teams in each of the projects.

17.2.3 Asset base and facilities

GCD's assets are spread across the country, major generation projects are Medupi in Lephalale (Limpopo province) and Kusile in the Nkangala district (Mpumalanga province). ERE manages a portfolio comprising of 316 owned and 264 leased properties, 1 486 owned and 718 leased buildings and 6 755 residential units nationally. Transmission projects are spread across the country as depicted in Exhibit 112.

EXHIBIT 112: TRANSMISSION PROJECTS SPREAD ACROSS THE COUNTRY**17.2.4 GCD Stability Strategy**

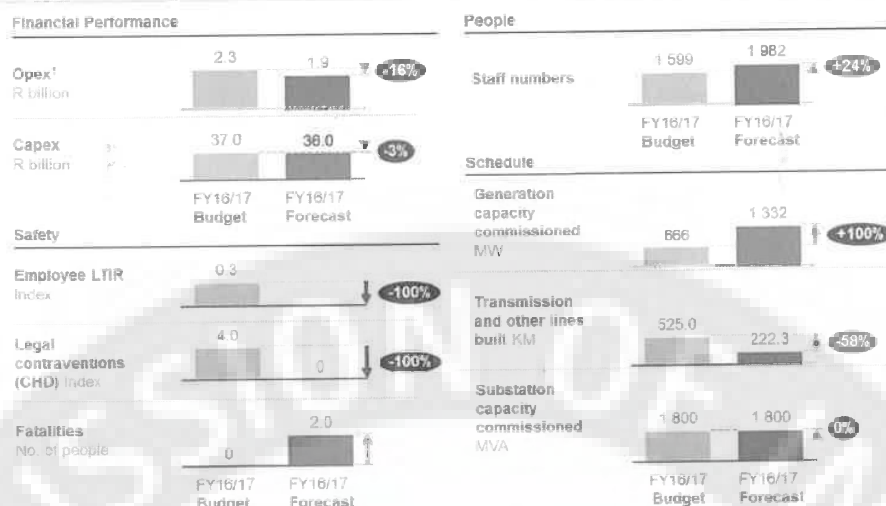
Eskom's capital projects are executed in a complex and volatile socio-economic and political environment. Medupi and Kusile have experienced serious schedule delays and costs owing to community unrest, work stoppages, site wide strikes and violence. Furthermore, instability on site has resulted in damage to property and personnel. In FY2016/17 7 684 man-hours were lost at Medupi, and 20 266.5 at Kusile due to this low stability (as of December 2016). Effective management of stability is necessary for successful delivery of projects and the protection of Eskom's investments. The figure below shows GCD's journey map to achieving project labour stability.

EXHIBIT 113: GCD'S SITE STABILITY STRATEGY**17.3 Performance review FY2016/17**

GCD's operational and performance highlights are shown in Exhibit 114 and Exhibit 115.

EXHIBIT 114: OPERATIONAL HIGHLIGHTS

New Build	Divisional	Claims
<p>Medupi Unit 4 and Kusile Unit 2 synchronisation milestones achieved, in line (Medupi) and ahead of (Kusile) P50 targets</p> <p>Final Ingula Unit achieved commercial operation on 30 January 2017. Ingula pumped storage scheme now fully operational</p> <p>Improved project stability. Medupi Leadership initiative and Kusile Exit and Outreach Programme established</p> <p>Zeus to Hydra scheme completed on 29 November 2016, transporting 765 kV across 1 476 km of transmission lines</p> <p>Critical contracts for the FY16/17 Power Delivery Projects concluded and environmental approvals obtained</p>	<p>Ingula has won SAUEB-SAPCEC award for technical excellence</p> <p>Launch of the Group Capital Workers Advancement Programme</p> <p>Eskom appointed as procurer, owner and operator of Nuclear New Build Programme by Department of Energy</p>	<p>>80% reduction in contractor claims at Medupi and Kusile</p>
<p>Generation refurbishment and recovery</p> <p>Four Open Cycle Gas Turbines units converted to dual fuel – 3 x Ankerlig and 1 Gounkwa</p> <p>The full permanent solution for the recovery of the Goukwa silt at Majuba was returned to service ahead of schedule on 21 December 2016</p>	<p>Compliance</p> <p>Nuclear sites safety reports (Thyspunt and Duvetfontein) and Environmental Impact Assessment application submitted</p>	<p>CSI</p> <p>Capital expansion programme created 37 855 jobs in FY16/17</p> <p>Across GCD operational sites, >R8 million spent on refurbishing and building the following: schools, community halls, a police station and a medical centre</p>

EXHIBIT 115: PERFORMANCE AGAINST BUDGET

¹ Includes employee benefits and other opex and excludes depreciation, corporate overheads and impairments

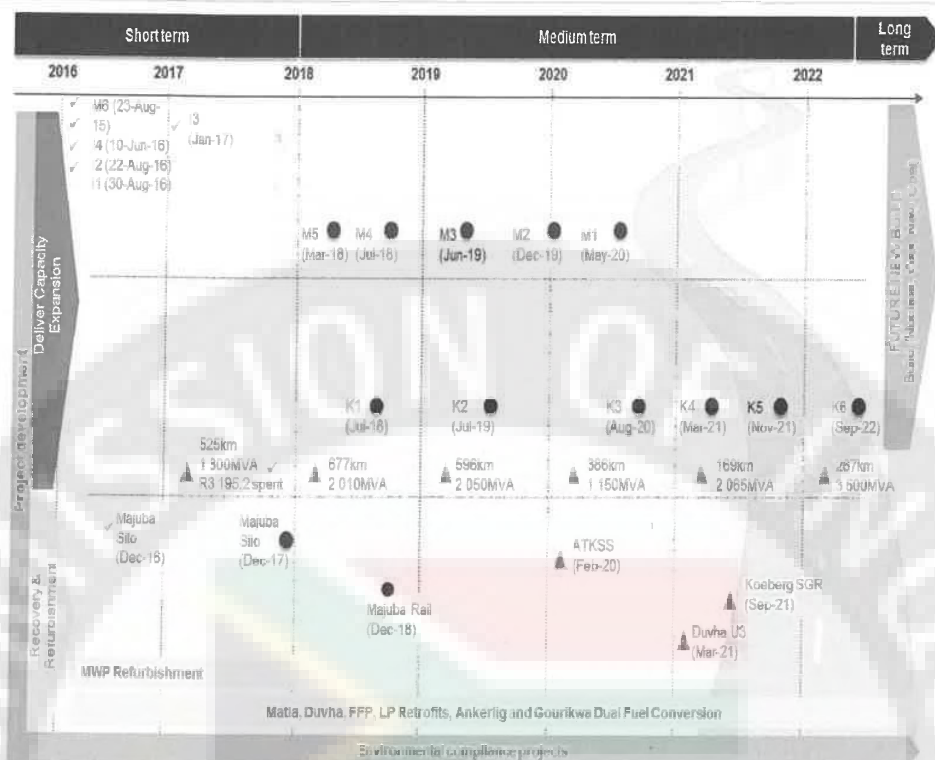
17.4 Aspirations and objectives**17.4.1 Objectives**

GCD has set the following objectives:

- Executing the New Build programme which is currently the largest capital expansion programme in Africa, and managing projects that ensure environmental and regulation compliance (e.g., transmission strengthening, customer connections and asset refurbishment).
- Running the Project Management Office in support of Presidential Infrastructure Coordinating Committee initiatives.
- Consolidating and optimising the real estate portfolio in line with Eskom's DTC strategy.
- Providing processes, systems and tools for project planning, development and execution.
- Building institutional contracting capability, including claims management, reporting oversight and package management strategy.
- Providing independent strategic assurance of capital investment through monitoring, reporting, and managing risk and resilience across the PLCM of Eskom's significant spend.
- Developing future growth opportunities that will ensure 20.9 GW of new capacity.

17.4.2 Priorities for the five-year plan

GCD's short, medium and long-term priorities are shown in Exhibit 116

EXHIBIT 116: GCD PRIORITIES PLAN FY2017/18 - FY2021/22**17.4.3 Operational assumptions**

The assumptions made for the GCD plan relate to the key factors that may affect delivery of project schedules. Assumptions related to GCD's capital allocation are included in the Capital Investment Plan (chapter 8).

Key assumptions of the operational plan are:

- Continued productivity improvements by major contractors will have an impact on schedule recovery and acceleration of Medupi and Kusile.
- No further external delays will be experienced on project sites.
- Commitment and implementation of partnership agreements by all stakeholders will ensure labour stability on project sites.

17.4.4 Financial and operational targets

GCD has set financial and operational targets for the next five years. Financial targets, operational targets and manpower targets are shown in Exhibit 117 to Exhibit 119.

Group Capital

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EXHIBIT 117: FIVE-YEAR FINANCIAL TARGETS

Employee benefits Other opex

Financial performance

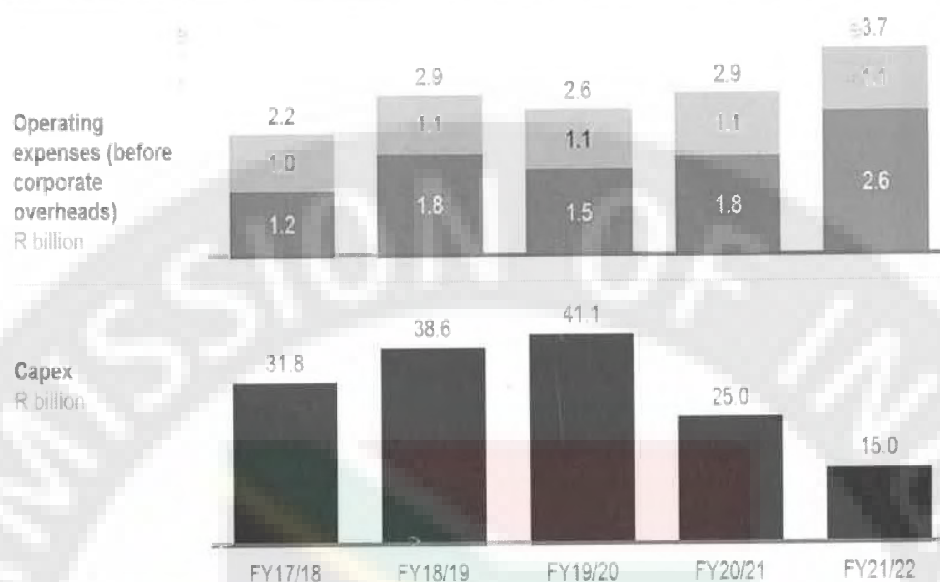
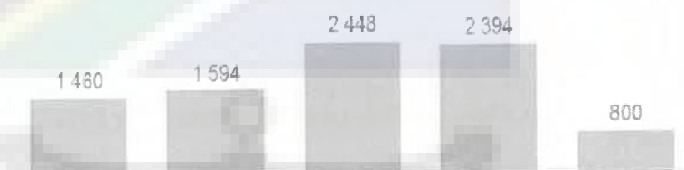


EXHIBIT 118: OPERATIONAL TARGETS

Generation capacity commissioned MW



Transmission and other lines built km



Substation capacity commissioned MVA

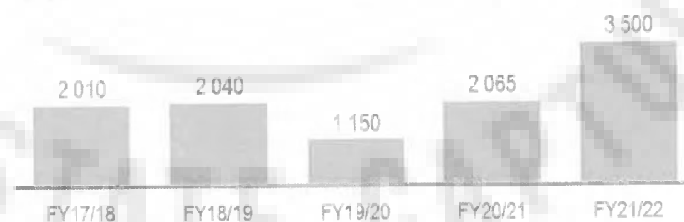
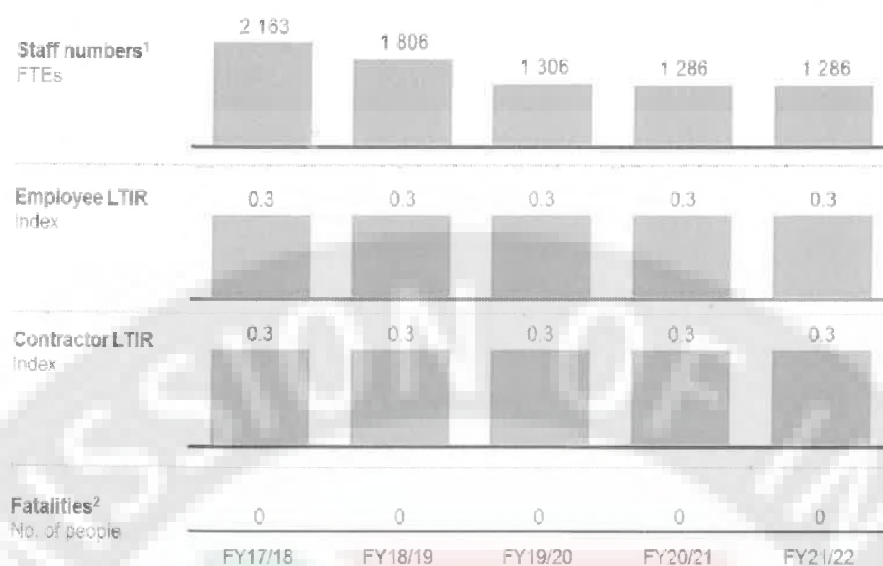


EXHIBIT 119: MANPOWER TARGETS¹ As per HR plan² Target of 0 in all financial years

During FY2016/17 Group Capital had additional headcount approved. From FY2018/19 to FY2019/20, after the conclusion of the Medupi new build, headcount will reduce to previously projected levels.

17.5 Initiatives

Initiatives for the next five years are shown in Table 59.

TABLE 59: INITIATIVES

Year	Key actions	KPIs	Critical success factors
Increase Eskom capacity and availability and avoid load shedding			
FY17/18 – FY21/22	<ul style="list-style-type: none"> • Increase generation capacity through the completion of Kusile and Medupi 	<ul style="list-style-type: none"> • Commercial operation of Medupi Units 1-5 • Commercial operation of Kusile Units 1-6 	<ul style="list-style-type: none"> • Labour stability • Productivity improvement by major contractors • Minimal cost escalation
FY17/18 – FY26/27	<ul style="list-style-type: none"> • Develop NNB plan to increase nuclear capacity 	<ul style="list-style-type: none"> • Front end planning in support of investment case 	<ul style="list-style-type: none"> • Decisions taken timeously • Buy in from all stakeholders • Site stability • All approvals licences and permits obtained timeously
Optimise Capital Portfolio			
FY17/18 – FY22/23	<ul style="list-style-type: none"> • Provide operational sustainability through recovery of Duvha unit 3 	<ul style="list-style-type: none"> • Duvha Unit 3 recovery 	<ul style="list-style-type: none"> • Timeous placement of final boiler construction contract • Site stability • No change in legal and regulatory requirements

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Year	Key actions	KPIs	Critical success factors
	• Operational sustainability	• Koeberg steam generator replacement	• Outage availability • Manufacture and delivery of equipment to site on schedule • Contractor performance
	• Operational sustainability	• OCGT dual fuel conversion	• Outage availability • Contractor performance
	• Operational sustainability	• Ankerling transmission Koeberg second supply	• Outage availability • Contractor performance
	• Operational sustainability	• Majuba Rail	• Outage availability • Contractor performance
	• Operational sustainability	• Transmission and other lines built	• On time environmental approval • Sufficient contractor capacity and performance in line with contractual milestones approvals • Access to project sites
Operational excellence			
	• Operational sustainability	• Gx Coal Technical Plan Projects	• Availability of outages
FY17/18 – FY20/21	• Optimise and consolidate real estate portfolio	• Upgrade of existing Customer Network Centres (CNC) and building of new CNCs	• Unchanged requirements from regional offices • Change management
Ensure long-term revenue			
FY17/18 – FY21/22	• Consolidate current real estate network through sales of non-core assets	• Sale of non-core assets	• Achieve market value for property • Timorous approval of sales
FY17/18 – FY20/22	• Drive systematic and sustainable cost savings	• Acceleration of Kusile and Medupi	• Acceleration of Kusile and Medupi
		• Capital scrubbing	• No impact on scope and quantity of projects
		• Private sector partnership (PSP)	• Timorous appointment of transaction advisor
Reduce environmental footprint in existing fleet			
FY17/18 – FY22/23	• Gx Coal Emissions Projects	• Completion of key environmental compliance projects	• Availability of outages

17.6 Risks and treatment plans

Risks and treatment plans are shown in Table 60:

TABLE 60: GCD RISKS AND TREATMENT PLANS

	Risks	Treatment Plans
1	Industrial action (protected and unprotected) leads to production delays and/or property damage across construction sites, including safety incidents (injuries).	<ul style="list-style-type: none"> • The partnership agreement structures and processes both national and on-site, have been streamlined and tightened up to ensure issues are dealt with expeditiously and at the right engagement platform to minimise disputes • Eskom's role in managing employee relations has been strengthened with visibility of emergency response personnel on the ground. • The skills development committees are established and operational on the sites. A skills development risk assessment tool has been developed to monitor and audit contractor compliance to the same.
2	Inadequate capacity and/or competency amongst contractors to support Eskom's New Build programme priorities. This negatively affects projects in various ways, such as schedule delays owing to low productivity, high rework rates, labour unrest and work stoppages.	<ul style="list-style-type: none"> • Productivity increase initiatives will be implemented, including focused contractor management. • On-site contract management resources will be increased to improve associated processes such as claims management and contract oversight. • Technical oversight and assurance will be increased throughout projects (Oversight Monitoring And Assurance Centre)

18 Procurement & Supply Chain Management

18.1 Summary of the operational plan

18.1.1 Context and mandate

In FY2016/17, Procurement & Supply Chain Management (P&SCM) focused on:

- Managing an external spend budget of R125 billion as at 31 December 2016
- Managing major contracts and Eskom's supply chain, making Eskom one of South Africa's largest procurers
- Ensuring supplier development and localisation, although the Group has not achieved its ambitious targets in the past year
- Ensuring full adherence to procurement legislative requirements

18.1.2 Financial and operational highlights FY2016/17

- Placed 1675 contracts on behalf of Eskom as at 31 December 2016
- Handled in excess of 750 000 purchase requisitions across Eskom
- Established the SAP informal tendering system
- Attained savings of R1.6 billion in BPP savings on external spend
- Introduced data analytics to monitor trends for all procurement tender committee submissions

18.1.3 Objectives and five-year plan

- Improve the speed and quality of service through systematic process improvement and performance management
- Drive systematic and sustainable cost savings
- Reduce risk and fraud by implementing standardised proactive risk management and governance systems
- Co-ordinate and drive Eskom's socio-economic contribution with respect to Supplier Development and Localisation (SD&L) gap
- Ensure that P&SCM develops and retains the required skills and closes the skills gap

18.1.4 Key risks

- Excessive cost of procurement, caused by poor planning, collusion and anticompetitive practice
- Non-compliance to prescribed commercial governance processes
- Poor planning by the business leading to the unavailability of critical spares stock
- Increased potential of suppliers going into financial distress, caused by prevailing recessionary economic climate
- Inability to implement commercial mandate, caused by limited knowledgeable work force/ attrition, leading to inability to contribute towards keeping the lights on
- Fraud and corruption in the commercial process, caused by unethical business practices
- Non-achievement of SD&L targets as per shareholder compact, caused by not placing contracts with designated groups

18.2 Divisional overview

18.2.1 Mandate

Procurement and Supply Chain Management's mandate is to optimally manage a P&SCM organisation with clear line of sight over all external spend incurred, which enables Eskom to achieve world-class capabilities and performance in the areas of sourcing, supply-chain operations, contracts management, business strategy and integration, demand forecasting and supply planning, governance, risk and compliance. This mandate is to provide an appropriate platform for effective and efficient performance to ensure the right product/service at the right time without causing production interruptions.

18.2.2 Operating model

In order to achieve this mandate, P&SCM recently adapted its operating model (Exhibit 120). This has resulted in the establishment of six functions that will support the operating model:

- P&SCM Strategy & Integration
- Demand Forecasting & Supply Planning
- P&SCM Governance Risk & Compliance
- Sourcing Management
- Contract Management
- Supply Chain Operations (SCOPS)

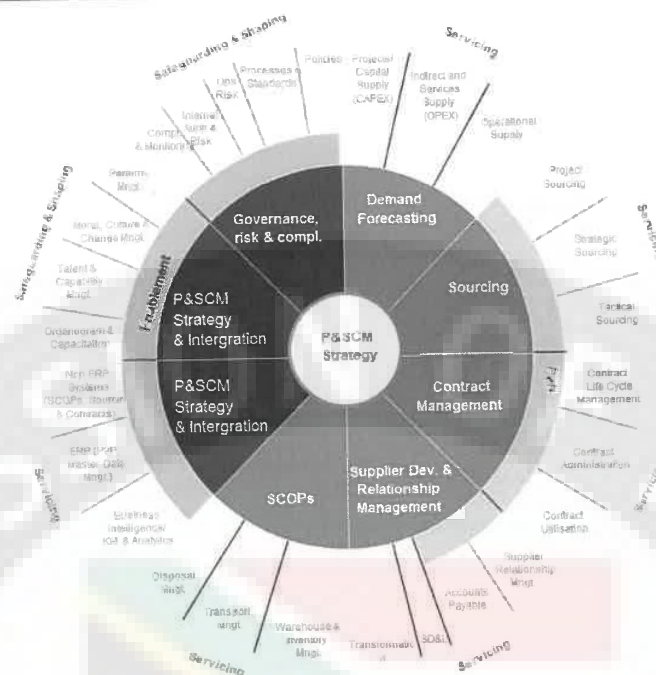
Procurement and Supply Chain Management owns the procure-to-pay process. The critical key aspects of this process relate to the interface with the customer in order to ensure a superior customer experience. The correct interpretation of customer requirements as well as engagement with suppliers throughout the process is key. In addition, P&SCM will have to ensure compliance with several laws that regulate the public sector procurement environment such as:

- Broad-Based Black Economic Empowerment Act (B-BBEE Act)
- PPPFA
- PFMA
- Promotion of Access to Information Act/PAJA

Procurement & Supply Chain Management

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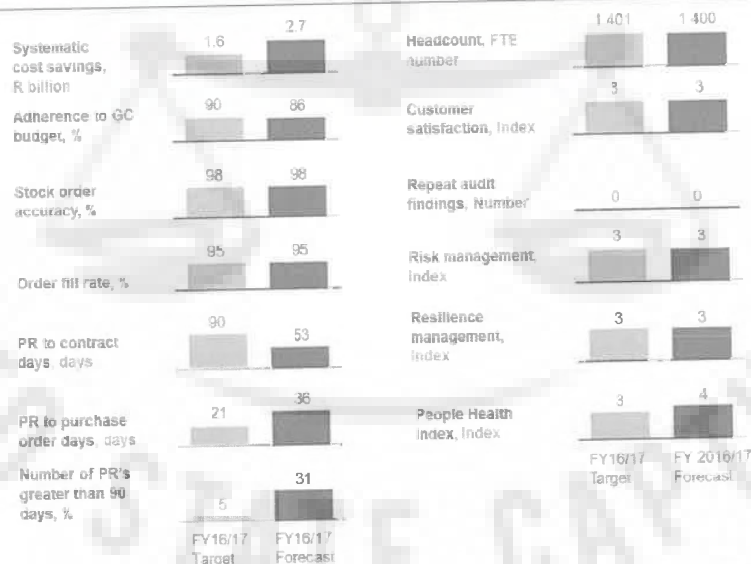
EXHIBIT 120: P&SCM OPERATING MODEL



18.3 Performance review FY2016/17

Over the last financial period, Procurement & Supply Chain Management managed to achieve most of their set targets (Exhibit 121)

EXHIBIT 121: FY16/17 PERFORMANCE REVIEW



Procurement & Supply Chain Management

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In order to drive improved performance in P&SCM, a number of initiatives were identified for the 2016/17 to 2021/22 planning period. These are aimed at reducing the funding gap brought about by the MYPD3 determination of 8%. Table 61 details the DTC 1 initiatives.

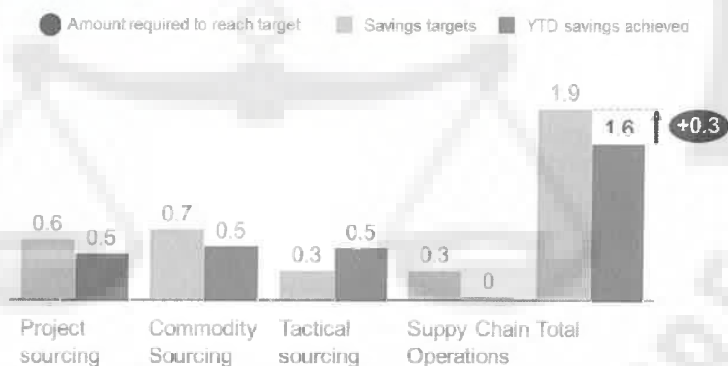
TABLE 61: DTC 1 SAVINGS INITIATIVES (PROCUREMENT EXCELLENCE PROGRAMME)

DTC 1 Initiative Name	Description
Improve speed and quality of service (Internal operational efficiency enhancement)	Improve speed and quality of service through systematic process improvement and performance management
Drive systematic cost savings	Embark on cost savings initiatives as directed by the Eskom corporate plan. This is mainly in the procurement of goods and services through effective negotiations and minimise the total cost of ownership.
Reduce procurement risk & fraud	Reduce risk and fraud within procurement by implementing standardised proactive risk management and governance systems
Coordinate and drive Eskom's socio-economic contribution through Spend	Through procurement of goods and service, ensure procurement from designated groups is implemented. Where there are no suppliers, implement localisation and industrialisation strategies.
Contract management optimisation	Implementation of the contract management centre of excellence

The spend tower prevents unnecessary spend, codifies free text spend, reduces non-contract spend and prevents bad buying practice, and continues to yield positive results. Since the beginning of the financial year under review, as at 31 December 2016, a total of R1.5 billion has been banked. This is against a target of R1.9 billion for FY2016/17 (Exhibit 122).

EXHIBIT 122: DTC 1 SAVINGS

DTC 1 Savings, FY16/17
R billion



18.4 Aspirations and objectives

18.4.1 Procurement and Supply Chain Management Journey Map to excellence

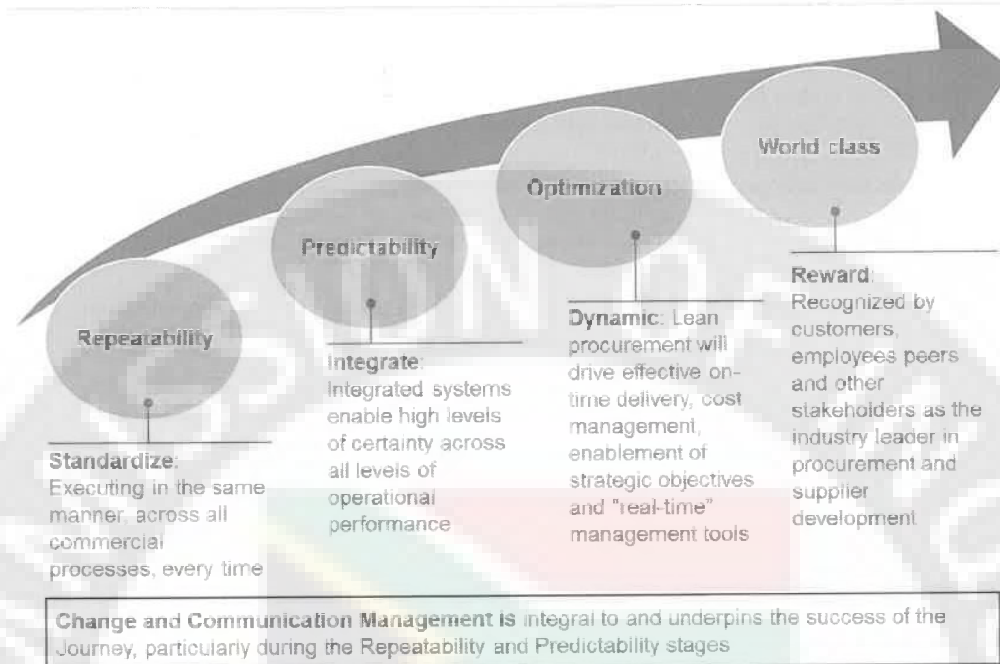
The P&SCM strategy has been anchored on P&SCM's 'journey to excellence' that will move through four distinct phases from its current reality to world-class excellence. The phases of the journey are repeatability, predictability, optimisation and world-class excellence (Exhibit 123). Change and

Procurement & Supply Chain Management

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communication management to ensure overall management, oversight, will underpin the journey and awareness at all times.

EXHIBIT 123: P&SCM JOURNEY MAP



18.4.2 Strategic objectives

A key responsibility of the Procurement and Supply Chain Management (P&SCM) is to ensure alignment with end-users and suppliers on Eskom's procurement requirements. This involves the review and enhancement of commercial performance, and alignment of strategy and business plan to Eskom's overall strategic objectives. It also involves the identification of key initiatives to address quantitative and qualitative challenges

In the light of this, P&SCM has the following overall objectives:

- Improve the speed and quality of service through systematic process improvement and performance management.
- Procurement and supply chains in world-class organisations are agile. For Eskom to emulate this standard, cycle times need to be shortened whilst still ensuring superior service quality
- Drive systematic and sustainable cost savings
- An organisation-wide cost-savings mind-set, and minimising the cost of electricity, are necessary to ensure Eskom's financial sustainability
- Reduce risk and fraud by implementing standardised proactive risk-management and governance systems:
- To ensure that P&SCM is above reproach, it will implement standardised proactive risk management and governance systems. P&SCM seeks to work towards a culture of zero fraud, corruption and irregularities in every transaction. Further improvements in the process are actively investigated as and when the trends analytics team picks up deviations
- Co-ordinate and drive Eskom's socio-economic contribution with respect to the SD&L gap:

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- P&SCM is expected to drive socio-economic imperatives by ensuring that various statutes (e.g. New Growth Path, National Development Plan, Industrial Policy Action Plan, Competitive Supplier Development Programme) are advanced through Eskom spend. This ensures the transformation of the supplier landscape and creates shareholder value. In addition, they will be a focus on enterprise development to increase the capacity and capability of black suppliers
- Ensure that Group Commercial develops and retains the required skills and closes the skills gap:
- P&SCM aims to deliver world-class procurement and supply-chain performance through the development and closing of identified skill gaps. Driving a culture of high performance and ensuring productivity is critical in order to meet P&SCM's and Eskom's strategic objectives. Accordingly, P&SCM seeks to harness the skills of critical resources whilst ensuring a high performance culture

18.4.3 Targeted outcomes

P&SCM has defined the set of targeted outcomes to enable them to deliver on the strategic objectives identified

TABLE 62: TARGETED OUTCOMES TO ADDRESS SPEED AND QUALITY OF SERVICE

Key actions	KPIs	Critical success factors
Improve speed of service		
• Shorten the cycle time through improved interface with the internal customer	• Requisition to order cycle time	• End-user education on clarity of requirements
• Monitor the issue resolution rate for all commercially related customer queries	• Rate of issue resolution	• Issue escalation systems implementation (Group IT enabler)
• Manage a procurement requisition backlog	• Number of outstanding requisitions greater than 30 days	• SAP BW accurate reports
• Develop sourcing plans in line with demand planning and customer engagements	• Number of sourcing plans approved	• Signed-off sourcing plans
Drive systematic and sustainable cost savings		
• 10% reduction on external spend in line with DTC determinations	• Audited cost savings	• Implementation of the enabling agreement with the external service provider
Reduce risk and fraud within procurement		
Proactive assurance:	• Number of findings	• Insourcing of proactive assurance and resourcing
• Transactions to be subject to a proactive assurance review to ensure compliance to governance		
Reduce risk and fraud within procurement		
Proactive assurance:	• Number of findings	• Insourcing of proactive assurance and resourcing
• Transactions to be subject to a proactive assurance review to ensure compliance to governance		
Probity check/conflict of interest management:	• Probity checks on all transactions, including all procurement employees, dual/triple adjudicators and	• Probity checks on all transactions, including all procurement employees, dual/triple
• Probity checks on all transactions, including all procurement employees,		

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Key actions	KPIs	Critical success factors
dual/triple adjudicators and procurement tender committee members. • Declaration of interest in line with the provisions of the Eskom Declaration of Interests Policy	procurement tender committee members.	adjudicators and procurement tender committee members.
Delegation of authority: Enforcement of the procurement delegation of authority by empowering the independence of the duly constituted Procurement Tender Committees (PTCs)	• Number of fully functional delegated structures	• Independence of PTCs • Management of interference in the adjudication processes
Procurement trends analysis: Review of all Tender Committee submissions and generation of trends in order to inform detailed investigations	• Investigations completed through procurement trends analysis	• Assurance and forensics investigative capacity
Co-ordinate and drive Eskom's socio-economic contribution		
Driving industrialisation and localisation: • Implementation of the Focus Areas Plan	• Number of contracts placed with industrialisation and localisation obligations	• Visibility of future business requirements through which Eskom can drive the supplier development plan
Reduce risk and fraud within procurement		
Proactive assurance: • Transactions to be subject to a proactive assurance review to ensure compliance to governance	• Number of findings	• Insourcing of proactive assurance and resourcing
Reduce risk and fraud within procurement		
Probity check/conflict of interest management: • Probity checks on all transactions, including all procurement employees, dual/triple adjudicators and procurement tender committee members. Declaration of interest in line with the provisions of the Eskom Declaration of Interests Policy	• Probity checks on all transactions, including all procurement employees, dual/triple adjudicators and procurement tender committee members.	• Probity checks on all transactions, including all procurement employees, dual/triple adjudicators and procurement tender committee members.
Delegation of authority: Enforcement of the procurement delegation of authority by empowering the independence of the duly constituted PTCs	• Number of fully functional delegated structures	• Independence of PTCs • Management of interference in the adjudication processes
Procurement trends analysis: Review of all Tender Committee submissions and generation of trends in order to inform detailed investigations	• Investigations completed through procurement trends analysis	• Assurance and forensics investigative capacity
Co-ordinate and drive Eskom's socio-economic contribution		
Driving industrialisation and localisation: • Implementation of the Focus Areas Plan	• Number of contracts placed with industrialisation and localisation obligations	• Visibility of future business requirements through which Eskom

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Key actions	KPIs	Critical success factors
		can drive the supplier development plan
Ensure that Procurement & Supply Chain Management has the necessary mind-set and capabilities		
Employee morale: <ul style="list-style-type: none"> Ensure procurement leadership visibility and employee engagement through roadshows and other means of engagement as well as information sharing 	<ul style="list-style-type: none"> Employee-value-proposition and employee-engagement surveys completed with action plans 	<ul style="list-style-type: none"> Support from organisational effectiveness
Targeted capability development: <ul style="list-style-type: none"> Increase productivity by 20% as per DTC aspirations 	<ul style="list-style-type: none"> Procurement operating costs versus total spend managed 	<ul style="list-style-type: none"> SAP visibility through management reports in BW
Ensure that Procurement & Supply Chain Management has the necessary mind-set and capabilities		
Creating a high performance culture: <ul style="list-style-type: none"> Implement the Top Buyer programme and targeted skills development on critical areas of strategic sourcing, including but not limited to negotiations, contracts management and cost modelling 	<ul style="list-style-type: none"> Top Buyer Programme completion Completion of targeted training hours 	<ul style="list-style-type: none"> Training budget availability
Enhanced quarterly performance management: <ul style="list-style-type: none"> Ensure strict adherence to an objective-based performance management for staff across all levels 	<ul style="list-style-type: none"> Number of employees with performance contracts and quarterly reviews with strong consequence management 	<ul style="list-style-type: none"> Performance systems alignment to quarterly performance management

18.4.4 Additional initiatives for P&SCM (DTC 2 savings)

Subsequently, an additional funding gap has been identified for the 2017/18 to 2021/22 planning period because of the gap in the RCA determination. As a result, the following additional (DTC 2 savings) as indicated in Table 63 will need to be attained.

