**Eskom** Powering your world

Integrated report 31 March 2016



## Contents

## IFC About this report

2 Performance at a glance

## 4 Our business and strategy

- 5 Chairman's statement
- 7 Our business model
- 17 Stakeholder engagement and material matters
- 21 Our strategy
- 24 Integrating risk and resilience
- 28 Our group structure

## Our leadership

- 30 Board profiles
- 32 Exco profiles

## 34 Operating performance

- 35 Chief Executive's review
- 39 Revenue and customer sustainability
- 44 Operational sustainability
- 55 Sustainable asset creation
- 63 Environmental and climate change sustainability
- 70 Safety and security
- 73 Building a sustainable skills base
- 76 Transformation and social sustainability

## 8 Financial review

- 82 Chief Financial Officer's report
- 84 Value added statement
- 85 Condensed annual financial statements
- 89 Key accounting policies, significant judgements and estimates
- 91 Financial sustainability

## 99 Our governance

- 100 Governance Framework
- 101 King III application
- 102 Board of Directors and committees
- 103 Executive Management Committee
- 104 Remuneration and benefits
- 106 Ethics in Eskom
- 107 Assurance and controls
- 108 IT governance

### 109 Supplementary information

- 109 Fact sheets available online
- 110 Abbreviations
- III Glossary of terms
- 113 Independent sustainability assurance report
- 116 GRI G4 indicator table
- 120 Statistical tables
- 126 Customer information
- 128 Plant information
- 131 Benchmarking information
- 136 Environmental implications of using or saving electricity
- 137 Leadership activities
- 148 Contact details

11111

## **Navigation icons**

The following navigation icons are used throughout this report to link material matters, risks, key performance indicators and performance to sustainability dimensions and strategy:



## **Request for feedback**

We welcome your feedback on the usefulness of this report and ways in which we could improve our report in future, to ensure that it continues to provide IRfeedback@eskom.co.za



- Actual performance met or exceeded target
- Actual performance almost met target (within a 5% threshold)
- Actual performance did not meet target
- sc Indicates that a key performance indicator is included in the shareholder compact

## About this report

## **Board responsibility and approval**

The Board is accountable for the integrity and completeness of the integrated report and any supplementary information, assisted by the Audit and Risk Committee and the Social, Ethics and Sustainability Committee. The Board has applied its collective mind to the preparation and presentation of the integrated report and has concluded that it is presented in accordance with the International <IR> Framework.

The Board, considering the completeness of the material items dealt with and the reliability of information presented, based on the combined assurance process followed, approved the 2016 integrated report, annual financial statements and supplementary information on 31 May 2016:



Dr Baldwin Ngubane Chairman

impact of the organisation's activities on the six

capitals; and the trade-offs that influence value

Our integrated report seeks to provide a balanced

and transparent assessment of how we create value.

considering both gualitative and guantitative matters

that are material to our operations and strategic

objectives, which may influence our stakeholders'

decision-making. Matters important to stakeholders

are determined through extensive consultation with

a wide range of stakeholders and consideration of

the concerns they raised, taking into account our

strategic objectives, evaluation of risk and our value

chain. Material matters are those that are both of

high concern to stakeholders and which could have

a significant impact on our ability to create value.

Our stakeholder engagement process and the determination of

This is our primary report to stakeholders, and

although it is aimed at providers of financial capital, it

provides information of interest to all stakeholders.

We aim to address mainly material matters, both

positive and negative, either in this integrated report

material matters are set out on pages 17 to 20

or the supplementary information.

creation over time.

**Basis of preparation** 

Wabut Ms Chwayita Mabude Acting Chairman: Audit and Risk Committee

Ms Chwayita Mabude Chairman: Social, Ethics and Sustainability Committee

This integrated report is based on the principles The content is further guided by legal and regulatory contained in the International Integrated Reporting requirements, such as the Companies Act, 2008 and Framework (the International <IR> Framework) the King Code on Corporate Governance in South published by the International Integrated Reporting Africa (King III), as well as global best practice. This Council (IIRC). <IR> focuses on value creation report also contains some GRI G4 disclosures. over the short, medium and long term, guided by the six capitals set out in the International <IR> Framework, thereby ensuring that all resources, and how they interact with one another, are considered. <IR> takes account of the impact of the internal and external environment on the company's value creation process: the connectivity between strategy. governance, performance and future outlook; the

The GRI G4 indicator table is available as a fact sheet at the back of this report

## **Reporting boundary and frameworks**

This integrated report reviews our economic, technical, operational, social and environmental performance for the year from I April 2015 to 31 March 2016, with two years' comparative information and short- and mediumterm future targets being presented. It follows our 2015 integrated report. Material events up to the date of approval have been included.

B

Our integrated report should be read in conjunction with our full set of group annual financial statements for a comprehensive overview of our financial performance.

Our group annual financial statements are available online at www.eskom.co.za/IR2016

This report examines our performance in relation to the sustainability dimensions which underpin our strategy, taking into account our operating environment, our long-term goals, the risks that might prevent us from achieving those goals and the measures put in place to treat those risks. It considers the impact of other entities – for example customers, suppliers, employees and communities – on our ability to create value, as well as our impact on them. We believe that the information presented is comparable to that of prior years, with no significant restatements, unless otherwise indicated.

Refer to our business model on pages 8 to 9 for more detail on our operations

Unless otherwise stated, the information in this report refers to the performance of the group. which includes the business of Eskom Holdings SOC Ltd. operating in South Africa, and its major operating subsidiaries.

Our group structure and information on our subsidiaries are provided on pages 28

## **Forward-looking statements**

Certain statements in this report regarding Eskom's business operations may constitute forward-looking statements. These include all statements other than statements of historical fact, including those regarding the financial position, business strategy, management plans and objectives for future operations. Forward-looking statements constitute our current expectations based on reasonable assumptions, data or methods that may be incorrect or imprecise and that may be incapable of being realised, and as such, are not intended to be a guarantee of future results. Actual results could differ materially from those projected in any forward-looking statements due to various events, risks, uncertainties and other factors. Eskom neither intends to nor assumes any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

## **Our suite of reports**



Integrated report and fact sheets The integrated report, which provides an overview of our performance, is prepared in accordance with the IIRC's International <IR> Framework, and subject to combined assurance. Supplementary information, pertinent to interested stakeholders, is available at the back of the report; additional fact sheets are available online



The consolidated financial statements of Eskom Holdings SOC Ltd have been prepared in accordance with International Financial Reporting Standards (IFRS) as well as the requirements of the Public Finance Management Act, 1999 and Companies Act, 2008, and audited by our independent auditors

Foundation report for the 2015/16 year





## Assurance approach

Our combined assurance model distinguishes three lines of defence, namely review by management, together with internal and external assurance, in order to optimise governance oversight, risk management and control. The Audit and Risk Committee and Board rely on combined assurance in forming their view of the adequacy of our risk management and internal controls.

Although the report as a whole has not been 🌐 externally assured, those sustainability KPIs contained in the shareholder compact and reported on in this report were subject to external assurance, and have received reasonable assurance. The entire report has been internally assured by our Assurance and Forensic Department.

The independent sustainability assurance report can be found on pages 113 to 115

Furthermore, the consolidated annual financial statements have been audited by the group's independent auditors, SizweNtsalubaGobodo Inc. who issued an unmodified opinion.

Refer to pages 11 to 13 of the annual financial statements for the audit opinion



F

Our 2016 suite of reports comprises the following, all of which are available online:

### Annual financial statements

The Eskom Development Foundation NPC (the Foundation) is responsible for the coordination and execution of our corporate social investment activities in support of our business imperatives. The report details the operations and activities of the Foundation

www.eskom.co.za

## Performance at a glance





## **Our business and strategy**

5 Chairman's statement
7 Our business model
17 Stakeholder engagement and material matters
21 Our strategy
24 Integrated risk and resilience
28 Our group structure



Chairman's statement

### Steady progress in our turnaround strategy

Eskom's key role is to assist in lowering the cost of doing business in South Africa, in accordance with the Strategic Intent Statement by the Department of Public Enterprises (DPE), thereby enabling economic growth and security of supply through providing electricity in an efficient and sustainable manner. We remain focused on ensuring security and reliability of electricity supply to the country, together with guaranteeing Eskom's financial sustainability.

We have experienced several challenges over the last five years, such as declining or stagnant electricity (1) sales in the key industrial, mining and commercial CO segments. Plant availability has deteriorated in recent years, requiring the use of the expensive open-cycle gas turbines (OCGTs) to meet demand, negatively impacting on financial performance. While we are working to build additional capacity, the cost to complete the new build programme is escalating. Our coal cost has been rising faster than inflation. coupled with a continued increase in employee costs due to a rise in headcount. The balance sheet and funding is under pressure due to credit ratings downgrades, as well as regulatory uncertainty and the unsustainable electricity price path.

> Added to that, South African output growth has been slowing steadily. GDP growth of 1.3% was achieved in 2015, the lowest since 2009; this as the economy struggled to cope with a sharp decline in commodity prices, combined with a slowdown in China, one of South Africa's biggest export markets, and the worst drought in more than a century. Recent forecasts suggest GDP growth of 0.6% for 2016, with slightly higher GDP growth of 1.2% forecast for 2017. By way of comparison, South Africa's annual growth has averaged 3% since 1994.

> As reported before, the impact of the lower than requested MYPD 3 revenue determination required significant changes to the business, leading to the development of a new strategy to ensure our sustainability in a changing environment. The strategy centred on distress recovery, stabilising the business in the short term, re-energising the business over the medium term and growing the business in the long term.

In the distress recovery and stabilisation phases, we are focusing on core issues, such as plant performance, minimising the risk of load shedding, maintaining our liquidity position and improving financial performance. In order to give effect to our strategy and deliver on our mandate, we aim to ensure that the organisation is sustainable along a number of distinct dimensions; these collectively aim to stabilise and sustain the business in the short, medium and long term. We remain focused on the core areas of financial sustainability, revenue and customer sustainability, operational sustainability and sustainable asset creation.

We will no longer be a constraint to South Africa's growth. Our Corporate Plan for the five years to 2020/21 aims to re-establish Eskom as a catalyst for growth. The Corporate Plan will drive ongoing improvement in our operational and financial sustainability, while stimulating economic growth and driving socio-economic development. We recognise the need for fundamental operational change if we are to provide an affordable, sustainable electricity supply to all South Africans.

The Corporate Plan is grounded in the "designto-cost" paradigm which is underpinned by two maxims, namely cost optimisation and moderate price increases. Achieving this paradigm shift will require us to:

- Drive a turnaround in Generation performance by increasing plant availability (EAF) to 80% by 2020/21
- Deliver the new build programme within the latest schedule, by completing Ingula by 2017, Medupi by 2020 and Kusile by 2022; and optimise the capital portfolio through prioritisation based on our core business
- Ensure revenue certainty through the RCA ( regulatory mechanism and preparation for MYPD 4
- Direct a cost containment effort focused on primary energy, manpower and other external spend to ensure long-term sustainability of the business
- Stretch the balance sheet in the short term, while establishing long-term stability
- Ensure regulatory and legal compliance in order to maintain our licence to operate and promote a sustainable business, including environmental and N-I grid compliance
- Deliver on Government's strategic objectives by meeting targets on transformation, facilitating the entry of independent power producers (IPPs) and other key initiatives

Our strategy aims to deliver an electricity price path that supports economic growth and improves our financial and business sustainability. We will no longer be a constraint to South Africa's growth and will deliver a stable electricity supply at a price that catalyses economic growth for the country. CO

Ô

## Chairman's statement

deliver a plan that will guarantee improved financial health and sustainability in the long term. We have developed a sustainable capital investment plan that prioritises projects closely aligned to our strategic
 objectives, including the new build programme, the recovery of the generation asset base, and the completion of environmental projects and long delayed investments in our transmission and distribution grid.

We have taken full advantage of the equity injections by the shareholder and the conversion of the shareholder loan to equity, and are fully exploiting the balance sheet to obtain external funding. Consequently, we have no other option but to seek a moderate price increase per year, as well as certainty around the long-term price trajectory, in order to achieve our financial objectives. Our aspiration is to smooth the impact of potential price increases on the economy over a longer period, as opposed to creating shorter term price shocks.

We have maximised all available levers in order to

## Outlook

South Africa has experienced several years of tight electricity supply, with operating reserve margins well below the targeted 15% of demand. Over the next five years, this picture is expected to change significantly, with a number of key themes shaping the electricity market landscape.

As a result of the slowdown in the economy, demand for electricity in South Africa is expected to increase by around 1% per year. This weak demand outlook is reinforced by the global decline in commodity prices, together with challenges in South Africa's competitiveness in several energyintensive sectors, such as gold mining and steel manufacturing. Given low demand growth in the short term and the risk of underutilised assets in the future, we are exploring several options to ensure long-term demand growth, such as nuclear, gas, utility-scale renewables projects, coal, smart metering and regional opportunities.

The South African power sector is ramping up capacity as we make progress on the new build programme, as well as adding new capacity from IPPs to the grid, mainly from renewables. The new build programme will add 8 600MW of new capacity by 2020/21. Furthermore, we have signed 65 power purchase agreements with IPPs, for RE-IPP bid windows I to 4.5, which will add 4 900MW of IPP capacity to the grid by 2020/21. The transmission grid will be expanded by a further 4 084km, while an additional one million new customer connections will be made through the electrification programme. We strive for universal access to electricity by 2025.

South Africa's energy mix is expected to shift considerably towards renewables over the next two decades. Although coal will remain a core part of the country's energy mix for the foreseeable future, South Africa will have to diversify toward lower carbon emitting energy sources under its agreements at the United Nations COP 21 climate change conference in 2015. For more on the implications of COP 21, refer to the information block on page  $68\,$ 

In addition, the country's nuclear programme is targeting 9 600MW of additional capacity by 2030; the Department of Energy has indicated that Eskom will serve as the owner and operator of this nuclear capacity. Developments in the country and the region around natural gas will create further opportunities to diversify the country's energy mix. Under Government's Operation Phakisa, it is expected that the natural gas sector will offer South Africa the opportunity to meet its power generation needs in the next decade.

### Update on the Board enquiry

The report following the Denton's enquiry was finalised and shared with the Minister of Public Enterprises. The report proved that there was no misconduct, corruption or fraud on the part of any Eskom employee, although it did highlight some process weaknesses. The recommendations were used to strengthen the current Turnaround Strategy. The majority of the recommendations have been noted as closed, while the remainder will be closed during the coming financial year.

Following their suspension in March 2015, Mr Tshediso Matona, former Chief Executive, resigned effective 31 May 2015; Mr Dan Marokane and Ms Tsholofelo Molefe both agreed to part ways with Eskom, effective from 1 June and 30 June 2015 respectively. Following the finalisation of the enquiry, Mr Matshela Koko was reinstated.

## Appreciation

I wish to thank Mr Romeo Kumalo and Ms Mariam Cassim who recently resigned as directors to give undivided attention to their other business commitments and projects. They have served diligently as members of the Board and its subcommittees. We wish them both all the best in their endeavours.

I wish to extend a note of appreciation to Exco for its tremendous efforts in turning around Eskom. Also to our shareholder representative, the Honourable Minister Lynne Brown, who continues to guide us on our path to sustainable growth.

The Board remains dedicated to fulfilling Eskom's mandate, by growing the economy and improving the lives of our people through a sustainable electricity industry.

Kigubang

**Dr Baldwin Ngubane** Chairman

## **Our business model**

## Our mandate, vision and mission

Eskom Holdings SOC Ltd is South Africa's primary electricity supplier and is a state-owned company (SOC) as defined in the Companies Act, 2008. The company is wholly owned by the South African Government, through the Department of Public Enterprises (DPE). We generate approximately 90% of the electricity used in South Africa, and approximately 40% of the electricity used on the African continent.

#### Mandate

Our mandate, which is aligned to the Strategic Intent Statement issued by DPE in August 2015, is to provide electricity in an efficient and sustainable manner; this includes the generation, transmission, distribution and sale thereof. Eskom is a critical and strategic contributor to Government's goal of ensuring security of electricity supply to the country, and enabling economic growth and prosperity.

We also play a developmental role and will promote transformation, economic development and broadbased black economic empowerment through our activities. We further support relevant national initiatives as outlined in the New Growth Path, the National Development Plan (NDP), etc.

## Vision and mission

Our vision statement is "Sustainable power for a better future". Our mission is to provide sustainable electricity solutions to assist the economy to grow and to improve the quality of life of people in South Africa and the region.

Eskom is more than just an electricity provider – we touch the lives of all our consumers, we uplift communities, create jobs, develop skills, invest in youth development, ignite industries and entrepreneurship. We are more than just electricity.

## **Our business model**

According to the IIRC's International <IR> Framework, a company's business model is its "system of transforming inputs through its business activities into outputs and outcomes that aims to fulfil the organisation's strategic purposes and create value over the short, medium and long term". This system is affected by internal and external factors, which together make up the company's operating environment.



The upper Bedford Dam is feeding directly to headrace 3 and 4, the upper waterway channel which feeds water to the turbines at Ingula. (Photo: Du Toit Malherbe)

6



🚻 Learners – engineers (895), technicians (415),

artisans (1 955)

Gender equity in senior management **28.13**%

( ] 311 employees with disabilities

The detailed energy flow diagram is available as a fact sheet online

 Refers to the buying and selling of electricity from/to international customers without the power being available to the South African grid.

## **Our business model** continued

## **Our operating environment**

The electricity supply industry in South Africa consists of the generation, transmission, distribution and sale of electricity, as well as the importing and exporting thereof. Eskom is a key player in the industry, as we operate most of the base-load and peaking capacity, although the role played by IPPs is expanding.

## Types of generating plant Base-load blant

Base-load stations are meant to operate on a constant basis, except when shut down for maintenance. The output of individual units can be adjusted based on demand, but the units cannot be shut down or started up rapidly. Our base-load plant comprises coalfired stations and nuclear.

## Peaking plant

Peaking stations operate when demand is high, and can be started up rapidly. Our peaking stations use water or diesel to operate.

#### Self-dispatchable generation

This is plant such as wind farms, which can only generate electricity when the wind is blowing; solar photovoltaic is another example.

The electricity market is regulated by NERSA, South Africa's energy regulator, in terms of the National Energy Regulatory Act, 2004. NERSA issues licences, regulates all price increases, provides national grid codes, etc.

The National Nuclear Regulator (NNR) ensures that individuals, society and the environment are adequately protected against radiological hazards associated with the use of nuclear technology, regulating Koeberg, our nuclear power station.

Given existing infrastructure and the local availability of low cost coal, coal-powered electricity generation is expected to remain the dominant technology in the medium term, but the overall contribution of coal is expected to decrease in the longer term due to the increasing relevance of other fuel sources such as renewables, gas and nuclear. Gas presents a significant growth opportunity in the long term, with both Government and private investors showing increasing interest. Nuclear is being considered as a viable power source because of its ability to provide base-load power at lower levelised operating costs, with low carbon emissions.

We are vertically integrated across a value chain that supplies electricity to both South Africa and the Southern African Development Community (SADC) region. The Southern African Power Pool (SAPP) is made up of South Africa, Botswana, Lesotho, Mozambigue, Namibia, Swaziland, Zambia and Zimbabwe, connected through an integrated grid. We purchase electricity from electricity generating facilities beyond the country's borders, and sell electricity to SADC countries, in terms of various agreement schemes.

IPPs have been invited to participate in the industry through a renewable energy programme, split into a number of bid windows, run by the Department of Energy (DoE), given its commitment to liberalise the market and encourage private and public sector growth. Potential players were shortlisted by DoE; we have signed power purchase agreements (PPAs) with successful bidders to supply energy into the national grid, which is owned by Eskom. We perform grid planning and construct lines under specific licensing criteria, conforming to the National Grid Code

## Nature of our business and customer base

We operate 28 power stations, with a total nominal ര capacity of 42 810MW, comprising 36 441MW of coal-fired stations, I 860MW of nuclear power, 2 409MW of gas-fired, 600MW hydro and 1 400MW pumped storage stations, as well as the 100MW Sere Wind Farm. It includes four small hydroelectric stations, which are installed and operational, but not considered for capacity management purposes, and Unit 6 of Medupi Power Station, which was 🔱 commissioned on 23 August 2015, adding nominal capacity of 720MW to the national grid. Although Units 3 and 4 of Ingula, of 333MW each, have been synchronised to the grid, these have not yet been commissioned and are therefore not included in the total. We maintain approximately 377 287km of power lines and substations with a cumulative capacity of about 244 637MVA.

Further information on our power stations, power lines and substation capacities is available as a fact sheet at the back of this report

We are also building new power stations and high-voltage power lines to meet South Africa's growing energy demand. Our capacity expansion programme is expected to be completed in 2022. To enable us to meet demand and create the space for plant maintenance while new generating capacity is being built, we continue to run a range of demand management and energy efficiency programmes.

During 2015/16, we sold 214 487GWh of electricity (1) to a total of 5 688 640 customers:

Category	Number
Redistributors and/or municipalities	801
Commercial	50 816
Industrial	2 733
Mining	1 013
Agricultural	82 450
Rail	509
Residential	5 550 307
International	н
Total	5 688 640
	Category Redistributors and/or municipalities Commercial Industrial Mining Agricultural Rail Residential International Total

For electricity sales by customer segment, both volumes and revenue, refer to the fact sheet at the back of this report

물

Æ

As indicated, we produce approximately 90% of the electricity used in South Africa. The balance is produced by IPPs and municipalities. The electricity produced by municipalities, together with that we supply to them, is distributed to their customers in their areas of supply.

Energy output of 219 979GWh was supplied from 60 the following primary energy sources:

Primary energy source	GWh
Coal-fired stations	199 888
Nuclear power	12 237
Open-cycle gas turbines (OCGTs)	3 936
Hydro stations	688
Pumped storage stations	2 919
Wind	311
Total	219 979

### Eskom's energy wheel

Our energy flow diagram, or energy wheel, shows the volume of electricity that flowed from local and international power stations and IPPs to Eskom's distribution and export points during the past two years, including energy losses incurred in reaching our customers.

The energy flow diagram is available online as a fact sheet, although a summarised version is included in our business model on page 8

### **External factors influencing our business**

We are affected by a number of key external factors, which form the framework within which we operate. These are the shareholder mandate. DoE's Integrated Resource Plan 2010-2030 (IRP 2010), the macroeconomic climate and relevant legislation and regulations.

### Shareholder mandate

As discussed, our mandate is to provide electricity in an efficient and sustainable manner, while also supporting Government's developmental initiatives.

Our annual Corporate Plan outlines our strategic and operational direction and captures the necessary financial, operational and resource plans to support this direction. It gives effect to our medium-term strategic objectives, while the annual shareholder compact sets out annual key performance indicators (KPIs) in support of our mandate and strategic objectives. The Corporate Plan and shareholder compact are submitted to the Minister of Public Enterprises (the Minister) for approval before the start of each financial year. The latest approved plan spans the five-year period from 1 April 2016 to 31 March 2021.

Performance against the shareholder compact is set out in the director's report, which is contained in the annual financial statements, available online

All shareholder compact KPIs are however included in the statistical tables, available as a fact sheet at the back of this report

### Integrated Resource Plan 2010-2030

The IRP 2010 sets out South Africa's long-term 🕧 energy needs and discusses the generating capacity, technologies, timing and costs associated with meeting that need. DoE has issued a draft update of the IRP for public comment, which reflects the effect of the sustained lower than anticipated economic growth on projected electricity demand, as well as changes in the committed build programme. Public comment on the update has been gathered. DoE is consulting with other Government departments and is expected to submit the approved updated plan to Cabinet for promulgation during 2016.

The revision will have important implications for Eskom, particularly around the shift in South Africa's energy mix over the next 15 to 20 years towards 🕓 lower carbon emitting energy sources, to meet agreements made at the United Nations' COP 21 climate change conference in December 2015. The IRP is also expected to affect our generation plant life extension decisions, with Generation set to complete a full review of its asset base and life extension strategy. The IRP is expected to provide clear guidance on the opportunities from greater regional development and electricity imports outlined in the NDP.

## Our business model

## Macroeconomic climate

The electricity that we produce is a major driver of the economy – just over 3% of the country's gross domestic product can be attributed to the electricity, gas and water cluster. Infrastructure investment has not kept pace with economic growth, resulting in an electricity supply situation which is constrained in the short to medium term. The updated IRP 2010 is predicated on electricity demand growth of 3% per year to 2030, although this could more realistically average 1% per year to 2026. The decoupling of energy demand and GDP growth has been observed both locally and internationally.

The NDP remains the guiding document for economic growth, but without sustainable and sufficient electricity capacity, further economic growth will be stunted. As the base-load player in the market, we are directly responsible for helping to increase GDP growth. This requires increased capacity to support future expected demand. We are building capacity to ensure that South Africa's future energy needs are met. We expect surplus capacity in South Africa over the next five years, as our plant performance continues to recover, additional capacity is commissioned, and approximately 4 900MW of contracted capacity from IPPs is connected.

 Opportunities for electricity sales growth depend on increased capacity availability, together with decisions on new markets. Furthermore, global climate change policy and lower carbon technology trends, together with smart technologies, will impact the South African energy market and our business model. The rise of IPPs in the South African market creates uncertainty about our future role in the energy sector and fuels new market options. However, we will play a critical role in ensuring
 that new capacity is developed and delivered to the public via the national grid. Adapting and internalising lessons from changing global markets and regulatory environments is critical to ensure a smooth evolution of the electricity sector.

#### Outlook for growth and inflation

South Africa's growth has slowed steadily since 2011. After growth of 3.2% in 2011, GDP growth has been decelerating, with moderate growth of 2.2% for both 2012 and 2013, and a disappointing 1.5% in 2014. GDP growth of 1.3% was achieved in 2015, below the South African Reserve Bank's expectations of 1.5% and the lowest since 2009, but in line with the outlook by the International Monetary Fund (IMF); this as the economy struggled to cope with a sharp decline in commodity prices, combined with a slowdown in China, South Africa's biggest export market, and the worst drought in more than a century. These growth rates are in stark contrast with the 5.4% growth described in the NDP as the rate necessary for meaningful progress against unemployment and poverty.

According to the world economic outlook published by the IMF in April 2016, global growth, estimated at 3.1% in 2015, is projected at 3.2% in 2016 and 3.5% in 2017. The improvement in global activity is projected to be more gradual than previously anticipated, especially in emerging markets and developing economies, where growth rates are expected to remain 2% below the average of the past decade.

Oil prices have declined markedly since September 2015, and futures markets are suggesting only modest price increases in 2016 and 2017. Prices of other commodities, especially metals, have also fallen. Headline inflation has broadly moved sideways in most countries, but is likely to soften. Mixed inflation outlooks in emerging market economies reflect the conflicting implications of weak domestic demand and lower commodity prices against pronounced currency depreciations over the past year.

Risks to the global outlook remain skewed to the downside and relate to ongoing adjustments in the global economy: a generalised slowdown in emerging market economies, China's rebalancing, lower commodity prices, and a gradual exit from accommodative monetary conditions in the United States. If these key challenges are not successfully managed, global growth could be disrupted.

The IMF lowered its economic growth forecast for South Africa, adjusting its projection to 0.6% in 2016 and 1.2% in 2017 due to weak commodity prices and lower export prices, elevated policy uncertainty, tighter monetary and fiscal policy together with higher borrowing costs; this is even lower than forecasts by National Treasury.