TABLE 63: DTC 2 SAVINGS

Period	Savings target	Savings %
2017/18	R2.4 billion	12%
2018/19	R3.4 billion	17%
2019/20	R5.4 billion	27%
2020/21	R4.4 billion	22%
2021/22	R4.4 billion	22%
TOTAL	R20 billion	100%

The above DTC 2 savings are over and above the DTC 1 Initiatives and are aimed at closing a funding gap of R20bn over the 5-year planning period through the implementation of the below proposed initiatives in Table 64.

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TABLE 64: DTC 2 INITIATIVES

DTC 2 Initiatives	Detailed Explanation
1. Demand planning	<ul style="list-style-type: none"> Detailed demand plan over a longer horizon Visibility of similar commodities (goods and services) across business units
2. Data analysis capability to allow for cost reduction and demand management during sourcing and project execution	<ul style="list-style-type: none"> Develop capability (systems and people) to analyse internal and external data to create visibility and extract value Focus on effective contract-price-adjustment management
3. Reduce inventory and working capital inventory	<ul style="list-style-type: none"> Managing working capital better by consolidated stock holding Network optimisation Transport management system Warehouse automation (radio frequency identification, barcoding and robotics)
4. Increase spend under management through cataloguing	<ul style="list-style-type: none"> Codification of materials and services to drive standardisation (material and services) of procurement Reduce unnecessary stock holding
5. End-to-end automation	<ul style="list-style-type: none"> Improve inventory management to drive down working capital Improve accuracy in data and process visibility Optimise warehouse network design
6. Reduce category total cost of ownership through improved scope specification	<ul style="list-style-type: none"> Clearly defined scope/spec Fit for purpose specifications (reduced gold plating) Performance specification not conformance specifications where there is no risk of IP infringement

18.5 Procurement & Supply Chain turnaround strategy

Eskom has not been able to meet the procurement (B-BBEE) spend targets set out in the shareholder compact for FY2016/17. In order to improve performance and ensure the successful attainment of the shareholder compact targets for FY2017/18 and future years, the Procurement & Supply Chain Management division has developed a set of performance turnaround initiatives. These initiatives include, but are not limited to the following:

Key problem: Failure to meet the procurement (B-BBEE) spend targets in the shareholders compact, (YTD December 2016)

KPI (% attributable spend against total measurable procurement spend)	Target FY 2016/17	Forecast FY 2016/17	Gap FY 2016/17	Key initiatives to address the problem	Target FY 2017/18	Risks associated with achieving this target in FY2017/18 – FY2021/22
B-BBEE	80%	66.35%	-13.65%	Cross cutting initiatives • Direct tactical purchase requisitions towards designated suppliers where possible	80%	• Eskom suppliers not complying with the legislation of RSA by not abiding to the B-
BWO	12%	7.26%	-4.74%		12%	
	40%	27.04%	-12.96%		40%	
Black youth owned	2%	0.91%	-1.09%		2%	

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Key problem: Failure to meet the procurement (B-BBEE) spend targets in the shareholders compact. (YTD December 2016)

KPI (% attributable spend against total measurable procurement spend)	Target FY 2016/17	Forecast FY 2016/17	Gap FY 2016/17	Key initiatives to address the problem	Target FY 2017/18	Risks associated with achieving this target in FY2017/18 – FY2021/22
Black people with disabilities	1%	0.01%	-0.99%	<ul style="list-style-type: none">• Use of NT's Central Supplier Database (CSD) to source more compliant designated suppliers for informal tendering for transactions less than R1 million• Use of objective criteria as per PPPFA to allow for the selection of designated suppliers during tender evaluations, until the new PPPFA amended regulation are implemented• All Panel Control Committees have been instructed to direct as much spend as possible to designated suppliers.• Where Eskom has no option but to use non-transformed suppliers those suppliers will be required to submit their transformation plan.• Prepare the market in terms of the demand, by holding focused supplier forums to get designated suppliers ready to participate in the upcoming tenders.• Apply to the DTI for exemption of the procurement spend IPPs	1%	<ul style="list-style-type: none">• BBEE codes of good practice• Potential lack of designated suppliers capable of supplying the commodities and delivering projects required• Designated suppliers may fail to meet technical requirements for tenders issued• Not meeting the shareholder compact and advancing the socio-economic imperatives• Designated suppliers may fail to meet technical requirements for tenders issued
Qualifying small enterprise	15%	5.22%	-9.78%		15%	
Exempt micro-enterprises	15%	6.80%	-8.20%		15%	
Failure to service the business in a timeous manner (PR to PO cycle time not met)						
Purchase requisition to contract cycle times	21 days	36 days	15 days	<ul style="list-style-type: none">• Shared services division to update vendor details on a weekly basis• Implement a system generated notification for all suppliers to alert them of any	21 days	<ul style="list-style-type: none">• Incomplete documentation submitted with the PR may prolong the completion of these transaction

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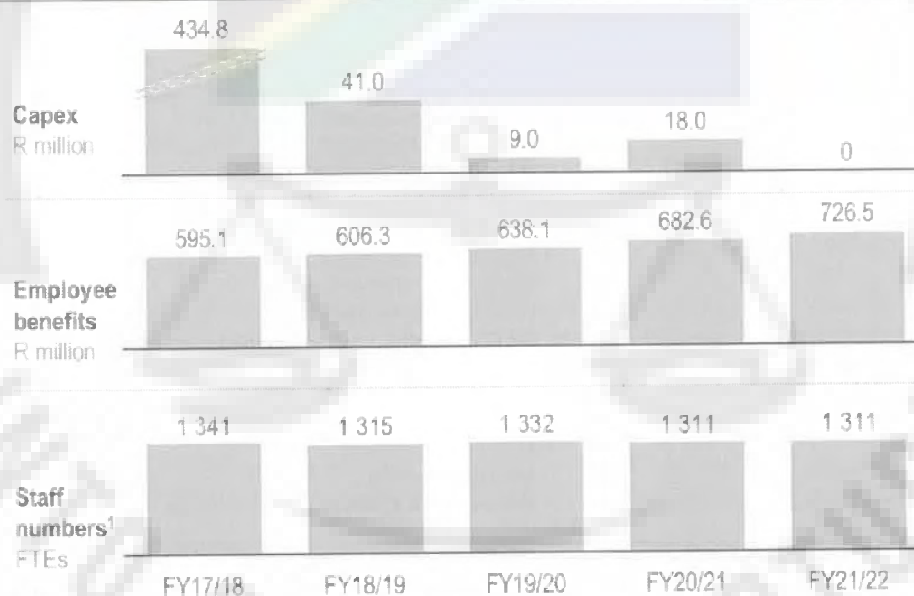
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Key problem: Failure to meet the procurement (B-BBEE) spend targets in the shareholders compact, (YTD December 2016)

KPI (% attributable spend against total measurable procurement spend)	Target FY 2016/17	Forecast FY 2016/17	Gap FY 2016/17	Key initiatives to address the problem	Target FY 2017/18	Risks associated with achieving this target in FY2017/18 – FY2021/22
				documentation that is about to expire and requires renewal <ul style="list-style-type: none"> Suppliers failing to renew documentation timeously, will be blocked on the Eskom system so that no RFQ's or orders are generated until valid documentation is provided 		

18.6 Financial and operational targets

The five-year financial and operational targets for P&SCM aligned to the aspirations of the division are outlined in the exhibits (Exhibit 124 to Exhibit 129)

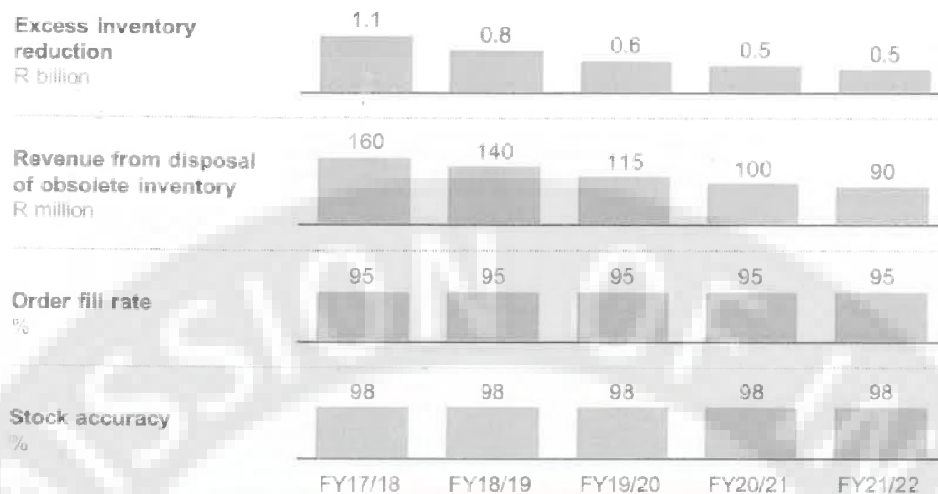
EXHIBIT 124: P&SCM FY16/17 CAPEX AND EMPLOYEE BENEFITS TARGETS¹ As per HR plan

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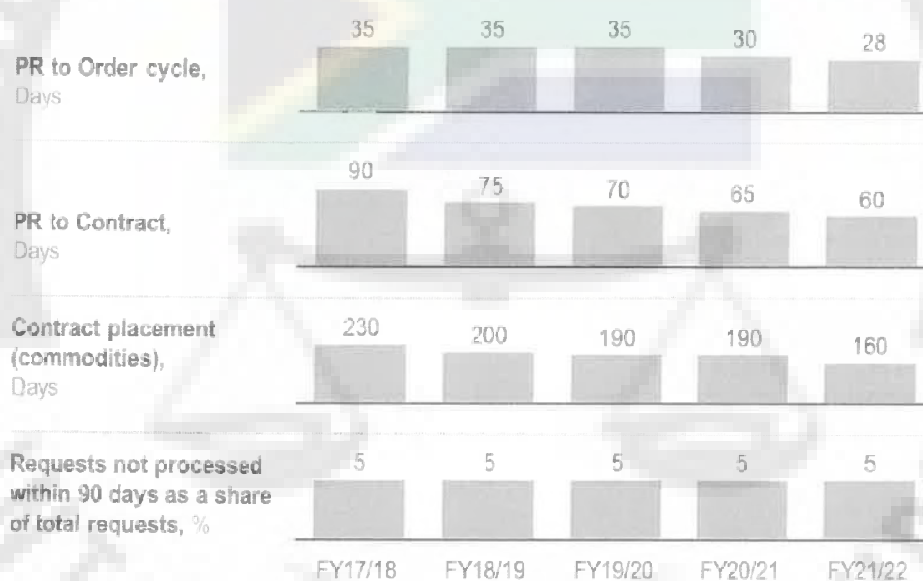
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EXHIBIT 125: INTERNAL BUSINESS PROCESS EFFICIENCY 1/5

FY17/18 – FY21/22

**EXHIBIT 126: INTERNAL BUSINESS PROCESS EFFICIENCY 2/5**

Internal Business Process Efficiency



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EXHIBIT 127: INTERNAL BUSINESS PROCESS EFFICIENCY 3/5

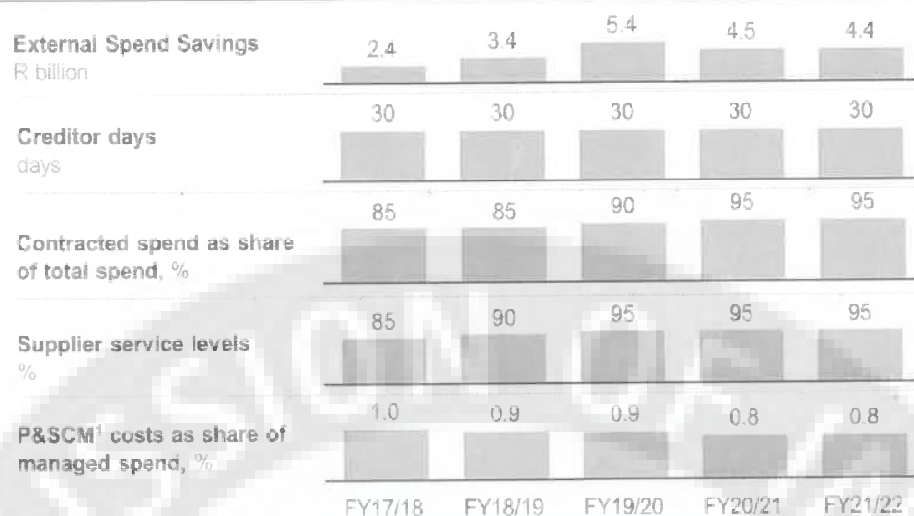
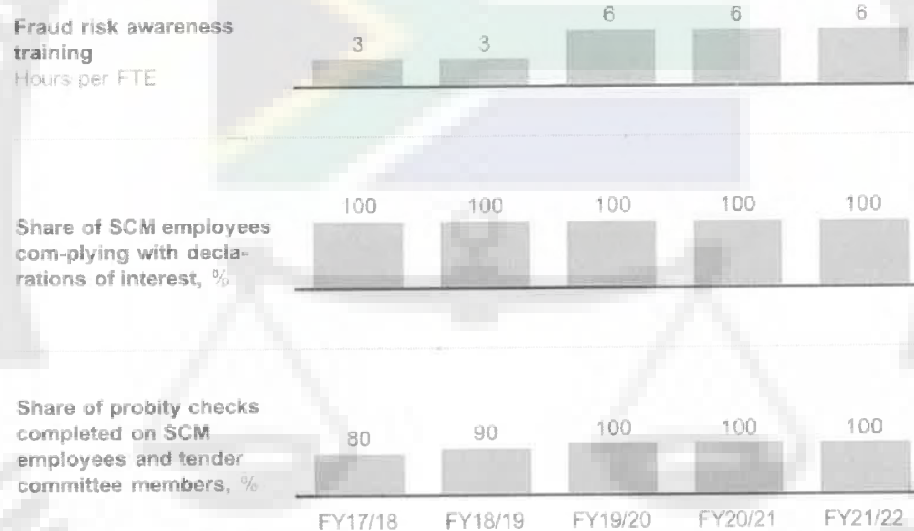
¹ Procurement and Supply Chain Management

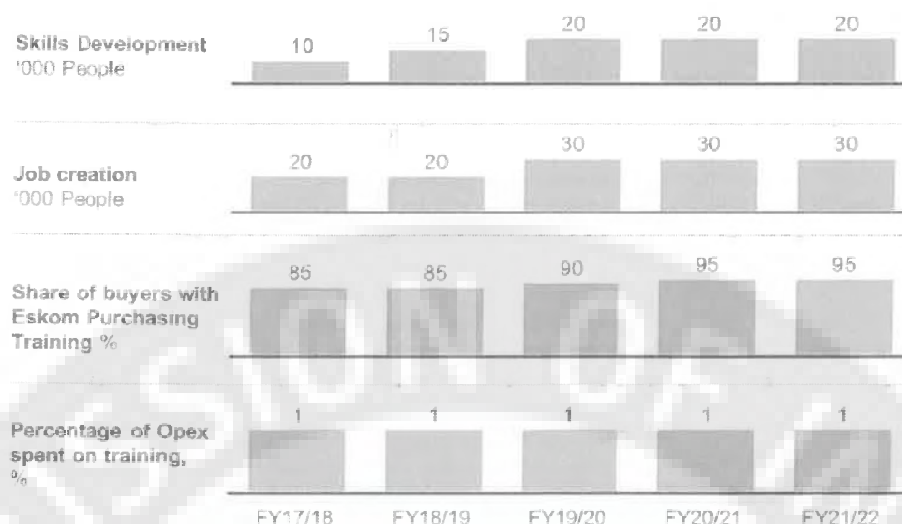
EXHIBIT 128: INTERNAL BUSINESS PROCESS EFFICIENCY 4/5



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EXHIBIT 129: INTERNAL BUSINESS PROCESS EFFICIENCY 5/5



18.7 Risks and treatment plan

Risks and treatments plans are shown in Table 65

TABLE 65: RISKS AND TREATMENT PLANS

Risk Description	Treatment Plan
Excessive cost of procurement (caused by poor planning), collusion and anti-competitive practice lead to poor financial performance by Eskom	<ul style="list-style-type: none"> • Developing bid-rigging and collusion-awareness training sessions with Competition Commission • Continuing expansion of supplier pool • Reducing prevalence of closed tendering vs open tendering through procurement-trends analysis and reporting • Updating of NEC to include clauses dealing with anti-competitiveness
Non-compliance with prescribed commercial governance processes leads to judgments being granted against Eskom and adverse impact on Eskom's brand and reputation	<ul style="list-style-type: none"> • Resuscitating the discontinued training of procurement practitioners in Procurement in Eskom 1, including awareness training • Developing Procurement in Eskom 2 and training of stakeholders • Rolling out Eskom-wide sensitisation programme to procurement practitioners and end-users on the provisions of procurement procedure • Implementing analysis of non-compliance and trends, and consequence management
Unavailability of critical spares stock (caused by poor planning) could lead to disruptions in electricity supply and prolonged outages	<ul style="list-style-type: none"> • Reviewing and monitoring of critical and strategic spares with operating units • Training all staff on correct planning philosophy and inventory-management principles • Segregating all Gx critical spares from normal maintenance spares to gain visibility • Tracking availability performance on critical-spares and strategic-spares storage locations

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Risk Description	Treatment Plan
Increased potential of suppliers going into financial distress (caused by prevailing recessionary economic climate) may lead to delays in project execution and business disruption	<ul style="list-style-type: none"> Implementing disciplinary processes for non-adherence to prescribed policies and procedures (e.g. timeous payment of suppliers) Ongoing supplier education and communication on compliance to Eskom's invoicing requirements
Inability to implement commercial mandate (caused by limited knowledgeable work force/attrition) leads to inability to contribute towards keeping the lights on	<ul style="list-style-type: none"> Implementing training plans
Fraud and corruption in the commercial process (caused by unethical business practices) leads to inability to deliver on mandate	<ul style="list-style-type: none"> Redefining the terms for tender-committee chairs and rotation
Non-achievement of SD&L targets as per shareholder compact (caused by not placing contracts with designated groups) leads to negative reputation and Eskom being penalised on performance	<ul style="list-style-type: none"> Proactively engaging OEMs on compliance (SD&L) Actively reporting SD&L performance at all relevant governance forums (including all tender committees in terms of tender award) Improving on the SAP SD&L report

19 Group Technology

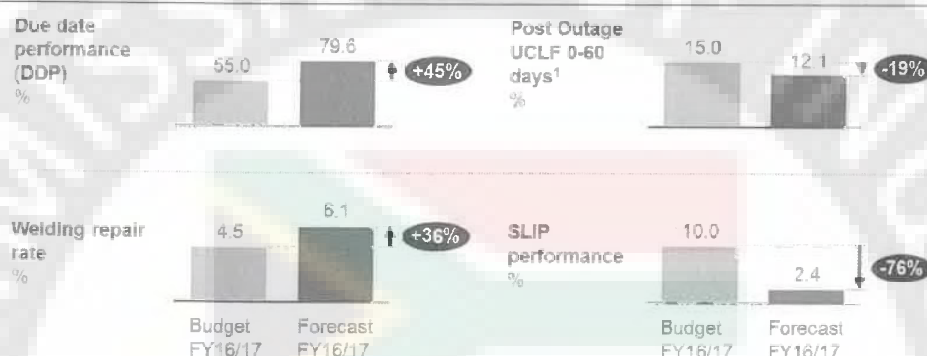
19.1 Summary of the operational plan

19.1.1 Overview

Group Technology is mandated with ensuring Eskom's ability to design, operate and maintain the asset base in a safe, standardised and sustainable manner. Initiatives in Outage Management, Engineering and Asset Management (the three departments within Group Technology) are aligned to support the Eskom operating units in achieving higher plant availability through plant support, and the control of outage planning and execution.

19.1.2 Financial and operational highlights FY2016/17

During FY2016/17, Group Technology outperformed against most of its targets



19.1.3 Objectives

Asset Management's focus areas are:

- Implementation and review of maintenance and operating business processes
- Partnering with Engineering and the operating units on the development and implementation of maintenance standards
- Development and implementation of maintenance metrics overseeing the entire maintenance business process
- Conducting maintenance and operating business process assurance on operating units to ensure compliance with standards
- Development and implementation of refurbishment standards

Outage Management's focus areas are:

- Restoring plant availability in support of Generation's ambition to reach 80% EAF in FY2020/21
- Ensuring that outages are executed in a standardised approach with a high focus on quality, on-time completion, within budget and with no to minimal post outage UCLF on scope executed

Engineering's focus areas are:

- Ensuring optimal engineering performance schedules, productivity and design review turnaround times (Project Engineering)
- Ensuring design competency and performance to user requirements (Plant Engineering)
- Ensuring the execution of plant health assessments and the optimal management of design package delivery for Eskom's capital projects (Power Delivery Engineering)
- Ensuring the standardisation of maintenance execution strategies, the management of technical specifications and optimised asset performance and excursions (Production Engineering Integration)

19.1.4 Risks

Group Technology has identified the following risks:

- Inability of the business to balance continuity and retention of skills, resulting in suboptimal operations and loss of productivity caused by low employee morale and a perceived declining EVP
- Switching off units for maintenance
- High frequency of required travel, as employees have to provide expert consulting advice at a number of stations/sites, depending on demand and availability of plant. The high frequency of travel increases the likelihood of vehicle incidents and inadequate use of resources
- Inadequate use of people resources, due to ramp-down of work, as a result of constrained budgets across the business
- Not achieving the FY2021/22 manpower target
- Inadequate skills available to drive outage process

19.2 Divisional overview

19.2.1 Mandate

Group Technology is mandated with ensuring Eskom's ability to design, operate and maintain its asset base in a safe, standardised and sustainable manner. Technology provides expert skills in support, consulting, design and project engineering to Generation, Distribution, Transmission and Group Capital Division. Eskom has appointed Technology to be the internal non-OEM partner providing Asset Management, Engineering and Outage Management services to the operating divisions.

Asset Management's mandate is to ensure methodical, consistent, repeatable, auditable and optimised maintenance and refurbishment in terms of performance, cost and risk for Generation, Transmission and Distribution assets. This is aimed at improving the availability of Eskom's asset base.

Engineering provides a professional, effective approach to engineering work delivery across the organisation, primarily focused on technical-asset integrity and health assurance over the long term.

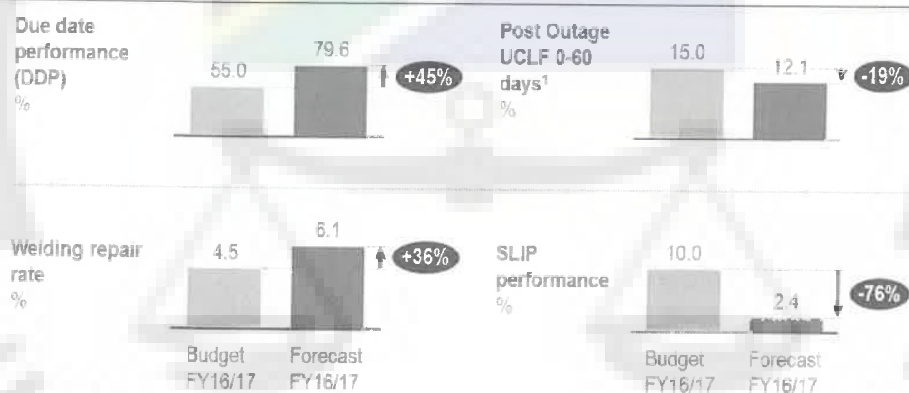
Outage Management provides standardised management of outages across the fleet with a focus on high-quality project delivery and on-time completion of outages and refurbishment projects. Outage Management ensures that outages and refurbishments are controlled, to deliver on-schedule performance and quality.

In line with the broader Eskom transformation responsibility, the business also leverages and develops its own subsidiaries. To provide this service, Technology is committed to ensuring the availability of engineering resources and technical support at points of demand.

19.3 Performance review FY2016/17

During FY2016/17, Group Technology outperformed against most of its targets.

EXHIBIT 130: GROUP TECHNOLOGY PERFORMANCE REVIEW



¹ Excluding Koeberg

19.4 Aspirations and objectives

In the next planning cycle, Group Technology will pursue various objectives to support Eskom's asset base in Asset Management, Outage Management and Engineering.

19.4.1 Asset Management's focus areas are:

- Implementation and review of maintenance and operating business processes
- Partnering with Engineering and the operating units on the development and implementation of maintenance standards
- Development and implementation of maintenance metrics overseeing the entire maintenance business process
- Conducting maintenance and operating business process assurance on operating units to ensure compliance with standards
- Development and implementation of refurbishment standards

19.4.2 Outage Management's focus areas are:

- Restoring plant availability in support of Generation's ambition to reach 80% EAF in FY20/21
- Ensuring that outages are executed in a standardised approach with a high focus on quality, on-time completion, within budget and with no to minimal post outage UCLF on scope executed

19.4.3 Engineering's focus areas are:

- Ensuring optimal engineering performance schedules, productivity and design review turnaround times (Project Engineering)
- Ensuring design competency and performance to user requirements (Plant Engineering)
- Ensuring the execution of plant health assessments and the optimal management of design package delivery for Eskom's capital projects (Power Delivery Engineering)
- Ensuring the standardisation of maintenance execution strategies, the management of technical specifications and optimised asset performance and excursions (Production Engineering Integration)
- Ensuring that outages are executed in a standardized approach with a high focus on quality, on-time completion, within budget and with no to minimal post outage UCLF on scope executed

19.5 Initiatives

In the next planning cycle, Group Technology will be pursuing different initiatives across Asset Management, Outage Management and Engineering to support Eskom's asset base.

19.5.1 Asset Management

Asset Management will focus on supporting preventive maintenance.

- Ensure a standardised end-to-end maintenance basis will be applied across generating plant under the BPP MSMW programme in Generation
- Develop and implement a maintenance assurance programme to continuously improve the management and execution of maintenance
- Develop a standardised operating basis through assessing and resetting the operating technical specifications that supports plant production requirements (e.g. load cycling)
- Support and influence the EPPEI programme towards up-skilling and improved knowledge base in the defined subject areas

19.5.2 Outage Management

The Outage Management programmes focus on the initiatives to support Generation. These initiatives include:

- Develop a safety strategy to improve safety performance
- Reduce of cost and time of planned outages.
- Review of production plans and propose outage schedules
- Develop an outage skills strategy to improve skills and competencies
- Conduct outage PCM training and compliance assessments
- Establish commissioning teams at sites to ensure adherence to commissioning standards
- Enforce Foreign Material Exclusion (FME) to prevent intrusion of foreign material into systems
- Report on Post Outage Unplanned Capacity Load Factor (PO UCLF) at every station

19.5.3 Engineering initiatives

Engineering will focus on initiatives across the three main sub-areas - Generation Plant Engineering, Project Engineering and Power Delivery Engineering:

Generation Plant Engineering

Generation Plant Engineering initiatives are aimed at managing and maintaining the design-base information.

- **Verify and update the Design Base for Generation Assets**
The objective of the Design Base initiative is to verify and update the technical Design Base of Eskom's coal fired and peaking power stations. This is to ensure availability and access to current and correct engineering information so that power stations can be operated, maintained and modified against a verified and maintained Design Base baseline.
- **Configure and deploy SmartPlant Enterprises (an engineering system) on Generation assets**
The purpose of the deployment of SmartPlant Enterprise is to ensure the integrity of Eskom's designs and related technical design-base information. Engineering has to ensure sustainability within the business, to stem the slow decline in Eskom's Energy Available Factor (EAF) due to the poorly maintained and managed asset Design Base. The establishment of strong centre-led technical governance, and implementation of common engineering processes, will avoid business processes and systems existing in isolated pockets of excellence. The engineering practitioners are in need of integrated application systems to coordinate and optimise the engineering function. This landscape of systems relies on an integrated central Design Base repository, for which SmartPlant SPO/SPF has been approved.
- **Embed Engineering change management processes across the business**
The purpose of this initiative is to ensure that Eskom assets are managed in a way to enable sustainable achievement of its business goals. It aims to ensure implementation of an effective process for controlling changes to plant, plant structures or technical documentation, and to manage any changes to a baseline in a controlled manner. Any proposed changes shall be traced, thereby controlling the integrity of the configuration and demonstrating compliance with auditable traceability.
- **Develop internal design capability through technology transfer in the flue gas cleaning landscape**
Eskom has embarked on a process to localise selected technologies through the acquisition of intellectual property (IP) and design expertise. The transfer of IP and the development of an advanced level of in-house design capability are in support of a long-term vision to stimulate

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localisation through the establishment of local design expertise. Particular areas of focus in the current financial year include retrofit projects for power plants using air-quality-related technology, such as low NOx burners, flue gas desulphurisation (FGD) plants, fabric filter plants (FFPs) and biomass.

- **Retain critical resources, from Medupi, Kusile and Ingula, and refurbishment project experience**

Finally, intellectual property, organisational memory and the experience gained during the current new build projects should be retained

Project Engineering

Project Engineering will focus on improving project controls and project delivery efficiency

- Manage professional service contracts and implement project controls for all refurbishment projects
- Monitor projects to ensure timeous delivery of all programmes
- Develop a Welding Programme, to address the skills shortage in order to improve the welding performance on assets
- Develop a Risk-Based Inspections Programme, to ensure timeous delivery of projects
- Implement the Eskom Power Plant Engineering Institute (EPPEI) Programme, to build power plant engineering capacity at Eskom and in local universities

Power Delivery Engineering

Project Engineering will focus on improving Grid characteristics and performance.

- Distribution of Smart Grid roadmap
- Project Engineering is currently coordinating the rollout of PCMs to line divisions in order to emphasise the new way of working
- Productivity improvements have also been identified and the PDE business will implement a 3D substation design tool, which should save 30% of design time

19.6 Financial and operational targets

- The following KPIs and targets have been set for Group Technology for FY2017/18 – FY2021/22

EXHIBIT 131: GROUP TECHNOLOGY FINANCIAL AND HUMAN CAPITAL PERFORMANCE KPIS

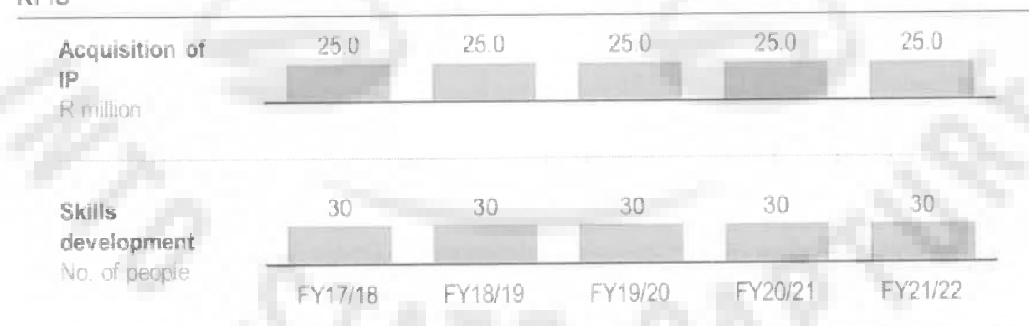


EXHIBIT 132: GROUP TECHNOLOGY OPERATIONAL PERFORMANCE KPIS**19.7 Challenges**

In its efforts to service the business efficiently, Group Technology will need to address certain challenges across Asset Management, Engineering and Outage Management

19.7.1 Asset management

Asset Management plans to manage the following challenges to support preventive maintenance and life cycle planning. Disciplined execution of Operating and Maintenance (O&M) practices is needed to ensure reliable and available plant operation

- There will be a step change in O&M practices that will require new roles and functions in the operational business (e.g. the relatively new introduction of a Maintenance Planning function)
- The Asset Management Centre of Excellences are not fully resourced and will cooperate with the operating units to fulfil their mandate
- Operating and maintenance processes will necessitate upgrades to existing enterprise systems (e.g. SAP & Maximo) as well as new systems to enable the implementation of maintenance processes

19.7.2 Outage management

Outage Management will need to address the following challenges for the FY2017/18 period and future years:

- **Skills and competencies improvement**

Outage Management is faced with a serious skills shortage due to not being able to release people for training, and not being able to fill vacancies. Currently Outage Management lacks critical skills and competencies in project management, contract management, risk management and financial management. Lack of contract management skills result in inadequate contract formats that do not support high productivity. Project Management skills will enhance Outage and contract managers' ability to understand.

19.7.3 Engineering

Engineering identified and considered the following challenges when defining priorities in the sub-functions of Generation Plant Engineering, Project Engineering and Power Delivery Engineering

Generation Plant Engineering

The following challenges were identified and considered during the definition of priorities in Generation Plant Engineering:

- **Lack of standardised management process of Engineering Information**

Engineering Information (EI) is not managed across teams and business units consistently which results in inefficiencies, cost overruns and delays. Engineering Information is kept in various legacy and current systems, such as Hyperwave, networks drives, PIGO, SAP DMS, ProjectWise and SPF 3.8. In all the Engineering asset refurbishment projects, the management requirement is the efficient retrieval and updating of engineering drawings. This requires various systems to be compatible with the drawing format. Similarly the new build design drawings are provided in various formats, i.e. MicroStation, PDS, PDMS, and AutoCAD, amongst others. This emphasises the requirement that Engineering standardise the tools for production and delivery of supplied designs, as part of the standardisation of Engineering Information management across all technology areas.

- **Lack of strict configuration management and governance of design information**

Due to a lack of strict configuration management and governance, design information for Eskom power stations is usually found to be inaccessible, missing or even incorrect. Furthermore, the information is not captured and managed in a standardised format so that consequently, the assets are operated, maintained and modified against unclear baselines.

In the mandate, Eskom management requires that assets be managed to enable sustainable achievement of its business goals. The Engineering Change Management (ECM) process provides an effective method to control changes to plant, plant structures or technical documentation, as well as the method to control any changes to a baseline. The ECM process provides an audit trail that means that any proposed changes can be traced, thereby controlling the integrity of the configuration and demonstrating compliance with auditable traceability.

- **Unavailability of specialised engineering tools**

Generation Plant Engineering uses specialised tools e.g. Smart Plant design tools for engineering design services on projects. The need for design services is increasing with the maturing internal design capability, and it will reduce Eskom's reliance on consultants to perform design work. Group Technology is faced with the challenge of not having the right Smart Plant tools available at the right time which would enable engineers to meet timelines and milestones and enable Eskom to reduce the need for consultants.

- **Extended project timelines due to compliance with supplier development and localisation requirements**

The key performance item for technology transfer in the shareholder compact requires that Generation Plant Engineering acquire intellectual property and internal design capability so as to maximise supplier development and localisation in line with procurement standards.

- **Retention of large capital project specialised skills and experience**

At the beginning of the new build programme Eskom had limited engineering experience to deliver large capital projects. Project management capability has expanded over the last eight years, on the new build and refurbishment projects, and it is strategic for Eskom's sustainability and execution of all future projects that these valuable skills are retained.

Power Delivery Engineering

Power Delivery Engineering has identified the following challenges in defining priorities for the planning period:

- **Capital investment short-fall for Transmission and Distribution**

The current Distribution and Transmission ageing plant capital investment plans do not make provision for covering the full capex investment required. Based on analysis conducted, Transmission will require an annual spend on refurbishment of R1.7 billion, with only R1.2 billion included in the current capital investment plan, resulting in a R0.5 billion annual short-fall over the next five years. A high-level analysis indicated that Distribution might have a R1.5 billion short-fall in the capital plan. Further analysis will be conducted for Distribution to accurately quantify capex investment shortfall.