Annual average inflation of 4.6% was recorded in 2015, although expectations for 2016 and 2017 are higher, with expectations well above 6% in 2016 and 2017; inflation has already increased to 6.3% in March 2016. The South African Reserve Bank's medium-term inflation expectations are around the top of the target range of 3% to 6%. The risk of positive inflation shocks feeding into higher expectations remains very high.

Electricity sales in key segments, such as industrial, mining and commercial sales, are relatively stagnant, either at or nearing a 15-year low. Prices of a number of alternative technologies are declining and consumers are increasingly defecting from the grid, negatively impacting our revenue and business model. In response to recent price increases and supply concerns, customers are improving energy efficiency and making their own generation decisions. Businesses continue to experience limited expansion opportunities, while households remain under pressure, due to high levels of debt and unemployment, coupled with the negative impact of higher inflation and interest rates on disposable income. The adverse economic climate further has the potential to impact non-payment by customers, as well as illegal connections and theft of electricity and equipment, all of which have a technical and financial impact on our ability to ensure security of supply and remain sustainable.

## Legislation and regulations

We are subject to numerous laws and regulations concerning our operations, including conditions relating to tariffs, expansion activities, environmental compliance, as well as regulatory and licence conditions, such as water usage and atmospheric emissions, which govern our operations. Our licensing conditions place strict limits on plant emissions to reduce the country's current and future environmental footprint.

Legislation that influences our governance includes the Electricity Regulation Act, 2006; Companies Act, 2008; Public Finance Management Act (PFMA), 1999; National Environmental Management Act, 1998; National Water Act, 1998; Preferential Procurement Policy Framework Act (PPFA), 2000; Promotion of Access to Information Act (PAIA), 2000; Promotion of Administrative Justice Act (PAJA), 2000; Occupational Health and Safety Act, 1993; and Employment Equity Act, 1998. The King Code on Corporate Governance in South Africa (King III), Protocol on Corporate Governance in the Public Sector and various international guidelines direct us regarding best practice in governance and reporting.

Our declaration in terms of Section 32 of PAIA is available online as a fact sheet; comprehensive disclosure in the integrated report is restricted by the nature, volume and complexity of PAIA requests, together with the percentage of refusals

#### Our internal operating environment

The internal cornerstones of our business are leadership and governance, supported by our values; our systems, policies and procedures; as well as technology.

Leadership and governance guided by our values

Eskom's Board is responsible for governing the company and providing strategic direction, while the Executive Management Committee (Exco) is responsible for implementing the strategy. There is a clear distinction of roles and responsibilities between the Board and Exco.

Refer to "Our governance" on pages 102 to 104 for further information on the activities of our Board and Exco. Our leadership and governance is underpinned by our values, which are noted on page 106

Systems, policies and procedures

Every aspect of our operations, from safety to the efficiency of our power stations to the experience of our customers, is underpinned by systems. Standardised processes, policies and procedures have been developed for all aspects of the business and are updated regularly to ensure good governance an defficiency improvements. Furthermore, we use a number of key performance indicators to measure business performance.

We have achieved ISO 9001:2008 certification. Furthermore, we have implemented ISO 14001:2004, OHSAS 18001:2007, ISO 31000:2009 and AA1000 in specific divisions or business units, to regulate environmental management, occupational health and safety, risk management and stakeholder engagement respectively.

## Technology

Technology is a key enabler of our business and includes telecommunications, information technology, research and innovation. We research ways to improve our processes and technologies as well as reduce our impact on the environment, and invest in pilot projects to investigate the feasibility of larger scale rollout. These technologies include new methods for generating electricity, such as the concentrated solar power (CSP) plant in Upington, and smart grid technology.

## Our value chain

Our value chain consists of core operations, supported by a number of support and strategic functions. We are committed to providing and maintaining a safe, healthy working environment for all employees and contractors; safety remains a key focus area within our operations.

Our operating and financial performance during 2015/6 is set out in "Operating performance" and "Financial review" on pages 34 to 80 and 81 to 98 respectively

### **C**ore operations

Our core operations include the generation, transmission, distribution and sale of electricity. The primary energy resources that our power stations need to operate – coal, liquid fuels, uranium and water – must be sufficient, delivered on time at optimal cost, and be of the required quality.

6

6

Balancing the power system at 50Hz

Electrical energy cannot be stored in large quantities and must be generated at the exact moment when it is needed by consumers. At a national level, electricity is generated primarily by using energy sources such as coal, water or diesel to drive a rotating generator. All generators connected together and producing electricity for the national grid turn at the same speed of 50Hz, known as synchronous speed. It is important to keep the frequency of the system within a specified range of 49.50-50.50Hz. Large electrical turbine/generator units are designed to operate within a narrow range of rotating speed because of the enormous mechanical forces experienced by the turbines and generator. To protect the turbine/generator from damage, the generating unit will automatically disconnect itself from the power system if the frequency falls outside the safe operating limits. If not properly managed, this could lead to cascade tripping of other generators which could eventually lead to the complete collapse of the national grid.

This speed can easily be measured using the frequency of the power system, which is used to control the balance of power being generated and consumed at any given moment. National Control carefully monitors and controls the frequency of the power system so that it remains close to the design value of 50Hz. For example, if there is an excess of electricity being generated compared to that being consumed by customers, the speed of the generators will rise, resulting in the frequency of the power system increasing. Conversely, if there is not enough electricity being generated at any time to meet customer demand, the speed of the generators will reduce, resulting in the frequency falling. To ensure a perfect balance between supply and demand, the frequency must stay within the range, ideally close to 50Hz, which is done by adjusting the amount of generated electricity to match the customer demand, as often as once every four seconds. Base-load stations that are online will change their output, while peaking plant will be brought onto the system as required. If there is insufficient capacity available to meet the expected demand. National Control will disconnect customers from the national grid, either automatically or through manual load shedding, to a level where the balance can be maintained. This is only done as a last resort to prevent cascade tripping of generators which could lead to a national blackout.

Coal is procured in terms of long-term fixed-price and cost-plus contracts, as well as medium- and short-term contracts. Fixed-price mines produce both export-quality coal and Eskom-quality coal. Cost-plus contracts are long-term agreements whereby a mine's coal reserves are dedicated to Eskom; the coal cost covers the mine's full capital investment, its operating cost and a return on investment.

Generating electricity requires a significant amount of water and also results in waste, such as atmospheric and particulate emissions, ash and nuclear waste, thereby negatively impacting the environment. We aim to minimise our impact by reducing fresh-water usage and atmospheric emissions by transitioning to a cleaner energy mix, including renewable energy, provided mainly by IPPs.

We supply to industrial, mining, commercial, agricultural and directly to a number of residential customers in South Africa, as well as a number of international customers in the SADC region. We supply to redistributors (municipalities and metros), who in turn redistribute electricity under licence to businesses and residential customers within their areas of supply.

Through our Southern African Energy Unit, we import electricity from Lesotho, Mozambique, Namibia and Zambia, and sell electricity to Botswana, Lesotho, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe, on either firm or unfirm agreements.

## Capacity expansion programme

Our capacity expansion programme, started in 2005, aims to expand our generation and transmission capacity. This programme will increase our generating capacity by 17 384MW by 2022, and includes one pumped storage and two coalfired power stations, as well as a 100MW wind facility, which was completed in 2014/15. It also involves strengthening and substantially extending the Transmission grid by expanding high-voltage transmission lines by 9 756km and substation capacity by 42 470MVA. We have delivered 7 03IMW, 6 162km and 32 090MVA to date.

#### **Stakeholders and partnerships**

Our primary partners are our customers, both locally and beyond South Africa's borders. Our customers are important partners in assisting us in ensuring security of supply, through demand management and energy efficiency programmes, such as televised Power Alerts, the integrated demand management (IDM) programme and 49M energy efficiency campaign. Strong partnerships with Government, suppliers and contractors are vital in meeting current and future electricity needs. This group includes various government departments, water authorities, coal mines, IPPs, SAPP members, original equipment manufacturers (OEMs) and contractors working on the capacity expansion programme.

## Strategic partnerships

 $\bigcirc$ 

ît ît

m

**(** 

m

6

We enter into strategic partnerships and alliances to achieve a greater impact than we could generate alone. Some examples are:

South Africa has to reduce greenhouse gas emissions. We will contribute by diversifying our energy mix and partnering with players in relevant sectors, as well as through lobbying and advocacy with government departments and other stakeholders. To ensure that all necessary environmental approvals and servitudes are in place, we partner with the Presidential Infrastructure Coordinating Commission (PICC) and relevant government departments to expedite the process. We are also partnering with SADC countries to develop new capacity to increase electricity imports into South Africa.

We focus on building collaborative relationships with unions to ensure stability both on new build sites and in the operating business.

We are improving our construction and related capabilities (people, systems, processes and tools) by actively driving knowledge, skill and technology transfer through industry partnerships. Engineering skills will be developed through the Eskom Power Plant Engineering Institute, which will partner with leading local universities, focusing on MSc and PhD programmes on power plant challenges.

To address the outstanding debt in municipalities, we actively engage both national and provincial government (National Treasury, DPE and COGTA) to obtain buyin to payment improvement initiatives. Furthermore, we partner with SALGA to resolve distribution industry issues.

The quality of our relationships with stakeholders is very important to us and is therefore constantly monitored and enhanced.

Refer to "Stakeholder engagement and material matters" on pages 17 to 20 for further information

## Finance

Our funding model consists of equity in the form of equity investment by the shareholder, retained earnings and debt funding, with strong Government support. Our credit rating is affected by our own financial position as well as the credit rating of the Sovereign. At 31 March 2016, our equity totalled R180.6 billion, of which R83 billion is attributable to share capital and the rest to retained earnings, while lenders had provided funding of R322.7 billion in the form of debt securities and borrowings. Of the R83 billion provided by the shareholder, R60 billion relates to the conversion of the equity loan, with the balance of R23 billion provided as a cash equity injection during 2015/16.

NERSA determines our revenue requirement based on multi-year price determination (MYPD) applications we submit. The third revenue application, MYPD 3, is currently in effect and covers the five-year period from I April 2013 to 31 March 2018. We have submitted two regulatory clearing account (RCA) applications, in respect of MYPD 2 and the first year of MYPD 3, and have been awarded additional revenue amounting to R7.8 billion in 2015/16 and R11.2 billion in 2016/17 respectively.

### Workforce

Our skilled workforce executes our core operations and provides support services such as human resources management, information technology services, procurement, research, etc. At 31 March 2016, we had 47 978 employees, comprising both permanent staff and full-time contractors, consisting of 42 767 Eskom employees and 5 211 Eskom Rotek Industries employees. Of these, approximately 84% are covered by collective bargaining agreements.

We have a rigorous transformation programme in place to ensure equity in the workplace, and have put in place skills development programmes to train engineers, technicians and artisans to meet our future need for skilled workers. Our employees receive required training on an ongoing basis.

For further information on our workforce and employment equity, refer to "Building a sustainable skills base" and "Transformation and social sustainability – Improving internal transformation" on pages 73 to 75 and 80 respectively tttt

## **Our business model** continued

#### Æ Procurement

Our procurement and supply chain management is led by the Chief Procurement Officer. We have adopted a centre-led approach to our procurement and supply chain management activities, with the policy framework and strategic sourcing being guided from the centre, whilst execution is managed at various sites. Project Sourcing provides specialised support to the new build projects, whilst Strategic Sourcing seeks to maximise total cost of ownership by placing key strategic contracts across our value chain. Special emphasis is placed on supplier development and localisation in line with shareholder aspirations of transforming the supply base whilst industrialising key supply sectors. Significant attention is given to minimising procurement risk by optimising governance across all procurement transactions.

During 2015/16, we placed a total of 2 892 contracts with I 656 suppliers. Our total procurement spend (including primary energy) amounted to R169.8 billion for the year.

### Corporate social investment and transformation

6

The Foundation administers our corporate social investment (CSI) activities. We are leveraging the capacity expansion programme to reduce unemployment, improve the country's skills pool, stimulate the local economy and increase economic equity by supporting broad-based black economic empowerment (B-BBEE).

We have been implementing DoE's Integrated National Electrification Programme in our licensed areas of supply since April 2001. Since commencement of our electrification programme in 1991, we have electrified more than 4.8 million households within our supply areas.



Learners from Monument Primary School in Ladysmith enjoy a walk as part of the Ingula Water Week Programme.

To successfully deliver on our mandate and corporate strategy, we need to ensure effective stakeholder management. Our objectives for stakeholder engagement are to ensure alignment and a collaborative approach amongst stakeholders on key strategic objectives. Our aim is to build enduring, trusting and value-adding relationships with our stakeholders.

The Board has delegated the management of stakeholder relationships to Exco, with oversight by the Social, Ethics and Sustainability Committee.

## **Our interaction with stakeholders**

We define our stakeholders as those groups ( that affect, and/or are affected by, our activities, products or services and associated performance. This includes people who are actively involved in our programmes and projects, and individuals and groups whose interests may be positively or negatively influenced due to project execution or completion. During the year, we engaged with the following stakeholder groups:



Our approach to stakeholder relations is guided by the principles of King III, to ensure that the legitimate needs, interests and material concerns of key stakeholders are identified and considered, and their expectations managed, both ethically and in compliance with best practice. All engagements are based on a commitment to adhere to the underlying principles of accountability, inclusivity, materiality, responsiveness and completeness.

We operate within a complex stakeholder landscape, consisting of multiple stakeholder groups with differing needs and objectives, who are engaged through multiple engagement agents and touch points. Engagements focus on sharing key information, improving new and existing relationships and creating partnerships to ensure support in addressing our challenges.