- **Reskilling of staff for transition to smart solutions**

Transitioning to smart solutions, such as new IEC61850 protection and control schemes, smart substation and smart metering, will require re-skilling of staff.

- **Constraints in procuring an Asset Performance Management tool**

An Asset Performance Management (APM) tool is required to enable risk reduction. There have been challenges in Group Technology's ability to procure the tool in the short-term due to available budget. Currently resolution discussions are underway with Group IT on securing this tool.

19.8 Risks and treatment plans

Group Technology has assessed the primary risks that could pose obstacles to its five-year plan, and has identified associated mitigation plans (Table 66).

TABLE 66: RISKS AND TREATMENT PLANS

Risk	Description	Treatment plans
<ul style="list-style-type: none"> • Lack of skills retention and employee morale 	<ul style="list-style-type: none"> • Inability of the business to balance continuity and retention of skills, resulting in suboptimal operations and loss of productivity caused by low employee morale and a perceived declining EVP 	<ul style="list-style-type: none"> • An acceptable workforce plan that aligns the skills requirement with the operational business needs • Review the EVP and articulate and communicate it to employees for them to understand it fully
<ul style="list-style-type: none"> • Increased travelling, leading to greater probability of vehicle incidents 	<ul style="list-style-type: none"> • High frequency of required travel that employees who have to provide expert consulting advice at a number of stations/sites have to do, depending on demand and availability of plant. The high frequency of travel increases the likelihood of vehicle incidents 	<ul style="list-style-type: none"> • Appointments of additional staff and the changing demand for civil engineering as the new build projects progressed
<ul style="list-style-type: none"> • Inadequate use of resources 	<ul style="list-style-type: none"> • Given the reduced budget, the need for a performance improvement does exist and will have to be managed by paying attention to effective and efficient use of expertise 	<ul style="list-style-type: none"> • On-the-job training and coaching • External benchmarking • Further study for employees
<ul style="list-style-type: none"> • Not achieving the manpower target 	<ul style="list-style-type: none"> • Missing the FY2021/22 target owing to possible non-adherence to ramp-down levers 	<ul style="list-style-type: none"> • An Exco-led Manpower Working Group Steering Committee to identify and manage key stakeholder relations.
<ul style="list-style-type: none"> • Inadequate skills available to drive outage process 	<ul style="list-style-type: none"> • There is a poor and lack of skills to drive outage processes leading to poor quality of maintenance that affects reliability caused by non-adherence and understanding of processes and poor contracts management capability. 	<ul style="list-style-type: none"> • On-job training and coaching • NEC Training • External Benchmarking • Further Study Implementation

20 Group IT

20.1 Summary of the operational plan

20.1.1 Context and mandate

Group IT has stabilised the IT foundation and associated business applications. The relevant skills base has been developed to support IT infrastructure and business applications effectively, and ensure the necessary functionality to deliver on agreed objectives and initiatives. Group IT is well placed to enable the organisation to deliver its DTC 2 targets.

20.1.2 Financial and operational highlights FY2016/17

Group IT experienced the following challenges and highlights during FY2016/17

- Group IT met or exceeded its KPI targets, with 99.75% availability of the top nine critical systems.
- The group experienced zero data loss, or Priority 1 system or security incidents.
- The division's SAP Centre of Excellence was acknowledged as the first in Africa to achieve the Advanced Customer Centre of Excellence certification.
- The division has been recertified as ISO 9001 compliant.
- Project health has moved from 60% to 80%, reflecting improved and consistent delivery of projects.
- Safety is a concern, with LTIR performance at 0.61 against a target of 0.30.
- An advanced-analytics maintenance tool was piloted at Majuba power station.

20.1.3 Objectives and five-year targets

Group IT has aligned its structure in pursuit of enablement levers to assist the business in achieving its strategic objectives. Group IT has prioritised the following divisional objectives:

- Maintain and optimise availability of critical systems, including the support of core infrastructure
- Secure IT Assets and Information through implementing information-security strategy and policy
- Drive the implementation of cloud for cost efficiency and delivery agility
- Drive the implementation of a digitisation strategy for efficiency and agility
- Take over the IT function of Eskom subsidiaries (ERI)
- Drive the implementation of initiatives to address and protect Eskom against cyber-security attacks
- Provide the platform to implement advanced analytics across the organisation

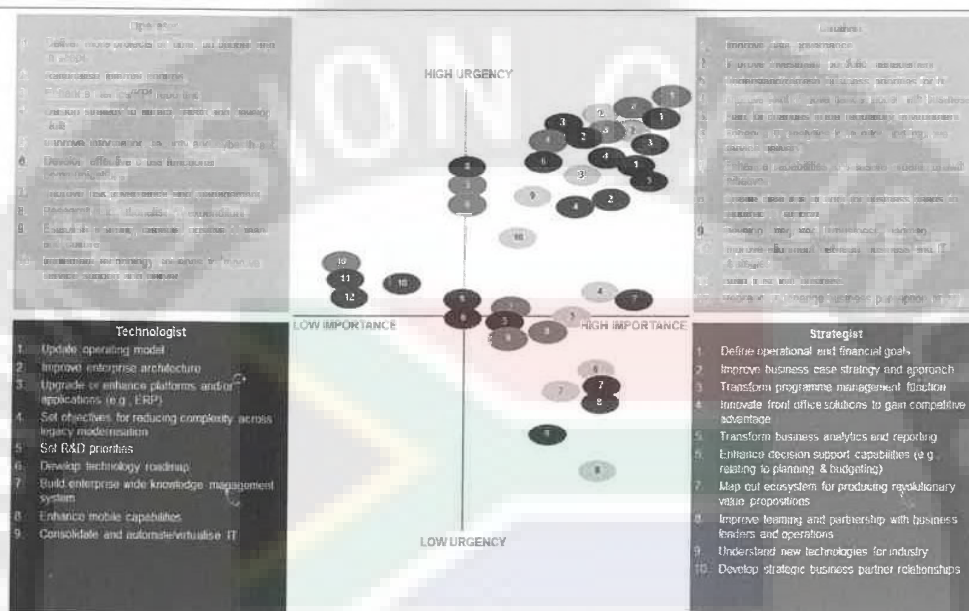
This will be achieved through the implementation of the following objectives:

- Stabilise the application foundation layer to ensure system sustainability and availability
- Drive information security to ensure protection of Eskom's information through data-leakage prevention, endpoint encryption and identity and access management
- Set up the ACE to provide the necessary platform and skills to execute on identified opportunities. This includes enabling a nerve centre and Cloud strategy to scale up quickly whilst keeping costs low
- Deploy engineering solutions such as advanced distribution management, SmartPlant solution and Primavera

- Deliver foundation initiatives that support the Smart strategy/programme
- Implement cloud across all service spectrums within IT

The leadership of Group IT have aligned their processes and functional structures to best practices. Group IT aims to drive the adoption of a digital and Cloud transformation roadmap for Eskom, initiate the convergence of IT/OT and embark on a radical new approach to advanced analytics. In doing so, Group IT can be recognised as a strategic partner in ensuring that Eskom reaches its goals. Group IT has identified the need to measure IT services differently to ensure that value is being realised from technology deployments. The matrix in Exhibit 133 analyses Group IT services.

EXHIBIT 133: URGENCY VS. IMPORTANCE MATRIX



20.2 Divisional Overview

20.2.1 Mandate

Group IT's mandate is to ensure the effective delivery of IT systems, infrastructure, technology and communications and process automation to support the strategy and business demand of Eskom and its subsidiaries. Group IT plays a vital role in supporting day-to-day operations and enabling many innovative projects to address the safety of Eskom's people, the experience of Eskom's customers, and the efficiency and regulatory control of Generation, Transmission, Distribution and Corporate Operations.

The Group IT RMO has been established to ensure the alignment of initiatives and business cases, and to report on the DTC 2 strategy, roadmap and requirements.

20.2.2 Regulatory environment

Group IT is not a licence holder and therefore has no specific regulatory mandate.

20.3 Operational context and challenges

The division will aggressively adopt digital and Cloud strategy to enable the use of advanced analytics without the significant associated investment. The Eskom Cloud Vision is to adopt Cloud services across all layers of Cloud deployment models, thus transforming Group IT into a Hybrid IT organisation. This transformation will ensure that Group IT provides traditional IT solutions but also brokers appropriate Cloud services to improve the responsiveness to business needs.

This will allow Group IT to focus on other tasks that drive profitability and sustainability by developing a Multi-Provider Strategy and Management framework to enable emerging digital next-generation applications, evaluate application readiness for the Cloud and give guidance to business, procurement, contract and vendor-management processes.

Furthermore, the adoption of Cloud services supports the business objective of transforming Eskom to become financially and operationally sustainable through reducing capex, controlling operational expenditure and improving IT agility.

20.3.1 Challenges

The current environment that Eskom operates in poses a number of short-term challenges for Eskom's information technology requirements:

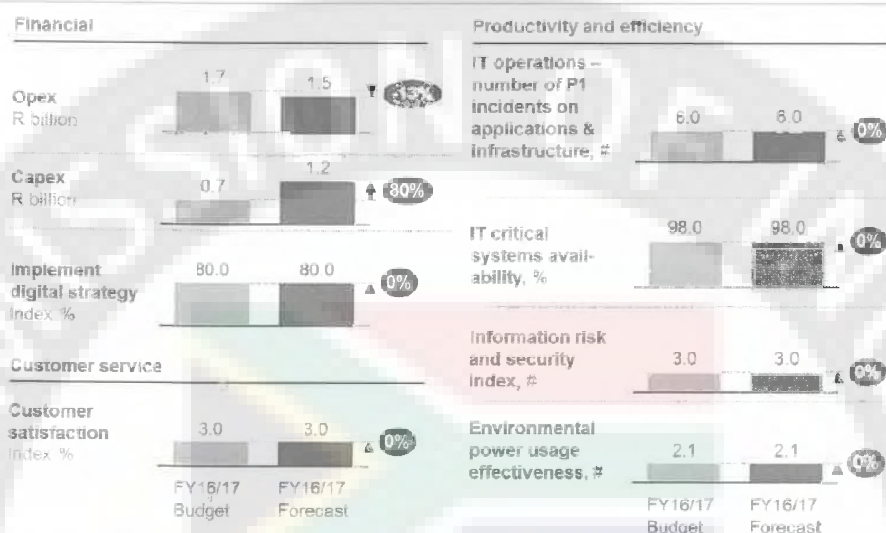
- In order to protect Eskom's information technology assets, more effort and investment is required to strengthen all areas across IT and IT environments
- Owing to different ways of operating, there could be challenges with the adoption of Group IT SLA, processes and operating model by Eskom's subsidiaries
- Group IT will be entering into agreements with multiple Cloud partners, which will bring challenges that need to be closely managed to ensure that service levels and security requirements are maintained or improved
- With the inclusion of Eskom's subsidiaries within the Group IT directive, a due-diligence analysis of the current health status of the IT landscape and services of all Eskom subsidiaries will need to be conducted before full transfer of the function

20.4 Performance review FY2016/17

The current environment that Eskom operates in poses a number of short-term challenges for Eskom's information technology requirements:

- Group IT met or exceeded its KPI targets, with 99.75% availability of the top nine critical systems

- The Group experienced zero data loss or Priority 1 system or security incidents
- The divisions SAP centre of excellence was acknowledged as the first in Africa to achieve the Advanced Customer Centre of Excellence certification
- The division has been recertified as ISO 9001 compliant
- Project health has moved from 60% to 80%, reflecting improved and consistent delivery of projects
- Safety is a concern with LTIR performance at 0.52 against a target of 0.30

EXHIBIT 134: FINANCIAL AND PRODUCTIVITY PERFORMANCE FY2016/17**20.5 Advanced analytics**

To support the advanced-analytics initiatives, Eskom BI, which is housed within GIT, is being transformed into an ACE.

The trend in advanced analytics has come about because of the availability of big data, the development of unique algorithms and increased computing capability. Group IT has already seen the benefits through the pilot implementation of a predictive maintenance tool at Majuba power station.

ACE will support the various advanced analytics initiatives identified for the various divisions along the following dimensions:

- Investing in additional software and hardware requirements by leveraging Cloud-based solutions wherever possible to maximise efficiency and keep costs low
- Acquiring additional skills and developing new capabilities such as data sciences and engineering, which are not found within the organisation

Additional infrastructure requirements required by the business include the following core software components:

- Investing in cloud storage and computing leasing agreements – Group IT is currently investigating suitable cloud computing options and partnerships that could serve Eskom and ensure data security
- Setting up a data lake and a hybrid data warehouse to store the requisite data from the various divisions

- Data virtualisation software, which allows analysts within ACE to retrieve and manipulate data without affecting the integrity or requiring technical details of the data

Advanced analytics is different from traditional BI as it makes use of techniques such as: data/text mining, machine learning, and development of predictive models, simulation and complex event processing

- These new techniques require increased capabilities and new skill sets. ACE will support divisions by investing in the following additional talent:

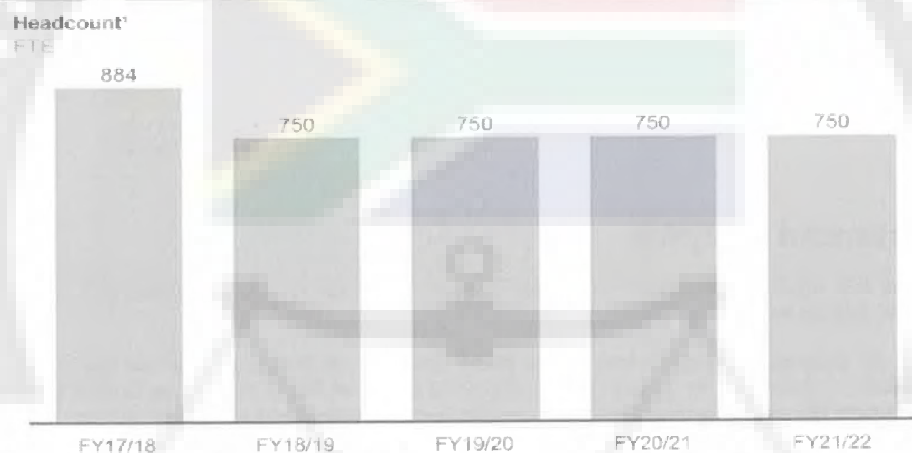
- Data scientists
- Data engineers
- Data analysts

Lastly, ACE will develop a team to support the division in understanding the data and analysis requirements for each initiative. They will work together with the division to provide input on the quality of the data, what models are required and how the output will affect the division.

20.6 Financial and operational targets

Group IT has set financial and operational targets for the next five years. Headcount targets are given in Exhibit 135, and financial targets are given in Exhibit 136

EXHIBIT 135: HEADCOUNT TARGETS FY2017/18 - FY2021/22



* As per HR plan

EXHIBIT 136: FINANCIAL TARGETS**20.7 Initiatives**

The next 5 years will usher in a new era with respect to technology deployment and services within Eskom. The organisation will see technology deployments aimed at increasing productivity whilst changing the business landscape in moving towards smart grid.

TABLE 67: GIT INITIATIVES

Key actions	KPIs	Critical success factors
Advanced analytics		
<ul style="list-style-type: none"> Remodel Eskom data warehouse for real-time BI and analytics Implement continuous control monitoring and fraud management solution Implementation of Nerve Centre 	<ul style="list-style-type: none"> IT project delivery as per agreed plan 	<ul style="list-style-type: none"> Placement of contracts with key vendors Budget availability ERE refurbishment delivery of Exec suite
Projects		
<ul style="list-style-type: none"> Implementation of SAP HANA Integrated Access Control Enterprise Integration Program Smart Grid Implementation of Digital and Cloud solutions Primary Energy Solutions to assist with efficiencies 	<ul style="list-style-type: none"> IT Project Delivery as per agreed plan Approval of sourcing strategy 	<ul style="list-style-type: none"> Placement of contracts with key vendors Budget availability Approval of sourcing strategy Approvals from NT
Operational Sustainability		
<ul style="list-style-type: none"> EA's and contracts to be placed timeously Infrastructure Refresh Programme Establish COE's Adherence to planned maintenance Establish monitoring capabilities 	<ul style="list-style-type: none"> Contracts placed as per contract dashboard IT Project delivery No repeat or overdue audit findings 	<ul style="list-style-type: none"> Approvals from NT Business participation in defining requirements

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Key actions	KPIs	Critical success factors
<ul style="list-style-type: none"> • Drive automation of business processes through delivery of digitisation roadmap • Development of Digital Transformation Roadmap • Mode 2 delivery of selected agile projects 		
Revenue and Customer Sustainability		
<ul style="list-style-type: none"> • Implement additional functionality within Mobile App to assist the public to purchase directly from Eskom • Develop and implement the IT/ OT process. • Replace legacy solutions with new applications to ensure sustainable systems • Assist with enablement of Digital contact centre 	<ul style="list-style-type: none"> • IT Project Delivery as per agreed plan • Approval of sourcing strategy 	<ul style="list-style-type: none"> • Placement of contracts with key vendors • Budget availability • Approval of sourcing strategy
Environmental and Climate Change Sustainability		
<ul style="list-style-type: none"> • Energy Wise systems • Virtualised systems • Cloud services 	<ul style="list-style-type: none"> • IT project delivery as per agreed plan 	<ul style="list-style-type: none"> • Within plan & budget • Placement of contracts with key vendors • Budget availability • Approval of sourcing strategy • Approvals from NT
Human Resources		
<ul style="list-style-type: none"> • Talent Boards • Meaningful and relevant performance targets 	<ul style="list-style-type: none"> • Implement and drive talent board • All resources to have signed off compacts 	<ul style="list-style-type: none"> • Mgmt. of talent boards across all areas • Ensure Compacts and IDP's aligned
Transformation and Social Sustainability		
<ul style="list-style-type: none"> • Alignment with People Health Index • Support Eskom development foundation initiatives (support for CSI) 	<ul style="list-style-type: none"> • PHI • Align to CSI measures at Eskom level 	<ul style="list-style-type: none"> • Drive People health index measures • Drive CSI initiatives across the group TBC

20.8 Risks and treatment plans

There are several risks that can impact on the implementation of Group IT's targeted outcomes. Group IT ensures that all risks are managed at the highest level through mitigation actions, as managed by assigned risk owners. Identified risks and associated treatment plans are shown in Table 68.

TABLE 68: RISKS AND TREATMENT PLANS

Risks	Treatment plans
1 Compromised data confidentiality (data leakage)	<ul style="list-style-type: none"> • Develop the data-leakage prevention (DLP) strategy and position paper for data-loss prevention • Ensure encryption and backup of all laptops

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Risks	Treatment plans
	<ul style="list-style-type: none"> • Implement a DLP-prevention technology solution with defined business rules • Launch the information-security program • Lock down open IP ports • Lock down remote access via VPN • Implement penetration tests of websites accessed externally • Implement SSL secure FTP for external file transfer • Launch the information-security user-awareness program
2 Attacks against infrastructure and business systems (Network Access Control project)	<ul style="list-style-type: none"> • Implement network access control technologies to protect the network and address vulnerabilities



21 Risk and Sustainability

Eskom Group Risk and Sustainability has a mandate to provide long-term sustainable business performance and stakeholder confidence. The Group aims to deliver on its mandate by providing strategic direction across the following functions: Climate Change, Sustainable Development, Safety, Quality, Enterprise Risk and Resilience, Environment, Renewable Energy and Research, Testing and Development.

21.1 Mandate

Eskom's management of sustainability from an organisation wide perspective is detailed in the Eskom Sustainable Development Framework. The framework shows the relationship between the global sustainable development goals, South Africa's National Developmental Plan and Eskom's activities, initiatives and key performance indicators.

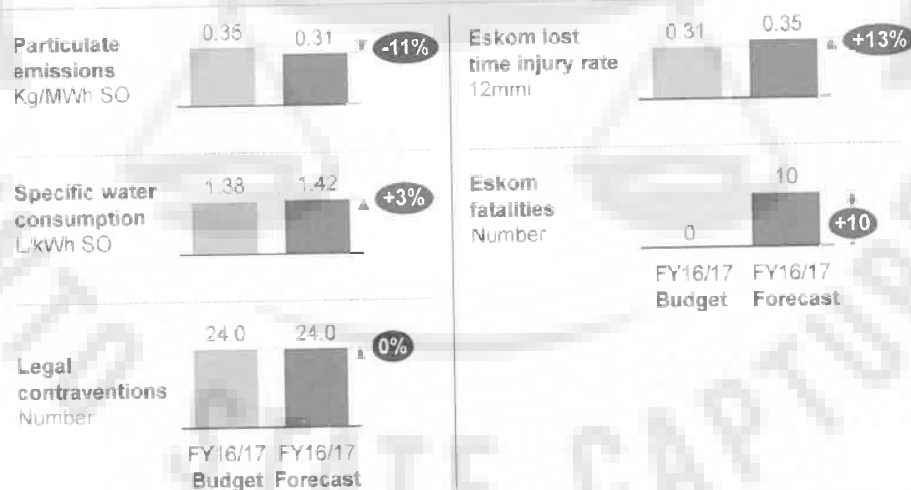
21.1.1 Key objectives and five-year targets

In order to fulfil its mandate, Eskom's sustainability objectives are to provide overall strategic direction, assurance and specialised services relating to:

- Occupational hygiene and safety
- Environmental management
- Climate change and sustainable development
- Quality assurance
- Renewable energy
- Risk and Resilience
- Research, Testing and Development

21.2 Performance review FY2016/17

EXHIBIT 137: FY2016/17 GROUP RISK & SUSTAINABILITY PERFORMANCE REVIEW



Eskom has improved its ability to anticipate, control and prevent occupational hazards and there has been a marked improvement in the LTIR. However, there is a possibility that the FY2016/17 year-end target of 0.30 will not be achieved. There was a slight increase in legal contraventions in the

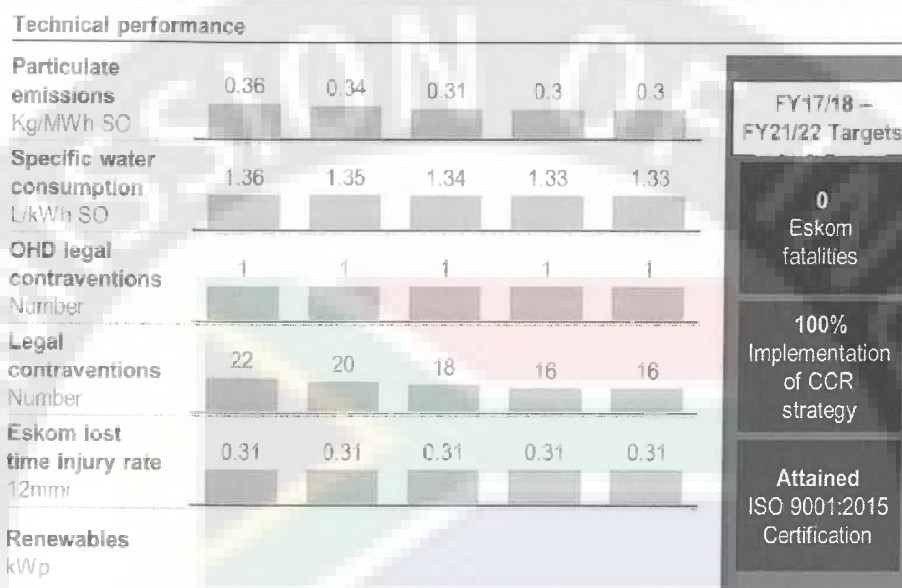
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FY2016/17 year-to-date vs FY2015/16 however it is expected that the target of 24 or less in FY2016/17 will be achieved. The number of fatalities involving employees and contractors has also improved (from 17 in FY2015/16). There has been a significant improvement in particulate emissions with a year-end projection of 0.31kg/MWh against a target of 0.35kg/MWh. There are ongoing challenges in meeting specific water consumption targets due to the drought. Eskom has successfully achieved and retained ISO 9001:2015 certification.

21.2.1 FY2017/18 – FY21/22 Operational Targets

Operational targets for technical performance over the next five years are shown in Exhibit 138

EXHIBIT 138: FY2017/18 – FY2021/22 OPERATIONAL TARGETS



21.3 Sustainability

The Eskom strategy requires Group Risk and Sustainability to improve internal efficiencies to match the new cost base, which is determined by the DTC approach. The objectives over the next five years include:

21.3.1 Strategic Objectives

- Managing the response to extreme climate change impacts and reducing Eskom's carbon footprint
- Shaping and safeguarding the integration of sustainable development best practice in the business
- Managing a portfolio of innovative projects aimed at turning knowledge about next horizon technologies into practical business decisions
- Building a risk-intelligent and resilient organisation by implementing:
 - International good practice in risk management, based on ISO 31000
 - International good practice in business-continuity management, based on ISO 22301
 - The Disaster Management Act
 - International good practice in incident-command management, based on the Forum for Energy Ministers of Africa Incident Command System
- Introducing proactive initiatives to promote safe behaviour such as
 - Coaching and mentoring OHS practitioners and managers
 - Leadership Safety Conversations through the roll-out of Sensemaker
 - OHS Professional Competency Enhancement Programme
 - Initiatives to re-enforce Zero Harm
 - Ongoing safety training and competency-enhancement interventions with the Eskom Academy of Learning
 - ISO 45001 certification in line divisions, and reinforcing the Behavioural-based Safety programme
 - Ensuring that there are clear safety requirements for contractors prior to contract award, and ensuring that contractors have the necessary skills, competencies and resources to perform the work
- Instil a culture of continuous improvement by maintaining the quality management systems and implementing the quality value chain across Eskom
- Maintain and grow the Eskom renewable portfolio and shape Eskom's renewable strategy
- Collaborating with divisions to implement the Environmental, Compliance, Air Quality, Water, Bird Migration and Ash Utilisation Strategy projects and initiatives

21.3.2 Regulatory Environment

Eskom is subject to regulatory and licence conditions surrounding occupational hygiene, safety and environmental compliance. Specific legislation related to sustainability operations is continually monitored in a legal register. In addition, the Group is required to liaise with Governmental authorities to ensure that Eskom complies with the various regulations with respect to safety, environmental compliance and climate change.

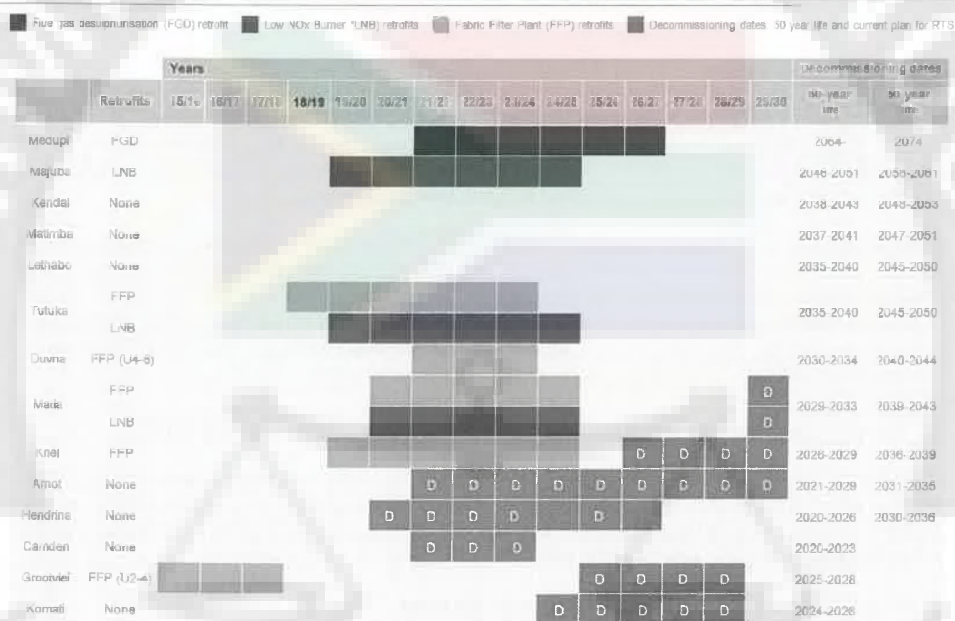
The Group is currently preparing Eskom for the pending climate Change regulations (expected to be promulgated in 2017) on the reporting of greenhouse gas emissions, requirements for pollution-prevention plans, the carbon tax and carbon budgeting. Eskom has received a carbon budget from

the DEA for the 2016 - 2020 period. The budget for the 2021-2026 period will be negotiated with government during 2019.

Minimum Emission Standards were published in 2010, and stipulate emission limits which need to be complied with by April 2015 (existing plant standards), and more stringent limits which need to be complied with by April 2020 (new plant standards). Compliance with the new plant standards will require all coal-fired power stations to have fabric filter plants, low NO_x burners and flue gas desulphurisation (FGD). The estimated cost of implementing these requirements is approximately R340 billion in Capex.

The amount of water available for use by Eskom is insufficient to operate flue gas desulphurisation on all Eskom power stations by 2020. In addition, in the absence of implementing planned load-shedding, there is insufficient spare energy capacity to take all power station units down for approximately 150 days before April 2020 in order to construct the retrofits required to meet the new plant standards. Taking the above into consideration, Eskom has adopted a phased and prioritised approach to emissions reduction, considering the remaining life of the power stations in its fleet and the impact on ambient air quality. In cases where it is not possible for power stations to comply with the Minimum Emission Standards within the compliance timeframe, or before they are decommissioned, Eskom has submitted an application for postponement which was approved by the DoE and DEA respectively. The phased approach, is illustrated in Exhibit 139, and will cost Eskom an estimated R 80 billion.

EXHIBIT 139: ESKOM MINIMUM EMISSION STANDARDS RETROFIT SCHEDULE



Eskom remains committed to compliance but there is a need to adjust the programme through different technology options and in some cases, delaying the implementation of retrofits at certain power stations. At the time of the postponement application (February 2014) it seemed feasible for Eskom to fund this the retrofit projects in respect of the new plant standards over 10 years, however, current financial challenges faced by Eskom may require a revision to the above implementation schedule.

The Grootvlei retrofit project where one of three units is complete and project development and design for Tutuka's retrofit project are progressing well. The Tutuka project is running on time with allocated funds. A revision to the implementation schedule will affect have varying impact on different power stations

- Duvha, Lethabo, Kendal and Matla will implement high frequency transformers and modify, the ashing systems, where required, in order to reduce the cost of compliance by approximately R11 billion.

- Progress on the NOx retrofits at Tutuka, Majuba and Matla is likely to be delayed by several years.
- The Fabric Filter Plant retrofits at Kriel which requires R 26 billion and the Medupi FGD which will cost R 30 billion run the risk of longer delays in implementation.

The DEA granted Eskom postponement on condition Eskom would develop and implement an environmental offset programme, to improve ambient air quality in communities close to Eskom power stations. Eskom developed an offset plan that approved by the DEA includes improving the insulation of and the supply of more efficient stoves (most likely fuel switching from coal to gas) in 38 000 low cost homes over the next ten years. The cost of this programme is estimated to be R 4.6 billion.

In terms of the Air Quality Act Eskom may request further and successive postponements, which must be made in compliance with a prescribed process that includes public participation. However, any subsequent applications are likely to be met with legal opposition from non-governmental organisations (NGO) and other interest groups.

21.4 Sustainability Performance Review FY2016/17

Group Risk and Sustainability's performance is reported in the form of progress in reducing Eskom's environmental footprint and supporting low-carbon growth in a safe and healthy work environment. Eskom has made a gradual improvement in safety performance over the last 5 years. However, The LTIR for FY2016/17 is showing a negative movement (0.31) with a slight possibility of not realising the year-end target of 0.30. Eskom has experienced a number of contractor fatalities and continued leadership is required to provide more focus on at risk behaviour in relation to compliance with the stipulated OHS requirements.

Eskom's projection for legal environmental contraventions in FY2016/17 is 24 against a target of 24. The specific water usage is projected at 1.42 l/kWh sent out exceeding the target of 1.33 l/kWh. Operational efficiencies and dry/hot conditions are the primary factors influencing water usage. This year, the severe drought has had a significant impact on the performance.

Particulate emissions are projected at 0.31 kg/MWh sent out, an improvement on the target of 0.35 kg/MWh sent out. For continued improvement on the current performance, disciplined operating and maintenance practices are required. Compliance with all environmental legislation remains a priority. Overall, Eskom continues to improve environmental performance in many areas including particulate emissions, compliance, biodiversity and waste management. However, this progress has been overshadowed by Eskom's challenged performance in terms of water usage.

21.4.1 Sustainability Performance Targets FY2017/18 – FY2021/22

The division has set performance targets for Eskom for the next five years. The key performance indicators on which Group Risk and Sustainability operational initiatives will be assessed are set out in Table 69. Financial Targets are given in Table 70, and the capex and opex investments required to achieve the financial targets are given in Table 71 and Table 72 respectively.

TABLE 69: OPERATIONAL TARGETS SET FOR ESKOM

KPI	Unit	2018	2019	2020	2021	2022
Loss Time Injury Rate*	Rate	0.30	0.30	0.30	0.30	0.30
Legal environmental contraventions (OHD)	Number	1	1	1	1	1
Water usage	l/MWhSO	1.36	1.35	1.34	1.33	1.33
Particulate emissions	kg/KWhSO	0.36	0.34	0.31	0.30	0.30
Fatalities	Number	0	0	0	0	0
CO2 emissions	Mt	236	238	TBD*	TBD*	TBD*

* Target for FY 2017/18 – FY2018/18 approved. Targets for subsequent years have not yet been approved

TABLE 70: SUSTAINABILITY FINANCIAL TARGETS

KPI	Unit	2018	2019	2020	2021	2022
Capex	Rm	176.85	239.12	238.23	268.48	289.03
Opex	Rm	811.26	952.09	1090.22	1085.48	1189.22
Manpower costs	Rm	699.55	663.53	623.71	388.63	430.95

TABLE 71: SUSTAINABILITY CAPEX REQUIRED TO ACHIEVE FINANCIAL TARGETS

Investment category	Unit	2018	2019	2020	2021	2022
Strategic Projects: Renewables	Rm	50.00	50.00	50.00	50.00	50.00
Strategic Projects: RT&D	Rm	126.86	189.13	188.23	218.48	239.03
Total	Rm	176.86	239.12	238.23	268.48	289.03

TABLE 72: OPEX REQUIRED TO ACHIEVE FINANCIAL TARGETS

Category	Unit	2018	2019	2020	2021	2022
Air quality offsets (nominal)	Rm	125.8	394.1	558.2	572.8	626.5

Targeted outcomes, initiatives and associated KPIs are shown in Table 73.