### We engage these stakeholders in the following ways:

• One-on-one meetings and teleconferencing • Interviews • Presentations and Q&A • Training interventions • Collective bargaining Partnerships with key stakeholders • Industry task teams • Development programmes • Reports to stakeholders • Special publications and articles • Social media • Eskom website • Media briefings • Site visits • Public hearings • Roadshows • Open days • Workshops • Employee engagements • Conferences and forums • Wellness campaigns

## Stakeholder engagement and material matters continued

- Engagements occur on a regular basis through various platforms, in many instances monthly or at least quarterly. Our engagements with stakeholders are carefully planned in terms of scope and the engagement approach, as well as the intended outcome of the interaction. The Stakeholder Relations Department sets the stakeholder engagement plan, and reports progress to Exco and Board on a quarterly basis.
- Some business units, such as Treasury, have direct access to their respective stakeholder groups and consistently engage with stakeholders as part of their investor relations activities. Similarly, Transmission Division, through the Top Customer Department, continually engages with key industrial customers, partly to contract demand reduction over critical hours, assisting in reducing load over critical times.
- No engagements were conducted specifically as part of the process of preparing the integrated report.

Stakeholder support is crucial for the successful implementation of our strategy. As a part of the strategy, there are critical areas on which we need to align with key stakeholders, in particular:

- We require continued collaboration with Government and government entities, as well as their support across areas of financial sustainability, environmental compliance, and decisions on energy mix, for future provision of electricity and enablement of economic growth
- Future price increases need to take into account both the needs of South African citizens and our financial health, with any required trade-offs being made explicitly and transparently
- In order to achieve a Generation plant performance ratio of 80:10:10 (80% energy availability, 10% planned maintenance and 10% unplanned maintenance) within five years, short-term adjustments will be necessary to ensure long-term improvement in electricity generation
   Stakeholders' understanding and support are
- Stakeholders understanding and support are needed to drive cost savings and increased productivity, particularly in manpower, procurement of primary energy, capital project execution and customer service

### Focus areas for future engagements

- Continue to engage with stakeholders on material matters affecting our business
- Persist with engagements with stakeholders to identify sustainable solutions towards municipal debt collection, including working with national and provincial stakeholders such as Cooperative Governance and Traditional Affairs (COGTA) and National Treasury, to manage the arrear debt and municipal financial recovery process
- Formation of a stakeholder panel, to feed into corporate decision-making in a way that is aligned to our business model
- We intend to perform stakeholder relationship assessments, to determine the status of each relationship, perform impact assessments and put in place response plans where needed

## Material stakeholder matters

Matters of concern to stakeholders are determined through extensive consultation with and consideration of issues raised by stakeholders. Material matters are those that are both of importance to stakeholders and that could have a substantial impact on our business, with the potential to significantly affect the achievement of our strategic objectives and consequently, our ability to create value.

We strive to address the impact of stakeholder matters on our ability to create value, within the context of our sustainability dimensions and risk management strategies, in our integrated report.

The majority of the material matters described in the 2015 integrated report remain relevant, even though the level of importance to stakeholders or impact on Eskom may have changed. Where items have increased in overall importance, it has been indicated with  $\uparrow$ , while a decrease in overall importance is denoted by  $\checkmark$ . Some new issues have been raised, while other issues have been combined where considered more meaningful.

Our Integrated Report Steering Committee assessed and prioritised the concerns identified through the stakeholder engagement process. The stakeholder materiality matrix that follows compares the importance to stakeholders of matters raised to the impact on Eskom.





The full list of matters raised by stakeholders, grouped according to our sustainability dimensions and indicating which matters were raised by which stakeholder groups, is available online as a fact sheet

We consider all matters raised by stakeholders, although not all have been addressed in this report. The following table sets out the material matters, found in the top right quadrant of the preceding stakeholder materiality matrix, together with an indication of our response thereto, the associated risks, as well as where in the integrated report the matter is discussed in more detail.

Our enterprise-level risks, with their associated risk rating, treatment strategy and relevant key performance indicators, are set out on pages 25 to 27

## Stakeholder engagement and material matters continued

	Material matter	Response	Associated risk	Further discussed in this report
	Regulatory environment and MYPD methodology, and certainty around the electricity price path	Engaging with various stakeholders on applications submitted to NERSA Engagements with NERSA to clarify methodology	Financial sustainability Electricity price increases and declining sales, and outstanding debt increasing	Financial sustainability – Update on revenue applications submitted to NERSA Page 95
	Financial performance and going concern status, considering Government financial support	Engaging with various stakeholders on measures to improve financial sustainability	Financial sustainability	Financial sustainability – CFC report; Financial results of operations Page 82; 92
	Liquidity position and cost management strategy	Sharing our liquidity management and cost savings strategies with a wide range of stakeholders	Liquidity Electricity price increases and declining sales, and outstanding debt increasing Lack of adequate skills	Financial sustainability – Financial results of operations; Liquidity Page 92; 96
	Funding plan and funding alternatives, combined with the impact of credit ratings downgrades	Engaging with financial markets and ratings agencies	Financial sustainability	Financial sustainability – Credit ratings and solvency; Funding activities Page 96; 97
	Impact of increased electricity prices on customers and the economy, coupled with the effect on Eskom of declining sales volumes	Engaging with various stakeholders prior to submitting a revenue or RCA application	Electricity price increases and declining sales, and outstanding debt increasing	Financial sustainability Page 91 Revenue and customer sustainability – Revenue and debtor management Page 40
	Arrear customer debt (mainly municipalities and Soweto) and customer disconnections	Regular engagements, particularly with National Treasury, COGTA and municipalities, on managing municipal arrear debt, and curtailing load during peak periods Installation of split/prepaid meters	Liquidity Electricity price increases and declining sales, and outstanding debt increasing	Revenue and customer sustainability – Revenue and debtor management Page 40
6	Security of supply and system capacity, given the impact of international sales/purchases, availability of coal, OCGT usage, plant breakdowns and emissions limitations, together with progress on installing new capacity and connection of IPPs to the grid	System status briefings and engagements with top customers, as well as Parliamentary presentations	Technical performance of the generating plant Network performance Inadequate supplies of primary energy New build programme risk	Operational sustainability Page 44 Sustainable asset creation – Delivering capacity expansion Page 56
6	Technical performance of Generation plant, including the maintenance backlog	System status briefings and engagements with top customers and suppliers	Technical performance of the generating plant	Operational sustainability – Generation performance Page 47
	New build project delays and the escalating cost to completion, including the impact of labour unrest	System status briefings and engagements with top customers and suppliers, financial markets and various Government departments, as well as Parliamentary presentations	New build programme risk Safety of the workplace Lack of adequate skills	Sustainable asset creation – Delivering capacity expansion Page 56
٢	Environmental performance, such as emissions, water use and contraventions, compromising our licence to operate	Engaging with DEA and Department of Water and Sanitation (DWS), as well as environmental groups, to address concerns	Environmental performance	Environmental and climate change sustainability – Reducing our environmental footprint Page 63

## **Our strategy**

## **Our strategic context**

Our overall strategic direction is aligned to DPE's Strategic Intent Statement, which has set the following five strategic objectives:

- Achieving and ensuring security and reliability of electricity supply
- Achieving and ensuring the financial sustainability of Eskom
- Reducing our carbon footprint
- Implementing cost containment measures
  - Supporting and aligning with Government's strategic initiatives, such as facilitating the introduction of IPPs, regional integration of the energy sector, driving industrialisation as well as the transformation of the economy and the procurement landscape

In addition, we have received guidance from the shareholder on a number of long-term objectives, which are addressed by our Corporate Plan:

- Clarify Eskom's role in long-term capacity development, as well as our role of single buyer, given increasing market liberalisation and the introduction of IPPs
- Investigate opportunities to move to a cleaner energy mix, given the potential impact of carbon taxes on the electricity price
- Accelerate the use of new technologies and innovation
  - Explore regional integration opportunities, specifically within the SADC region

Following the past three years of financial and operational challenges, our strategic context is influenced by a number of key developments. As mentioned earlier, declining or stagnant electricity sales in key segments are shaping the long-term outlook for the electricity sector. Industrial, mining and commercial sales are at or nearing a 15-year low, and customers are improving their energy efficiency and making their own generation decisions.

Recent operational and strategic uncertainty regarding our current coal fleet will require us to make critical decisions over the next year or two. Energy availability (EAF) has decreased from 82% in 2011/12 to 71% in 2015/16, but has started to show an improvement. A portion of the Generation fleet will reach the end of its design life over the next 10 to 15 years, requiring decisions about life extensions; our Generation fleet renewal strategy will address this concern. Furthermore, diesel costs for the year were much higher than planned, at R8.7 billion compared to a budgeted R2.9 billion, owing to increased OCGT usage to ease the constrained system; OCGT usage decreased significantly towards the end of the year.

 Our operating costs have been rising faster than the electricity price and revenue. Our coal costs, which account for approximately 30% of operating expenses, have been rising at 17% per year over the last six years, which is significantly higher than inflation. Our manpower costs also continued to rise at a rate significantly higher than that assumed in the MYPD 3 revenue application, largely driven by an increase in employee numbers.

Given the scale of our capital and operating spend, we are under social and industry pressure to build local capacity in the sector, by signing supplier development and localisation (SD&L) agreements and PPAs with IPPs to meet demand requirements and diversify our energy mix.

Our income statement and balance sheet are also under pressure – credit ratings downgrades have resulted in increased borrowing rates.

## Stabilise, re-energise, grow

The impact of the lower than requested MYPD 3 revenue determination required significant changes to the business, so we developed a new strategy to ensure our sustainability in a changing environment. The strategy was built on the Integrated Delivery Plan that outlined the key trade-offs and risks we would face, and the implications for our business model. As reported in our 2015 integrated report, we launched a Turnaround Plan in response to these challenges, which centred on the following stages:

- **Conduct distress recovery** during the past financial year through quick, high impact initiatives to stop the bleeding caused by the downturn in financial performance
- **Stabilise** the business by implementing sustainable performance enhancement initiatives over the next two financial years
- **Re-energise** the business over the medium term by redefining the business model and strategy, renewing our capabilities and culture, and driving a step change in performance
- Grow the business in the long term by leveraging improved capabilities to strengthen our position in the industry

In the distress recovery and stabilisation phases, we are focusing on core issues, such as plant performance, minimising the risk of load shedding, maintaining our liquidity position and improving financial performance.

## Strategic areas of focus

Our strategy aims to deliver an electricity price path that supports economic growth and improves our financial and business sustainability. We will no longer be a constraint to South Africa's growth and will deliver a stable electricity supply at a price that catalyses economic growth for the country.

Over the next three to five years, we will launch a set of strategic programmes that fall into six areas, which are aligned to the material matters discussed earlier.

## **Our strategy**

continued

- I. Ensure long-term revenue certainty
- 2. Increase our generation availability and capacity, and avoid load shedding
- 3. Optimise our capital portfolio through prioritisation based on our core business
- 4. Drive cost efficiencies to support a long-term electricity price path
- 5. Deliver a funding plan that leverages the full Eskom balance sheet
- 6. Streamline our governance to increase accountability across the business
- I. Ensure long-term revenue certainty

We need long-term revenue certainty and stability to ensure our financial sustainability and to reassure lenders that they will earn a return on their investment. To achieve this, we will apply for additional expenditure prudently incurred and revenue variances during past years of the MYPD 3 period, using the RCA mechanism. We will submit RCA applications for 2014/15 and 2015/16, being the second and third years of MYPD 3. Based on the principles and precedents set in the NERSA RCA decision for 2013/14, indications are the submissions will amount to approximately R19 billion and R22 billion respectively.

Once discussions with NERSA have been finalised, a decision will be made regarding the new revenue application. Our aspiration is to smooth the impact of potential price increases on the economy over a longer period, as opposed to creating shorter term price shocks.

- 2. Increase our generation availability and capacity, and avoid load shedding
- We will implement key initiatives to improve EAF to 80% by 2020/21, through improving maintenance effectiveness, with a maintenance target (planned and unplanned) of 11 500MW in summer and 8 500MW in winter, which is managed through Tetris, our flexible outage schedule optimisation tool. We will also roll out a programme to reduce boiler tube failures, and prioritise coal efficiency to reduce load losses and costs.
- We will deliver Medupi and Kusile according to schedule and Ingula within an accelerated schedule, and connect IPPs to the grid on schedule.

We will work to minimise load shedding, improve the maintenance schedule with planned maintenance of 4 500MW, use supply levers such as OCGTs prudently, and further implement integrated demand management solutions.

- 3. Optimise our capital portfolio through prioritisation based on our core business
  We will prioritise capital for Generation refurbishment and outages, new build and major environmental, Transmission and regulatory compliance investments.
- 4. Drive cost efficiencies to support a long-term electricity price path
- We aim to do this through lowering coal cost escalation to 8% to 12% per year; commercial

savings across all external spend areas; and optimising manpower costs, through a reduction in headcount to 36 768 by 2020/21, mainly through attrition, early retirements and possible voluntary separation packages. These savings will be offset by higher depreciation costs, created by capitalising about R300 billion in assets, as well as higher finance costs due to higher borrowing rates, growth in debt and lower interest being capitalised as assets are commercialised.

5. Deliver a funding plan that leverages the full Eskom balance sheet

Our strategy will stabilise and then optimise our financial ratios and obtain funding for strategic projects by delivering the overall funding plan, while strengthening key financial indicators, and by selling non-core assets.

6. Streamline our governance to increase accountability across the business Changes will be introduced to improve speed and autonomy, by driving large-scale capability building, combined with clear consequence management

where targets are not achieved.

A

In addition to the abovementioned programmes, we will ensure regulatory and legal compliance in order to maintain our licence to operate and promote a sustainable business, including N–I grid compliance and environmental compliance, as well as deliver on Government's strategic objectives by meeting current targets on transformation. IPPs and other key initiatives.

Achieving our targets is dependent on a number of clear enablers, such as effective stakeholder management, and reviewing and refining our operating model.

## Sustainability dimensions in support of our strategy

In order to give effect to our strategy and deliver on our mandate, we aim to ensure that the organisation is sustainable along eight distinct dimensions, as set out in our 2015 integrated report; these collectively aim to stabilise and sustain the business in the short, medium and long term. We remain focused on the core areas of financial sustainability, revenue and customer sustainability, operational sustainability and sustainable asset creation, supported by enablers such as human resources and stakeholder engagement.