TABLE 73: SUSTAINABILITY INITIATIVES

Challenges/initiatives	Strategy/action	KPI	Target
Implementing efficient and effective use of funds	<ul style="list-style-type: none"> Reduce the divisional budgets, especially for research 	Overall reduction	Overall budget reduction by end of FY2020/21
Supporting the business in achieving operational efficiencies	<ul style="list-style-type: none"> RT&D to undertake relevant funded/budgeted for research and provide consulting services to the business Develop of adaptation plans 	% implemented	100% implemented by March 2018
Shaping and safeguarding risk and resilience in the divisions and provinces	<ul style="list-style-type: none"> Establish and execute divisional/provincial resilience programmes Develop plans for national disaster priorities Coordinate Provincial Resilience Team feedback to Exco subcommittees 	Resilience programmes and structures established	100% implemented by March 2019
Quality	<ul style="list-style-type: none"> Facilitate the implementation of the Quality Improvement Plan ISO 9001:2008 certification retained Transition from ISO 9001:2008 to ISO 9001:2015 	% implemented	<ul style="list-style-type: none"> Ongoing September 2018
Implementing the Environmental Strategy and Environmental Compliance programme (emissions, water,	<ul style="list-style-type: none"> Obtain and maintain ISO 14001 certification in relevant operating units and departments Facilitate the implementation of initiatives and monitoring of environmental compliance across Eskom 		Implemented by 31 March 2020

Challenges/initiatives	Strategy/action	KPI	Target
land, biodiversity and waste management)	<ul style="list-style-type: none"> Reduce specific water consumption through power station water implementation plans. Reduce relative particulate emissions Facilitate the implementation of the Eskom Environmental Strategy, Air Quality Implementation Plan, Water Strategy, Waste Management Standard and Biodiversity Strategy 		
Safeguard the integration of the Sustainable Development Framework in the organisation	<ul style="list-style-type: none"> Implement the Socio Economic Development (SED) Strategy Review Eskom Sustainable Development Framework including the Global Sustainable Development Goals Develop the Eskom Factor Project Develop Eskom's Transformation Plan 		Activities identified and implemented by 31 March 2020
Safeguard the integration of Climate Change in the organisation	<ul style="list-style-type: none"> Implement Eskom's Climate Change Strategy and Adaptation Strategy Develop climate mitigation and business cases based on the mitigation abatement cost curve Implement Carbon Market (Green Financing) initiatives Continued advocacy with Government 		Activities identified and implemented by 31 March 2020
Developing and implementing a safety management programme to promote and ensure compliance and continuous improvement to achieve zero harm	<ul style="list-style-type: none"> Implement and monitor compliance programmes. Facilitate implementation of the OHS strategy by ensuring that business units develop action plans aligned to this strategy as well as their specific risks Implement OHSAS 18001/ISO 45001 in all relevant operating units and departments 		Implemented by 31 March 2020

21.4.2 Risks and treatment plans relating to sustainability

Table 74 sets out the major risks and treatment actions for Group Risk and Sustainability

TABLE 74: RISKS AND TREATMENT PLANS

Risks	Treatment Actions
Eskom employees' safety, caused by the organisation's failure to implement occupational health and safety improvement initiatives; leading to harm to people and the environment and damage to property	<ul style="list-style-type: none"> Implementation of the OHS strategy Implement Sense Maker safety leadership conversations (at E&F band and middle management level) to close the gap between the management levels. Implement the vehicle safety plan including behaviour management tools

Risk and Sustainability

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Risks	Treatment Actions
	<ul style="list-style-type: none"> • Continue OHSAS 18001 certification in progress in line divisions i.e. Transmission and Distribution • Replace existing fleet to conform to safety requirements (fleet management) • Implement training interventions to focus on high risk activities. • Continue and intensify OHS communication plan to ensure that change management occurs consistently at all levels of the organisation including the general communication of OHS requirements.
<p>Eskom Contractors' safety being compromised by the organisations failure to effectively implement OHS safety improvement initiatives, leading to harm to people</p>	<ul style="list-style-type: none"> • Implement training of project managers, buyer's contract manager's and OHS professionals on safety requirements for Eskom's commercial process and training on the application of the construction regulations. • Provide capacity development for contractors and suppliers through road shows campaigns and awareness on contractor safety management. • Provide and facilitate coaching and mentoring of OHS professionals on contractor safety management. • Integrate OHS into Eskom commercial processes and continue engagement with commercial and other essential stakeholders • Provide guidance, advice and support on implementation of the new construction regulations and continuous engagement with the Department of Labour to ensure Eskom and contractor compliance. • Integrate Eskom and statutory OHS requirements into the Eskom PLCM. • Perform comprehensive Incident analysis to ascertain the underlying causes of incidents and formulate treatment plans. • Manage and monitor identified critical risk-based focus areas from incident analysis, OHS inspection and audit reports. • Identify and monitor the administration and management of poorly performing contractors. • Ensure that project specific safety specifications are issued and relevant SHE plans are approved and audited. • Standardise the process followed for all national contracts and ensure that standardisation with the relevant checklist is implemented by line managers • Provide guidance and advice to contractors involved in construction work concerning the professional registration of applicable construction safety professionals through SACPCMP. • Development of contractor and construction management Guidelines, Procedures, Templates and Standards.
<p>Potential Harm to members of the public due to exposure to Eskom's operations, products and/or assets caused by illegal activities and inadequately secured Eskom sites and assets.</p> <p>This may lead to Eskom's failure to achieve zero harm and thereby effectively limit Eskom's ability to</p>	<ul style="list-style-type: none"> • Implement electricity safety inclusion on the school curriculum. • Implement the following areas of the public safety plan: <ul style="list-style-type: none"> ○ Communication stream ○ Customer Education stream ○ Electrification stream ○ Security stream ○ Technical stream

Risk and Sustainability

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Risks	Treatment Actions
lead and collaborate the members of the public to keep the lights on.	<ul style="list-style-type: none"> o Pedestrian safety stream • Ensure public incident data review and implement recommendations.
Poor environmental performance which compromises Eskom's licence to operate and reputation, caused by lack of funding and lack of disciplined execution in environmental management operational practices. This will result in Eskom's not achieving environmental legal compliance leading to criminal liability of Eskom, Eskom Board of Directors and individual employees	<ul style="list-style-type: none"> • Implementation of the environmental strategy • Implement emissions and water improvement plans • Implement the biodiversity improvement plan • Implement environmental behavioural change programme • Drive conclusion of environmental findings and incidents • Focus on disciplined execution to improve environmental compliance • Carry out variations and amendment requests to AELs • Carrying out EIA's for Generation Division including nuclear. • Ensure that Environmental Authorisations and Water Use Licences are issued timeously and do not negatively impact on business. • Outage requirements for environmental projects (emission retrofits, water and waste management project) included in planning • Implementation of ISO 14001 • Lobbying with Government & Authorities • Zero harm and environmental awareness • Implementation of Environmental compliance plan • Implementation of Environmental stakeholder strategy
Inability to retain the ISO 9001 certification leading to negative impact on the Eskom brand and reputation.	<ul style="list-style-type: none"> • The Quality department in Risk and Sustainability will continue to execute internal audits to ensure compliance/conformance within the business. • Ensure that the quality management systems are maintained and that there is continued compliance with the ISO standard requirements
Ineffective implementation of the Quality Value Chain within Eskom will lead to plant failure and financial losses.	<ul style="list-style-type: none"> • Implement Eskom Supplier Quality Specification Document • Conduct Quality System Assurance audits, supplier audits and supplier assessments.
Potential loss of ISO 9001 certification cause by the introduction of the ISO 9001:2015 standard	<ul style="list-style-type: none"> • Development and implementation of action plans for the transition
Eskom's lack of ability to deliver on its mandate to safeguard the integration of climate Change initiatives within the organisation, leading to irreversible long-term environmental harm and prolonged loss of Government confidence and community support.	<ul style="list-style-type: none"> • Develop and benchmark relevant KPIs • Lobby Government departments • Ensure involvement in order to influence international negotiations and positions on climate change • Engage with national and international business (e.g. National Business Initiative, Business Unity South Africa, World Business Council for Sustainable Development) for position formulation and benchmarking • Ensure internal engagements in decision making and forums • Lobby internal and external champions • Influence internal planning

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Risks	Treatment Actions
Socio-Economic Development (SED) custodians may fail to execute SED initiatives (or execute them poorly or incompletely) leading to delays in Eskom initiatives and projects, adverse impacts on reputation and social unrest	<ul style="list-style-type: none"> • Internal stakeholder management to support SED custodians through effective communication and aligning expectations regarding targets • Develop and benchmark relevant KPIs for the implementation of Eskom's Integrated SED strategy
The Climate Change and Sustainable Development Business Unit (CCSD) may not have an adequate framework to enable effective co-ordination and monitoring of SED throughout Eskom leading to under-reporting and missed opportunity to maximise SED	<ul style="list-style-type: none"> • Ensure proper internal Governance structures are used to manage SED issues • Formal appointment of SED champions throughout Eskom, including compacting for execution, reporting and participation in SED Committee and a RACI that covers all stakeholders
Eskom's inability to ensure that climate change best practices are continuously integrated into the business	<ul style="list-style-type: none"> • Establish an integrated CCSD framework (develop a methodology for integration across the business) aligned to Sustainability mandate and Eskom's strategic objectives i.e. Eskom Sustainable Development Framework. • Partner with the business for effective mitigation and adaptation in the business and develop KPIs to track progress i.e. implementation of Eskom climate change strategic initiatives as reflected on the annual Operational Plan (Divisional and Departmental e.g. Training Programme for Transmission employees on the relevant climate change business intelligence and initiatives for the 2016/2017 financial year). • Implement an adaptation to the climate change strategy as reflected on the annual Operational Plan (Divisional and Departmental) e.g. application of the adaptation procedure through Case Studies. Support the evolution of the ERCC/Recovery team's processes to adapt to the climate change risks to the business etc. • Development of pollution prevention plans to meet carbon budget

21.5 Research Testing and Development

21.5.1 Mandate

The Research, Testing & Development (RT&D) unit is mandated to perform applied technical research, and to provide specialist technical consulting services and specialist technical testing services. RT&D provides technical research and testing services to fulfil the vision of providing Eskom's leaders with knowledge that empowers them to make confident decisions about the sustainability of the current and future business.

21.5.2 Vision and approach

The mission of the unit is to align and optimise the specialist resources of RT&D to maximise value and thus to be recognised by Eskom divisions as their essential and foremost solutions provider in specific electricity utility technologies. The function's business model is simple and focuses on customer needs and the value created for them. Value for Eskom and ultimately, the customer, is derived from innovative products and solutions that are implemented by Eskom to improve operational

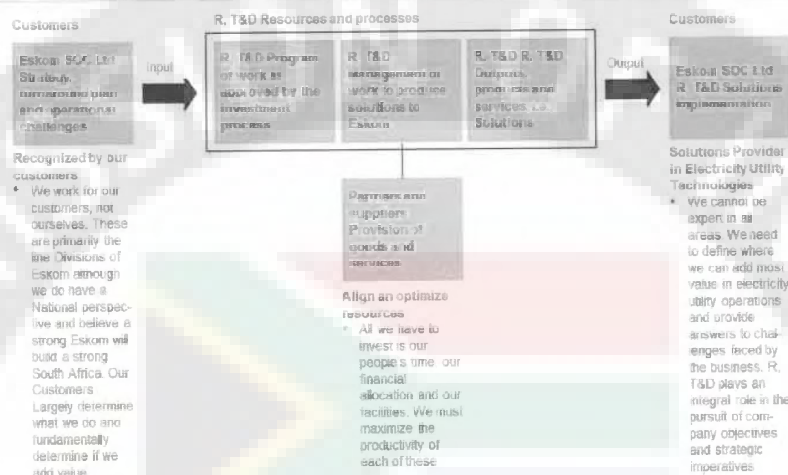
performance and strategic positions and thus positively impact on the South African economy as a whole.

These value adding activities are controlled through defined processes. There are two approved PLCMs that govern the research process and pilot/demonstration process respectively. The technical consulting and testing services are controlled through service level agreements, job agreements and task orders.

21.5.3 Operating model

The business and operating model of the RT&D unit is set out below

EXHIBIT 140: RT&D OPERATING MODEL

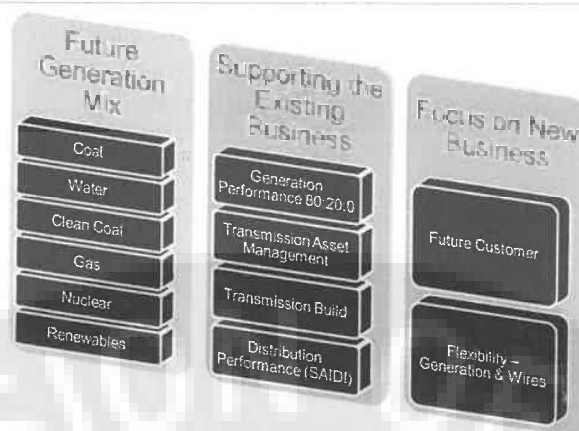


21.5.4 Strategic framework

RT&D's initiatives are based on the needs of Eskom's line divisions. The unit's operational and strategic needs are the input to RT&D's business and similarly, the products and services produced by RT&D should be implemented directly into the line divisions as business solutions. RT&D's activities are founded upon 12 'Grand Challenges' that form the structure of the RT&D workplan across the following three dimensions:

- **Future Generation Mix** – understanding Eskom's technology choices and what the future generation mix should be in 2050
- **Existing Business Support** – understanding how Eskom should support, operate and maintain its existing Generation, Wires & Retail business within severely constrained budgets
- **New Business** – understanding how Eskom should adapt its operating model to the imminent strong technology disruptors and develop new businesses

The framework for the 12 Grand Challenges is shown in Exhibit 141

EXHIBIT 141: RT&D GRAND CHALLENGE FRAMEWORK

The 12 challenges are detailed as follows:

21.5.5 12 Grand challenge framework

- 1. Coal:** Can RT&D support Eskom in developing and implementing solutions within five years that guarantees the quality of coal in line plant design whilst ensuring that the price of coal remains competitive relative to other resources?
- 2. Water:** Can Eskom reduce its fresh water consumption to 0.5 l/kWh sent out and 115 000 Ml a year whilst introducing new emission reduction technologies by 2020?
- 3. Clean coal:** RT&D will provide innovative cost effective design solutions for low emission coal options for Eskom in the next five years.
- 4. Generation performance management and asset management:** RT&D will provide greater insight into plant condition for asset management purposes and demonstrate technology solutions to drive performance to 80:20:0
- 5. Gas:** Can RT&D provide Eskom with gas strategic options and improve business case definitions based on the latest technologies, new applications and trends in the gas market within three years?
- 6. Nuclear:** RT&D will develop advanced high temperature gas cooled reactor technology options for Eskom in the next five years.
- 7. Renewables:** Can RT&D support Eskom to build and integrate 1GW of wind and 1GW of solar at the same or better prices than IPPs (Window 5) in the next three years?
- 8. Transmission build solutions:** RT&D will provide design solutions for the evacuation of power from new generation, including SADC, and for plant refurbishment without customer interruption in constrained servitudes, and capex within five years
- 9. Transmission asset management and technical performance:** RT&D will provide greater insight into Transmission plant condition for asset management purposes and demonstrate technology solutions to improve operations and maintenance under constrained budgets whilst maintaining system minutes performance, within five years.
- 10. Distribution asset management and technical performance:** Can Distribution improve technical performance (SAIDI & SAIFI) to 20 hours in the next 5 years on a severely constrained budget and shift to a just in time refurbishment strategy for asset management?
- 11. Future customers:** Can RT&D formulate affordable value added, business products and services for Eskom's existing and new customers based on an integrated, smart, green, localised and energy efficient technologies in the next three years?
- 12. Flexibility:** How does Eskom operate its network in a real time trading environment with greater than 50% renewable penetration?

21.6 RT&D Performance targets FY2017/18 – FY2021/22

Table 75 sets out the flagship projects of the RT&D unit including a summary of performance targets against completion.

TABLE 75: RT&D FLAGSHIP PROJECT PERFORMANCE TARGETS

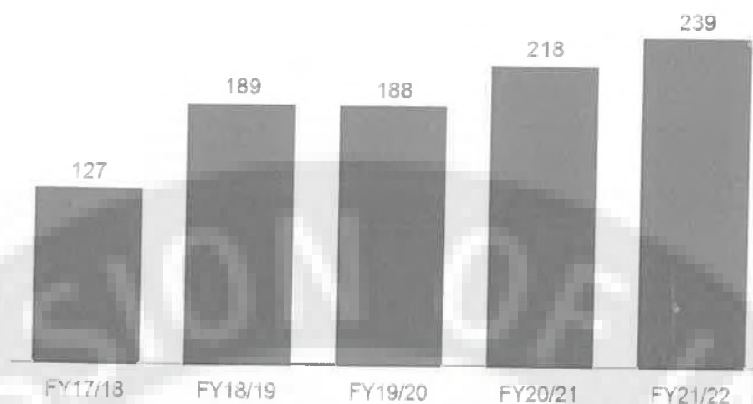
Projects	Measure	Forecast Target					
		FY16/17	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22
Flow lab refurbishment	Project completion	10%	80%	100%			
Rural off-grid micro grid pilot	Project completion	50%	75%	100%			
Advanced high temperature gas reactor (nuclear)	Project completion	10%	20%	30%	40%	70%	100%
Coal logistics and assurance	Project completion	20%	50%	75%	100%		
Underground coal gasification commission	Project completion	20%	40%	50%	70%	85%	100%
Unmanned aerial vehicle & automated Transmission asset inspection	Project completion	20%	50%	100%			
Establish Council for Scientific and Industrial Research (CSIR) non-destructive facility	Project completion	5%	20%	40%	60%	100%	
Future customer revenue streams	Project completion	15%	75%	100%			
High voltage DC test site	Project completion	20%	50%	95%	100%		

21.6.1 RT&D Resource allocation FY2017/18 – FY2021/22

Exhibit 142 shows the approved capital plan for RT&D for the planning period.

EXHIBIT 142: FY2017/18 RESEARCH TESTING & DEVELOPMENT CAPITAL BUDGET

RT&D capital expenditure
R million, FY17/18 – FY21/22

**TABLE 76: RT&D INITIATIVES**

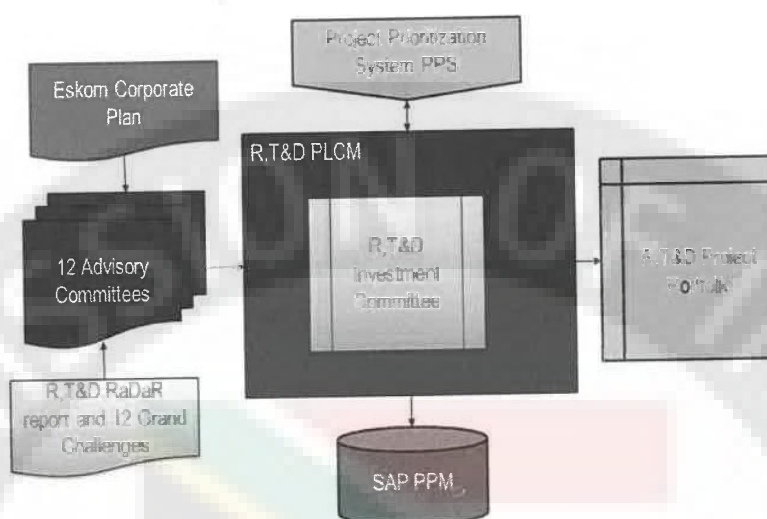
Objectives	Initiatives
Technical consulting, testing and inspection	<ul style="list-style-type: none"> • Providing specialist asset operation knowledge for line divisions to augment asset management decisions • Providing specialised, strategic inspection and testing services not readily available in the marketplace • Providing specialist skills to meet the demand for internal resources to perform specialist functions • The provision of technological foresight and strategic planning using road maps and modelling based on knowledge gained through research and testing
Introduction of next horizon 'flagship' technologies	<ul style="list-style-type: none"> • Managing an effective pilot and demonstration project programme that identifies, defines and approves the scope and budgets of projects for inclusion in Group Capital plans. • Submitting project proposals for approval in line with the defined PLCM process • Ensuring effective programme management of progress, cost and quality of projects • Managing the integration of research and demonstration projects into approved business and technical processes
Innovation value enhancement	<ul style="list-style-type: none"> • Providing and maintaining an Innovation website, which invites innovative ideas from the Eskom business. • Catalysing research and managing other innovation projects to improve business efficiency and/or save costs • Providing company-wide awareness sessions on Innovation, the Eskom innovation process and sustainability • Partnering and collaborating with external innovation departments for technology transfer and latest market trends on innovation

21.6.2 The RT&D investment decision making process

The investment of all RT&D resources such as manpower, operational expenditure, external expenditure, and project and equipment capex is channelled through the RT&D Investment Committee for approval. Thus RT&D's project/work portfolio is a complete record of all work and associated investments in RT&D. There are 12 advisory committees which inform the Investment Committee, each one established around one Grand Challenge strategic focus area. The advisory committees

comprise Eskom line division senior executives and technical staff. Eskom's corporate plan and RT&D's Research Direction Report (RaDaR) are used when motivating for projects to be considered by the Investment Committee. RT&D's investment decision-making process is illustrated in Exhibit 143.

EXHIBIT 143: RT&D INVESTMENT DECISION MAKING PROCESS



21.6.3 Operational and governance initiatives

The operational and governance initiatives pursued by RT&D to deliver value, and align to Eskom's goals are as follows:

- Implementation of a RaDaR report to capture Eskom needs and provide strategic input into the Investment process.
- Establishment of advisory committees made up of divisional executives and subject matter experts.
- Implementation of an investment process covering all resources
- Implementation of two PLCMs to govern the investment process and control the decision making process.
- Implementation of a Project Prioritisation System to align resources and strategic decisions

21.6.4 Introduction of new business models into Eskom

As part of its strategic mandate RT&D will introduce four new business models to Eskom in an effort to increase revenue streams and/or reduce costs. The business case for each of these will be completed by Q2 of the F18 financial year and submitted to Exco and Board for approval. The four new business streams are:

- **eMobility** – Eskom will work with electric vehicle (EV) manufacturers to increase the sales of EVs in the South African market. This will be done by introducing new start-up businesses to provide charger station infrastructure and back end revenue management support. Eskom will work with government on lowering capital cost to entry for new EVs and on innovative pricing models that help Eskom increase sales but also to shift energy use to more optimal periods. Eskom will aggressively market and advertise this new business area and establish a dedicated team to drive it.

- **Energy Storage** – Eskom will develop bulk and beyond the meter energy storage value propositions that allow Eskom to deploy energy storage technologies at scale and receive positive cash and operational benefits therefrom. Business case for large-scale storage plus photovoltaic solutions as well as off grid and grid strengthening options will be developed by the second quarter of FY2017/18.
- **Distributed Energy Resources** – Eskom RT&D will develop business models for the deployment of commercial and industrial roof top PV systems as a product offering to customers wishing to install their own systems. This is to ensure that should customers desire to install such systems, they have the option of procuring them from Eskom and as such Eskom does not lose out on the energy sales from these systems. These will be combined with SMART customer facing technologies where appropriate.
- **Unmanned Air Vehicles (UAV)** – RT&D will demonstrate the value to be gained from deploying UAVs in the wires business to perform asset management tasks at lower cost and higher efficiency than current methods. The initial focus will be line inspections for Transmission and Distribution using drones. A small fleet will be deployed to measure risk, value and cost before a companywide roll out

21.7 Risk and Resilience Management

21.7.1 Mandate

Providing and maintaining one integrated risk & resilience management framework, methodology and system enabling the organisation to apply an integrated risk-based approach to organisational strategy, business planning, and business management ensuring sustainability and resilience

21.7.2 Key objectives and five year targets

The aspiration of Enterprise Risk & Resilience Management unit (**ER&R**) is to deliver **a risk-intelligent and resilient organisation that is a recognised leader in its class**. The key focus is the implementation and maturing of risk and resilience across the organisation by 2021.

Supporting objectives are:

- Enhancements in the maturity and quality of risk management and of Eskom's implementation of international good practice as defined by the ISO 31000 standard and King.
- Implementing improvements plans to achieve risk intelligence by 2021.
- Compliance to the Disaster Management Act 57 of 2002.
- Execution of a resilience programme across the company, including a focus on compliance to the standards introduced in the first two years of the programme.

The Exco Risk & Sustainability committee, Exco and the Board Audit & Risk Committee review the key priorities and deliverables of Enterprise Risk & Resilience annually.

21.7.3 ER&R Operational objectives

TABLE 77: ER&R ENTERPRISE RISK MANAGEMENT

ERM element Risk policies, standards and guidelines	Deliverables
1. Consistent, well-understood and enforced policies,	<ul style="list-style-type: none"> • ERM governing documents benchmarked and approved at least every 3 years • Revised governing documents communicated and included in the training and awareness material (change management)

ERM element Risk policies, standards and guidelines	Deliverables
standards and methodologies.	<ul style="list-style-type: none"> Assurance on risk compliance and effectiveness through 3 lines of defence (combined assurance) All assurance findings reported, corrected and monitored
2. Systematic procedures to anticipate and respond to emerging risks.	<ul style="list-style-type: none"> Risk enviro-scanning and reporting capability Predictive risk identification capability and tools leading to the identification of emerging and black-swan type risks (incident analysis, key risk indicators and scenario planning)
3. Risk information/register	<ul style="list-style-type: none"> Compliance to risk disclosure requirements from PFMA, King, Companies Act and the shareholder One Risk Policy, Framework, Standard, Methodology and Risk Management Information System Quality Model (compliance, validity, accuracy and completeness of risk and related information) Assurance (3rd line of defence)
4. Well defined risk appetite statements and tolerance parameters.	<ul style="list-style-type: none"> Risk appetite statement/framework set, reviewed and approved annually by the Board Implementing company-wide appetite and tolerance parameters
5. Integrated appetite statements and tolerance parameters when reviewing/developing strategic and business objectives.	<ul style="list-style-type: none"> Embed appetite and tolerance in strategy, business planning and capital allocation Embed risk appetite and tolerance in the decision-making process Include appetite and tolerance in risk monitoring and reporting
6. Well defined risk bearing capacity statement and parameters.	<ul style="list-style-type: none"> Define risk bearing capacity statement and parameters Embed risk bearing capacity in the decision-making process Include risk bearing capacity in the risk monitoring and reporting process
ERM element Mandate, governance and risk culture	Deliverables
7. Robust and coherent Board and Exco governance and structures to direct and oversee an effective risk management capability.	<ul style="list-style-type: none"> Appropriate terms of reference/charters for governing committees Regular meetings by Board and Exco considering risk management Approval of risk policy, roles and responsibilities and risk management plan Board and Exco risk assessment workshops
8. Centralised risk function led by a Chief Risk Officer or equivalent with credibility, stature and clear reporting relationship with CEO.	<ul style="list-style-type: none"> Centre-led function adequately resourced and skilled Enterprise Risk reports to Board, Board Audit & Risk Committee, Exco and Exco Sustainability & Risk Sub-committee Effective risk governance structures and performance assessments Benchmarks and maturity assessments completed periodically

ERM element Risk policies, standards and guidelines	Deliverables
	<ul style="list-style-type: none"> Periodic assurance reviews.
9. Clear definition and allocation of company-wide roles and responsibilities for risk management	<ul style="list-style-type: none"> ERM policy and risk management plan include a comprehensive RACI for risk management. Executive and management compacts include measures for risk management performance Standardised job profiles for roles in risk management Execute and report on second line of defence as part of the combined assurance model.
10. Risk culture within the organisation.	<ul style="list-style-type: none"> Clear value drivers defining the desired risk culture for the organisation. Centre-led provided risk training and awareness across all levels of the organisation. Embedded roles and responsibilities at all levels regarding effective risk management Embedded risk management in all management processes including capital allocation and decision making. Effective integration of the combined assurance model between risk, strategy, compliance and assurance. Benchmarks and maturity assessments completed periodically. Include recommendations from the benchmarks and maturity assessments in ER&R management plan to be implemented, monitored and reported on.
Risk reporting	
11. Timely reporting of credible, intelligible and comprehensive risk profile to Board/executive management.	<ul style="list-style-type: none"> Compliance to risk disclosure requirements from PFMA, King, Companies Act and the shareholder Report to Eskom risk governance structures as per secretariat meeting schedule Regular analysis of risks that materialised and monitoring of changes in risk profile Reporting of risk in the integrated report, performance report and shareholder through the Eskom risk governance committees
12. Reporting in relation to stakeholder needs.	<ul style="list-style-type: none"> Updated stakeholder information needs analysis Customised reporting across all stakeholder Compliance to governance and statutory requirements
13. Effective risk controls.	<ul style="list-style-type: none"> Regular testing of controls and treatments (treatment plans) Embedding results from independent audit reports on effectiveness of controls into the risk profiles Combined assurance (audit plan on review of controls) Quality Model self-assessments and peer reviews) Integration with the risk based audit plan

ERM element Risk policies, standards and guidelines	Deliverables
14. Key risk indicators (KRIs).	<ul style="list-style-type: none"> • Development of Key Risk Indicator capability • Development of Key Risk Indicators for strategic and business objectives • Include KRIs in risk governance documentation and Risk Management Information System
15. Analysis of risk events as part of a systematic process of risk learning.	<ul style="list-style-type: none"> • Real-time risk monitoring, identification and analysis (on-line, real time RMIS) • Investigation of materialised risks and changes in priority risk profiles • Monitoring, analysing and learning from incidents
16. Risk-adjusted performance measurement and performance incentives.	<ul style="list-style-type: none"> • Integrate risk management with the Eskom performance management system • Develop well defined KPIs substantiating performance incentives • Report on the performance of risk management and the management of risk
Risk Management Information System	
17. Risk Management information System ensuring appropriate data quality and availability.	<ul style="list-style-type: none"> • Life extension of CURA • Replacement of current Risk Information Management System
18. Structured risk measurement and real-time monitoring of risks.	<ul style="list-style-type: none"> • Life extension of CURA • Replacement of current Risk Information Management System
Stakeholder management	
19. Stakeholder Management	<ul style="list-style-type: none"> • Up-to-date stakeholder management plan • Regular collaboration with chairmen of the risk committees, divisional and executive management accountable for risk • Training and talent management strategy to ensure sufficient skills and resources • Training strategy for Eskom and its subsidiaries aligned to social media tools and trends • Relevant Enterprise Risk Management training material • Deliver In-house Enterprise Risk Management training capability (as per strategy) • Networking with internal and external risk fraternities and practitioners • Internal centre-led risk governance committee (IRM Ops)
Enterprise Resilience Programme	Initiatives (frequency as indicated, required, or otherwise agreed)
	<ul style="list-style-type: none"> • Eskom Holdings Risk & Resilience Policy (formal review) • Eskom Holdings Risk & Resilience Plan (annually updated)

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ERM element Risk policies, standards and guidelines	Deliverables
1. Policy framework, definition of roles & responsibilities	<ul style="list-style-type: none"> • Divisional Risk & Resilience Plans (annually updated) • Provincial Resilience Programmes (annually updated)
2. Standards, processes, procedures, guidelines, templates	<ul style="list-style-type: none"> • Business Continuity Management Standard (formal review) • Disaster Management Standard (formal review) • Incident Command Standard (formal review) • Simulation Exercise Standard (formal review) • Resilience processes (formal review) • Divisional self-assessment guideline (to support the quality model) • Resilience procedures (development and review as required) • Divisional R&R Plan template review (annual) • Provincial R&R/ Programme Plan template review (annual) • Executive/divisional compact template (review as required)
3. Governance	<ul style="list-style-type: none"> • Board (annual - approval of Eskom R&R plan and policy) • Board Audit & Risk Committee (quarterly – R&R Report, recommendation of plan and policy) • Exco and Exco R&S Committee (quarterly oversight and support of plan quarterly reports and policy) • Enterprise Resilience Committee (as per schedule - monitoring and coordinating) • Divisional oversight committees (as per divisional schedules and plans) • Provincial Resilience Teams and (provincial coordination)
4. Internal governance reporting	<ul style="list-style-type: none"> • Divisional resilience management reviews (6-monthly) • Divisional Risk & Resilience reports (quarterly) • Divisional resilience presentations to ERC, Exco R&S and Board ARC (as per schedule) • Provincial Resilience Team status dashboard (quarterly) • Provincial Resilience Team presentations to Exco R&S (9 provinces as per annual schedule) • Enterprise Risk & Resilience Report to Exco R&S, Exco, and Board ARC (quarterly) • Legislative Compliance Report (annual) • Eskom Integrated Report inputs (as required annually) • Shareholder report inputs (as requested quarterly)
5. External governance reporting	<ul style="list-style-type: none"> • Eskom Holdings R&R Plan submitted to DPE with the Corporate Plan • Eskom Disaster Management Plan to the National Disaster Management Centre (NDMC), as per legislation (annually)

ERM element Risk policies, standards and guidelines	Deliverables
	<ul style="list-style-type: none"> • NDMC submission for parliamentary report (annual) • National Disaster Management Advisory Forum submission as per NDMC requirements (quarterly) • Provincial & Metro/District Disaster Management Advisory Forum submissions as per DMC requirements (ad hoc as requested)
6. Incident command & integrated emergency response structures	<ul style="list-style-type: none"> • Establish the Incident Command System (standard) at strategic (ERCC & PJCC) and tactical (divisional) level • Establish the Incident Command System (standard) at operational level • Support the Eskom Emergency Response Command Centre (ERCC) during incidents (ad hoc) • Undertake ERCC & PJCC venue tests (monthly)
7. Situational Awareness	<ul style="list-style-type: none"> • Establish implementation process within Group IT • Implement situational awareness capability • Integrate with NDMC operations center (early warning)
8. Business Continuity Management	<ul style="list-style-type: none"> • Divisional BCM strategic BIA undertaken • Execution of Divisional BCM priorities (High priority plans) • Execution of Divisional BCM priorities (Medium priority plans) • ISO 22301 compliance maturity assessment • ISO 22301 certification readiness review
9. Disaster Management	<ul style="list-style-type: none"> • Establish national priority 1 disaster plans • Level 1 maturity reviewed • Level 2 maturity authorised (key performance areas (KPA's) and Enablers*) • Level 3 maturity authorised • Establish national priority 2 disaster plans • Level 1 maturity (authorised) • Level 2 maturity (authorised) • Level 3 maturity authorised (KPA's and Enablers) • Establish provincial plans • Establish local plans
10. Simulation exercises	<ul style="list-style-type: none"> • National exercises (1 annually) • Provincial exercises (9 provinces exercised annually) • Divisional exercise programme execution
11. Safeguarding	<ul style="list-style-type: none"> • Annual resilience assessment (annual) • Governance review (national, divisional, provincial)

ERM element Risk policies, standards and guidelines	Deliverables
	<ul style="list-style-type: none"> • Development of a quality model for continuous improvement • Implementation of quality model • Undertake external review of resilience implementation (compliance and certification readiness)
12. Stakeholder management	<ul style="list-style-type: none"> • Up-to-date stakeholder matrix and engagement plan (via CAD and GCE Comm's Forum) • Execution of the engagement plan • Engagement with GE's on divisional implementation (one-on-one) • Maintenance of good relationship with the NDMC • Build good working relationships with PDMC's in the 9 provinces
13. Training programme	<ul style="list-style-type: none"> • Resilience training programme (review and continuous improvement) • Develop and enhance in-house Enterprise Resilience Management training capability (with EAL)
14. Special projects	<ul style="list-style-type: none"> • Expand resilience from operations to strategy • Grid Code enhancements (proposals on grid resilience)
15. Resilience leadership	<ul style="list-style-type: none"> • Participation in national and international working groups and technical forums • Conference & journal publications

TABLE 78: ER&R PERFORMANCE TARGETS FY2017/18 - FY2020/21

	2016/17	2017/2018	2018/19	2019/20	2020/21
Department (R 000)	Actual	Budget (draft)	Plan	Plan	Plan
Enterprise Risk	15 551	17 000	10 080	9 810	10 139
Enterprise Resilience	10 399	11 089	11 335	11 335	11 335
An amount of R2 000 000 is required per year, for consultants to implement training across the organisation on Incident Command and Business Continuity Management Certification, and to undertake reviews in FY2019/20 and FY2020/21.					
The opex plan is subject to alignment to the revised Design To Cost strategy					

TABLE 79: ER&R MANPOWER PLAN FY2017/18[illegible]

TABLE 80: RISKS AND TREATMENT PLANS RELATING TO THE ESKOM HOLDINGS ENTERPRISE RISK & RESILIENCE FUNCTION

Risk	Treatment Actions
<p>Risk management information system</p> <p>The lack of a stable and relevant risk management information system to support the objectives as set out in this plan affecting Eskom's ability to meet the objective of effectively recording risk and resilience information from which to provide Board Audit & Risk Committee with assurance that the risk and resilience management obligations are met.</p> <p>The consequence of this risk may be that Eskom will not meet the objectives as set out in this plan, risk and resilience data is compromised and the reason for dysfunctional system behaviour (software system).</p>	<p>A comprehensive user requirement specification review and the resultant alignment through replacement/upgrade of the risk management information system complimented by adequate process and system support.</p>
<p>Non-compliance to the risk methodology</p> <p>The risk of non-compliance to the risk methodology resulting in risks not adequately formulated, prioritised, managed and reported on leading to risks materialising and organisational crises.</p>	<ol style="list-style-type: none"> 1. Ongoing training and awareness initiatives 2. Ongoing focus on quality through the robust execution of the risk quality model ensuring valid, accurate and complete risk information 3. Continuous monitoring and reviews by enterprise risk advisors and divisional risk structures to ensure data quality and risk management progress (maturity) 4. Continuous clean-up of RMIS to ensure data integrity
<p>Inadequate readiness for major incidents and disasters</p> <p>Eskom's ability, in the context of DTC strategy, to roll out the resilience priorities before an incident occurs that would have required better planning.</p>	<p>Divisional Risk & Resilience Plans to address resource allocation, budget for these, and review these at least as part of a 6-monthly management review</p>
<p>Non-compliance to the Disaster Management Act</p> <p>Eskom does not comply fully with the requirements of the Disaster Management Act.</p>	<p>Significant progress has been made in the last year, in particular with the submission of Eskom's Disaster Management Plan. Enterprise Risk & Resilience is working closely with the National Disaster Management Center (NDMC) to address the compliance gaps. A structural concern is that DoE has not resourced its mandate under that Act to undertake coordinated planning for the electricity sector. The NDMC is also resource-constrained, given government's current austerity measures. In order to address this risk, Eskom will address its compliance requirements and work with the NDMC, NERSA and the DoE to facilitate Level 3 compliance as defined by the National Disaster Management Framework (Level 3 compliance requires extensive coordination of plans with government sectors at all tiers of government and with other joint responders and stakeholders)</p>

21.8 Climate Change and Sustainable Development

21.8.1 Mandate

The CCSD Business Unit comprises sustainable development and climate change streams. The mandate of the CCSD business department is: to shape and safeguard the integration of climate change and sustainable development best practices in the business.

21.8.2 Key activities

The CCSD has the following key activities:

- Reviewing Eskom's Sustainable Development framework
- Producing the Eskom Factor Report which details Eskom's impact from an economic, environmental and social perspective
- Developing Eskom's Transformation Plan
- Developing climate impact maps that detail impending changes to the climate and their impact on Eskom infrastructure
- Modelling emissions reductions scenarios and their impact on Eskom
- Organisation wide greenhouse gas reporting and monitoring of carbon foot print
- Engaging with Government on climate policy (developing the Climate Change act) and business on national and international business positions
- Participating in the official South African delegation to the international Climate Change negotiations

21.8.3 Assumptions and other risks

The Group anticipates that the following issues will have a material impact on the execution of its initiatives during planning period FY2017/18 to FY2021/22:

- Carbon taxes are expected to be implemented given Government's increased support to reduce carbon dioxide emissions. Carbon taxes will also be imposed in the 2017 to 2018 time horizons. This will be a pass-through cost
- Government is currently piloting company carbon budgets (2016 to 2020). Eskom has a budget for the 2016 to 2020 period. There will be financial penalties linked to non-compliance with carbon budgets from 2021. Eskom will be expected to submit pollution prevention plans to government in the 2017 to 2018 timeframe outlining its plan to reduce GHG emissions.
- Government is looking to allow other companies to meet their carbon budgets and/or reduce their carbon tax burden by shifting to lower carbon emitting technologies for their electricity supply. This poses an additional risk to the loss of revenue as companies will move away from Eskom supply
- Government will promulgate a Climate Change Act in the 2018 to 2020 timeframe.
- There are opportunities to be gained from investing in low emitting technologies – renewables prices are dropping and storage options are likely to develop rapidly.
- Eskom will remain vulnerable to the adverse impacts of climate change such as extreme weather changes and events in the short to medium term. South Africa will experience extreme weather events in the short, medium and long term.
- Eskom will explore options generation plant life extension/ fleet renewal, which will have environmental, and climate change impact.
- Eskom will remain committed to becoming and then maintaining its position as a risk intelligent and resilient organisation.

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- Eskom will apply for an additional five year postponement to some of the minimum emission standards in early 2019.
- Authorities will continue to closely monitor Eskom's compliance to environmental legislation and NGO's will continue to target Eskom in their anti-coal campaigns
- Continued morale issues within the broader Eskom environment may lead to mobile staff seeking opportunities, and impact on productivity.
- The fundamentals of quality will not change but the manner in which it is managed and governed might change as Eskom's business model evolves.
- ISO standards remain as the predominant global standards for the certification of management systems and continuous improvement/business excellence
- Quality initiatives will be funded by the existing operational and capex.

21.8.4 Renewable energy projects capacity planning

Eskom will be implementing climate change and sustainable development strategies as part of Eskom's efforts to mitigate greenhouse gases and integrate sustainable development practices. The following renewable energy projects and capex budgets have been approved for FY2017/18 – FY2021/22

EXHIBIT 144: RENEWABLE ENERGY CAPACITY

Renewable energy additional capacity
MW, FY17/18 – FY21/22

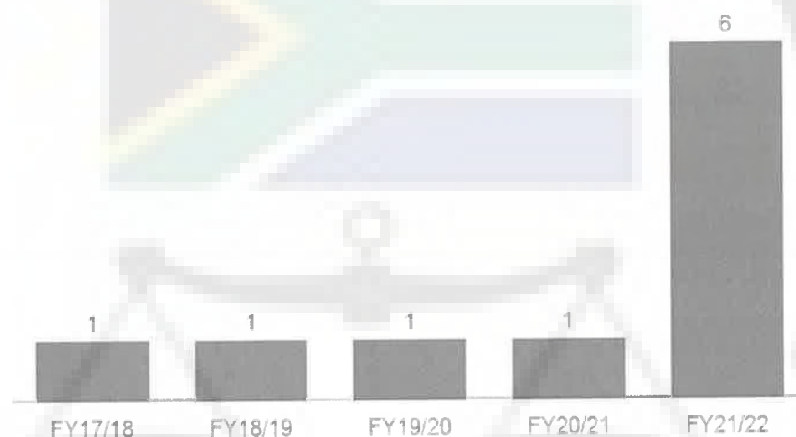
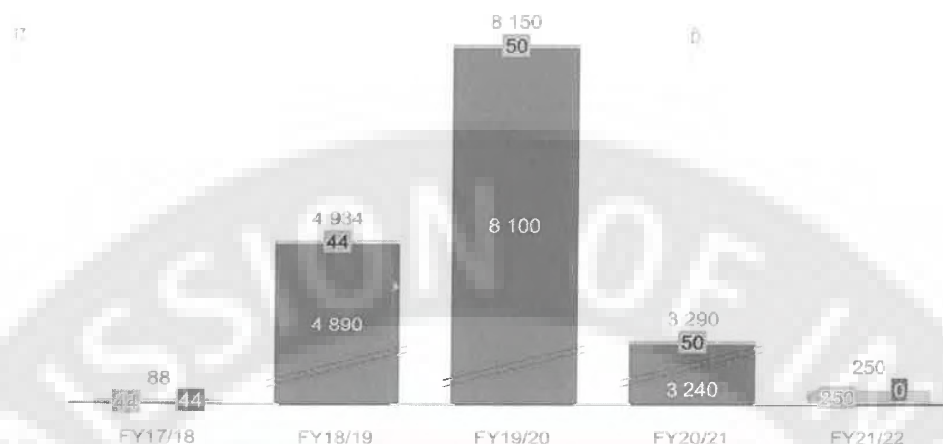


EXHIBIT 145: RENEWABLE ENERGY PROJECTS CAPITAL EXPENDITURE

Renewables capital expenditure
R million, FY17/18 – FY21/22

■ PSP funded capex ■ Eskom funded capex

**21.9 Transformation**

Government's programme of radical economic transformation is about placing the economy on a qualitatively different path that ensures more rapid, sustainable growth, higher investment, increased employment, reduced inequality and de-racialisation of the economy. The National Development Plan (NDP) sets an annual growth target of above 5% by 2030 and emphasises measures to ensure that the benefits of growth are equitably shared. The Department of Public Enterprises has elaborated a Transformation Framework to guide the involvement and requirements of State Owned Companies in achieving the NDP goals. The DPE Framework states that as illustrated in the NDP, much progress has been made. However, despite the economic and social redress successes and a broad range of State and private sector policy, strategy and programme interventions aimed at reducing economic disparities, our economy is still, by and large, characterised by entrenched inequalities. State Owned Companies (SOCs) are seen as a crucial vehicle of economic growth and development and are key in driving the creation and development of Black industrialists and entrepreneurs. Therefore SOCs are expected to be proactive and set benchmarks in leading the transformation agenda rather than purely trying to comply with policy and legislation.

In keeping with this expectation, Eskom continues to significantly contribute to socio-economic development in the country, as a catalyst to create job opportunities and enable transformation to support the broader developmental mandate of the country. The objective of Eskom's Transformation Plan is to outline the activities and initiatives to advance equity and create jobs (job creation) in line with the national/government objectives over the next five years. As such, this plan aligns with the DPE's Transformation Framework for SOCs. The plan supports Eskom's drive for Financial Sustainability, Asset Sustainability, Operational Sustainability and Customer and Revenue Sustainability, as well as the additional pillars of Environmental and Climate Change Sustainability, Stakeholder Management, Safety and Reputational Sustainability. The latter are key drivers in the national Transformation agenda. It is acknowledged that the organisation currently faces challenges, which impose constraints on several objectives including transformation. However, the environment in which Eskom operates poses the challenges of unemployment, poverty and inequality. Eskom, as a SOC has the ability to make a positive contribution in alleviating these challenges. Eskom operates within the notion that business cannot succeed in a failing society. Therefore, Eskom will, within its constraints continue to pursue the Transformation Plan, which articulates its commitment to contributing to the resolution of these challenges. Eskom's Transformation Programme is aligned with Government's principle transformation objectives relating to skills development requirements, the long-term procurement strategies of state-owned companies (SOCs) and the contribution of the SOC Corporate Social Investment (CSI) initiatives to the quality of basic education and the achievement of

broad social development objectives. This will be done by increasing equity in terms of social and economic participation, developing skills for employability and growing the business for job creation. The DPE Transformation Framework outlines additional objectives to these. Eskom's Transformation Plan, therefore outlines activities related to each of these objectives in the following areas:

- Skills Development
- Employment Creation
- Procurement
- Corporate Social Investment (CSI) Contributions
- Organisation culture
- Infrastructure development



22 Strategic Support Services

22.1 Summary of the operational plan

22.1.1 Overview

The Strategic Support divisions focus on various elements in the business to ensure that Eskom's objectives are achieved. These areas include:

- Strategy Support
- Corporate Affairs Division
- Legal and Compliance
- Assurance and Forensic
- Security Division
- The Office of the Company Secretary

The divisional focus on specialised areas is targeted at addressing business requirements, continuity and assurance. The details pertaining to these specialised functions are contained in the specific sections of this chapter. However, the most critical functions performed by these divisions are providing Eskom leadership with proactive crafting of solutions and advice, delivering on customer commitments, empowering management with decision-making tools and fostering continuous improvement.

22.1.2 Financial and operational highlights FY2016/17

The Strategic Support services achieved the following financial and operational highlights:

- Corporate Affairs Division's headcount targets for FY2016/17 have been met and target of R22 million savings will be realised by year-end
- The Eskom Development Foundation is on track to meet its shareholder targets and its
- Eskom Contractor academy received one national and two international awards for best practice in corporate social investment
- Heritage continues to be promoted through the Heritage column in Eskom Power News
- Despite significant negative issues in the media, Corporate Affairs has increased volumes of positive story posts in the social and traditional media space, thereby balancing the negative impact on Eskom's Reputation and increasing its sentiment value on social media.
- The CAD Stakeholder relationship assessment tool conducted in Limpopo and North West Province highlights significant improvement in the quality of relationships with key stakeholders achieving an average of 63% compared to the 50% target.
- Corporate Affairs Division recovered R1.3 million from ghost vending units, prevented revenue losses of R0.8 million and recovered R102.7 million in revenue
- Assurance and Forensic enhanced fraud awareness and control at Eskom by delivering fraud awareness workshops across the business
- Assurance and Forensic division's headcount targets for 2016/17 have been met.
- The use of data analytics resulted in 12 specific key controls and provided insight to improve risk, control and governance within these specific areas
- The KPMG recommendations, to improve the performance and efficiency of the department, are on track as per the agreed target dates

Strategic Support Services

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- The implementation of the new Security Division (SD) in the Office of the Group Chief Executive has taken place, effective 1 June 2016. The SD is currently in the process of optimising and resourcing the SD.
- A Cyber Security Solutions Centre of Excellence is currently being established within the Security Division. The Cyber Security Operating Model is being developed in conjunction with Group IT. To date, 16 OT cyber security fundamental training sessions have been conducted with 224 employees in the engineering and operational disciplines.
- Approval of the Anti-Fraud, Corruption and Economic Crime Risk Strategy by the Audit and Risk Committee
- There has been a 14% decrease in security incidents when compared to the same period in FY2015/16, and a 10% increase in the value of losses incurred when compared to the same period. The total arrests made were 228 and the financial recoveries were R5.65 million. Organised crime syndicates selling illegal electricity and prepaid slips were identified and profiled and 30 vending machines were recovered
- A security partnership between Eskom and AngloGold Ashanti Mines is to be developed in 2017 to detect and prevent crime. All sites within the mining corridor will be protected and security measures upgraded to ensure security of supply to the mines and that of assets in the corridor.
- A technology roll out programme has been established for national key point sites. The project is measured by milestones completed per project phase and the CRA phase has been completed. The Board Investment Committee approval for the DRA was obtained on 30 June 2016.
- The establishment of a research and development partnership with CSIR was concluded and the Eskom-CSIR Bilateral agreement was signed on 1 August 2016. The inaugural meeting was held on 9 September and the Eskom and CSIR committee members and stream leads were nominated.
- Security has successfully moved the Key Management Centre from the Eskom Academy of Learning to the National Control Centre in Simmerpan.
- During January 2017, a suspect was arrested in Kagiso for the illegal sales of Electricity. The suspect was found in possession of 598 slips and R8520 cash. Eskom is losing in excess of R 4billion from ghost vending and illegal connections per annum. 4 (four) vending machines belonging to the Parys Municipality was recovered during the financial year.
- During December 2016, 4 accused appeared at the Palm Ridge Regional Court, in Johannesburg for the illegal sales of electricity. The four accused now face a lengthy prison sentence after they were found guilty on over 16 000 counts related to electricity theft.
- The 2017/18 Shareholder Compact was approved by the DPE Minister in October 2016, following extensive engagements with all stakeholders, including Eskom leadership and DPE officials. In support of the Strategic Intent Statement, the compact sets out the key performance areas and indicators (measures) to be attained by Eskom.
- Strategy Support in conjunction with the Risk and Resilience Department, a set of strategic risks have been identified through the strategic review and a strategic risk appetite and tolerance framework is being developed.
- The Eskom Operating Model review began in October 2016 and the final report will be issued early in the 2017/18 financial year.

22.2 Strategy Support

22.2.1 Mandate

The Strategy Support division provides support the OGCE and drive an effective strategic planning process and capability that supports delivery of Eskom's strategic objectives

22.2.2 Aspirations and objectives

Strategy Support will focus on the following objectives:

- To ensure that there is an organisation strategy that directs the plan
- To ensure and enable effective strategy execution
- To lead a strategic and cross functional support system for the division and the entire organisation
- To provide enablement support the Office of the Chief Executive(OGCE)
- Manage the process of reviewing the Eskom operating model
- Enhancing the strategic planning process towards delivering on shareholder expectations

TABLE 81: STRATEGY SUPPORT DIVISIONAL ANNUAL KPIS

KPI	Measure	Targets
Development of Corporate Strategy	Score	To develop and review Eskom Holdings corporate strategy annually, for approval by Exco and Board prior to the new financial year
Eskom Operating Model	Score	Project management of the independent review of the Eskom current operating model
Development of Corporate Plan	Score	To develop Eskom Holdings corporate business plan for approval by Exco and Board for submission to DPE by 28 February annually
Shareholder Compact	Score	To develop the shareholder compact by Exco and Board and be submitted top DPE by 30 September annually
Integrated Long-Term Planning (ILTP)	Score	To direct and deliver on the ILTP project that will inform the integrated planning across Eskom
GCE Support, PQ and Critical Correspondence	Score	To support the OGCE in quality decision making through well-structured, accurate, timeous and relevant information

22.2.3 Initiatives

Strategy Support has the following initiatives for the next five years.

- Strategy development as a result of the 2016 strategic review that was undertaken incorporating the strategic direction from the 2018-2020 Strategic Intent Statement from DPE and further strategy review and development post 2020
- Development of the Eskom Holdings Corporate Plan, with support from other business plans, with the aim to maintain the momentum of continued performance improvement while navigating new external threats and opportunities facing the business.
- Develop the annual Shareholder Compact for submission for the DPE Minister's approval by 30 September of each year. The compact sets out the key performance areas and indicators (measures) to be attained by Eskom in support of the Strategic Intent Statement.
- Continued management of GCE reports, critical correspondence and parliamentary responses according to recently implemented process optimisations

22.3 Corporate Affairs Division

22.3.1 Mandate

The mandate of the Corporate Affairs Division (CAD) is to position Eskom to be a top global power company that is resilient, reputable, trusted, valued and highly regarded by its stakeholders and peer group of companies in South Africa and elsewhere in the world, through effective communication and stakeholder management

22.3.2 Aspirations and objectives

CAD will create an enabling environment for Eskom to achieve its aspirations. In doing so CAD will pursue delivery of the following objectives:

- To strengthen Eskom's reputation by improving the RepTrak™ score from 24.1 to 42 by 2022
- To increase Eskom's share of voice to 35% monthly through effective communication, internally and externally
- To build and maintain mutually beneficial stakeholder relationships by applying King IV stakeholder-relationship recommended practices
- To impact on the lives of one million direct beneficiaries where Eskom operates, through CSI, by 2021
- To establish a virtual Eskom heritage museum by 2021

Key performance indicators for these strategic objectives are shown in Table 82

TABLE 82: CORPORATE AFFAIRS DIVISION ANNUAL TARGETS

		Targets				
		FY17/18	FY18/19	FY19/20	FY20/21	FY21/22
RepTrak™		34	36	38	40	42
Net promoter score	Score	-47	-45	-30	-15	-5
Media share of voice	No	35	35	35	35	35
Social-media sentiment value	%	60	70	75	80	85

22.3.3 Key initiatives over the next five years

In alignment with Eskom's strategy and sustainability aims, Corporate Affairs Division's focus over the planning period will be to rebuild and strengthen confidence in Eskom. Corporate Affairs Division's aspiration is to enable Eskom to regain its position as one of the most reputable global power companies by FY2021/22. This will be achieved through improving Eskom's reputation from a 24.1 RepTrak™ score rating in FY2015/16 to a 42 point RepTrak™ rating in FY2021/22. Further initiatives will be achieved through:

- Proactively managing issues that may impact on the reputation of the organisation
- Instilling an organisational culture that is reputation-centric, one where employees understand their role as guardians and take accountability for their behaviour and Eskom's reputation
- Narrowing the gap between external perception and internal reality
- Tracking and monitoring Eskom's reputation through RepTrak™ and using the Net Promoter Score to provide real-time feedback on how the organisation is perceived

- Building a strong brand, and shaping how customers think and feel about the organisation and product
- Building the right type of experiences around Eskom's brand so that customers have positive thoughts, feelings, beliefs, opinions, and perceptions about Eskom
- Ensuring the consistent execution of the brand at all levels in the organisation
- Building and maintaining stakeholder relationships in order to gain insights into, and understanding of, their needs and expectations
- Intensifying the Eskom profile amongst the relevant key stakeholders, as per the stakeholder matrix, through strategic dialogues in order to enhance Eskom's reputation
- Establishing a conducive environment for handling legislative and parliamentary issues
- Creating engagement platforms to advance Eskom's strategic imperatives
- Providing executives with strategic counselling and advising on effective internal and external communication
- Communicating effectively to all Eskom stakeholders using a range of appropriate and efficient internal and external channels and media
- Building relationships with the media and driving a proactive media-relations strategy that will increase Eskom's share of voice
- Corporate Affairs will incorporate Eskom Development Foundation into its structure during FY2017/18.

22.4 Legal and compliance

22.4.1 Mandate

The mandate of the Legal and Compliance department is to support the Company's business by providing strategic and objective legal advice to the Eskom Group, to facilitate business solutions, and to provide guidance and assurance on compliance processes to assist with achieving the levels of compliance required by the legislative and regulatory policy framework governing Eskom.

The Legal and Compliance department will align its services to facilitate the achievement of Eskom's strategic objectives thereby protecting Eskom's interests, proactively managing Eskom's legal risks, and influencing and guiding compliance with the applicable legal and regulatory policy frameworks

Aspirations and objectives

The Legal and Compliance department will focus on the following aspirations.

- Reviewing and Restructuring the department's operating model from a division-focused model to one based on key legal practice groups to meet the needs of the Company more effectively by:
 - Building a legal and compliance centre of excellence, staffed by a team of skilled legal and compliance professionals, supported by quality systems, processes and tools
 - Prioritising and supporting the business on high-value, high-risk commercial transactions
 - Enhancing litigation management in order to effectively defend and/or pursue litigation matters by/against Eskom
 - Redesigning the compliance function to better enable the organisation to comply with the letter and spirit of the law in general
 - Proactively scanning the legislative and regulatory environment to identify and influence legislation and policies applicable to Eskom

- Establishing relationships with the various regulators, and assisting with engagements with the shareholder, other ministries and stakeholders
- Aligning the management of legal spend to national transformational objectives and initiatives by appointing a new panel of attorneys, , to reinforce legal support to Eskom, whilst managing and controlling external legal spend
- Guiding the organisation to ensure regulatory and legal compliance in order to maintain Eskom's operating licences, including new nuclear operations, and to support the sustainability of the business, including N-1 grid compliance, environmental compliance (including water usage and air emissions) and compliance with loan covenants

The Legal and Compliance Department will deliver on its strategic objectives by leveraging the following:

- Establishing integrated, enterprise wide processes by focusing on key practice areas:
 - Contracts
 - Nuclear
 - Regulation
 - Employment, Health and Safety
 - Environment, Risk and Sustainability
 - Transmission, Distribution and Customer Services
 - Real Estate, and Land and Rights
 - Litigation
 - Compliance
- Reviewing the adequacy and efficiency of existing systems, processes, tools and resources
- Benchmarking against other Legal and Compliance departments of leading and reputable companies, in both the private and public sectors
- Formulating a recruitment and retention strategy to ensure sufficient resources with the appropriate skills mix to service the legal and compliance needs of Eskom, whilst working within DTC targets
- Building a multi-skilled capability within the department through a training model based on leveraging no-cost training obligations of external panel attorneys in terms of Service Level Agreements, internal training by Eskom experts, sharing of information, knowledge management, and on-the-job-learning and self-skilling
- Developing and implementing a strategy for early and active involvement in all stages of contracting to optimise effective contract management
- Creating a team of litigation specialists who will manage the increase in litigation based on the types of litigation, frequency and trends, root-cause analysis, lessons learned and mitigation strategies to prevent or reduce future litigation
- Developing a strategy, together with Group Commercial, for the procurement of a new legal panel of attorneys, and proceeding to appoint a new panel that meets the country's transformation and developmental mandate
- Guiding the organisation on compliance with policies, conditions and requirements of key government stakeholders such as DPE, DoE, NT (PFMA, Guarantees, and Procurement Regulations), Department of Environmental Affairs and Sanitation, and regulators (e.g. NERSA, NNR, PAIA, POPI).

22.4.2 Initiatives

Over the next five years, Legal and Compliance plans to deliver on the following initiatives:

- Strengthening legal and compliance support, including legal-risk management for operations and interfacing with all stakeholders which have an influence on Eskom's legal, regulatory and compliance universe
- Establishing and strengthening relationships with various regulators, reviewing the impact of regulatory policies, and assisting with regulatory strategy
- Strengthening contract-negotiation support to ensure optimal protection of Eskom's interests through material terms and conditions, legal strategy and support to optimally reduce and recover municipal debt (through legal processes, negotiating and concluding payments plans)
- Providing legal and compliance guidance and advice on generation, grid and environmental compliance in order to maintain Eskom's licence to operate, thereby ensuring security of supply
- Shifting compliance away from a division-focus to an Eskom-wide focus by concentrating on the management of compliance on a per-Act basis
- Implementing automation of PFMA and compliance processes to streamline decision-making and provide assurance

Key performance indicators for these targeted outcomes are shown in Table 83

TABLE 83: LEGAL AND COMPLIANCE ANNUAL KPI

		Target				
		FY17/18	FY18/19	FY19/20	FY20/21	FY21/22
Legal response plan	%	100	100	100	100	100
Compliance	Score	3	3	3	3	3
Legal support	Score	3	3	3	3	3

22.5 Assurance and forensic

22.5.1 Mandate

The division's mandate is to enhance and protect organisational value by providing risk-based and objective assurance, investigative services, advice and insight that contribute to the achievement of Eskom's business strategy, objectives and operational performance.

Assurance and Forensic (A&F) reports functionally to the Audit and Risk Committee of the Board and conducts annual audits in accordance with the annual risk-based audit plan approved by the committee. In addition, the division conducts forensic and technical investigations as and when they occur.

The division is the custodian of the Fraud Prevention and Detection Plan, which sets out objectives that are focused on preventing and detecting fraud, corruption, irregularity, economic crime and other acts of dishonesty at Eskom. The Fraud Prevention and Detection Plan continuously evolves and takes into account changes and improvements in the drive to promote ethics, as well as to fight fraud and corruption within Eskom.

22.5.2 Aspirations and objectives

A&F strives to meet the assurance needs of the Board and Exco with regard to governance, risk management and control processes. More specifically, it strives to:

- Contribute to the establishment of a robust control environment and a culture of zero tolerance to fraud and corruption, thereby significantly reducing the fraud-cost premium and improving profitability

- Provide value-adding insights through the efficiency of the use of data analytics
- Consistently deliver assurance products and services that exceed stakeholder expectations by monitor and evaluate controls, governance and risk-management processes to meet Eskom's business objectives
- Improve efficiency within A&F and produce more with less

22.5.3 Initiatives

A&F operational performance measures are shown in Table 84.

TABLE 84: OPERATIONAL PERFORMANCE MEASURES FOR A&F

		FY17/18	FY18/19	FY19/20	FY20/21	FY21/22
Risk based audit plan execution	% actual vs planned	93	93	93	93	93
Number of fraud awareness training for divisions	%	91	92	92	92	92
Productivity	Productive hours per FTE	1 508	1 540	1 540	1 540	1 540

Objectives, initiatives and associated KPIs are shown in Table 85.

TABLE 85: OBJECTIVES, INITIATIVES AND ASSOCIATED TARGETS

Objectives	Key actions/initiatives	KPIs
To improve efficiency, produce more with less	<ul style="list-style-type: none"> • Facilitated self-assessments and reporting by management • Increased use of data analytics • Improved scoping on audit projects 	<ul style="list-style-type: none"> • Productivity hours per auditor
<ul style="list-style-type: none"> • Contribute to the establishment of a robust control environment and a culture of zero tolerance to fraud and corruption, significantly reducing the fraud-cost premium and improving profitability 	<ul style="list-style-type: none"> • Implementation of fraud- and corruption-awareness training 	<ul style="list-style-type: none"> • Number of fraud-awareness workshops
To provide value-adding insights through the proficient use of data analytics	<ul style="list-style-type: none"> • Increased use of data analytics against the audit/investigation plan 	<ul style="list-style-type: none"> • Percentage of CAATS utilised on planned projects • Number of CAATS themes • Number of continuous monitoring CAATS
Consistently deliver assurance products and services that exceed stakeholder expectations. To build, monitor and evaluate controls, governance and risk management processes to meet Eskom's business objectives,	<ul style="list-style-type: none"> • Monitoring of plan completion • A&F reports • Customer-satisfaction surveys 	<ul style="list-style-type: none"> • Percentage completion of the plan • Percentage completion of A&F reports • Customer-satisfaction ratings

22.6 Security Division

22.6.1 Mandate

The mandate of the division is to:

- Shape the management of security through policy, standards and directives
- Protect against security threats, which impact on assets, information, interests, people, systems and processes, maintaining security at agreed risk levels.
- Provide assurance that security is at a high standard and is compliant with legal and regulatory requirements

22.6.2 Strategic objectives

Security Division has the following aspirations:

- Establish, resource and optimise the Security division as a key business priority that complies with legal and regulatory requirements
- Increase the application of deterrence and surveillance technologies, versus an increase in guard headcount
- Reduce the cost of security
- Fully integrate Security BI with established protocol for proactive and effective dissemination of intelligence (emerging imminent and current security threats)
- Optimise support from, and co-operation with, regulators, law-enforcement and intelligence agencies through enhanced relationships
- Provide security assurance and adherence to statutory, regulatory and other Eskom requirements
- Proactively reduce illegal vending through resilient operations and effective investigations

22.6.3 Operational performance measures

Operational performance measures for the Security Division over the FY2017/18 – FY2021/22 period are given in Table 86.

TABLE 86: SECURITY OPERATIONAL PERFORMANCE MEASURES

		FY17/18	FY18/19	FY19/20	FY 20/21	FY 21/22
Stabilisation of the security division	%	100	100	100	100	100
Technology roll-out	%	100	100	100	100	100
Guarding of optimisation	%	100	100	100	100	100
Integrated intelligence services	%	100	100	100	100	100
Stakeholder satisfaction and co-operation	%	100	100	100	100	100
Legal and regulatory compliance	%	85	85	85	85	85
Reduction in losses through illegal connections and ghost vending	%	10	10	10	10	10

22.6.4 Initiatives

Initiatives and associated KPIs are shown in Table 87

TABLE 87: SECURITY DIVISION INITIATIVES

Objectives	Gr/Dv Strategy	Year	Key actions/ initiatives	KPIs	Critical success factors
Establish, resource and optimise the Security division as a key business priority that complies with legal and regulatory requirements	Implement (design, fund and staff) an integrated security operating model and management system	2017	Security Optimisation Programme	Stabilise the Security division (MSD 2431)	Successful organised labour and staff engagements to ensure smooth transition.
Increase the application of deterrence and surveillance technologies vs an increase in security guard headcount	Move from manpower-centric to technology-centric security	2017	Develop and implement the Physical Security Infrastructure Upgrade Programme (technology roll out)	Technology roll-out (MSD 2449)	<ul style="list-style-type: none"> • Project management capacity • Available capital
Reduce the cost of security	Optimal number of contractors deployed, as per commodity strategy on physical guarding	2017	Commodity strategy: physical guarding	Guarding optimisation (MSD 2431)	No delays in the procurement process
Fully integrate SBI with established protocol for proactive and effective dissemination of intelligence (emerging, imminent and current security threats)	Implement a Security BI framework and operating model	2017	Establish and maintain a security incident-management system, including GIS	Integrated Intelligence Services (MSD 2453)	Accurate analysis and timely dissemination of intelligence
Optimise support from and co-operation with regulators, law-enforcement and intelligence agencies through enhanced relationships	Enhance relationship with regulators and law-enforcement and intelligence agencies	2017	Engagement programme with senior management of law-enforcement and intelligence agencies	Stakeholder satisfaction and co-operation (MSD 2123)	Active engagement with regulators and law-enforcement and intelligence agencies
Provide assurance and adherence to statutory	Direct, co-ordinate and monitor regulatory and	2017	Management of security compliance as per the Compliance	Security regulatory and legal compliance as	Well-defined Compliance Universe.

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Objectives	Gr/Dv Strategy	Year	Key actions/ initiatives	KPIs	Critical success factors
regulatory and other Eskom requirements	legal compliance		Universe and Security Inspection Plan	per the compliance index (MSD 2432)	
Proactively reduce illegal vending through resilient operations and effective investigations	Partner with the Eskom Energy Protection Project	2017	An illegal-connections intervention and ghost-vending intervention	Reduction in losses through illegal connections and vending (MSD 2452)	Accurate non-technical-loss information and hotspot profiling

22.7 The Office of the Company Secretary

22.7.1 Mandate

The Office of the Company Secretary (OCS) ensures effective governance and company secretarial best practices; it also manages the interface between the various stakeholders which consists of the Shareholder Representative, government departments and the Chairman/ Board and executive management to enable Eskom to be a well-governed, ethical and trusted company.

The Office of the Company Secretary will focus on the following strategic objectives:

- To enable the organisation to adhere to the prescripts that underpin its existence
- To provide an efficient and effective service to the Board and the Executive in managing the organisation by ensuring that proper procedures are put in place and adhered to;
- To provide the central source of guidance on matters of business ethics and good governance

22.7.2 Aspirations and objectives

The Office of the Company Secretary will deliver on its strategic objectives by leveraging the following:

- Ensure seamless liaison between the Board and management of the company
- Provide advisory services for the Chairman and Board in respect of procedural and governance issues
- Provide effective and efficient rollout of the Chairman engagement programme
- Effect and shape Eskom's governance strategy as well as monitor and report on implementation of Group Governance policies and protocols
- Provide Corporate Governance advocacy
- Ensure optimum functioning of Board, Board committees and Exco to support the organisation in its decision making
- Provide a professional company secretariat service
- Establish a fully operational Ethics Management Framework
- Provide efficient statutory services
- Improve operational efficiency and effectiveness of the Office of the Company Secretary

22.7.3 Initiatives

Initiatives and associated KPIs are shown in Table 88

TABLE 88: OFFICE OF THE COMPANY SECRETARY INITIATIVES

Objectives	Year	Key actions/initiatives	KPIs
To enable the organisation to adhere to the prescripts that underpin its existence	2017-2021	<ul style="list-style-type: none"> • Advisory service on governance processes • Provide Governance training • Compliance with Governance protocols and codes • Provide guidance to the Directors and Exco in respect to their duties, responsibilities and powers 	<ul style="list-style-type: none"> • Rating from Chairman, Board, Exco • GAI Assessment Tool
To provide an efficient and effective support services to the Board and the Executive in managing the organisation	2017-2021	<ul style="list-style-type: none"> • Provide a professional company secretariat service • Provide governance assurance • Ensure a sustainable skills base for company secretariat (internship programme) 	<ul style="list-style-type: none"> • customer satisfaction feedback • No contraventions
To provide an effective Ethics Management Framework	2017-2021	<ul style="list-style-type: none"> • Review of the current Ethics Management Framework 	<ul style="list-style-type: none"> • Rating from Chairman, Board, Exco

23 Eskom Enterprises

23.1 Summary of the operational plan

23.1.1 Context and mandate

Eskom Enterprises SOC Limited (EE) has traditionally been the main support to Eskom in its life-cycle support management. However, given Eskom's need to grow external revenue, EE's role will grow into new product and market development. This work will be done in support of Eskom's drive to grow external sales, optimise subsidiaries and drive industrial development.

The mandate of EE is to be a collection of sustainable non-regulated businesses providing high-quality, mission-critical services to Eskom in particular and the electricity industry in general support of Eskom's Africa strategy.