Additional sustainability elements that will be covered in the strategy include the prioritisation of safety practices, consideration of our impact on the environment, and promotion of localisation of our suppliers. We will also seek further growth opportunities to mitigate the risks to financial sustainability over the short and medium term. These include demand stimulation, increasing access to growth across the country's borders and developing capacity in new generation technologies where feasible. We will seek growth opportunities in our non-regulated businesses through our subsidiary, Eskom Enterprises.



We are confronted by significant challenges along all of the core sustainability dimensions. As the dimensions are very closely integrated, any adverse shift in one dimension inadvertently influences another. This requires trade-offs between competing priorities in an appropriate manner – the need to do maintenance, manage financial constraints, reduce our environmental impact and ensure our sustainability in the longer term. We cannot do this on our own and we rely on partnerships with all stakeholders to help us succeed.

### Trade-offs between resources

As part of our normal business we have to make trade-offs between different resources. For instance, during the first half of the year we experienced significant capacity shortages. In order to balance and protect the power system, we applied demand management practices and operated OCGTs to reduce load shedding, but at great financial expense.

Implementation of the emissions reduction programme is impacted by financial and capacity constraints. Retrofit installations require outages of 120 to 150 days per unit, which will only be available once the operating reserve margin is adequate. If we fail to execute the programme as planned, we will be non-compliant with emission licences, an offence that could result in our licence to operate being revoked.

Government introduced the IPP programme to increase capacity in the electricity sector. However, the growing IPP capacity will impact our cost structures and could affect our business model and the sustainability of our operations.

Outstanding debt by municipalities continued to increase. Where municipalities renege on payment, disconnection of supply is the last resort; we need to consider the risks and impact on customers.

Our sustainability dimensions are aligned to the six capitals in the International <IR> Framework. Our sustainability dimensions are integrated and incorporate all aspects of our business and the value that we create over time. The table below depicts the link between the six capitals and our sustainability dimensions.

	Six capitals								
Sustainability dimensions	Financial	Manufactured	Intellectual	Human	Social and relationship	Natural			
Financial sustainability	Ľ								
Revenue and customer sustainability	<b>(</b>				<b>(3)</b>				
Operational sustainability		6	6			6			
Sustainable asset creation		0	0						
Environmental and climate change sustainability						۲			
Safety and security				۵					
Building a sustainable skills base			***	***					
Transformation and social sustainability				6	()				
Building a solid reputation					Ô				

## Integrating risk and resilience

Risk speaks to the effect of uncertainty on outcomes and therefore, successful risk management depends on clearly defined, time-based objectives. The aim is not to identify every risk facing an organisation, but to identify those that are most significant to its ability to achieve and realise its core business strategy and objectives supporting value creation and sustainability.

We have implemented a risk monitoring system to respond appropriately to all significant risks. Risk monitoring is done at departmental, regional, operating unit and subsidiary level, and is reported upwards to our centralised Risk and Resilience Department. Identified risks are consolidated into integrated risk reports and are reviewed by Exco and the Audit and Risk Committee (ARC), mainly focusing on Priority I risks, namely those risks where both the likelihood of occurrence and potential impact on our business are considered high. Risk treatment plans are in place and managed within our approved appetite and tolerance framework. The target risk ratings reflected later set out the rating in terms of our appetite and tolerance framework.

Our Board, through ARC, manages our risk and resilience in order to provide greater security for our employees, our customers and other stakeholders. They evaluate the risk landscape to determine the enterprise risk and business risk profiles. Enterprise risks reported to ARC are identified by divisions through a review of Priority I risks, based on criteria related to likelihood and impact of risks, and plotted on the Eskom Risk Matrix.

## **Enterprise resilience**

The enterprise level risks, plotted on the Eskom Risk Matrix based on their risk rating, are shown on page 27, together with the prior year and target risk ratings

An enterprise risk profile gives Exco and Board a robust and holistic **top-down view** of key risks facing our organisation. This makes it possible to manage those risks strategically, increasing the likelihood that our objectives will be achieved. Enterprise risks are one or a combination of the following:

- Risks emanating from external factors and/or enterprise events posing strategic challenges which may affect our ability to achieve our objectives; climate change is an example
- Risks associated with our ability to develop and execute strategy, achieve strategic objectives and build and protect value
- Business risks that occur across multiple divisions that, when integrated and aggregated, become significant and impact our objectives
- A single business risk may be material enough to impact on our objectives as a whole and as such may be reported as a corporate risk

The business risk profile gives Exco and Board an all-inclusive **bottom-up view** of key risks facing the divisions, and a view of the level of effectiveness in the management of those risks, in order to increase the likelihood that divisional and company objectives are achieved.



Our Enterprise Resilience Programme addresses those risks inherent to our operations that would have a significant consequence should they materialise. These generally are not listed as Priority I risks on the risk register because of the perceived adequacy of the controls and therefore their perceived low likelihood. These risks are addressed in two broad categories:

 Business continuity risks which relate to the continuity of critical products and services in the event of a disruption to the time-critical processes that deliver these, due to incidents involving Eskom's buildings, assets and equipment, IT and operational systems, technologies, human resources, or third party suppliers

 Disaster risks with a potentially significant impact on the country (people, the environment and the economy) at a national, provincial or local level. These risks by their nature require coordinated planning with the country's disaster structures, sector departments and related stakeholders. These risks may either be caused by Eskom or may impact Eskom Examples of disaster risks which could be caused by us are a nuclear incident, national blackout or severe supply/demand constraint. Disaster risks which would impact our operations are, for example, nation-wide industrial action; a cyber-attack or catastrophic system failure; a solar or geomagnetic storm; a national liquid fuel crisis or national drought; a pandemic; terrorism or political instability; and economic or financial collapse.

Our inherent risks require effective emergency preparedness, business continuity management and disaster readiness. These are being reviewed and enhanced at divisional, provincial and national level through the Enterprise Resilience Programme. Inherent risks are continuously reviewed with a particular focus on the effectiveness of our treatment plans. National disaster priorities have been allocated to specific Exco members as sponsors to oversee our readiness for such incidents, and to ensure coordinated planning with national structures. Provincial Resilience Teams are accountable for our capability to respond to disasters in an integrated manner at a provincial level, through coordinated planning with provincial disaster management structures.

2

(1)

Divisional executives are accountable for sitelevel emergency preparedness, the continuity of their critical business operations, and readiness of the division for identified disasters at a national, provincial and local level.

We are required to comply with the relevant provisions of the Disaster Management Act, 2002 and the associated National Disaster Management Framework, and are focusing on improving the processes around this requirement. Our integrated emergency response structures are in place at a national, provincial and divisional level, and we are enhancing these through implementing international good practices in incident command. National and provincial exercises are executed by the Risk and Resilience Department. We continue to address shortcomings identified; the improved response in our recent national blackout readiness exercise bears this out. We are also an active member of the National Disaster Management Advisory Forum.

## **Our enterprise-level risks**

The following table details the enterprise risks and provides the associated risk rating on the Eskom Risk Matrix, with a reference to the associated material matters, as well as the treatment strategy and the key performance indicators used to monitor performance.

Enterprise risk	Risk rating	Associated material matters	Treatment strategy	Key performance indicators
Financial sustainability				
<ol> <li>Lack of adequate price increases may impact financial sustainability, thereby affecting credit ratings and our ability to secure funding, as well as the cost of borrowing</li> </ol>	6E	Regulatory environment and electricity price path Financial performance and going concern Funding plan and alternatives	<ul> <li>Funding plan and funding strategy</li> <li>Insurance and risk financing strategy</li> <li>Capex optimisation process</li> <li>Stakeholder engagement</li> <li>Refer to note 5 in the annual financial statements for more information on our financial risk management policies</li> </ul>	<ul> <li>Financial ratios</li> <li>Credit metrics</li> </ul>
<ol> <li>Revenue shortfall and increasing primary energy costs, especially diesel, may affect liquidity, leading to insufficient funds being available to meet financial obligations, negatively impacting operations and the new build programme</li> </ol>	5E	Liquidity position and cost management strategy Arrear customer debt	<ul> <li>Funding plan and funding strategy</li> <li>Cost efficiency drive</li> <li>Regulatory strategy</li> </ul>	<ul> <li>Liquidity ratios</li> <li>Daily cash position</li> <li>Monthly cash flow forecast</li> <li>Cost savings achieved</li> </ul>
Revenue and customer sustaina	bility			
<ol> <li>Electricity price increases and supply constraints leading to declining sales, resulting in reduced revenue, whilst outstanding debt from municipalities and Soweto continues to increase</li> </ol>	5E	Regulatory environment and electricity price path Liquidity position and cost management strategy Arrear customer debt Impact of increased electricity prices and declining sales volumes	Electricity marketing strategy     Regulatory strategy     Demand forecasting     IDM programme     Load curtailment agreements     with large customers     Collection of outstanding     customer debt     Installation of split meters and     conversion to prepaid meters     Disconnection and load     curtailing of defaulting     municipalities	<ul> <li>Arrear debt as a percentage of revenue</li> <li>Average debtors days</li> <li>Top 20 defaulting municipalities</li> <li>Eskom KeyCare and Enhanced MaxiCare</li> <li>Demand reduction programmes</li> </ul>

## Integrating risk and resilience

continued

Enterprise risk	Risk rating	Associated material matters	Treatment strategy	Key performance indicators
Operational sustainability				
4. Technical performance of the generating plant, with constrained space for maintenance, thereby increasing the maintenance backlog and threatening security of electricity supply	5D	Security of supply and system capacity Technical performance of Generation plant	<ul> <li>Generation Sustainability Strategy</li> <li>Generation fleet renewal strategy</li> <li>Asset management strategies</li> </ul>	<ul> <li>EAF</li> <li>PCLF</li> <li>UCLF</li> <li>Maintenance backlog</li> </ul>
5. Network performance may be impaired, leading to the loss of supply to customers. Contributing factors are insufficient capital investment in network strengthening and refurbishment due to financial constraints; theft of electricity and equipment; ageing network plant; equipment failure; and network unavailability. Delayed grid connection of IPPs adds to the risk	5D	Security of supply and system capacity	<ul> <li>Asset management strategies</li> <li>Security strategy</li> <li>Strategic framework for IPP integration</li> </ul>	<ul> <li>System minutes lost for events</li> <li>I minute</li> <li>SAIDI</li> <li>SAIFI</li> <li>IPPs connected to the grid</li> <li>Deemed energy payments</li> </ul>
6. Inadequate supplies of primary energy (coal, liquid fuel and water), in terms of either volumes or quality, may impact security of supply. This is exacerbated by the lack of funding allocated for recapitalisation required at cost-plus mines	5E	Security of supply and system capacity	<ul> <li>Primary energy sourcing and pricing strategies</li> <li>Water strategy</li> <li>Conversion of OCGTs to dual fuel (diesel and gas)</li> </ul>	<ul> <li>Coal stock days</li> <li>Water consumption</li> </ul>
Sustainable asset creation			1	
7. New build programme risk such as schedule delays due to industrial action, safety incidents, contractor performance and skills, as well as lack of funds and project cost escalations, could place further pressure on the constrained power system. The risk is exacerbated by late capacity allocations under IRP 2010	5D	Security of supply and system capacity New build project delays and the escalating cost to completion	<ul> <li>Monitoring by the Board Recovery and Build Programme Review Committee</li> <li>Medupi Improvement Centre, and commercial and contract management</li> <li>Kusile contractor and schedule management</li> <li>Integrated mega project risk management</li> <li>Monitoring labour environment</li> <li>Strike prevention mechanisms</li> <li>Environmental scanning</li> </ul>	<ul> <li>Generation capacity installed</li> <li>Transmission lines and transmission capacity installed</li> <li>Generation expansion capacity milestones (Medupi, Kusile and Ingula)</li> </ul>
Environmental and climate chan	ige sustaina	bility		
8. Environmental performance pertaining to emissions and water usage compromising our reputation and licence to operate	6E	Environmental performance compromising our licence to operate	<ul> <li>Environmental compliance programme</li> <li>Air quality, water and waste standards</li> <li>Climate change strategy</li> <li>Stakeholder management and advocacy strategy</li> </ul>	<ul> <li>Specific water usage</li> <li>Relative particulate emissions</li> <li>Operational Health Dashboard environmental</li> </ul>

	Enterprise risk	Risk rating	Associated material matters	Treatment strategy	Key performance indicators
	Safety and security				
	9. Safety of the workplace, employees, contractors and the public due to exposure to our product or operations	5E	New build project delays and the escalating cost to completion	<ul> <li>Safety strategy, including our Zero Harm initiative, taking account of our life-saving rules</li> <li>Vehicle safety plan</li> <li>Safety inspections</li> <li>Public engagements</li> <li>Security strategy, including integrated crime-prevention plan and security drive to protect employees, contractors and infrastructure</li> </ul>	<ul> <li>Number of fatalities</li> <li>Near misses</li> <li>Lost-time incidents</li> <li>LTIR</li> </ul>
***	Building a sustainable skills base				
	<ol> <li>Lack of adequate skills to support Eskom's technology- intensive operations in certain areas of the business, either through shortage of skills or inability to retain skills</li> </ol>	4D	Liquidity position and cost management strategy New build project delays and the escalating cost to completion	<ul> <li>Human resources strategy</li> <li>Succession planning</li> <li>Skills development initiatives and skills transfer</li> <li>Training through Eskom Academy of Learning and learner programmes</li> </ul>	<ul> <li>Number of technical learners</li> <li>Learner throughput</li> <li>Training spend as a percentage of gross employee benefits</li> </ul>

The diagrams below compare the current risk ratings of the abovementioned enterprise risks to the previous year end, as well as to the target ratings.