EE comprises five entities:

- Eskom Rotek Industries SOC Ltd
- Pebble Bed Modular Reactor (PBMR)
- South Dune Coal Terminal (SDCT) & Golang
- TAP (South Africa and Mauritius)
- Eskom Uganda Ltd

The group provides plant life-cycle support and maintenance services, network protection and support for the New Build programme for all Eskom divisions.

23.1.2 Aspirations and objectives

The current Eskom Holdings shareholder expectations for the EE group are defined as follows:

- Quality and cost-effective provision of services that support Eskom's core business
- Performance and value creation from existing and new investments
- Eskom growth in non-regulated markets

EE priorities for the upcoming financial year are as follows:

- Ensuring financial sustainability for EE's operations to ensure that EE remains a going concern able to meet its short-term liquidity requirements and financial commitments
- Attaining operational sustainability to deliver effective and efficient operations of all current assets
- Achieving revenue and customer sustainability, accompanied by environmental and climate-change sustainability
- Building a sustainable skills base, including transformation and social sustainability
- Driving industrialisation through new product development
- Reducing dependence on Eskom subsidiaries

23.1.3 Objectives and five-year targets

EE has the following objectives:

- Fund obligations for SDCT/Golang by leasing of rights, as a result of the indirect investment in the Richards Bay Coal Terminal.

- Significantly invest in expansion of key facilities across EE:
 - Rotek Turbo Gen services capability expansion requires R1.4 billion until FY2017/18
 - PBMR requires R25 million until FY2019/20
- Eskom Rotek Industries is expected to achieve an average net profit after tax of approximately R146 million per year over the FY2017/18 – FY2021/22 planning period

23.1.4 Risks

- Delays in returning units from outage
- View of longer-term requirements from customers

Plant failure due to ageing plant the Uganda O&M concession, including water-release restrictions in Eskom Uganda Limited (EUL).



23.2 Overview and mandate of Eskom Enterprises

23.2.1 Mandate

EE is a wholly owned subsidiary of Eskom Holdings SOC Ltd. It was formed in 1999 and is essentially a diversified group of companies. EE sold the operating assets of its divisions to Eskom during FY2014/15 and thus became a holding company of all non-regulated business. The EE Group supports Eskom's core business and strategy, including the Africa strategy. It has a number of operating entities in South Africa and Uganda, as shown in Exhibit 146 and Exhibit 147. The mandate is based on the following principles:

- The mandate will reflect strategic support to Eskom's core business
- Each area of the business will have a unique strategic capability that no other unit duplicates, and appropriate skills will be consolidated and leveraged on behalf of the Eskom Group
- Prices for services rendered will be aligned with Eskom Holdings Internal Pricing framework (such as fair price, market price and cost recovery as appropriate)
- The shareholder compact and the MOI will be the primary instruments to execute the mandate
- Growth and investment in capacity will focus on alignment to Eskom's growth strategies, in particular the Eskom Africa strategy

The mandate of EE is to be a collection of sustainable non-regulated businesses providing high quality, mission critical services to Eskom in particular and the electricity industry in support of Eskom's Africa strategy. This mandate has guided EE's operations to date and has been refined to reflect the strategic shift in Eskom. The key implications of the mandate are that EE will continue providing specialised strategic and commercial life-cycle services in the energy sector, including the development, construction, refurbishment, operation and maintenance of infrastructure.

EE represents a group of companies with few operating entities and the remainder of the entities in some stage of closure. There is current monitoring of those entities in a current state of disposal. Moving forward, EE will focus on development of new sustainable revenue streams, whilst ensuring the ongoing optimisation of existing subsidiaries.

EXHIBIT 146: EE GROUP OF COMPANIES

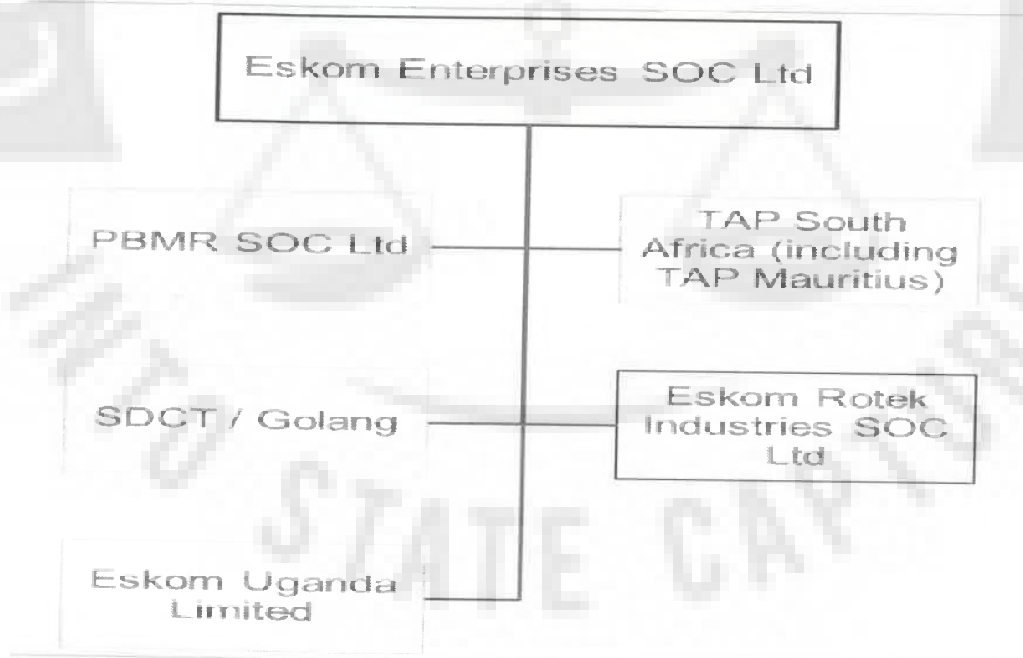
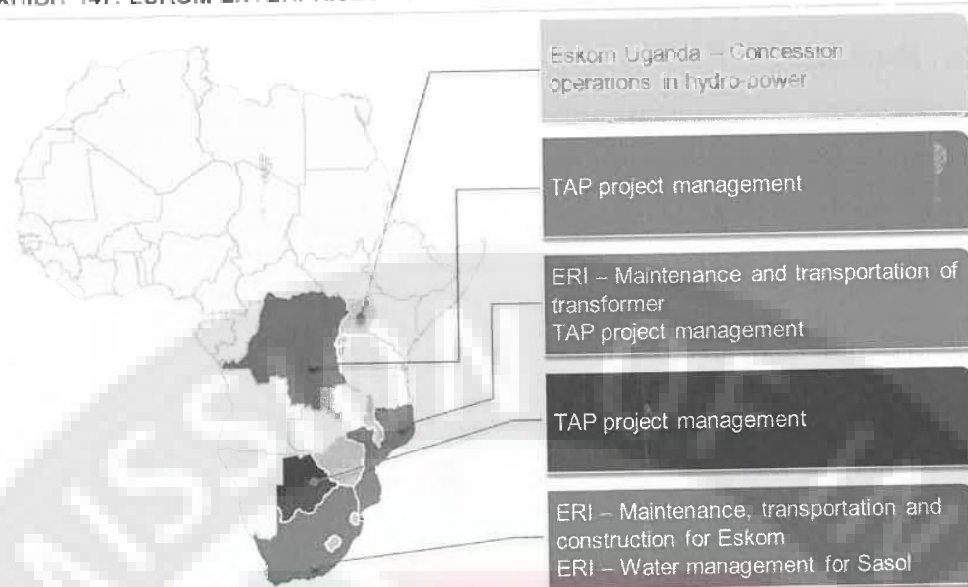


EXHIBIT 147: ESKOM ENTERPRISES FOOTPRINT

NOTE: TAP also has secured revenue in Indonesia

23.2.2 Cross border activities

The group's main cross-border activities are in Uganda. EE operates and maintains two hydro-power stations in Uganda on a 20-year concession. These are Nalubaala and Kiira, situated close to the source of the Nile River at Jinja, and supply approximately 45% of Uganda's energy. The concession has approximately seven years left. A strategy for possible extension of the concession has been presented to the EE board.

In addition, both ERI and TAP have projects across the African continent. Exhibit 147 shows EE's footprint during FY2016/17.

23.2.3 Governance related matters

The Eskom Subsidiary Governance Framework sets out the governance process to be implemented by the Eskom Group. The Framework applies to all wholly owned South African subsidiaries of Eskom.

The board currently consists of five Eskom Holdings Executives, the Chief Financial Officer as an official and the Company Secretary and Chairman of the Assurance Committee. The members of the Board are shown in Table 89.

TABLE 89: MEMBERS OF THE BOARD

Governance forum	Structure
EE Board	Chairman: Mr Anoj Singh Members: Non-Executive Directors: Mr MM Ntsokolo & Mr T Govender Executive Directors: Mr JA Dladla (Chief Executive Officer Eskom Enterprises) Officials: Ms Q Mangcipu (Chief Financial Officer) Chairman of EE Assurance and Risk Committee: Mr JM Buys Company Secretary: Mr E Viljoen

23.3 Aspirations and objectives

Eskom plays a key role in driving the EE business, both as the sole shareholder and as the key customer. EE has therefore ensured that its strategic direction is fully aligned to the shareholder's expectations and will continue to enforce compliance to these objectives in its group of companies.

The current Eskom Holdings shareholder expectations for the EE group are defined as follows:

- Quality and cost-effective provision of services that support Eskom's core business
- Performance and value creation from existing and new investments
- Eskom growth in non-regulated markets

These strategic objectives are applicable to the EE Group and aim to stabilise and sustain the organisation in the short, medium and long term. EE's priorities are:

- Ensuring financial sustainability for EE's operations to ensure that EE remains a going concern able to meet its short-term liquidity requirements and financial commitments
- Attaining operational sustainability to deliver effective and efficient operations of all current assets
- Achieving revenue and customer sustainability, including environmental and climate-change sustainability
- Building a sustainable skills base, including transformation and social sustainability

The focus of the current strategy, based on the strategic objectives (priorities) and mandate, is on the following initiatives:

- Identify new sustainable revenue streams
- Benchmark opex costs and ensure reduction
- Complete the disposal of non-core entities to create the necessary platform to support Eskom's strategy

23.3.1 New products and regional growth

Given the constrained financial environment, Eskom has developed its strategy with the growth of the business as a cornerstone. EE has been identified as the vehicle that will drive this required growth of new products and regions during FY2017/18 to FY2021/22 to extend the current footprint across the continent.

To ensure that the required growth into new markets occurs, the following initiatives will be implemented:

- Identify new markets for existing products and services that EE offers
- Identify new products and grow these opportunities, focusing on commercialisation of Eskom assets, including IP

- Establish a marketing team to support the change in messaging

This growth will need an investment of people and possibly of funds, depending on the different growth opportunities identified. The current cash constraints of the utility could be a constraint for the growth plans.

During FY2016/17, the first dedicated resources were assigned to the development of new business opportunities in support of the Eskom strategy to grow non-regulated revenue. In October 2016 the first opportunities for additional revenue streams were developed into Initial Value Propositions (IVPs) and Value Propositions (VPs) and were presented to a panel for review. The panel was presented with 17 IVPs, which detailed a total potential EBITDA of R1.5 billion over the FY2017/18 – FY2021/22 period.

The 17 identified opportunities are shown in Exhibit 148. Any projects marked 'Stay in GO' will continue to be developed by the Growth Office. No indicates that the commercial case was not seen as significant enough to be retained in the Growth Office. This process will continue to be refined and followed during the coming months to ensure that opportunities that meet Eskom's requirements are developed. This work is being done in support of the DTC II target of developing R10 billion in unregulated profit streams over the five-year period.

EXHIBIT 148: INITIAL VALUE PROPOSITIONS AND VALUE PROPOSITIONS PRESENTED TO PANEL FOR REVIEW

#	VP name	Estimated revenue potential (Rm)	Decision	Action	IVP	VP	Business case	Current status
1	Commercialisation of ESCAP	250	Yes-Stay in GO	Proceed with VP	✓			VP scheduled for completion early December 2016
2	Vanadium redox storage solutions	2 000	Yes-Stay in GO	Prepare VP on broader energy storage solutions				Unscheduled
3	Generating revenue from Eskom's property portfolio	50	Yes-Move out of GO	Redirected to BU for further development	✓			
4	Water desalination	2 000	Yes-Stay in GO	Proceed with VP	✓			VP scheduled for completion early December 2016
5	Commercialisation of fibre network	1 000	Yes-Stay in GO	Proceed with VP	✓	✓		VP completed and taken to Eskom IM
6	Laser beam welding technology	1 000	Yes-Move out of GO	Redirect to CSIR commercialization stream	✓			
7	End-use bundled solutions	1 000	Yes-Stay in GO	Proceed with VP	✓			Unscheduled
8	Substation construction and upgrading (SC&U)	1 000	No	BU to assess feasibility	✓			
9	Particulate sampling and testing service	100	Yes-Move out of GO	Redirect to BU for further development	✓			
10	Transmission network design, construction and maintenance services	1 000	Yes-Stay in GO	Proceed with VP	✓			Unscheduled
11	Eskom venture capital	120	No	No further development	✓			
12	Electric vehicle charging stations	300	Pending	Reposition IVP and present again	✓			
13	Weldcore	100	Yes-Stay in GO	Proceed with VP	✓			Unscheduled
14	Life-of-bundled solution	1 000	Yes-Move out of GO	Redirect to PICCO/Rotek for further development	✓			
15	Unmanned aerial vehicle (UAV) inspection unit	100	Yes-Move out of GO	Redirect to TAP for further development	✓			
16	Electricity distribution and reticulation network maintenance	1 000	Yes-Stay in GO	Proceed with VP	✓			Unscheduled
17	Development of transformer assembly facility	500	Yes-Stay in GO	Proceed with VP	✓	✓		VP completed and taken to ERI and EE

23.4 Financial and operational targets

23.4.1 Funding model

EE's funding model is based on three areas from which Eskom can source funding: retained earnings, new equity and borrowings. To date, the main source of funding has been from operations and cash

accumulated as a result of proceeds from disposal of assets. As EE is only an investment-holding company, additional capital will have to be raised by either equity or borrowings.

The lease of Eskom rights, as a result of the indirect investment in the Richards Bay coal terminal, will fund Eskom obligations for SDCT/Golang but not generate surplus cash. This investment will be retained until the plans to leverage the investment for Eskom's benefit are finalised. Significant investment is required to expand facilities in the subsidiaries to support Eskom. These strategic initiatives in the Group will require funding, apart from any funding requirements for any future investment into new products and markets.

Expansion of key facilities will require the following funding:

- The Rotek Turbo Gen Services capability expansion requires R1.1 billion until FY2019/20.
- PBMR requires R24 million until FY2019/20.

The R1.4 billion investment for the capacity expansion of Turbo Gen Services is to meet the needs of Generation. It is for the creation of a facility to manage strategic spares, an investment in an additional balancing plant and generation annexes to ensure additional available capacity. The average net profit after tax for Eskom Rotek Industries is expected to be approximately R146 million a year over the FY2017/18 – FY2021/22 planning horizon based on the latest forecasts. This will result in an average profit margin of approximately 2%, and inflationary growth and efficiency savings are expected. The following initiatives still need to be finalised to determine the exact funding requirements:

- Transformer assembly
- Boiler engineering and maintenance
- Desalination development
- Gypsum and ash industrialisation

Additional shareholder funding will be required in the form of equity injection, as the subsidiary will not be sustainable if it is required to service the debt. The detailed spend and the expected cash-flow timeframe for the additional spend is shown in Exhibit 149.

EXHIBIT 149: ADDITIONAL SHAREHOLDER FUNDING REQUIRED

Funding requirements (R million)	2017	2018	2019	2020	2021	Total
Turbo Gen Services	596	372	158	7	-	1 133
PBMR funding	6	6	6	6	-	24
Africa strategy	250	-	-	-	-	250
Funding required	852	378	164	13	-	1 407
Funded by surplus cash	(602)	(6)	(6)	(6)	-	(620)
Balance to be funded by equity injection	250	372	158	7	-	787

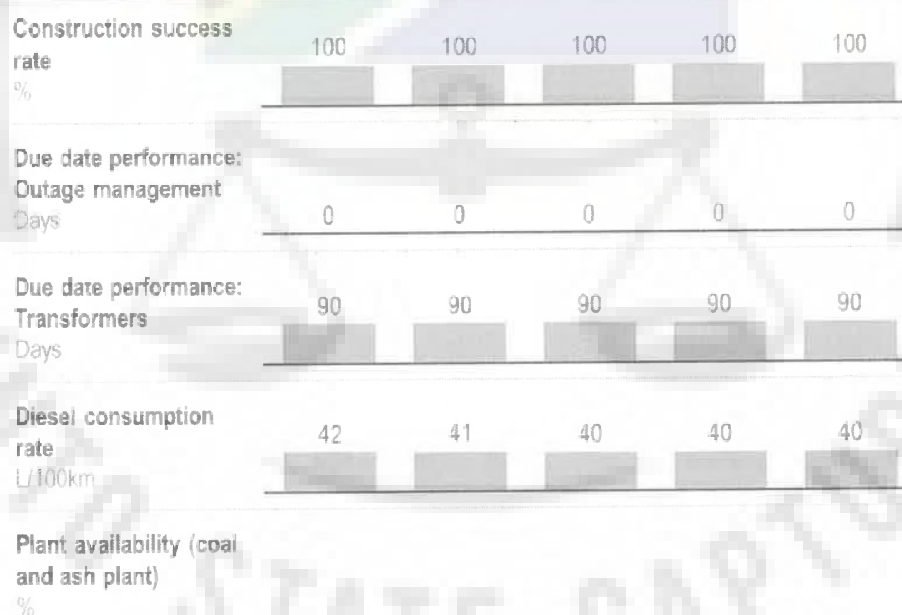
23.5 Financial and operational targets

The financial and operational targets for FY2017/18 – FY2021/22 are indicated in Exhibit 150 and Exhibit 151 below

EXHIBIT 150: FINANCIAL, HEADCOUNT AND SAFETY TARGETS FY2017/18 - FY2021/22



EXHIBIT 151: OPERATIONAL TARGETS FY2017/18 - FY 2021/22



23.6 Risks and treatment plans

Key risks facing EE and the treatment plans put in place for risk mitigation are shown in Table 90

TABLE 90: EE RISKS AND TREATMENT PLANS

Risk	Risk Impact	Treatment Plans
Delays in returning units from outage	<ul style="list-style-type: none"> • Undue pressure on the power system 	<ul style="list-style-type: none"> • Continual customer interaction and an understanding of the system constraints
View of longer-term requirements from the customers	<ul style="list-style-type: none"> • Sub-optimal utilisation of assets 	<ul style="list-style-type: none"> • Restoration of confidence in the service delivery of Rotek and Roshcon • Real-time access to customer requirements • Improved customer relations
Plant failure due to ageing plant at the Uganda O&M concession, including water-release restrictions in EUL	<ul style="list-style-type: none"> • Lack of spinning reserve • Inability to meet dispatch requirements • Load shedding • Generation inefficiencies and lower energy levels 	<ul style="list-style-type: none"> • Replacement of ageing components, carrying out of plant health-condition monitoring, carrying out of technical assessment on life of the plant, negotiating the decommissioning of some NPS units • Compliance in terms of water permit

24 ESCAP

24.1 Summary of the operational plan

24.1.1 Context and mandate

Escap SOC Ltd has a mandate to carry on the business of short-term insurance for the benefit of Eskom and its related companies.

Escap underwrites the insurance risks of Eskom and its subsidiaries (Eskom Group), is regulated by the Short-term Insurance Act number 53 of 1998 (Short-term Insurance Act) and operates under a licence issued by the Financial Services Board (FSB).

24.1.2 Initiatives

Escap supports Eskom's objective to achieve and ensure business and financial sustainability. This strategic objective will be supported by the following initiatives:

- Developing, documenting and implementing a capital-management and dividend policy
- Developing, documenting and implementing an investment strategy
- Developing, documenting and implementing a risk retention strategy
- Reviewing and documenting the ORSA process
- Optimising the reserving methodology
- Reviewing and documenting the premium pricing methodology
- Developing and implementing insurance data analytics
- Reviewing, documenting and implementing the customer-management plan
- Managing the insurance asset-valuation project
- Optimising the existing management of claims processes

24.1.3 Risks

Escap does not have priority 1 risks but one priority 2 risk: Escap not being able to meet its statutory solvency capital requirement (SCR). The SCR could result in the following:

- Request for recapitalisation from shareholder
- Inability to honour financial obligations
- Reduction of Escap's risk retention capacity
- Imposition of onerous reporting requirements by the regulator
- Loss of licence
- Winding up of the company

24.2 Overview and mandate of Escap

24.2.1 Overview and mandate

Escap is a wholly owned subsidiary company of Eskom and was established in 1993. Escap underwrites the insurance risks of Eskom and its subsidiaries, and it is regulated by the Short-term Act 53 of 1998, while operating under a licence issued by the FSB.

Escap's mandate is to carry on the business of short-term insurance for the benefit of Eskom and its related companies. Escap executes its mandate by providing sustainable, optimal, value-adding insurance and pure-risk financing solutions to the Eskom Group.

24.2.2 Reinsurance market

The South African reinsurance market underwrites Eskom's insurable risks to the extent that there is capacity and willingness to support it. Beyond that, Eskom's insurance broker places the balance internationally. The international placements comply with insurance and other relevant legislation.

24.2.3 Governance related matters

The members of the Board are shown in Table 91.

TABLE 91. MEMBERS OF THE BOARD

Governance forum	Structure
Escap Board	Chairman: Mr Anoj Singh (Non-Executive Director) Members Mr Bhekithemba TPKM Gamedze – Lead Independent Non-Executive Director Ms Melanie Bosman – Independent Non-Executive Director Prof. Robert Vivian – Independent Non-Executive Director Ms Jacqui Kilani – Chief Executive Officer (Executive Director)

24.2.4 Money flows between Eskom and its subsidiary

Escap provides insurance cover to the Eskom Group in return for insurance premiums. Escap retains the major portion of Eskom's risk and therefore retains the major portion of the premium on average 85%, and pays the balance to reinsurance companies for the risk transferred to them. This is in line with Escap's risk retention strategy to retain as much risk as possible and only reinsure for catastrophic incidents. Escap aims to manage insurance costs that are due to market conditions as opposed to an increase in Eskom's risk.

Escap uses its underwriting profit and surplus cash to acquire investments in money market instruments and listed shares. Escap's investments in money market instruments include instruments issued by Eskom.

Eskom provides managerial, administrative and advisory services to Escap in return for a monthly management fee.

24.3 Strategic and supporting objectives

Escap supports Eskom's financial sustainability by managing the cost of insurance to the Eskom Group. Escap conducts its business in accordance with Eskom's transformation and socio-economic sustainability objectives. Over the planning period, Escap will strive to retain financial and operational sustainability.

Strategic objectives and supporting initiatives for the five-year planning period are shown in Table 92.

TABLE 92: OBJECTIVES

Strategic objectives	Supporting initiatives FY2017/18 – FY2021/22	Owner
Business and financial sustainability	Develop, document and implement the capital management and dividend policy	Escap CEO
	Review, document and implement the investment strategy	Escap Public Officer
	Review, document and implement the risk retention strategy	Escap CEO
	Review and document the ORSA process	Escap Public Officer
	Optimise the reserving methodology	Escap Senior Accountant
	Review and document premium pricing methodology	Middle Manager Insurance (Underwriting)
	Develop and implement insurance data analytics	Senior Advisor Management Accounting
	Review, document and implement the customer management plan	Senior Manager Insurance
	Manage the insurance asset valuation project	Senior Manager Insurance
	Optimise the management of claims processes	Senior Manager Insurance

24.3.1 Initiatives

TABLE 93: TARGETED OUTCOMES

Objectives	Strategy	Year	Key actions/ initiatives	KPIs	Critical success factors
Financial & operational sustainability	Enhance income and reduce costs	FY2017/18	Reduce claim losses and operating expenses	<ul style="list-style-type: none"> Net claim losses < 70% of net earned premiums Net expenses < 6% of net earned premiums 	<ul style="list-style-type: none"> Claims incurred Expenses incurred Listed share market investment performance Money Market investment performance Returns achieved
			Enhance net premium and investment income	<ul style="list-style-type: none"> Listed share portfolio investment performance > or = Shareholder Weighted Index (SWIX) Money Market investment performance > or = short-term fixed interest composite index (STEFI) Escap's return on equity (ROE) > or = Eskom's real weighted average cost of capital (WACC) 	
Financial & operational sustainability	Remain solvent and adhere to regulations	FY2017/18	Fulfil Insurance Act and other	<ul style="list-style-type: none"> Escap's statutory net asset value (NAC)/ own funds exceeds its SCR 	<ul style="list-style-type: none"> Net asset value and risks taken

Objectives	Strategy	Year	Key actions/ initiatives	KPIs	Critical success factors
			regulatory requirements	<ul style="list-style-type: none"> ISO 9001:2008 accreditation maintained Unqualified audit opinion and no significant audit findings Overall control / opinion rating < or = 2 Resolution of 80% of audit findings within timelines set 	<ul style="list-style-type: none"> ISO 9001 requirements adhered to Annual financial statements fairly reflect results of operations Financial and operational controls adhered to Timely resolution of audit findings

Escap expects similar operational targets to be in place over the five-year planning period.

24.3.2 Key performance areas and indicators

Key performance targets are shown in Table 94.

TABLE 94: PERFORMANCE INDICATORS

Objective (KPA)	Driver	KPI (1st Level)	Measure	Frequency	KPI (2nd Level)
Business and financial sustainability	Net claim losses and expenses within target	Claims ratio and expenses ratio	Percentage of net earned premiums	Quarterly	Net claim losses < 70% of net earned premiums
				Quarterly	Net expenses < 6% of net earned premiums
	ISO standards	ISO 9001:2008 accreditation	ISO Audit Opinion	Annual	ISO 9001:2008 accreditation maintained
	Compliance to internal processes	External audits	Audit opinion and significant findings in audit report	Ad hoc	Unqualified audit opinion and no significant audit findings
		Internal audits	Overall control / opinion rating	Ad hoc	Overall control / opinion rating < or = 2
		Resolution of audit findings	Audit findings in audit report	Bi-Annually	Resolution of 80% of audit findings within timelines set
	Money market investment performance	STEFI	%	Quarterly	Performance > or = STEFI over same period
	Listed share/equity investment performance	SWIX	%	Quarterly	Performance > or = SWIX over same period
Current statutory	Statutory solvency	Statutory solvency capital		Quarterly	Statutory NAV / own funds exceeds SCR

Objective (KPA)	Driver	KPI (1st Level)	Measure	Frequency	KPI (2nd Level)
	solvency legislation	capital requirements			
	Escap ROE and Eskom WACC	Escap ROE and Eskom's real WACC	%	Quarterly	Escap ROE > or = Eskom real WACC

Escap expects similar operational targets to be in place over the five-year planning period.

24.4 Impact of the MYPD4 decision

NERSA will allow the insurance premiums charged by Escap to Eskom as a pass-through cost only to the extent that it considers them prudent. Escap is currently documenting its premium pricing methodology for prudence review by NERSA. Escap uses the actuarial risk-based premium pricing methodology in instances where there is adequate data to apply this method. In instances where there is not enough data for application of the actuarial risk premium pricing methodology, the inflation adjusted average cost of claims method is used.

24.5 Risks and treatment plans

Escap does not have priority 1 risks and has one priority 2 risk. The treatment plans put in place to mitigate this risk are shown in Table 95.

TABLE 95: ESCAP RISKS AND TREATMENT PLANS

Risk	Risk impact	Treatment plan
A new Insurance Act, which will introduce stricter solvency capital requirements, is expected to be effective in the second half of 2017. The risk is that Escap does not meet the statutory SCR.	<ul style="list-style-type: none"> Request for recapitalisation from shareholder Inability to honour financial obligations Reduction of Escap's risk retention capacity Imposition of onerous reporting requirements by the regulator Loss of licence Winding up of the company 	<ul style="list-style-type: none"> Quarterly monitoring of SCR Capital stress testing Quarterly monitoring of the Eskom's plant maintenance plan Implementation of risk survey recommendations Monthly monitoring of credit & market risk

25 Eskom Finance Company

25.1 Overview and mandate of EFC

25.1.1 Mandate

Eskom Finance Company SOC Ltd. (EFC) is a wholly owned subsidiary of Eskom Holdings SOC Ltd (Eskom). Eskom established EFC in 1990 primarily to finance home loans to its employees with the purpose of optimising home-ownership costs to both Eskom Group of companies and its employees.

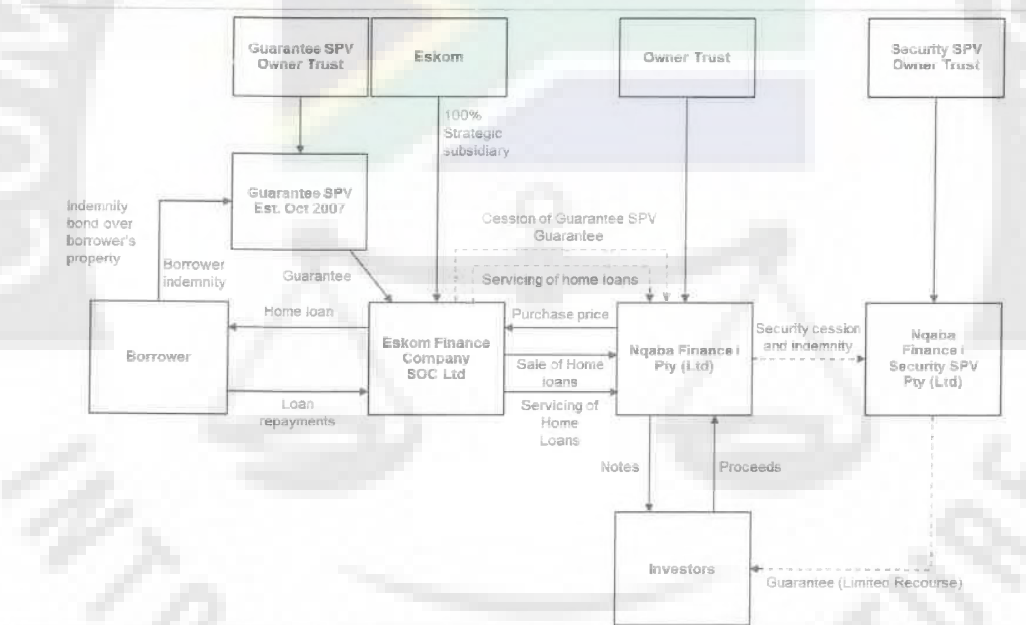
EFC is mandated to:

- Finance home loans at competitive rates
- Educate employees with regard to responsible home ownership and financing
- Administer interest rate and rental subsidies on behalf of Eskom
- Assist Eskom to develop and implement its housing policy
- Provide ancillary products to satisfy customer need

25.1.2 Structure

EFC operates based on a typical RMBS indemnity bond structure that sources funds from the external market for housing loan purposes. The structure is detailed in Exhibit 152.

EXHIBIT 152: RMBS INDEMNITY STRUCTURE



25.2 Aspirations and objectives

EFC has defined the following strategic objectives to support the execution of its mandate:

- Continue to provide value adding products and services to Eskom and its employees, subject to limited funding

- Conduct business in a cost effective and efficient manner
- Comply with the company's social responsibilities in terms of advancing and supporting B-BBEE organisations
- Comply with South African statutes that governs credit providers and companies
- Use the established Nqaba securitisation structure to ensure sustainable funding of the loan book and provide flexible funding solutions (subject to PFMA)
- Eskom has reviewed the requirements of the equity conditions and the minister's statement of strategic intent and identified non-core assets that can be sold to release liquidity into the business. Eskom has identified that the subsidiary, EFC, can be disposed of, subject to meeting approval from the shareholder

Eskom has initiated the process of preparing the transaction with the management team of EFC and relevant stakeholders. It is anticipated that the transaction will be completed over the course of FY2017/18.

25.3 Initiatives

EFC's strategic initiatives are shown in Table 96

TABLE 96: INITIATIVES

Strategic Initiatives	Strategies	Supporting Initiatives
• Support Eskom accommodation policy	• Support Eskom HR initiatives	• Enable Eskom employees to have access to home loan finance
• Conduct business in a cost-efficient and effective manner	• Contain costs • Optimise funding sources	• Administer Eskom's accommodation subsidies
• Implement environmentally friendly policies	• Develop and implement a Green policy initiative to comply with legislative and regulatory requirements regarding environmental impact and carbon footprint	<ul style="list-style-type: none"> • Comply with relevant environmental legislation • Conserve energy, water and other natural resources • Reduce carbon emissions from buildings and business related travel • Reduce the usage of paper, courier services, postages and office consumables • Introduce better procurement of sustainable goods and services • Ensure buildings are refurbished and operated to improve their environmental performance • Implement an environmentally friendly IT policy that supports minimum use of paper, courier services, postage
• Position EFC to render services to other SOC's thereby enhancing value proposition	• Reposition EFC outside Eskom	<ul style="list-style-type: none"> • Prepare EFC for a successful disposal • Build independent funding and operational capacities

25.4 Targeted outcomes

TABLE 97: TARGETED OUTCOMES

Objectives	Strategy	Key actions/initiatives	KPI's
Stability in the work force	<ul style="list-style-type: none"> Decisiveness on the future positioning of EFC Communicate the future of EFC to all stakeholder 	<ul style="list-style-type: none"> The new Chairman is set to address this in the short term Propose to shareholder to act decisively 	<ul style="list-style-type: none"> Add value to Eskom and its employees
Loan growth and maximised profits	<ul style="list-style-type: none"> Lifting of the funding restrictions Optimise the funding of the loan book Expand product and service offerings Position EFC in selected niche markets 	<ul style="list-style-type: none"> Review funding options with intent to optimise the funding mix Exploit all possible viable funding options Re-launch the profitable products previously offered by EFC Review funding, and operational structures to support future positioning of the company 	<ul style="list-style-type: none"> Liquidity management Financing margin

25.5 Financial and operational targets

Table 98 outlines KPI targets over the planning period

TABLE 98: EFC OPERATIONAL TARGETS²

KPI	Unit	FY2017/18	FY2018/19	FY2019/20	FY2020/21	FY2021/22
EBITDA	R m	149	153	171	177	184
Headcount (included in company headcount)	Number	104	104	104	104	104
Value added statement before tax	R m	255.4	259.0	275.3	284.6	295.2
Cost-to-income ratio	Ratio	33.5	33.7	33.0	34.1	34.4
Financing margin	Ratio	2.85	2.94	3.04	3.16	3.27
Loan-loss ratio	Ratio	0.21	0.15	0.1	0.1	0.1
Debt balance	R m	<R7.4	<R7.4	<R7.4	<R7.4	<R7.4
B-BBEE expenditure	%	65	65	65	65	65

25.5.1 Capital investment plan

EFC operations do not require major capital investments other than investing in information technology. Capex and investments are mainly in respect of computer hardware and software.

² Financial and operational targets have not been included in the Corporate plan budget

25.6 Risks and treatment plans

Table 99 below sets out key risks facing EFC and associated risk treatment plans.

TABLE 99: EFC RISKS AND TREATMENT PLANS

Risk	Risk Impact	Treatment Plans
Property in possession management	<ul style="list-style-type: none"> These assets, in most cases, decline in value to vandalism and are non-producing income assets due to illegal occupants 	<ul style="list-style-type: none"> Adherence to processes Regular valuations to determine the condition and value of property and are there any occupants Vigorous drive to sell these properties



26 Development Foundation

26.1 Summary of the operational plan

26.1.1 Context and mandate

Eskom Development Foundation (the Foundation) non-profit company (NPC) is responsible for executing Eskom's CSI strategy, which is to contribute to the improvement in the quality of life in communities where Eskom operates.

Eskom CSI programmes target transformation through programmes and projects in previously disadvantaged communities.

The Foundation is intended to be re-incorporated into Eskom's Corporate Affairs during FY2017/18.

26.1.2 Alignment to Eskom strategy and priorities

The Foundation prioritises the following areas:

- Enterprise development
- Education and health
- Food security
- Community development and welfare
- Energy and environment

26.1.3 Objectives and five-year targets

- Complete targeted rural-development projects
- Facilitate successful graduation of entrepreneurs in the contractor academy
- Roll out designated projects at strategic sites, which include new build sites, area where Eskom operates large infrastructure such as power stations and geographic areas that are important or strategic
- Fund initiatives to develop maths and science learners and educators

26.1.4 Risks

- Revision of the CSI operating model from a non-profit corporation to an Eskom department may be delayed or not yield the desired results
- Non-compliance to standards (internal incl. financial, governance, project and risk management)
- CSI initiatives may not be sustainable

26.2 Overview and mandate

26.2.1 Mandate

Eskom Development Foundation NPC is an association which was incorporated on 12 December 1998 under section 21 of the Companies Act (Registration number 1998/25196/08) and began its operations on 1 January 1999. The Foundation is a wholly owned subsidiary of Eskom. The Foundation is responsible for executing Eskom's CSI strategy and it receives funding from Eskom for this purpose. Implementation of the strategy will continue over the period of this plan, albeit within more constrained budget parameters, as per the financial plan.

The mandate of the Eskom Development Foundation is to implement corporate social investment programmes on behalf of Eskom, thereby contributing to improving the quality of life of communities where Eskom operates or intends to operate. In executing this mandate, the Foundation will leverage the skills and expertise available in the company to provide support to development programmes and projects through grants and donations. The operating model for CSI in Eskom will be reviewed during the planning period. However, irrespective of the operating model implemented, whether through a non-profit company or through a division in Eskom, CSI will remain an important aspect of Eskom's business.

The key aspects of the CSI strategy include the following:

- The CSI mandate is to contribute to the improvement in the quality of life in communities where Eskom operates
- The following sectors are prioritised: enterprise development, education, health, food security, energy and environment, and community development-welfare.
- Skills development and capacity building are aspects that cut across focus areas to ensure sustainability.
- There will be an increased focus on high impact national and flagship programmes.
- The Foundation will build collaborative partnerships to enable greater impact for every rand invested.

26.2.2 Regulatory environment

New laws and regulations have had an enormous impact on the CSI terrain. In particular, the major regulatory frameworks issued by the DTI and the Department of Minerals and Energy have changed the way companies approach and manage their social investment activities. NT Regulations provide the framework for the process in which social investment activities to be made. In many cases, this has translated into increased social spending, particularly among mining companies.

The revised B-BBEE Codes of Good Practice were released towards the end of 2013, and companies were expected to be compliant by April 2015. Revisions made to the DTI B-BBEE Codes of Good Practice are expected to raise the compliance bar. The following are the key changes of the four elements most closely related to CSI:

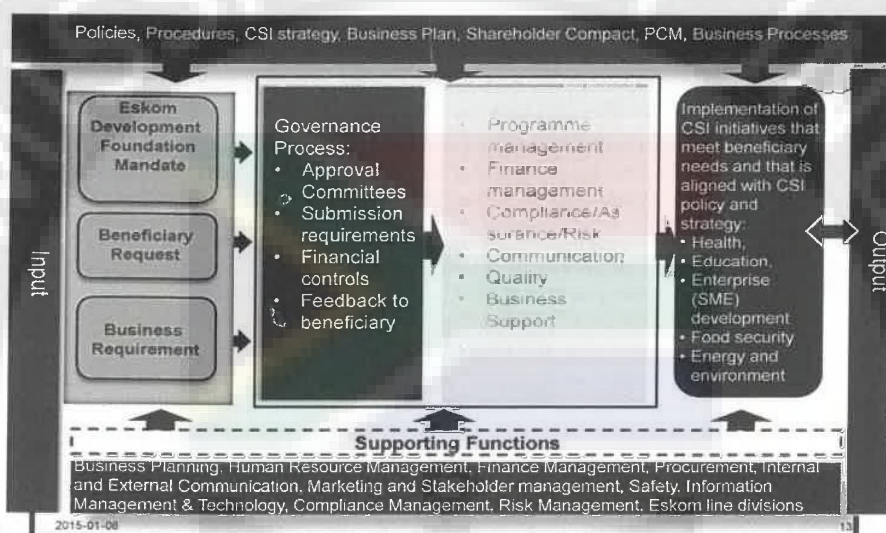
- Socio-economic development (SED) - Largely unchanged in the revised codes, companies must spend 1% of net profit after tax (NPAT) to obtain the five points assigned to this element. 75% of the beneficiaries must be Black.
- Skills development - Increased targets and points in the revised Codes include a required 6% of payroll allocated for training of black people and 2.5% on all total permanent employees to obtain the 25 points assigned to this element. Training must be accredited to qualify, and companies are required to train a combination of employed and unemployed beneficiaries to get full points.
- Enterprise and supplier development: Companies must spend 1% of NPAT on enterprise development and 2% of NPAT on supplier development to receive the maximum score for this element, which has increased to 40 points.

- The implication for business is that socio-economic development, including skills development and enterprise development, has been formalised through scorecards. In terms of the revision, the combined weighting of these particular elements increased. Many organisations include enterprise development and skills development as themes within their CSI programmes, which this points to the increasing role of CSI in the South African business landscape.

26.2.3 Operating model

Corporate Social Investment is executed through the Eskom Development Foundation NPC, a subsidiary company solely funded by Eskom Holding SOC. The diagram below depicts the interrelationship of processes and sub processes from the point of initiation of CSI initiatives through to implementation and monitoring and evaluation. The operating model for executing CSI is currently under review and it is anticipated that the NPC will be dissolved and the Foundation will operate through the Corporate Affairs Division as a Department.

EXHIBIT 153: OPERATING MODEL - INTER-RELATIONSHIP OF PROCESSES AND FUNCTIONS



26.2.4 Funding plan for Eskom Development Foundation

The Foundation is wholly owned by and receives its funding in the form of donations from Eskom. The Foundation is responsible for executing CSI programmes on behalf of Eskom.

The Foundation submits a budget annually to Eskom for approval as it is a 'not for profit company', the Foundation does not have a dividend policy nor does it have a borrowing plan. If, implemented, the re-incorporation of The Foundation into Eskom's Corporate Affairs Division will result in a budget being allocated to it by the Eskom board through the Corporate Affairs Division.

26.2.5 Money flows between Eskom and the Foundation

The Foundation submits a budget annually to Eskom for approval. Funds received from Eskom are in the form of a donation and are spent as per the project and opex plans.

Funding is disbursed to various initiatives once approval is gained through the governance processes on a case-by-case basis. Reporting against budget is provided on a quarterly basis.

26.3 Aspirations and objectives

Implementation of the CSI strategy will continue over the period of this plan, albeit within more constrained budget parameters, as per the financial plan. Owing to financial constraints, there are no plans nor will a budget allocation for cross-border CSI initiatives and these only be considered as a strategic imperative, within tight financial constraints. The key initiatives that will be implemented over the planning period and underpin the focus areas of education, health, small medium enterprise (SME) development, energy and environmental sustainability, food security and community development.

The objectives of the Foundation are shown in Table 100.

TABLE 100: ESKOM DEVELOPMENT FOUNDATION STRATEGIC OBJECTIVES

Strategic objectives	Deliverables
Improving Financial Sustainability	<ul style="list-style-type: none"> Realising efficiency savings in operational costs Improving the accuracy of CSI funding implementation against budget
Improving the quality of life of communities where Eskom operates through the execution of CSI initiatives	<ul style="list-style-type: none"> Positively impacting on significant numbers of beneficiaries by the implementation of initiatives focusing on SME development, improving healthcare, education, skills development, community development and energy and environment Implementing high impact, national and flagship programmes that are sustainable and that can be committed to over a longer period Continually improving impact through the implementation of relevant learnings from impact studies and through the improvement of monitoring and evaluating processes.
Creating an enabling environment for fulfilling Eskom's business imperatives	<ul style="list-style-type: none"> Implementing CSI initiatives in strategic sites and improving co-operation with Eskom divisions responsible for large infrastructure development (including new and existing power stations, and new transmission and distribution lines), in order to leverage goodwill and improve the sustainability of projects. Improving co-operation with Eskom Procurement and HR divisions in order to encourage opportunities for the inclusion of CSI beneficiaries (such as learners and Contractor Academy graduates) in the HR and Procurement Value chains
Enhancing the employee value proposition	<ul style="list-style-type: none"> The Eskom Guardian i-Volunteer (GiV) programme is an initiative of the Foundation, to encourage employees to become part of a community development programme. Aligning the Eskom employee Guardian i-Volunteer (GiV) programme with relevant HR and Stakeholder management strategies and initiatives to create platforms for employees to volunteer their time and resources to the communities around them across the country and do good on behalf of Eskom. The aim of the GiV programme is to inspire and in turn, create a desire to assist, develop and contribute to the betterment of other people's lives. The Guardian i-Volunteer initiative is all about contributing and raising funds from our Eskom's own resources and making a difference.
Enhancing Eskom's reputation	<ul style="list-style-type: none"> Developing a repository of CSI good news stories Developing a schedule/plan for launching/ handing over CSI projects Optimising communication channels internally and externally for positioning Eskom as a responsible corporate citizen

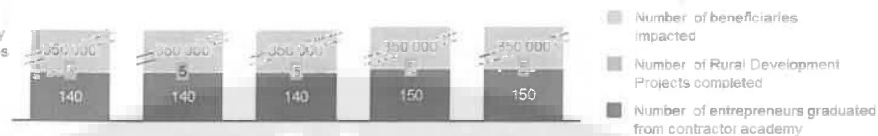
26.4 Financial and operational targets

Exhibit 154 below lays out the operational targets from FY2017/18 to FY2021/22.

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EXHIBIT 154: ESKOM DEVELOPMENT FOUNDATION OPERATIONAL TARGETS

Unit of measure

Financial
sustainability
PercentImproving the quality
of life in communities
where Eskom
operates
NumberCreate an enabling
environment for
Eskom's business
imperatives
NumberEnhance Eskom's
reputation
Net promoter score

Key performance areas and indicators are included in the shareholder compact, an appendix to this document.

Expenditure plans for the next five years are detailed in Exhibit 155.

The Foundation will be consolidated into Eskom Corporate Affairs during FY2017/18

26.5 Expenditure Plans

Development Foundation

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EXHIBIT 155: ESKOM DEVELOPMENT FOUNDATION EXPENDITURE PLANS

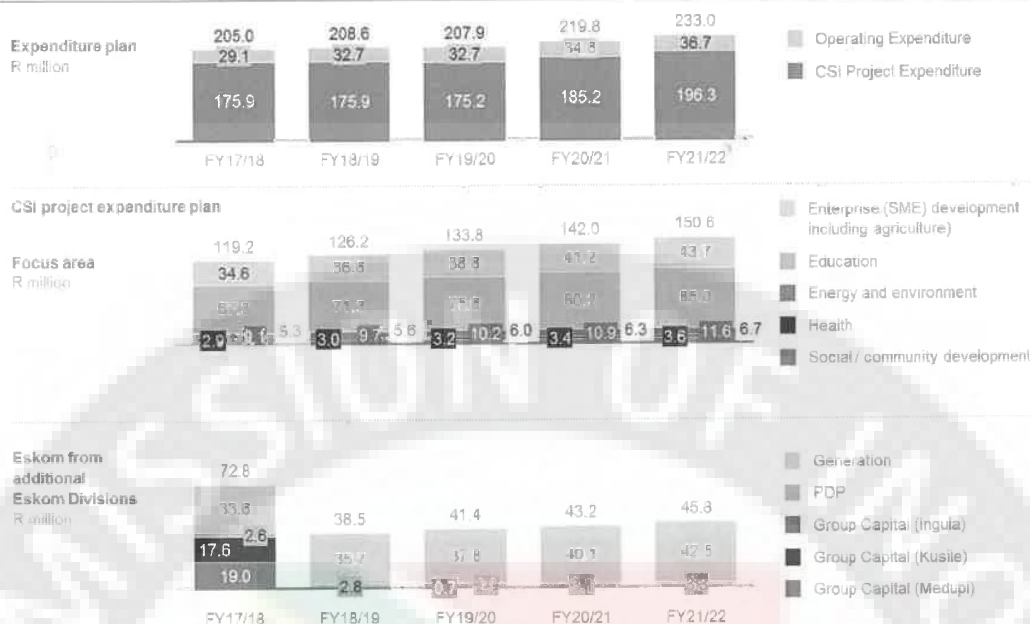
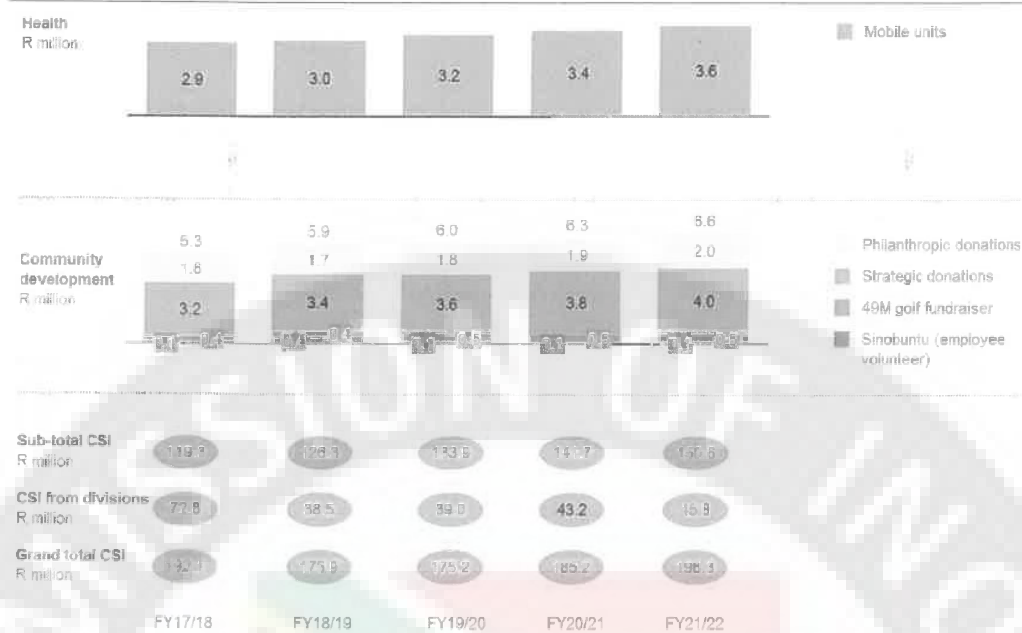


EXHIBIT 156: BREAKDOWN OF CSI BUDGET PER PROGRAM 1/2



EXHIBIT 157: BREAKDOWN OF CSI BUDGET PER PROGRAM 2/2

The HR plan (headcount) in Table 101 is aligned to the MYPD3 outcomes and no growth is planned in the numbers over the planning horizon.

TABLE 101: HEADCOUNT

Business Areas	Current Numbers	2017/18	2018/19	2019/20	2020/21	2021/2022
Staffing headcount	17	17	17	17	17	17
Total	17	17	17	17	17	17

26.6 Risks and treatment plans

Table 102 below lays out key risks facing the Foundation and risk treatment plans.

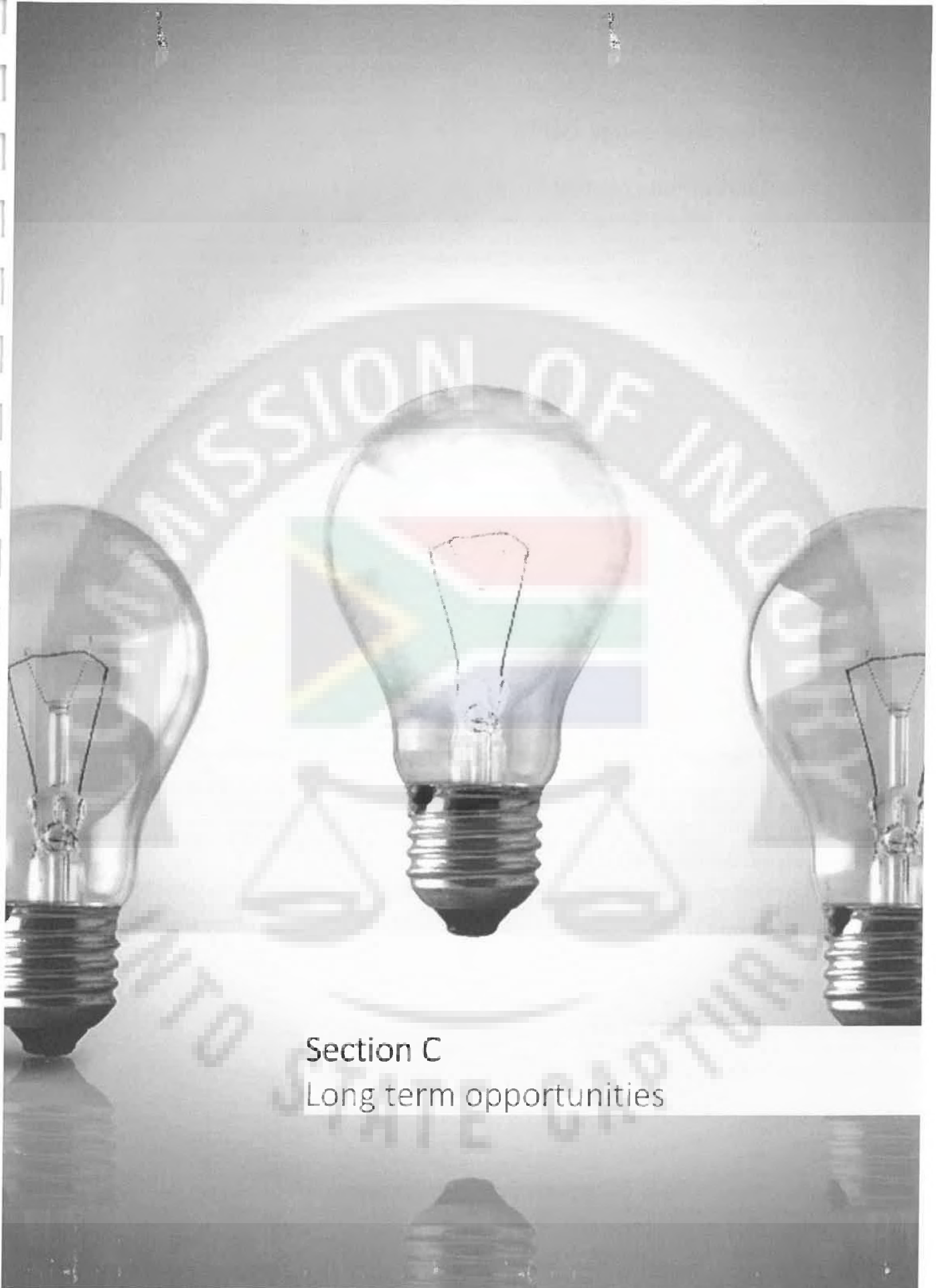
TABLE 102: ESKOM DEVELOPMENT FOUNDATION RISKS AND TREATMENT PLANS

Risk Title	Impact to the Business	Treatment Plan
Revision of the CSI operating model from a non-profit corporation to an Eskom department may be delayed or not yield the desired results.	<ul style="list-style-type: none"> • Delay in realising the benefits of the revision, i.e. delayed cost-savings/efficiency gains • Incurring costs during transition • Delays in project approval and execution • Underspend of the FY2017/18 budget • Stakeholder dissatisfaction 	<ul style="list-style-type: none"> • Change management plan (followed and measured timeously) • Communicate the change to key Foundation stakeholders, e.g. donors and labour • Communicate internally with employees and wider Eskom • Constitute a new investment-approval committee that is independent of CAD with the requisite skills to appraise infrastructure projects

Development Foundation

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Risk Title	Impact to the Business	Treatment Plan
		<ul style="list-style-type: none"> Regularly monitor and provide performance feedback to CAD Exco Implement migration of cost centres to operate as a department Provide PFMA applications to NT and the Department of Enterprises
Expectations of stakeholders, particularly beneficiaries and the DPE, may increase.	<ul style="list-style-type: none"> Pressure to increase volume, spread and speed of delivery Pressure to exceed scope of the Foundation's offerings Political interference in the Foundation's activities Threats and demands from beneficiaries Stretching limited resources Forced work stoppages, sabotage and work lock-outs 	<ul style="list-style-type: none"> Develop mini Project Development Readiness Assessment (PDRA) tool Use Gatekeeping committee to monitor compliance with Eskom Project Management Office (EPMO)'s framework
There may be non-compliance with internal standards, such as financial, governance, project and risk management, and with external regulations	<ul style="list-style-type: none"> Delaying or stopping projects Poor quality end-products, especially on infrastructure projects Legal contraventions of common law, PFMA, Companies Act Loss of financial resources Temporary stopping of services such as mobile clinic Safety incidents Legal sanctions and penalties as per the SACPCMP for construction regulation 	<ul style="list-style-type: none"> Develop mini PDRA tool Use Gatekeeping committee to monitor compliance with EPMO
Eskom Foundation may fail to achieve its KPIs for FY2017/18.	<ul style="list-style-type: none"> Negative impact on staff morale Stakeholder dissatisfaction, particularly DPE, beneficiaries and internal clients e.g. Generation, Transmission and Group Capital Adverse impact on Eskom's reputation Delays in the completion of key Eskom projects such as lines and substations 	<ul style="list-style-type: none"> Implement full migration to and alignment with EPMO processes
CSI initiatives may not be sustainable.	<ul style="list-style-type: none"> Stakeholder dissatisfaction Repeat requests for assistance 	<ul style="list-style-type: none"> Provide adequate due diligence during the planning phase Provide impact assessment on the CSI programmes



Section C
Long term opportunities

27 Nuclear New Build

27.1 Overview and context

The nuclear power plant programme is part of a national initiative (through the Integrated Resource Plan of the DoE) to progress the country to a low carbon based environment, while also ensuring the country's longer term security of supply and therefore economic growth. In developing the nuclear new build programme the objectives of sustainable local skills development, job creation, localisation, electricity access to all, water conservation, affordability, safety and quality are pursued.

The current nuclear programme scope is aligned to the currently approved IRP 2010 which calls for 9 600 MW of nuclear power capacity. The draft IRP2016 on the other hand calls for 20 385 MW of nuclear power by 2050. Sufficient time is required to properly plan and implement new baseload power stations and decisions to implement it need to be made long before commercial operations. In the case for a nuclear installation extensive site characterisation is required to ensure safe operations of a future power plant, which will in return ensure the safety of the public and protect the environment.

27.1.1 The need for nuclear power (Eskom)

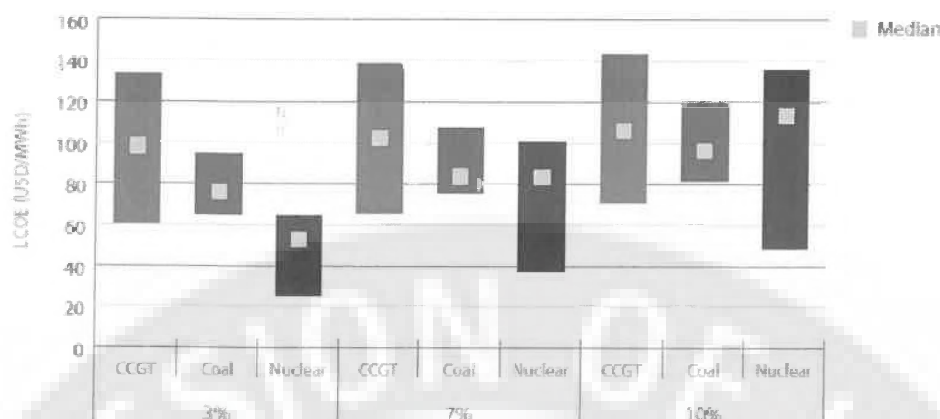
The need for nuclear in the Eskom environment arises from the following: climate change, the existing power generation fleet approaching end of life, future security of supply, and maintaining strategic relevance in South Africa/ Africa

To achieve climate change goals, Eskom needs to diversify its electricity generation mix over time as 85% of Eskom's installed generation capacity is from coal power generation. Approximately 10 GW of Eskom's existing fleet will be retired by 2030 considering 50 year life. The capacity will greatly decline afterwards, in 2040 approximately 30 GW will be decommissioned. No other large baseload beyond Kusile is currently committed to, only the 900 MW from IPPs. Life extension of existing power stations can postpone the requirement for any new large base load power plant, but will not be a long term solution and will be limited by environmental laws and cost of compliance. Further, given the unique regulated nature of a nuclear programme in any country, Eskom is the best state owned vehicle to implement nuclear power in South Africa, and this will further secure Eskom's position in the electricity market for many years to come.

27.2 Proposed business case and associated assumptions

The cost of nuclear varies greatly across different countries. The overnight costs range from USD 2 021/kWe to USD 6 215/kWe while the levelised cost of electricity ranges from USD 40/MWh to USD 136/MWh. The cost in countries that localised their nuclear build programmes over time report a low cost (e.g. Korea) while countries that build first time or only one or two units at a time report higher costs (e.g. United Kingdom).

The cost of nuclear is competitive with other baseload technologies as can be seen in the Exhibit 158 below.

EXHIBIT 158: COST OF NUCLEAR VS OTHER BASELOAD TECHNOLOGY

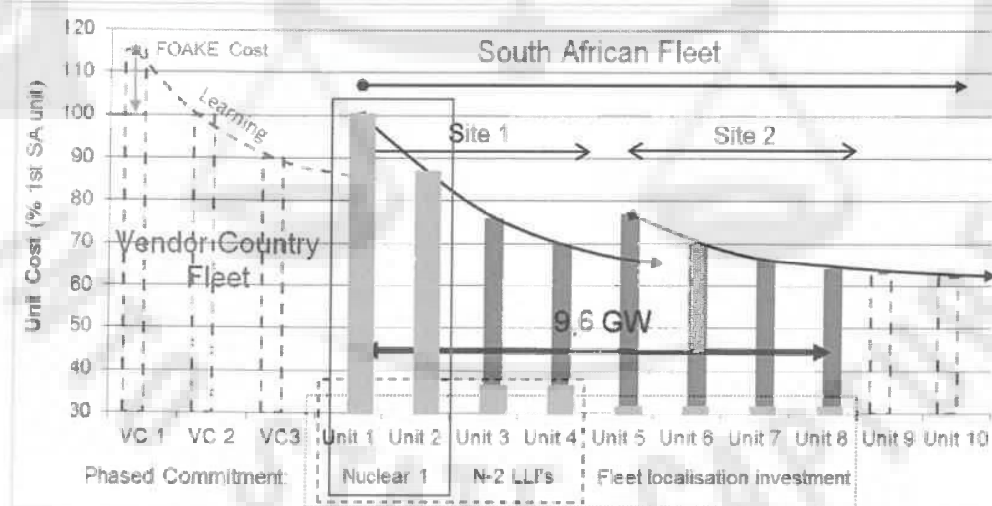
Source: Projected Cost of Electricity Generation, 2015 Edition, IEA & NEA

The levelised cost of nuclear power is less sensitive to fuel cost compared to coal and gas, which ensures a more stable operational cost for nuclear. The only hurdle to overcome is the large capital requirement upfront.

27.3 Execution strategy and timelines

It is unlikely the IRP2010 dates will be achieved; a more likely date for first unit commercial operation is 2027/28 if the procurement process commence in 2017/18. The outcome of the procurement process will further progress the business case.

Eskom's preferred strategy to implement the nuclear power plant programme is to pursue a programme framework agreement with the vendor which will enable Eskom to commit to two nuclear power units at a time (phased commitment approach). This approach is illustrated in the graph below.

EXHIBIT 159: ESKOM NUCLEAR IMPLEMENTATION STRATEGY

*Yellow indicates the initial commitments (localization, long lead items etc.) that could be required in the nuclear power plant programme framework agreement to realise benefits for the programme.

A phased commitment approach will further assist in:

- The phasing of construction on sites being optimised to alleviate mobilisation /demobilisation.
- The securing of technology rights
- The securing of cost reduction and learning rates across the programme.
- The enabling of local investment to boost local content percentages.
- Enabling the owner/operator to commit to and raise the necessary finance and equity contributions.
- Managing risk and mitigating large tariff increases while optimising cash flow and debt management.

Included with the programme framework approach it is recommended that an SA EPCM is established to deliver the nuclear power plant programme on an EPC basis, with the vendor consortium initially having majority control and responsibility within the EPCM function. Eskom shareholding and responsibility within the EPCM will increase with the implementation of successive nuclear power units. This approach is subjected to the outcome of the vendor procurement process and is not guaranteed at this stage yet.

27.4 Impact of nuclear on the generation fleet, and IPPs

A nuclear power plant programme fulfills long term security of supply and environmental sustainability. It is part of the future electricity generation mix where the mentioned objectives are met in the most affordable way over time

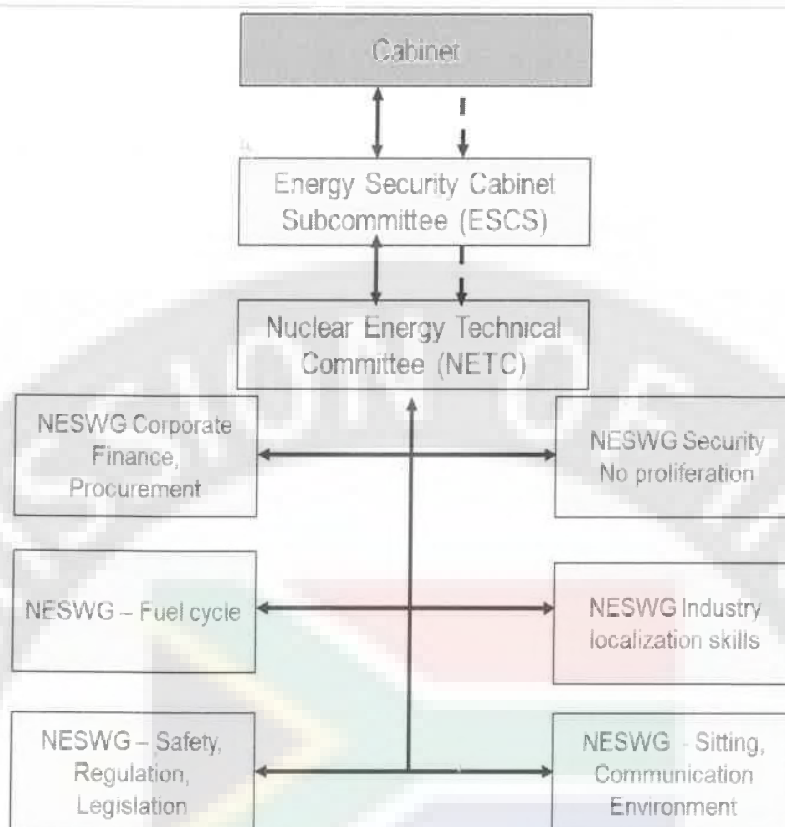
More than half of Eskom's existing generation fleet is past a 30 year life (average life across the fleet is ~37 years). A sudden decline in capacity will occur once existing stations retire, not even new build will be able to make up that capacity at the rate new build is currently being introduced. As mentioned, it takes a long time to develop baseload options. It is further unlikely that IPPs can build large base load capacity and nuclear due to its unique regulatory nature and large investment required.

27.5 Regulatory framework and approach

The national nuclear new build programme consists of the following:

- A nuclear power plant programme – led by Eskom
- A commercial radio-isotope production reactor – led by South African Nuclear Energy Corporation SOC Limited (NECSA)
- Nuclear Fuel Cycle Front End (NFC-FE) facilities – led by NECSA
- Nuclear Fuel Cycle Back End (NFC-BE) facilities – led by NRWDI

On a national scale the nuclear new build programme is overseen by the Energy Security Cabinet Sub-Committee. The government framework for oversight and policy making in the nuclear new build programme is driven by the Nuclear Energy Sub-working Groups (NESWG) within the DoE.

EXHIBIT 160: NUCLEAR REGULATORY STRUCTURE

The nuclear new build programme is regulated by the National Nuclear Regulatory Act, 47 of 1999, the National Radioactive Waste Disposal Institute Act, 53 of 2008, and the Nuclear Energy Act, 46 of 1999. This legislation ensures that any nuclear installation is pursued for safe purposes to protect humans and the environment. The NNR further publishes regulations, requirements and guidelines used by it to regulate the nuclear industry.

28 Operating model review

In 2015 Eskom received financial support comprising the appropriation of R23 billion from National Treasury for the recapitalisation of Eskom Holdings SOC in terms of the Appropriation Act³

The Appropriation Act empowered the Minister of Finance to impose conditions to the disbursement of the funds. Included in these was condition, namely:

Eskom must commission an independent review of its operating model, including its subsidiaries, to improve efficiency; submit the findings from the review to NT and DPE within 18 months and take steps to address the findings from the review.

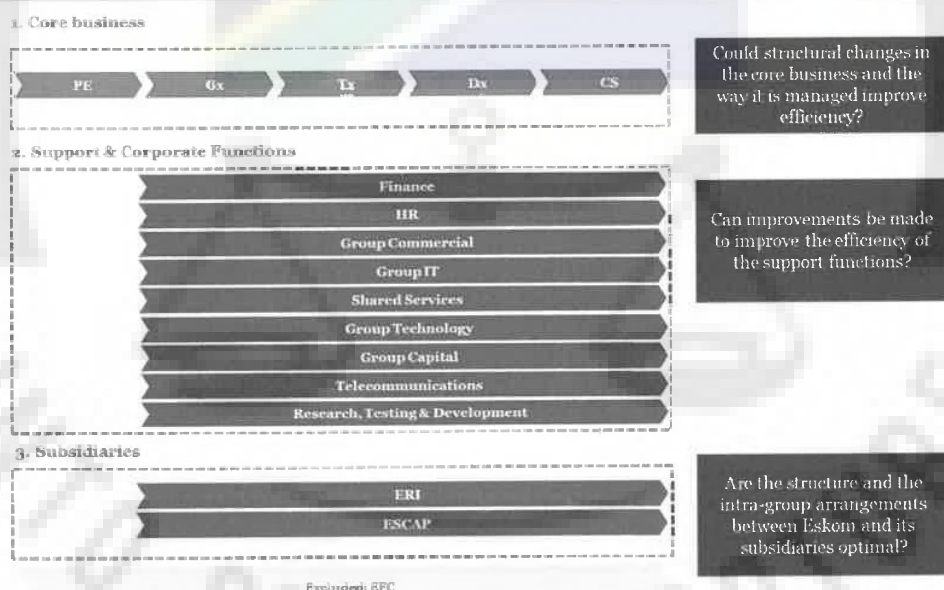
It was agreed with DPE and NT that the scope of the review should include the following:

- Review of the organizational structure to explore different options for the company structure, taking into consideration Transnet and other state-owned-enterprise models.
- Assess intra-group practices with subsidiaries and the impact of these on costs and quality, particularly in the areas of maintenance projects, construction projects, and general project management.
- Assess the internal Eskom strategies and plans on the Design to Cost and other relevant strategies and the review of the Shared Services model.
- Based on the assessments, provide recommendations and an implementation plan, aligned to Eskom's current constraints and drivers to improve efficiencies and reduce cost.