## Enterprise risks at 31 March 2016



## Enterprise risks at 31 March 2015



(I) Risk rating

Our key risks continue to relate to our ability to sustain operations and our financial performance. We face 🔞 critical challenges regarding poor quality of coal, use of diesel, the current state of our generating assets, delays in commissioning new plant, performance of maintenance and adequacy of a skilled workforce.

## **Our group structure**

## Legal structure

Our head office is based in Johannesburg, and we have operations across South Africa. We maintain a small office in London, primarily for quality control of equipment being manufactured for the capacity expansion programme; the office is in the process of being closed down. Furthermore, Eskom Enterprises SOC Ltd (EE) has a subsidiary in Uganda.

#### Our group structure (only major operating subsidiaries are shown)



The Eskom group consists of the Eskom business and a number of operating subsidiaries (wholly owned, unless otherwise indicated), including:

## **Eskom Enterprises SOC Ltd group**

EE functions as an investment holding company. Through its subsidiary, Eskom Rotek Industries SOC Ltd (ERI), it provides lifecycle and technical support, plant maintenance and support for the capacity expansion programme to Eskom's line divisions. ERI was formed on 26 May 2015 through the amalgamation of Rotek Industries SOC Ltd and Roshcon SOC Ltd.

Eskom Uganda Limited operates in Uganda; it undertakes the operation and maintenance of two hydroelectric power generating stations at Nalubaale and Kiira in Uganda under a 20-year concession arrangement with Uganda Electricity Generation Company Limited, which is linked to a power purchase agreement concluded with Uganda Electricity Transmission Company Limited. The concession arrangement ends in December 2023.

Pebble Bed Modular Reactor SOC Ltd (PBMR) created intellectual property (IP) over the period of its operation. No additional expenditure was incurred to enhance the IP in recent years. PBMR is currently in a state of care and maintenance in order to preserve the IP created.

EE holds a 75% interest in South Dunes Coal Terminal Company SOC Ltd (SDCT), of which 25% is held directly and 50% indirectly through Golang Coal SOC Ltd (Golang). SDCT participated in the Phase V expansion of the Richards Bay Coal Terminal (RBCT), the single largest export coal terminal in the world. Participation in RBCT entitles its shareholders the right to export coal. SDCT reduced its shareholding in RBCT from 6.68% to 4.45%; Eskom's effective export entitlement has not changed however, due to the increased shareholding in SDCT.

## Escap SOC Ltd

Eskom's wholly owned insurance captive company omanages and insures the business risk of Eskom and our subsidiaries, excluding nuclear and aviation liabilities.

## Eskom Finance Company SOC Ltd (EFC)

EFC was established in 1990 to enable Eskom's employees to have access to home loan finance whilst optimising home ownership costs for both Eskom and its employees. DPE and the Investment and Finance Committee have mandated the disposal of EFC. However, consultation with organised labour and managerial staff is required before the Request for Proposal can be released to the market. It has been classified as held-for-sale in the balance sheet, as it meets the IFRS requirements.

## Eskom Development Foundation NPC

The Foundation is a non-profit company that manages our corporate social investment in support of our transformation objective. The Foundation supports socio-economic development programmes by targeting primarily communities where we operate; these include enterprise development in the economic sector, and in the social sector, education, health care, energy and the environment, rural school infrastructure development and welfare.

## **Eskom Pension and Provident Fund**

The Eskom Pension and Provident Fund (EPPF) is a defined benefit pension fund that is registered as a self-administered pension fund in terms of the Pension Funds Act, 1956 and approved as a pension fund in terms of the Income Tax Act, 1962. The EPPF is the second largest pension fund in the country in terms of assets, with a market value of over R118 billion at 31 March 2015. It provides retirement, withdrawal and disability benefits to its members, as well as death benefits for its in-service members, pensioners and deferred pensioners, which are paid to their qualifying beneficiaries. The EPPF had 45 392 in-service members, 33 401 pensioners and 1 710 suspended pensioners at 31 March 2015.

The EPPF is an independent legal entity, governed by a Board of Trustees, and is not part of the Eskom group. 🚳 However, the EPPF plays a key role in creating value for Eskom's employees, both current and retired.

## **Operating structure**

Our operating structure comprises line functions that operate the business, service functions that service those operations and strategic functions that develop the enterprise. Members of Exco are assigned to take accountability for each of the areas.

Line functions	Service functions	Strategic functions		
Generation Transmission Distribution Customer Services Group Capital	Group Finance Human Resources Group Commercial Group Technology Group IT	Group Sustainability Strategy and Risk Management Corporate Affairs Regulation and Legal		

For Exco portfolios, refer to pages 32 to 33

## **Contribution to financial performance**

As mentioned earlier, the Eskom group consists of the Eskom business and a number of operating subsidiaries. Each of the companies contributes to the financial performance and position as follows, with the Eskom business being by far the most significant.

R million	Eskom company	EE group	Escap	EFC	Foundation	Eliminations and other	Eskom group
Revenue	163 395	8 678	3 162	818	-	(12 658)	163 395
Operating EBITDA	30 088	340	64	159	3	(264)	31 967
Net profit after tax	2 602	249	I 532	119	-	115	4 617
Total assets	654 180	6 902	13 145	8 870	77	(22 489)	660 685
Total liabilities	481 866	2 502	10 185	8 058	77	(22 566)	480 122
Capital expenditure <sup>1</sup>	59 472	373	-	-	-	(361)	59 484

1. The company and group figures include DoE-funded capital expenditure of R2.2 billion.

For our segment disclosure, refer to note 7 in the annual financial statements



Ingula is connected to the national grid by 400kV Transmission lines. (Photo: Janet du Plooy)

## **Board of Directors** at 31 March 2016



## **Executive Management Committee** at 31 March 2016



B

Further information, such as the qualifications and significant directorships of members of Exco, is provided in a fact sheet at the back of this report

Ages are shown at 31 March 2016. Ms Elsie Pule was appointed as Group Executive: Human Resources in May 2016. **P&G** People and Governance Committee



SES Social, Ethics and Sustainability Committee

Executive Management Committee: Gender and racial equity

## **Operating performance**

- 35 Chief Executive's review

- 44 Operational sustainability 55 Sustainable asset creation
- sustainability 70 Safety and security
- 73 Building a sustainable skills base76 Transformation and social sustainability



## **Chief Executive's review**



## Success for Eskom means success for the whole of South Africa and a better life for all

6 Eskom is on a sound operational and financial footing compared to a year ago. The Board and Government's confirmation of key leadership appointments is welcomed, and most executive appointments have been finalised. A new Exco structure was approved A and new Exco committees launched, to drive accountability and better manage the business.

With new leadership and intensified staff engagements, we have stabilised the organisation. Despite the challenges we face, we continue making progress in the technical and operational areas of the business. Through our robust improvement plan, we have risen to the challenge of completing necessary maintenance of our ageing power stations, while delivering on our new build projects, which will add capacity to the grid in the future.

ిం

M

- The commissioning of Medupi Unit 6 was a momentous occasion, showcasing our commitment to fulfilling our mandate of ensuring a reliable electricity supply to South Africa and enabling economic growth. With the help of our investors, we are creating the bright future that South Africa 6 deserves, through social, economic and regional development. Our investment in generation and transmission infrastructure is a catalyst for economic growth and development.
- M Another significant achievement is the synchronisation of Units 3 and 4 of Ingula in March 2016, ahead of the scheduled target in the 2016/17 financial year. The Sere Wind Farm continues to add capacity to the grid, while diversifying our energy mix.
- 60 Plant availability improved from a monthly average of 67.84% in April 2015 to 74.21% in March 2016. As a result, the reliance on OCGTs reduced considerably, with the load factor well below 6% during the last quarter of the year. The likelihood of load shedding during the winter is very low.

Following the success of our maintenance plan, we have delivered on our focus areas for the past year, with no load shedding since 8 August 2015, other than 2 hours and 20 minutes on 14 September 2015

and load curtailment of key customers on 9 October 2015. Our operating challenges are being addressed by the addition of new capacity and the drive to improve plant availability (EAF) to 80% by 2020/21. Generation has developed risk-based criteria for prioritising capital allocation for outages, maintenance and refurbishment under our current constraints.

The group achieved a net profit after tax of 😡 R4.6 billion for the year ended 31 March 2016 (March 2015: R0.2 billion, restated), with operating EBITDA (earnings before interest, taxation, depreciation and amortisation and before fair value adjustments on financial instruments and embedded derivatives) of R32 billion increasing significantly (March 2015: R23.3 billion). The operating EBITDA margin improved to 19.77% (March 2015: 15.90%). Financial performance improved against the previous year, and most indices trended positively, due to improved operating results, as well as the conversion to equity of the subordinated Government loan and the equity injection of R23 billion. Operating results improved due to the 12.69% electricity price increase granted by NERSA, coupled with stringent cost containment measures.

1

The Chief Financial Officer's report on pages 82 to 83 further discusses our financial performance

However, safety performance remains a concern, particularly in light of the number of fatalities and serious injuries suffered by employees and contractors.

## **Revenue and customer sustainability**

Eskom KeyCare and Top Customer KeyCare scores have declined, although remaining above target. Enhanced MaxiCare perception survey scores remained above target, but declined significantly across all segments towards the end of the year. CustomerCare scores improved over the last quarter and exceeded target.

Total municipal arrear debt (including interest) has increased further to R6 billion at 31 March 2016 (March 2015: R5 billion). The top 20 defaulting municipalities contributed R4.8 billion at 31 March 2016, constituting 80% of total municipal arrear debt. Soweto arrear debt (excluding interest) increased to R4.7 billion at year end (March 2015: R4 billion).

The rollout of smart prepaid meters is progressing well, with 17 527 conventional meters in Soweto and 3 026 in Kagiso being converted to prepaid at 31 March 2016. A total of 5 992 smart meters were installed in Sandton and Midrand, while the conversion to prepaid will resume in July 2016.

## Chief Executive's review

continued

## Operational sustainability

While the annual average performance of Generation has been lower than the target of 74.10%, with EAF of 71.07% for the year (March 2015: 73.73%), there has been a turnaround in the Generation performance during the last six months, with plant availability showing steady improvement. The target was exceeded in February and March 2016, and EAF averaged 73.51% in the fourth quarter. Unplanned breakdowns improved from an average of 16.15% in April 2015 to 11.48% in March 2016, due to a focus on reducing partial load losses, as well as previous planned maintenance starting to bear fruit.

The system status improved due to the commissioning of Medupi Unit 6, coupled with lower demand, improvement in plant performance and increased production from IPPs. Strategies are in place to address system constraints; further easing is expected as Ingula, Medupi and Kusile are progressively commissioned, coupled with further increased production from IPPs.

Coal stock at 58 days (March 2015: 51 days) was higher than the target of 37 days, mainly due to excess stock at Medupi and Lethabo Power Stations; normalised coal stock days are 36. A total of 13.6Mt coal was transported by rail (March 2015: 12.6Mt), achieving the target for the year, as a result of various interventions implemented at Grootvlei, Majuba and Tutuka Power Stations.

It is important to note that we are no longer under the threat of a coal cliff over the next five years. We have identified coal sources for all of our power stations and have put in place a plan to establish coal contracts to minimise coal cost escalations.

Transmission achieved a best ever reported performance for system minutes lost <1 of 2.41 (March 2015: 2.85) against a target of 3.80. Although the system average interruption frequency index (SAIFI) and system average interruption duration index (SAIDI) performed better than target, network performance shows a declining trend. Nevertheless, Transmission and Distribution line losses performed better than target.

Spending on OCGTs reduced from almost R1.2 billion in April 2015 to R25 million in March 2016. A total of R8.7 billion was spent producing 3 936GWh from OCGTs for the year (March 2015: R9.5 billion spent producing 3 709GWh). Furthermore, we purchased 9 033GWh from IPPs at a cost of R15.4 billion (March 2015: 6 022GWh at a cost of R9.5 billion), at an average cost of I71c/kWh.

At 31 March 2016, total IPP capacity of 3 392MW was available to the system, including renewable IPPs of 2 145MW, the Dedisa IPP peaker of 335MW and short-term IPPs of 912MW. The 670MW Avon

peaking plant will be commissioned during 2016/17, together with an additional 1 030MW under the RE-IPP Programme. Renewable IPPs delivered an average load factor of 30.7% during the year.

Demand savings of 214.9MW for the year (March 2015: 171.5MW) were recorded against a target of 187MW, achieved in the industrial, residential and commercial sectors. A total of 1 696 120 CFLs were installed in KwaZulu-Natal, Eastern Cape, Western Cape and the Free State by 31 March 2016.

m

## Sustainable asset creation

Medupi Unit 6 has been feeding power into the grid since commercial operation on 23 August 2015; various performance and optimisation tests have since been completed. Ingula Units 3 and 4 were synchronised to the grid on 3 March and 25 March 2016 respectively. A total of 345.8km transmission lines were installed against a target of 341km, and 2 435MVA transmission transformer capacity installed and commissioned against a target of 2 120MVA.

Medupi Unit 5 has achieved various milestones in support of commercial operation by the first half of 2018. Satisfactory progress is maintained on Units 4 to 1. The labour situation at Medupi is stable, with no indications of possible disruptions.

Kusile continues to achieve set milestones, on the path to commercial operation of Unit I by the second half of 2018. Good progress is also being made on Units 2 to 6. Scarcity of jobs nationally and in Mpumalanga Province creates instability in communities surrounding Kusile. The continual emergence of disgruntled groups has led to disruption to transport services to and from site; the N4 was closed temporarily on II April 2016.

Commercial operation of Ingula Units 3 and 4 is planned for the 2016/17 financial year, with commercial operation of Units 2 and I targeted for the second half of 2017. The demobilisation of local labour is being managed through engagement with various stakeholders to avoid negative outcomes.

We received correspondence from DoE in December 2015 reconfirming our role as owner and operator of the nuclear new build fleet. The Board provided its support to continue critical nuclear programme development activities.