The work started in October 2016 with the consultants scheduled to report in March 2017.

The review is structured and focused as follows:

EXHIBIT 161: OPERATING MODEL REVIEW STRUCTURE



³ The Eskom Special Appropriation Act, 7 of 2015

Specifically the focus for each stream is presented in the tables below:

1. Core business

EXHIBIT 162: CORE BUSINESS FOCUS OF REVIEW AND OUTPUT

	Focus of the review	Output
PRIMARY	Examining alternatives to the integrated utility structure	Corporate structure options with pros and cons for Eskom drawing on experience elsewhere
	Identifying opportunities for structural changes in distribution and transmission to save costs	Recommendations for organisational and geographic structure changes with indicative benefits
	Assessing whether the current customer service, marketing and sales model will efficiently deliver sustainable growth	Recommendations for organizational structure and accountability changes with indicative benefits (qualitative)
	Assessing whether KPIs drive commercial transparency and accountability	Assessment of whether there are gaps in the KPIs, the potential implications of these, and recommendations for changes
	Assessing the Generation operating model to identify potential efficiency improvements	Recommendations for potential operating model changes with indicative benefits
SECONDARY	Review of report into Primary Energy operations	Assessment of any potential areas that should be investigated further
	Assessment of the status of improvement/changes initiatives relating to the core business units	Assessment of whether the initiatives have been implemented and whether any outstanding items are still valid

2. Support and corporate services

EXHIBIT 163: SUPPORT AND CORPORATE SERVICES FOCUS OF REVIEW AND OUTPUT

	Focus of the review	Output
PRIMARY	Assessment of whether the support functions are configured as efficiently as they could be	Short reports for each significant support function* setting out potential opportunities for improvement
SECONDARY	Assessment of the status of improvement/changes initiatives relating to the core business units	Assessment of whether the initiatives have been implemented and whether any outstanding items are still valid

3. Subsidiaries

EXHIBIT 164: SUBSIDIARIES FOCUS OF REVIEW AND OUTPUT

	Focus of the review	Output
PRIMARY	Identifying the core and non-core activities carried out by the subsidiaries and examining options for divesting or increasing private sector involvement in these	Identification of core and non-core activities and options for changes in the commercial and delivery model for these
	Examining whether the contracting mechanism and interaction with Eskom leads to inefficiencies (higher costs)	Recommendations on changes to the contracting model with Eskom and potential benefits
SECONDARY	Review of work being carried out for ESCAP into structure options	Assessment report

Abbreviations

A&F	Assurance and Forensic
ACE	Analytics Centre of Excellence
B-BBEE	Broad-Based Black Economic Empowerment
BI	Analytics Centre of Excellence
BPwD	Black People With Disabilities
BPP	Business Productivity Programme
BWO	Black-Woman-Owned
BYO	Black-Youth-Owned
CAATS	Computer-Assisted Auditing Techniques
CAGR	Cumulative Average Growth Rate
capex	Capital Expenditure
CCSD	Climate Change and Sustainable Development
CNC	Customer Network Centre
CoGTA	Cooperative Governance and Traditional Affairs
CPB	Commercial Paper Bill
CPI	Consumer Price Index
CSI	Corporate Social Investment
CSIR	Council For Scientific and Industrial Research
CSOM	Coal Supply Optimisation Model
CSP	Concentrated Solar Power
DCO	Divisional Compliance Officer
DEA	Department of Environmental Affairs
DFI	Development Finance Institution
DLP	Data Leakage Prevention
DMTN	Domestic Medium Term Note
DoE	Department of Energy
DPE	Department of Public Enterprises
DRA	Definition Release Approval
DRC	Democratic Republic of The Congo
DTC	Design To Cost
DTI	Department of Trade and Industry
DES	Department of Water and Sanitation
EAF	Energy Availability Factor
EAL	Eskom Academy of Learning
EBITDA	Earnings Before Interest Taxes Depreciation and Amortisation
ECA	Export Credit Agency
ECM	Engineering Change Management
EdF	Electricité De France
EDI	Electricity Distribution Industry

Abbreviations

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EdP	Energias De Portugal
EE	Eskom Enterprises
EFC	Eskom Finance Company
EIA	Environmental Impact Assessment
EME	Exempt Micro Enterprises
EPMO	Eskom Project Management Office
EPPEI	Eskom Power Plant Engineering Institute
ERA	Execution Release Approval
ERE	Eskom Real Estate
ERI	Eskom Rotek Industries
EU	European Union
EUF	Energy Utility Factor
EUL	Eskom Uganda Limited
EVP	Employee Value Proposition
Exco	Executive Committee
FFFR	Fossil Fuel Firing Regulations
FFO	Free Funds From Operation
FGD	Flue-Gas Desulphurisation
FLR	Forced Loss Rate
FSB	Financial Services Board
FTE	Full-Time Employee
FTP	File Transfer Protocol
GAI	Governance Assessment Instrument
GCD	Group Capital Division
GCE	Group Chief Executive
GCIA	Group Capital Integration and Assurance
GCS	Group Customer Services
GDP	Gross Domestic Product
GFA	Guarantee Framework Agreement
GG	Government Guarantee
GHG	Greenhouse Gas
GIT	Group Information Technology
GiV	Guardian I-Volunteer
GW	Gigawatt
GWh	Gigawatt Hour
HV/MV	High Voltage/Medium Voltage
HR	Human Resources
IDM	Integrated Demand Management
IPP	Independent Power Producer
IRP	Integrated Resource Plan
ISEP	Integrated Strategic Energy Plan

Abbreviations

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IT	Information Technology
IVP	Initial Value Proposition
KPA	Key Performance Area
KPI	Key Performance Indicator
kWhSO	Kilowatt Hours Sent Out
LPU	Large Power Users
LTi	Lost Time Injuries
LTIR	Lost Time Injury Rate
MOI	Memorandum of Incorporation
MOU	Memorandum of Understanding
Mt	Million Tonnes
MVA	Million Volt-Amperes
MW	Megawatts
MWh	Megawatt Hour
MYPD	Multi-Year Price Determination
NAC	Network Access Charge
NAV	Net Asset Value
NBI	National Business Initiative
NDMC	National Disaster Management Centre
NDP	National Development Plan
NEC	National Executive Committee
NERSA	National Energy Regulator of South Africa
NNR	National Nuclear Regulator
NOx	Nitrous Oxide
NPAT	Net Profit After Tax
NPC	Non-Profit Company
NT	National Treasury
O&M	Operations and Maintenance
OCGT	Open Cycle Gas Turbine
OCLF	Other Capability Loss Factor
OEM	Original Equipment Manufacturer
OHS	Occupational Health and Safety
opex	Operating Expenditure
PAJA	Promotion of Administrative Justice Act
PBMR	Pebble Bed Modular Reactor
PCLF	Planned Capability Loss Factor
PCM	Process Control Manual
PDP	Power Delivery Project
PDRA	Project Development Readiness Assessment
PED	Primary Energy Division
PFMA	Public Finance Management Act

Abbreviations

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PLCM	Project Life-Cycle Model
PPI	Producer Price Index
PPPFA	Preferential Procurement Policy Framework Act
PV	Photovoltaic
PTC	Procurement Tender Committee
QSE	Qualifying Small Enterprise
QM	Quality Management
RAB	Regulatory Asset Base
RACI	Responsible, Accountable, Consulted, Informed
RaDaR	Research Direction Report
RCA	Regulatory Clearing Account
REIPPPP	Renewable Energy Independent Power Producer Procurement
RMBS	Residential Mortgage-Backed Security
RMO	Results Management Office
ROE	Return On Equity
ROI	Return On Investment
RSA	Republic of South Africa
SAGPCMP	The South African Council for Project and Construction Management Professions
SADC	Southern African Development Community
SAE	South African Energy
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SAP	Systems, Applications and Planning
SAPP	Southern African Power Pool
SCR	Solvency Capital Requirement
SD	Security Division
SDCT	South Dune Coal Terminal
SD&L	Supplier Development & Localisation
SHE	Safety, Health and Environment
SIS	Strategic Intent Statement
SO₂	Sulphur Dioxide
SOC	State-Owned Company
SPA	Special Price Agreement
SPU	Small Power User
SQI	Service Quality Incentive
STEFI	Short-Term Fixed Interest Composite Index
SWIX	Shareholder Weighted Index
TBD	To Be Decided
TFR	Transnet Freight Rail
TMPS	Total Measurable Procurement Spend
TQI	Total Quality Index

Abbreviations

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TWH	Terawatt Hours
UAP	Universal Access Programme
UCLF	Unplanned Capability Loss Factor
USA	United States of America
USD	United States Dollar
VP	Value Proposition
VPN	Virtual Private Network
WACC	Weighted Average Cost of Capital
WUL	Water Usage Licences
YTD	Year To Date
ZESCO	Zambia Electricity Supply Corporation



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Annexure “AP5”

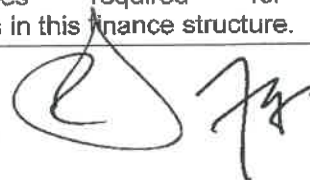


14 MARCH 2017
STRICTLY PRIVATE & CONFIDENTIAL
TERM SHEET
ASSET FINANCING
FOR
THE PURPOSES OF PROVIDING A SOLUTION FOR THE VARIOUS CAPITAL PROJECTS
AT ESKOM
SUMMARY TERMS AND CONDITIONS
APPROXIMATELY USD 1.5 BILLION

The parties agree that this term sheet shall create legally binding obligations on each party and shall be in full force and effect upon its signature, until such time as the Asset Loan Framework Agreement and the other related definitive agreements are concluded between the parties. Unless inconsistent with the context or save where the contrary is expressly indicated, a reference to a party includes that party's successors-in-title and permitted assigns or nominees.

1.	Introduction	<ol style="list-style-type: none"> 1. Huarong Energy Africa (Pty) Ltd (HEA) has been created for the purposes of providing an innovative Asset Finance solution for the capital projects at Eskom Holdings Limited (registration number: 2002/015527/06) (Eskom). 2. Subject to the terms set out in this Term Sheet, HEA wishes to explore the feasibility of providing a fully funded "turnkey" type asset creation solution to Eskom on an asset finance basis by way of an Asset Finance loan. The objective is to demonstrate commercial benefits for Eskom in supporting Eskom's infrastructure and the capabilities it requires to enable Eskom to continue meeting its energy production and transmission requirements. 3. HEA has the interest of international funders and investors. China Huarong Asset Management Company is the parent company of HEA and is the largest Asset Management Company in China and has assets under management in excess of R2 Trillion. At least four globally recognized, reputable, listed, multi-billion-dollar Engineering Procurement and Construction (EPC) companies have formally expressed their commitment to providing funding to the HEA asset finance structure. HEA utilizes the services of globally recognized professional firms in the setup and management of this asset finance solution, such as Norton Rose Fulbright and Worley Parsons. 4. This term sheet summarizes the principal terms and conditions of the proposed asset financing solution and outlines the key elements that will be involved in establishing a viable and innovative solution for the implementation of various identified projects for Eskom in a manner which generates clear commercial value for Eskom. It is designed to give a broad and preliminary overview of the contemplated asset finance solution. 5. Please note that the terms and conditions set out in this term sheet: <ol style="list-style-type: none"> (i) are indicative in nature and do not purport to summarise all the conditions, covenants, warranties and other provisions which would be contained in definitive legal documentation which shall
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		<p>be satisfactory to all parties;</p> <p>(ii) are in respect of certain special conditions which are in addition to other standard terms and conditions typical of the transaction of this nature and remains subject to completion of requisite due diligence, final credit approval and the negotiation of satisfactory agreements;</p> <p>(iii) constitute a statement of mutual intent of the Parties with respect to the contemplated transaction and does not contain all matters upon which agreement must be reached in order for any future transaction(s) to be consummated and therefore does not constitute a binding commitment with respect to the transaction(s) although the undertaking set forth in "Confidentiality" and "Other" will be binding upon the Parties.</p> <p>6. To the extent that any sections, clauses, phrases, ratios or amounts are blank or within [square brackets] in this term sheet or are otherwise indicated to be subject to continuing review or due diligence, it is the intent of HEA to finalize such blanks and bracketed language during the process of negotiating and finalising the definitive agreements.</p> <p>7. Notwithstanding the foregoing however, in the event of cancellation of the proposed finance arrangements after signing of this term sheet, the cancellation fee referred to below will immediately become due, owing and payable by Eskom.</p>
2.	Proposed Master Asset Loan Framework Agreement (ALFA)	<p>1. This proposal to Eskom is to submit the key financial and commercial terms that will form part of the over-arching master Asset Loan Framework Agreement (ALFA).</p> <p>2. The ALFA is proposed to be concluded between HEA (or its nominee) and Eskom for an asset refurbishment/creation program value initially of USD 1.5 Billion. Specific capital projects will be contained in project schedules annexed thereto. By mutual agreement the following will be concluded:</p> <p>(i) The commercial terms and conditions common for all projects such as the mechanism to secure best cost, performance and management for each project;</p> <p>(ii) The financial terms and conditions common for all projects, such as payment currency, effective loan repayments that consists of project costs, the cost of capital (including HEA guarantee costs), insurances and maintenance;</p> <p>(iii) The protocol governing the application and approval of project specific agreements; and</p> <p>(iv) The provisions to give the necessary comfort to the funders, typical of funding arrangements for projects of this nature.</p> <p>3. The ALFA will set out more fully the terms and conditions in this term sheet and will ultimately supersede this term sheet on the date that the ALFA becomes unconditional in accordance with its terms.</p>
3.	Benefits of the Asset Loan Framework Agreement	<p>1. Eskom will derive the following benefits, amongst others, from the implementation of the ALFA:</p> <p>(i) A fully funded Capital program (in respect of approved projects) with favourable terms.</p> <p>(ii) No sovereign guarantees required for the refurbishment/creation of assets in this finance structure.</p>



		<p>(iii) No security in favour of HEA over Eskom's existing plant and/or assets.</p> <p>(iv) The fast tracking of the refurbishment and/or creation of Eskom assets (such as power stations, transmission lines and substations) using established, reputable and highly experienced international EPC contractors under the supervision of Eskom and a well-recognized global EPC Management company (EPCM).</p> <p>(v) Access to blue chip EPC companies with vast experience and verifiable high quality track records in projects of this nature.</p> <p>(vi) Access to a blue chip global EPCM company with relevant Chinese and Eskom experience for refurbishment and/or asset creation oversight and certification.</p> <p>(vii) Localisation and the direct involvement of South African BEE engineering companies required to fast-track refurbishment projects in accordance with the applicable legislation and Eskom's BEE and localisation policies.</p> <p>(viii) Possible Cash flow benefits resulting from the implementation of our asset refurbishment and/or creation structure, as loan repayments may commence post commissioning of the asset obviating the need for significant upfront capital outlay by Eskom.</p>
4.	Timeline and costs for implementation of ALFA	<p>1. The timeline set out below must be followed on signature of the term sheet. If the parties agree that the proposal in this term sheet is found to be commercially viable and mutually acceptable, the Parties would then proceed to execute the following:</p> <p>(i) Signing of indicative term sheet by 23 December 2016, which will assist in obtaining a mandate to negotiate and conclude the ALFA.</p> <p>(ii) Obtaining of the Mandate to negotiate and conclude the ALFA by 3 February 2017.</p> <p>(iii) Signing a binding term sheet for the commencement of the ALFA development by [●]</p> <p>(iv) Deployment of Eskom and HEA resources required to formulate the Master Asset Loan Framework Agreement (ALFA) for submission to the relevant Boards/committees of both parties after signing the Mandate Letter by [●]</p> <p>(v) Approval of the ALFA by the various company Boards/Committees and signed by [●]</p> <p>(vi) On approval of the ALFA, Project Capital allocations and due diligences can commence.</p> <p>2. The timeline set out above can be amended by agreement between the parties.</p>
5.	Facility fee	A once off Facility fee of 1.6% of the amount of the program value (capped at US\$ 2 billion), and beyond the USD 2 billion project value agreed on a project by project basis, is payable by Eskom on signature of the ALFA. This is for the development costs, the arrangement costs and the costs of setup of EPC panels and the working of the solution.
6.	Annual Commitment fee	An annual fee of 0.8% on the amount of the funds made available by HEA but uncommitted by Eskom will be due and payable by Eskom at the end of each year commencing from closing date of ALFA. Closing date of ALFA being the date when all conditions precedent to

		effectiveness of ALFA (including submission to HEA of projects to be funded under ALFA) have been fulfilled.																		
7.	Cancellation fee	A cancelation fee of 0.2% of the amount of the program value shall be payable by Eskom if Eskom repudiates, terminates or cancels this term sheet, once signed and/or accepted by both parties, before the ALFA has been concluded. For the avoidance of doubt, the cancellation fee will only be payable by Eskom where Eskom has acted in bad faith, by preventing or frustrating the negotiation and conclusion of the ALFA as detailed at Clause 8 below..																		
8.	The construction of the ALFA	<p>The ALFA will comprise a master asset finance loan agreement which regulates the manner in which various projects will be funded on a project by project basis.</p> <p>1 Summary of terms and conditions</p> <table><tr><td>Date</td><td>14 March 2017</td></tr><tr><td>User</td><td>Eskom or any nominated SPV in terms of a financial structure approved by the Lender and Eskom.</td></tr><tr><td>Lender</td><td>Huarong Energy Africa (Pty) Ltd, or its designee (Lender).</td></tr></table> <p>2 Project based asset finance loan terms and conditions</p> <table><tr><th>Clause</th><th>Description</th></tr><tr><td>2.1 Description</td><td>For Various Capital Projects (individually a project and collectively the Program)</td></tr><tr><td>2.2 Proposed Capital Program Value</td><td><p>The asset finance program value is USD 1.5billion – USD 2.2 billion. However, this facility is extendable to USD 6 Billion by mutual agreement.</p><p>Each project scope and pricing, which may include soft costs such as guarantees, freight, installation, taxes etc. paid by the Lender will be mutually agreed to between the User and Lender before allocation to this facility.</p><p>It is a requirement that this ALFA and the facility it offers be committed on projects within 24 months of the signing of the ALFA.</p></td></tr><tr><td>2.3 Asset Classes and Terms of the Loan Agreement</td><td>The term of each project Loan agreement will be based on the life cycle of the asset classes in each project. The life cycles of the asset classes will be pre-determined between the User and the Lender.</td></tr><tr><td>2.4 Project Asset Loan Agreement</td><td>The terms of each project will be specifically dealt with by way of an annexure to the ALFA which will be project specific read together with the terms of the ALFA.</td></tr><tr><td>2.5 Currency of ALFA</td><td>US Dollar.</td></tr></table>	Date	14 March 2017	User	Eskom or any nominated SPV in terms of a financial structure approved by the Lender and Eskom.	Lender	Huarong Energy Africa (Pty) Ltd, or its designee (Lender).	Clause	Description	2.1 Description	For Various Capital Projects (individually a project and collectively the Program)	2.2 Proposed Capital Program Value	<p>The asset finance program value is USD 1.5billion – USD 2.2 billion. However, this facility is extendable to USD 6 Billion by mutual agreement.</p> <p>Each project scope and pricing, which may include soft costs such as guarantees, freight, installation, taxes etc. paid by the Lender will be mutually agreed to between the User and Lender before allocation to this facility.</p> <p>It is a requirement that this ALFA and the facility it offers be committed on projects within 24 months of the signing of the ALFA.</p>	2.3 Asset Classes and Terms of the Loan Agreement	The term of each project Loan agreement will be based on the life cycle of the asset classes in each project. The life cycles of the asset classes will be pre-determined between the User and the Lender.	2.4 Project Asset Loan Agreement	The terms of each project will be specifically dealt with by way of an annexure to the ALFA which will be project specific read together with the terms of the ALFA.	2.5 Currency of ALFA	US Dollar.
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	2.6 Term – ALFA Commencement Date	[●]
	2.7 Project Loan Terms	These terms are determined on a project by project basis. The terms are 60, 120 and/or 180 months depending on the asset classes to be refurbished and/or created.
	2.8 Term: Project Commencement Date	It is the date at which the User and Lender sign the Project Loan Agreement.
	2.9 Project Loan Repayment Commencement Date	It is the date agreed to in the project specific agreement.
	2.11 Rates	Interest rate to be applied to the Loans will be 6 months London Interbank Offered Rate (LIBOR) plus 7.2%
	2.12 Security Deposit	To be discussed during the ALFA negotiation.
	2.13 Loan Repayments profile	The payments are semi-annual in advance. User's obligations to repay and make other payments shall be absolute and unconditional irrespective of any contingency whatsoever.
	2.14 Maintenance and Insurance Costs	All costs and expenses associated with the utilization of the asset will be borne by the User, including but not limited to maintenance and insurance.
	2.15 Assurance	The User will: <ul style="list-style-type: none"> (i) Provide, at its expense, asset operating insurance (with such deductibles as Lender may approve). (ii) Reimburse the Lender for asset maintenance costs to ensure the asset performs to its fully designed functionality for the duration of a project loan agreement.
	2.16 Early Termination	<p>Upon any Early Termination of a project loan agreement, the User must repay the Lender the full loan amount including the difference between interest that the Lender would have earned over the remaining period of the loan term and the reinvestment rate over the remaining period of the loan term on the full loan amount.</p> <p>Upon the early termination of the ALFA, all project loan agreements will be automatically terminated and all amounts owing thereunder will become immediately due and payable with interest calculated on the same basis as Early Termination of the loan amount. To be finalised</p>

			in ALFA]
		2.17 Assignment	The Lender shall be entitled to cede and delegate, or transfer its right, title with consent from User / Borrower, which shall not be unreasonably withheld, and interest in the loan to a nominated entity of its choosing.
		2.18 Escrow Account	If the Lender so desires, and without fee, subject to compliance with applicable regulations including, but not limited to arbitrage regulations, the proceeds of the Loan will be deposited in an escrow account acceptable to Lender.
		2.19 Finance Documents	Loan documents in form and substance satisfactory to the Lender must be executed and delivered. The User will also be required to fulfil and/or satisfy conditions precedent that are typical of transactions of this nature, including but not limited to board resolutions, incumbency certificates and other documentation required by Lender. It is contemplated that this transaction will utilize this ALFA document between Huarong Energy Africa (and its nominee) and Eskom.
		2.20 Legal Opinions	The Lender's and the User's respective legal counsel shall deliver legal opinions at closing in a form and substance satisfactory to the User and the Lender. The legal opinions will be in the usual form dealing with, amongst others, the capacity and authority of Eskom and the validity and enforcement of the relevant transaction documents.
		2.21 Legal Costs	Each party will be responsible for the cost of its legal counsel.
		2.22 Credit Due Diligence	In order to complete its credit due diligence in respect of the Program, Huarong Energy Africa (or its nominee) and its funders will need Eskom to provide amongst other documents: (i) Three years of its most recent audited financial statements; (ii) Most recent fiscal year's Budget; (iii) Current Asset Insurance policies; (iv) List of technically approved projects; and (v) Balance sheet encumbrances.
		2.22 Utilization Period	The last date for any project drawdown will be 60 months from the date of signature of the ALFA. The availability of the Multi-year loan facility is subject to annual credit review of Eskom.
9.	Other Commercial Conditions	The following commercial conditions are integral to this proposal, amongst others: 1. Eskom has full control over the scoping of work to be conducted.	

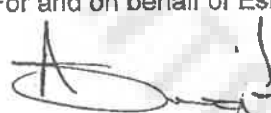
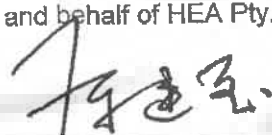
		<p>Eskom will create a project specification with a scope budget and timelines for the work to be conducted.</p> <ol style="list-style-type: none"> HEA will perform the necessary Due Diligence of each project before approving the funding and execution of such project. HEA and Eskom (Eskom to prepare the tender documentation) will follow a mini tender process with pre-approved EPC contractors in a panel based on a criteria determined by HEA. Although Eskom will participate in the approval process, HEA reserves the right to take the final decision on selecting the EPC based on funding contribution, quality, performance, capability and capacity. HEA has made provision for the participation of Local South African companies to subcontract with the EPC companies. A Special Purpose Vehicle (SPV) will be created per project. That SPV's shares shall be held by HEA. The assets created during the project will be owned by each project SPV. HEA in agreement with Eskom will appoint the EPC contractor based on best price, quality and solution and will agree on the implementation terms and conditions. The contract will be between each project SPV and the relevant EPC contractor. On receipt of a valid payment certificate, HEA will make payment through the project SPV to the selected EPC contractor. Eskom will repay the loan as agreed to the SPV and the SPV will repay HEA. Each project SPV's bank account will be controlled by HEA. Eskom will have the right to specify quality criteria and acceptable commercial conditions for the work to be initiated and commissioned.
10.	Adverse Market Change	<p>An event which constitutes a change in the international or domestic money, debt, bank or capital markets which would materially prejudice HEA's ability to raise funding for any project in terms of the ALFA; or any other political or economic event which in the opinion of HEA makes it impractical or uneconomical for HEA to provide funding at all or on the terms set out herein.</p> <p>In the event of an Adverse Market Change, HEA may cancel the ALFA and related projects without incurring any penalty or liability. The Adverse Market Change Events are to be finalised during ALFA discussions.</p>
11.	Project Due Diligence Fee	<ol style="list-style-type: none"> In order to approve and commit funds to a project, a due diligence needs to be performed on the suitability of the project to the Fund and the Panel of preselected EPC contractors. Such due diligence will entail, amongst others, technical, financial, environmental, tax and legal aspects. The following Fee structure will apply per project (a minimum project value of [USD300million] will be considered for this fee structure): <ol style="list-style-type: none"> 0.1% fee payable for preliminary assessment. 0.2% fee payable for full due diligence work to be performed. 0.2% fee for final approval of funds and legal agreements. A different fee structure will be provided if Eskom wishes us to fund smaller projects (less than USD300million)
12.	Newly created	<p>The newly created asset will be owned by and maintained in the SPV. The SPV shares will be held as security by HEA (or its nominee) for the</p>

	Asset	duration of the loan period. On expiry of the loan period or the repayment thereof in full (if earlier) the SPV shares will be transferred to Eskom.
13.	Representations and Warranties (to include in ALFA the Representation and Warranties relating to the Lender)	<p>Representations and warranties (subject to usual carve-out and grace periods) normal for this type of transaction including :</p> <ul style="list-style-type: none"> (i) Eskom's corporate status and corporate powers. (ii) Eskom has all requisite consents and authorizations (organizational and shareholder), licenses, recordings, filings, registration, permissions and approvals including, without limitation, all consents required in terms of the <i>Public Finance Management Act, 1999</i>, the exchange control regulations, <i>Income Tax Act, 1962</i>, in particular, the withholding tax on interest (WTI). (iii) Eskom's rights and obligations under the ALFA are legal, valid, binding and enforceable. (iv) No encumbrance on or over the assets financed in terms of the program. (v) Eskom is not engaged in or aware of litigation that could have a material adverse effect. (vi) Eskom is not insolvent or about to be wound up or otherwise subject to insolvency proceedings. (vii) Eskom has complied with all applicable laws, including tax laws and regulations and environmental laws. (viii) Ownership of Eskom. (ix) Information supplied by Eskom. (x) No event of default or potential event of default. (xi) No material adverse change with respect to Eskom. (xii) All required insurances are in full force and effect.
14.	Positive Undertakings	<p>Customary covenants (subject to usual carve-out and grace periods) for this type of transaction including:</p> <ul style="list-style-type: none"> (i) Maintenance of insurance. (ii) Payment of all taxes. (iii) Maintenance of corporate existence. (iv) Maintenance of licenses, approvals or consents necessary for carrying out the operations. (v) Ongoing compliance with the ALFA. (vi) Adherence to all reporting requirements.
15.	Negative Undertakings	<p>Customary covenants (subject to usual carve-out and grace periods) for this type of transaction including:</p> <ul style="list-style-type: none"> (i) Not to abandon, or withdraw from the transaction, without the HEA's consent. (ii) Any change of control to be in accordance with the ALFA and default mechanisms, to remain intact for the duration of the ALFA. (iii) No material change in the nature of the business or trading

		<p>activities.</p> <p>(iv) No change, consent or waiver to the ALFA.</p> <p>(v) No further debt or encumbrances in respect of the program.</p> <p>(vi) Not cease to carry on the whole or a substantial part of its business.</p> <p>(vii) Not to undertake any merger, consolidation or re-organisation of its business.</p> <p>(viii) Not to default on any payments. Eskom agrees that a default in payment is an act of insolvency.</p>
16.	Reporting Requirements	<p>Customary for this type of transaction (subject to usual carve-out and grace periods), including:</p> <p>(i) Quarterly management and operating reports within 45 days after the end of each quarter.</p> <p>(ii) Annual audited financial statements of the Borrower within 120 days from year end, and consolidated semi-annual unaudited management accounts within 90 days from the end of such period.</p> <p>(iii) Annual Budget and updated financial model to be provided.</p> <p>(iv) Notice of any event of default, potential event of default or event which may have a material adverse effect.</p> <p>(v) Notice of any material dispute, litigation, legal or administrative proceedings in relation to Eskom, force majeure, material revision of budgets or financial forecasts and/or change in operation of Eskom.</p> <p>(vi) Notice of any event, circumstance or occurrence which will or is likely to have a material adverse effect on Eskom's ability to meet its loan payment obligations under the ALFA.</p>
17.	Events of Default/ Mandatory prepayment events	<p>Customary covenants (subject to usual carve-out and grace periods) for this type of transaction including:</p> <p>(i) Abandonment or cancellation of the operations or any material part thereof.</p> <p>(ii) Cancellation of the ALFA or notice of cancellation being given.</p> <p>(iii) Failure by Eskom to pay any amount due under the ALFA.</p> <p>(iv) Breach of any representation, warranty, positive and/or negative undertaking and/or financial covenants (if applicable), by Eskom.</p> <p>(v) Insolvency, winding up and other similar proceedings by or against Eskom.</p> <p>(vi) ALFA not being in full force and effect.</p> <p>(vii) Material adverse change in respect of the Eskom.</p> <p>(viii) Security (if any) not being in full force and effect.</p> <p>(ix) The authority of Eskom to conduct its business or a substantial part thereof is cancelled, revoked or suspended.</p> <p>(x) Any attachment, sequestration or execution in excess of ZAR [] is levied against Eskom or any of its assets and is not</p>

		appealed against or set aside within a reasonable period of time, or the borrower has satisfactory indemnification in respect of the claim.
18.	Confidentiality	The Term Sheet and all the information contained herein are strictly confidential and proprietary to HEA. It is not to be delivered nor shall its contents be disclosed to anyone other than the entity to which it is being provided to, and its employees. Moreover, it shall not be reproduced or used, in whole or in part, for any purpose whatsoever other than for consideration of the financing described herein, without the prior written consent of HEA. The financial arrangements outlined herein are for the benefit and information of the Eskom only, to whom this document is submitted in good faith, and who is deemed to have accepted responsibility for ensuring that the confidentiality of this document will be maintained at all times. In particular, this document may not be disclosed to any third party without the prior written consent of HEA.
19.	Other	<ol style="list-style-type: none"> No Agency: It is expressly recorded that no Party is entitled to act as an agent of any other Party, or make any representations or commitments on behalf of any other Party, or hold itself out as an office bearer, employee or other formal representative of the other Party, or to seek to bind the other Party (whether contractually or otherwise) other than with the relevant Party's express consent. Governing law: This term sheet and the subsequent definitive agreements shall be governed under the laws of the Republic of South Africa. No publicity: Neither Party shall issue any public statement or press release without the express written consent of the other Party. Severability: If any provision of this term sheet is found by any court of competent jurisdiction to be invalid, unlawful or unenforceable, such provision shall not invalidate the remaining provisions of this term sheet.

Kindly sign in the space provided, thereby accepting the terms and conditions of this term sheet.

<p>THE USER For and on behalf of Eskom Holdings SOC Ltd</p>  <p>By: Anoj Singh Designation: Group Chief Financial Officer 410317. Email: anoj.singh@eskom.co.za</p>	<p>THE LENDER For and behalf of HEA Pty. Ltd</p>  <p>By: Chen Jianbao Designation: Chairman of HEA Email: Chen_jianbao@163.com</p>
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	Cancellation fee	A cancelation fee of the 0.2% of the amount of the facility shall be payable by Eskom if Eskom repudiates, terminates or cancels this term sheet.
	Currency of the loan	US Dollar.
	Tenor	3-7 years
	Facility Amount	US Dollar 1.5 billion

Eskom would appreciate it if HAE would consider these terms for the shortterm facility. The relevant Eskom team is available to to engage you on the proposed terms and the overall facility.


Andre Pillay

GENERAL MANAGER : ESKOM TREASURY

Date: 2017/02/5



Annexure “AP6”





Huarong Energy Africa Private Limited

Reg. No: 2015/260986/07

TO: Mr. Anoj Singh
Chief Financial Officer
Eskom

Date: 22 February 2017

Dear Mr. Singh,

Signing of the Binding Term Sheet between Eskom and HEA

Huarong Energy Africa (HEA) has submitted a definitive proposal for the provision of a funding facility to Eskom, as part of the tender process followed by Eskom in October 2016.

To date, we have engaged with Eskom, provided our finalized offer to Eskom and received feedback that Eskom Board approval has been received subject to the finalization of the Asset Lease Framework Agreement (ALFA).

On 23 December 2016, Eskom signed a non-binding term sheet with HEA. This was important for our shareholders and investors to see the progress in this transaction.

It is now imperative that the binding term sheet be signed soonest, so that we can deploy more resources on the development and conclusion of the ALFA and its associated structures. Furthermore, Eskom will need to deploy resources so as to ensure that proper buy-in is obtained on the ALFA.

The binding term sheet shall bind the parties to its terms until such time as the ALFA and other definitive agreements are signed with Eskom. The spirit of the binding term sheet is to provide comfort to all parties to spend resources to develop and conclude the ALFA and ensures that all parties perform in good faith.

Kindly let us know when the binding term sheet can be signed.

Many thanks,

Yours sincerely,



Mr R Thomas

Chief Executive Officer

Huarong Energy Africa Pty. Ltd.

Mobile: +27 83 297 6638

Annexure “AP7”





Huarong Energy Africa Private Limited

Reg. No: 2015/260986/07

TO: Mr. Andre Pillay
Treasurer
Eskom Treasury
Eskom
Date: 18 January 2017

Dear Andre,

We would like to formally thank the Eskom delegation for visiting us in Beijing on January 11th and 12th, 2017. We hope the various meetings we held during your visit have provided a more comprehensive view of our proposed financing structure, as well as its benefits. These meetings have certainly helped us better understand Eskom's capital program, to which we firmly believe, our proposal would provide great value.

Benefits to Eskom

Our proposal is designed to solve Eskom's expenditure needs without overstretching its short term finances. It is a unique offering and different from ordinary financial products, because it caters specifically to Eskom's needs and it encapsulates both a financing solution and an EPC solution.

Funds will be raised on a project-by-project basis, which provides better financial management, compared with conventional bank facilities. Financially, the benefits are outlined below:

- Large commitment volume of USD 1.5 billion to 6 billion.
- No South African government guarantee required.
- Better financial management for Eskom, without giving up control of the asset. The created asset is held in an SPV for the duration of the lease period, thereafter, transferred to Eskom. (Eskom can operate the asset as soon as it is completed).
- Cash Flow: Minimal cash outflow prior to completion.
- Balance Sheet: No liability prior to completion.
- Long tenure, most likely for 10 years, as opposed to 3 to 5 years of a bank facility.
- Project based fund allocation provide most efficient use of funds.