The most advanced of our gas strategy initiatives is the conversion of the OCGTs to dual fuel. The conversion is expected to be completed during the upcoming major outage windows at Ankerlig and Gourikwa during 2017. Gas sourcing activities are under way.

## Environmental and climate change sustainability

Water performance of  $1.44\ell/kWhSO$  for the year is worse than the  $1.38\ell/kWhSO$  achieved in the previous year, and the annual target of  $1.39\ell/kWhSO$ . Particulate emissions performance was 0.36kg/MWhSO for the year, slightly better than 0.37kg/MWhSO in the previous year but worse than the annual target of 0.35kg/MWhSO.

Sere Wind Farm achieved energy production of 311GWh for the year, at a load factor of 34.10%, with average annual availability of 97.67%. Under our solar photovoltaic (PV) programme at existing administration buildings, power stations and transmission substations, the 400kWp photovoltaic facility at Rosherville was transferred to commercial operation in September 2015; the project was completed within budget. The solar PV projects at the Bellville and Sunilaws offices, with total capacity of 360kWp for own consumption, were transferred to commercial operation during March 2016.

We have adopted a phased and prioritised approach to emissions reduction, considering the remaining life of power stations and the impact of our coal-fired power stations on ambient air quality, although capex required to implement the 2020 Minimum Emissions Standards is significant, and would require an estimated additional 10% increase in the electricity price.

## Other sustainability dimensions

Despite our commitment to safety, we sadly experienced an increase in both employee and contractor fatalities. Four employee fatalities were recorded during the year (March 2015: three), three due to motor vehicle accidents and one due to an electrical contact incident. We also suffered 13 contractor fatalities during the year (March 2015: seven). Despite this, LTIR of 0.29 (March 2015: 0.36) met the target of 0.31.

The Eskom group headcount at 31 March 2016 is 47 978 (March 2015: 46 490), consisting of 42 767 Eskom employees and 5 211 Eskom Rotek Industries employees. Neither racial nor gender employment equity targets were achieved due to the limited opportunities to recruit, although the disability target has been exceeded.

Our group's attributable procurement spend with B-BBEE compliant vendors and black womenowned vendors exceeded the target for the year. Procurement spend remains below the annual target for black-owned vendors, black youthowned vendors, companies owned by people with disabilities, qualifying small enterprises and exempted micro enterprises, as the majority of these have low value contracts, and spend with these suppliers is small relative to our total spend. We committed R103.6 million to corporate social investment during the year (March 2015: R115.5 million), impacting 302 736 beneficiaries (March 2015: 323 882). We achieved a total of 158 016 electrification connections for the year (March 2015: 159 853), albeit below the 194 374 target.

## Outlook

The delivery of the outcomes targeted in the Corporate Plan will be supported by our ability to stimulate long-term demand; streamline our governance to deliver operational and cost-efficiency initiatives as well as increased accountability across the business; and delivering a R327 billion funding plan by increasing international borrowing and balance sheet optimisation initiatives.

By connecting IPPs up to bid window 4.5 and delivering on the new build programme, while also improving the performance of the existing generation fleet, South Africa will soon have sufficient power generation capacity to meet future demand and stimulate economic growth.

We have optimised our capital portfolio to meet an affordable spend level of R339 billion over the next five years. The portfolio of prioritised projects has been optimised to achieve N-I grid compliance and Environmental Minimum Standards. Furthermore, 💿 the expansion in generating capacity, both our own and from IPPs, requires significant investment in our transmission network. Based on available funds, we anticipate that it will take seven years to resolve all network constraints and achieve N-I grid compliance, to maintain levels of redundancy required by the Grid Code. We have also prioritised new build completion, critical maintenance of existing assets and regulatory compliance, while also meeting Government's specific strategic objectives, such as IPP connections and electrification.

We will optimise our operating costs over the next five years, ensuring that primary energy cost escalation for own production stabilises at 8% to 12% a year, while focusing on reducing external spend on other major commodities by at least 10%. We will allocate resources to ensure that we deliver on our mandate, considering our funding envelope and market constraints.

Our efficiency and financial targets can be achieved only through a comprehensive effort that also optimises our manpower base. We will optimise manpower costs by reducing company employee numbers to 36 768 by 2020/21. We will employ a number of levers to meet the targets, mainly focusing on attrition, early retirement and possible voluntary separation packages.

## **Chief Executive's review**

continued

## Conclusion

We will continue with a rigorous programme of 0 planned maintenance without implementing load shedding, while also minimising the use of OCGTs. Our Generation Sustainability Strategy aims for 80% plant availability, 10% planned maintenance and 10% unplanned maintenance over the medium term. We manage scheduled maintenance through the Tetris planning tool, by scheduling outages based on forecast demand and maintenance requirements. We have a strict maintenance target – both planned and unplanned - of 11 500MW in summer and 8 500MW in winter. Furthermore, we remain focused on delivering our capital expansion programme on schedule, which will go a long way towards meeting electricity demand and alleviating the need for load shedding. We will continue to utilise our new build projects as a catalyst to support Government's initiative to create jobs, alleviate poverty and build skills.

> Going forward, we remain focused on minimising load shedding, increasing maintenance, accelerating

> the new build programme, energising our workforce,

and implementing key safety improvements, as well as operational efficiencies and cost containment measures. In carrying out our quest for excellence,

we must pursue our value of Zero Harm to put an

end to injuries and fatalities.

It is my pleasure to acknowledge the hard work of all Eskom employees. We have turned a corner on the road to sustainable and reliable energy generation in South Africa, and this is due, in large part, to their commitment and hard work.

We are on a journey to stabilise and re-energise our business for longer term sustainability and growth. We approach the coming year with optimism and we are setting aggressive goals for progress. We need all our people to commit to our strategy and roll up their sleeves to make it happen through disciplined execution. Through one ordinary act after another, we can overcome our challenges and seize the many opportunities unique to this era. Let us work hard to create value for our customers and for society, thereby ensuring success and a better life for all.

Brian Molefe Group Chief Executive



President Jacob Zuma recently paid a visit to our head office at Megawatt Park.

## **Operating performance**



#### 

Increased focus by contact centres on servi levels contributed to an improvement in CustomerCare scores, which improved markedly over the last quarter

## PROGRESS

- Eskom KeyCare and Enhanced MaxiCare scores exceeded target due to continual customer engagements and customer service improvement initiatives, although declining over the last quarter of the year
- Payment agreements have been signed with 60 defaulting municipalities, including 19 of the top 20 defaulters
- Nine defaulting municipalities settled their arrears in full during December 2015; another 16 municipalities, who did not have payment arrangements in place, settled their arrears in full during March 2016
- Both Transmission and Distribution energy losses are better than target

## O CHALLENGES

- IT system challenges and insufficient resources are impacting call centre servic levels
- Eighteen new defaulting municipalities, reflecting no arrears in February 2016, are now overdue
- Ongoing management of energy protection
   and revenue losses

## 👎 LOWLIGHTS

- Total municipal arrear debt increased significantly since prior year, mainly in the Free State municipalities
- Residential debt, particularly Soweto, continues to escalate
- Numerous instances of load shedding during the first four months of the year negatively impacted all customer segments

## Revenue and customer sustainability continued

We aspire to consistently satisfy our customers with the level of service they receive. In order to measure this, we focus on customer service performance using a number of metrics, as well as revenue and debtor management, primarily through the average number of debtors days and arrear debt as percentage of revenue.

## Looking back on 2015

Last year, we said we would accelerate debt collection in the municipal, residential, and other large and small customer segments, in order to improve our financial sustainability. Debt collection in the municipal and residential segments remains a significant challenge, although the rollout of smart prepaid meters is assisting in improving revenue recovery.

Management of energy protection and revenue losses, through Operation Khanyisa and other initiatives, is ongoing.

## **Customer service performance**

We employ a range of statistical perception and interaction-based customer surveys, conducted by independent research organisations, to measure our customers' satisfaction with our service:

- Eskom KeyCare and Top Customer KeyCare measure the satisfaction of our large industrial customers. Top Customer KeyCare index measures those areas over which the Top Customer Department has direct control
- Enhanced MaxiCare evaluates the satisfaction of our residential, small and medium-sized customers on a perception, rather than transactional basis
- CustomerCare assesses the satisfaction of customers on a transactional basis, based on recent interaction with our contact centres and the resolution of service requests

Measure and unit	Target	Target	Target	Actual	Actual	Actual	Target
	2020/21	2016/17	2015/16	2015/16	2014/15	2013/14	met?
Eskom KeyCare, index <sup>sc</sup> Top Customer KeyCare, index	104.0	104.0	102.0 104.0	104.3 107.2	108.7 110.5	108.7 110.8	•
Enhanced MaxiCare, index <sup>sc</sup>	93.7	93.7	93.7	96.5	99.8	92.7	•
CustomerCare, index	8.2	8.2	8.2	8.4	8.0	8.3	

Eskom KeyCare and Top Customer KeyCare showed a decline over the year, largely due to issues surrounding quality of supply; reliability and availability of supply; and Eskom not adhering to the notified dates and times of planned outages. Customers requested that planned maintenance schedules be made available in advance, and urged us to share more of our long-term plans as well as improve our communication. The price of electricity remains a major concern to customers.

Top Customer account executives continue to engage with customers to maintain relationships, share important information and detect servicerelated issues.

The Enhanced MaxiCare perception survey score declined across all segments. The most common complaints relate to how well we inform customers about planned electricity interruptions, and how well we keep to the notified dates and times; and the number of power surges and voltage dips in the electricity supply impacting customers. The decline may have been influenced by customer reaction to the MYPD RCA application, and not by actual service delivery quality. MaxiCare has proven in the past to be sensitive to major issues such as price increases and load shedding, even when core service delivery performance and quality did not decline. CustomerCare scores ended the year above target. Increased focus by our contact centres on service levels contributed to the improvement, as well as the fact that queries which are resolved immediately now form part of the study.

## **Revenue and debtor management**

We make every effort to ensure that customers pay their accounts on time. We constantly monitor payments and are willing to enter into reasonable payment arrangements that take into account defaulting customers' circumstances. Considerable effort also goes into building stronger relationships with these customers. Disconnection of supply remains a last resort.

Customers are increasingly experiencing adverse market conditions, negatively impacting revenue and debtors days. Furthermore, three key industrial customers are under business rescue.

## Key debt management indicators at 31 March 2016

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Arrear debt as % of revenue, %	1.09	1.22	1.68	1.14	2.17	1.10	•
Debtors days – municipalities, average debtors days²	61.58	60.99	n/a	42.93	47.58	32.67	
Debtors days – large power top customers excluding disputes, average debtors days	15.18	15.32	14.50	15.51	16.84	14.53	•
Debtors days – other large power users (<100GWh p.a.), average debtors days	16.55	16.55	16.50	16.24	17.02	16.85	•
Debtors days – small power users (excluding Soweto), average debtors days	42.83	47.70	46.00	48.24	49.06	50.17	

I. Debtors days are based on amounts billed, and therefore shown before accounting adjustments relating to IAS 18.

2. No specific target was set for the 2015/16 year, as the focus was on managing overdue debt.

We continue to apply the IAS 18 principle of not recognising revenue if it is deemed not collectible at the date of sale, although we continue to bill customers. This resulted in external revenue and debtors of R1.5 billion not being recognised during 2015/16, and R2.1 billion cumulatively.

## Arrear debt

Arrear debt refers only to overdue amounts, excluding interest, and not the total amount due.

Total municipal arrear debt (including interest) at 31 March 2016 has increased to R6 billion, compared to R5 billion at 31 March 2015. The top 20 defaulting municipalities contributed R4.8 billion to municipal arrear debt, or approximately 80% of the total arrears. Furthermore, 82% of the municipal arrear debt is concentrated in the Free State, Mpumalanga and North West municipalities, contributing 47%, 24% and 11% respectively. At year end, 11 of the top 20 defaulting municipalities had total overdue debt greater than R100 million each.

#### Municipal and Soweto arrear debt at 31 March 2016

R million	Actual 2015/16	Actual 2014/15	Actual 2013/14
Municipal debt			
Total municipal debt (including interest)	11 325	9 849	6 928
Municipal arrear debt (>15 days)	6 005	4 953	2 593
Percentage arrear debt to total debt	53%	50%	37%
Soweto debt		^	
Total Soweto debt (excluding interest)	4 746	4 182	3 622
Soweto arrear debt (>30 days)	4 678	4 022	3 442
Average Soweto payment level	18%	16%	16%

We announced during April 2015 that we had notified the top 20 defaulting municipalities across the country that we would be interrupting their bulk electricity supply, should they not settle their accounts or make payment arrangements by 5 June 2015, as we could no longer continue supplying electricity without receiving payment in return. To date, we have signed 60 payment agreements with defaulting municipalities, therefore they will not have their bulk electricity supply interrupted; adherence to these agreements is closely monitored. Six payment arrangements have been fulfilled. Of the 54 remaining, only eight are being honoured and six partially honoured. Forty payment arrangements are not being honoured.

Of the top 20 defaulting municipalities, 19 have signed payment agreements, although only three

of those are partially honouring their agreements. None of the Free State municipalities are servicing their payment arrangements; the top three accounts account for more than R2.3 billion of the total outstanding debt. We are in litigation with two Free State municipalities; there is thus no urgency to settle overdue debt. Provincial Treasury is assisting in negotiating new payment arrangements.

In order to manage the problem, we enforce our revenue management policy and procedures, such as issuing disconnection letters, and conform to the relevant legal and regulatory requirements (such as PFMA, MFMA and PAJA) should no corrective action be taken. We may have to reconsider load management interventions in light of the increasing arrear municipal debt and numerous defaults against payment arrangements.

## Revenue and customer sustainability continued



We lose a significant amount of revenue due to illegal connections and ghost vending. Operation Khanyisa promotes the legal use of electricity by customers.

We have issued notices of intent to start the PAJA process to 52 defaulting municipalities. Four municipalities in the Eastern Cape were switched off on 22 December 2015 and only reconnected after agreement was reached on formalising their payment arrangements; a further five municipalities in the Northern Cape were temporarily disconnected on 29 January 2016. This was followed by interministerial interactions with a view to working with the municipalities to develop sustainable payment arrangements. Follow-up sessions were held with these municipalities and Provincial COGTA, and payment arrangements proposed. However, very few of these municipalities have signed these new agreements.

The interruption of supply is the initial step to ensure payment of overdue accounts. Disconnection of supply remains the last resort, but where municipalities renege on payment, we will initiate disconnection of the electricity supply in line with the PAJA process, until the debt is paid in full. Nevertheless, we continue to engage on this issue with all municipalities, as well as local and national government stakeholders, such as Provincial Premiers, National and Provincial Treasury and COGTA, to find amicable solutions for electricity payment defaults. Municipalities have been requested to honour their current accounts first and then settle arrears. National Treasury indicated that it will continue to withhold the equitable share of the defaulting municipalities.

### **Residential revenue management**

In Gauteng, we have embarked on an Eskom Operational Efficiency Service Level Improvement Programme (EOESLIP, previously branded Switch Ova!) focusing mainly on Soweto, Kagiso and other problematic areas, as well as Midrand and Sandton. The programme comprises several initiatives:

- Decreasing energy losses by removing illegal connections, conducting meter audits, rectifying faulty or tampered meters and curbing ghost vending by introducing new supply group codes
- Installing split smart prepaid meters within protective enclosures to prevent tampering, as well as bulk meters on supplies to hostels and entering into supply agreements with the owners
- Improving payment levels by stepping up disconnections for customers not honouring their current accounts

 Increasing debt collection from businesses by stepping up disconnections, entering into payment arrangements for arrears and installing split prepaid meters

### Soweto split prepaid metering rollout

Soweto has approximately 180 000 customers, 80% of whom are on the conventionally billed metering system (post-paid) and the remainder on the prepaid metering system. The plan is to convert all meters to split prepaid meters by 2019/20.

The programme started off slowly due to numerous community protest actions. Nonetheless, at 31 March 2016, a total of 17 527 meters of previously post-paid customers were converted to prepaid in Soweto, representing 44% of the initial target of 39 794 customers. Due to community unrest, the strategy was changed to complete installation of smart meters in steel enclosures before conversion to prepaid. A total of 3 026 meters were also converted in Kagiso.

Since inception, the conversion of meters to prepaid has improved revenue collected by R61 million. Furthermore, conversions have resulted in an increase in revenue billed from R0.2 million per month in July 2014 to R4 million in March 2016, as demand is now being metered, as well as a drop in energy demand, due to customers now having to pay for their consumption.

## Smart prepaid metering rollout in Sandton and Midrand

In May 2015, we made a strategic decision to convert our post-paid residential customers to prepaid, starting with Sandton and Midrand. The project plans to convert 33 885 single-phase and three-phase post-paid customers in these areas. At 31 March 2016, a total of 5 992 meters were installed; conversions to prepaid will resume in July 2016, once the upgrade of the Online Vending System to cater for prepaid recovery of network charges is complete. The project is targeted for completion by the end of the 2016/17 financial year.

## **Energy losses**

During the year, total energy losses were 8.59% (March 2015: 8.79%). Non-technical losses due to illegal connections and electricity theft in Distribution were estimated at between 1.61% and 2.57% (or between 3 467GWh and 5 546GWh). Both Transmission and Distribution energy losses performed better than target, at 2.61% and 6.43% respectively (March 2015: 2.53% and 6.78%).

A large number of meter audits covering large and small power users and prepaid customers were completed during 2015/16. This resulted in R372 million being billed to large and small power customers to recover revenue unbilled owing to meter tampers, faulty or vandalised metering installations or customers not correctly loaded on the system. Fines of R33 million were also realised from prepaid customers who had tampered with their electricity meters. A total of 3 565 tipoffs regarding electricity theft were received from the public.

Other interventions include those discussed earlier under "Residential revenue management". Those interventions are supported by Operation Khanyisa, the social marketing campaign, which promotes the legal use of electricity by customers.

### Future focus areas

- Provide timely customer query resolution through primary touch points such as Top Customer account executives, contact centres and customer service hubs
- Optimal recovery of revenue from large power users and municipalities
- Manage residential arrear debt through the deployment of appropriate prepayment solutions
- Deter energy theft by increasing penalties for meter tampering and fraud
- Reduce overall energy losses by educating customers on efficient energy use and encouraging them to report theft and fraud

## **Operating performance**



#### 

- No load shedding since 8 August 2015, except for 2 hours and 20 minutes on 14 September 2015; the prognosis for load shedding in the coming winter is very low
- Tetris planning tool has assisted in optimising the scheduling of outages
   Medical blaic from the provide the scheduling of outages
- Medupi Unit 6 has been in commercial operation since August 2015
   Everyland temperature and another temperature and te
- Renewable IPP capacity of 2 145MW (March 2015: 1 795MW) added since inception

## PROGRESS

- Adequate stockpiles of coarse coal enabled improved coal handling during the rainy season
- Some capital has been allocated to fund much needed capital expenditure at cost-plus mines
   Coal stock days at all power stations, except Tutuka, were maintained above minimum
- Partial load losses, particularly those related to coal quality, continue to decrease
- Performance of UCLF has improved compared to prior year, although still worse than target
- A total of 15 backlog outages have either commenced or been completed

## O CHALLENGES

- Declining coal quality requires coal washing and mixing to ensure that coal meets specifications
- Increasing labour and community unrest at collieries impacts coal production
- Road conditions on the coal haulage network are deteriorating
- The El Niño weather pattern has resulted in low dam levels and water supply risks for Eskom
- Generation operates in an environment of tight supply constraints and a fleet that requires ongoing maintenance and midlife refurbishment
- SAIDI and SAIFI technical measures are showing a worsening trend, although better than target
- Network risks persist, with ageing assets and vulnerabilities due to network unfirmness. Funding constraints could impact future system performance

## 

Tight operating reserve margins and insufficient plant availability still required some outages to be rescheduled Operational sustainability focuses on security of supply, as well as balancing the supply and demand of electricity. Security of supply remains a key concern, with the focus on improving the generation plant health, as well as the ability to generate sufficient electricity, together with energy purchases from IPPs to meet our customers' expectations while containing costs. This calls for an integrated perspective on demand management and energy conservation. It is enabled by the Generation Sustainability Strategy, while complying with environmental and regulatory requirements.

## Looking back on 2015

There has been a reduction in coal quality related load losses during the year. Coal needed for commissioning at Kusile has been contracted, while negotiations for the longer term supply continue. The contract for the supply of limestone is expected to be signed in 2016. Investment decisions are yet to be made on the major colliery life extension and expansions, although some capital has been allocated to fund capital expenditure. The bulk water requirements for our coal-fired power stations have been secured until 31 March 2017, allowing time for a new water supply agreement to be negotiated with DWS. The commissioning of Medupi Unit 6, coupled with lower demand, improvement in Generation performance and increased production from IPPs, contributed to the improved system status. There was a continued focus on the maintenance and refurbishment of the transmission and distribution network, in addition to network strengthening towards the achievement of N–I Grid Code compliance and the integration of new generation sources.

Deemed energy payments were made during the year, due to delays in grid connection of two projects and a network failure at a substation taking power from the IPP. We continue to implement our IDM projects and to pursue options to reduce demand in times of supply constraints.

## Securing our resource requirements

Our aim is to safely and sustainably source, procure and deliver the necessary amounts of primary energy - coal, nuclear fuel, liquid fuels, diesel, water and limestone - of the required quality to our power stations, at the right time and at optimal cost.

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Coal burnt, Mt <sup>I, 2</sup>	n/a	n/a	121.87	114.81	119.18	122.42	
Coal purchased, Mt <sup>i</sup>	n/a	n/a	125.84	118.70	121.67	121.98	
Coal stock days	37	37	37	58	51	44	
Road-to-rail migration (additional tonnage transported on rail), Mt <sup>SC, 3</sup>	72.5	14.4	13.6	13.6	12.6	11.6	•

- I. Future targets are dependent on system requirements.
- 2. The 2015/16 figure excludes 314t coal burnt during the commissioning of Medupi Unit 6.
- 3. The 2020/21 target is the cumulative target over the next five years.

### Securing our coal requirements

The significantly higher than targeted stock days is largely due to more coal than required being delivered to Lethabo and Medupi Power Stations. Lethabo is supplied by a cost-plus mine, where there is no financial benefit in reducing the coal production. The high coal stock level at Medupi is caused by us taking delivery of coal in terms of the take-or-pay coal supply contract, even though the commissioning of units at Medupi has been delayed. Excluding these, the normalised coal stock days is 36, in line with the target of 37 days. Only Tutuka Power Station was slightly below its minimum stock level at year end.

In the year to 31 March 2016, coal-fired stations generated 7 300GWh less than budget, resulting in 7 059kt less coal than budget being burnt. This enabled us to use less of the expensive short- and medium-term coal sources than budgeted. Coal usage was underspent by R5.7 billion during the year, offsetting the overspend on OCGTs.

For further discussion of OCGT usage, refer to page 51

Negotiations continue between Eskom and Exxaro to minimise any future impact of delays in the construction of the Medupi Power Station on the take-or-pay contract. A number of possible options are being explored including, but not limited to, additional stockpiling capacity and the transfer of Medupi coal to other Mpumalanga power stations.

Almost all the cost-plus mines require significant investment or recapitalisation in order to increase production and/or maintain existing production, placing further strain on our financial resources. Lower production is expected from these mines until the collieries can be recapitalised. Although production at some cost-plus mines has reduced, we still pay all the operating and ongoing capital requirements to sustain the current operations of these collieries, resulting in an increase in the cost per ton of coal.

M

## Operational sustainability continued

The Optimum Colliery has been through a business rescue process and has since been sold; the new owners will take over the operations and are honouring the contract for its remainder.

The Arnot Colliery has been closed down nine years ahead of schedule, following the expiry of Exxaro's contract in December 2015. The early closure has resulted in an accelerated mine rehabilitation provision of R1.9 billion raised during the current year. Since January 2016, seven other companies have been supplying coal to Arnot Power Station in the normal course of business. A long-term coal supply contract will be concluded in due course.

## Implementing coal haulage and the road-to-rail migration plan

The rail service met the planned target of coal delivered by rail. The poor reliability of the rail tippler system at Majuba Power Station has been resolved. The Tutuka, Camden and Grootvlei rail operations have improved significantly and are ramping up steadily.

Approximately I 500 independent coal haulier trucks transport coal to our power stations daily. Road conditions in Mpumalanga continue to deteriorate under this load, and road authorities are struggling to attend to the required road maintenance. Safety performance for the year was disappointing, as there was one Eskom contractor fatality and I3 public fatalities related to the road transport of coal (March 2015: three contractor and six public fatalities). In order to reduce the risks associated with such a large operation, we continue to apply our coal transport safety interventions.

### Coal supply strategy

Due to our recent capital constraints, it has not been possible to implement the Emerging Miner Fund. We are however advancing the Emerging Miner Strategy by procuring from black-owned suppliers.

### Kusile coal and limestone contracting status

Coal for commissioning purposes at Kusile Power Station has been contracted and is being delivered. The coal is being used for the preparation of the stockpile base. Negotiations for the longer term coal supply continue.

Limestone from the Northern Cape will be used in Kusile's flue gas desulphurisation (FGD) plant, to reduce sulphur oxide emissions. Negotiations for the limestone supply to Kusile have been concluded and the long-term contract is expected to be signed once the commissioning dates at Kusile have been fixed. In order to facilitate Kusile's need for limestone, delivery on a short-term contract commenced in February 2016.

## Securing our water requirements

Our coal-fired power stations have an authorised bulk water abstraction licence. The bulk water requirements for our coal-fired power stations have been secured until 31 March 2017. This allows time for a new water supply agreement to be negotiated with the Department of Water and Sanitation (DWS), once the revised National Water Pricing Strategy is gazetted.

The deteriorating quality of raw water from DWS water sources requires collective action by DWS and water users, including Eskom, to protect water resources and deal with polluters. Treatment plans are currently being implemented to manage this risk.

As a result of the prevailing low rainfall due to the El Niño weather pattern and decreasing dam levels, water supply risks have emerged for our coal-fired stations in the Vaal River system and the hydro stations on the Orange River system. Emergency generation at our Orange River hydro stations has been stopped since October 2015, and no emergency water releases are planned for 2016/17. We are developing contingency water supply plans.

DWS has asked us to use the Drakensberg Pumped Storage Scheme to pump water from the Thukela River system over the Drakensberg to supplement the Vaal River system. However, the pumping will only be undertaken when our Systems Operator deems it appropriate, having due regard to the system load.

DWS has commissioned the water supply augmentation infrastructure, to transfer water from one water system to another to support the requirements of our existing and new coal-fired power stations, with the exception of the Mokolo Crocodile Water Augmentation Project (MCWAP) Phase 2. We have engaged with DWS to resolve water plant health issues and to ensure that plant outages to facilitate water transfers take place timeously.

### Mokolo Crocodile Water Augmentation Project Phase 2

The MCWAP Phase 2 is to provide the necessary water capacity for the coal mines required to support our Waterberg coal supply strategy. The project comprises a pipeline to be constructed from the Crocodile River at Thabazimbi. Excess water exists in the Crocodile River catchment area due to the high return flows from treated effluent from sewerage treatment works in Gauteng. The project delivery date is the second half of 2022, to support Medupi Power Station with the water required for its FGD technology retrofits.

#### Water for future power stations

The development of new power stations beyond our current new build programme will need to take into account the availability and quality of water resources, climate change impacts and lead times for the development of new water supply infrastructure.



The order in which power stations are used is determined by a least-cost merit order despatch approach, based on the incremental fuel cost. We burnt 114.81Mt of coal during the year.

### Securing our nuclear fuel requirements

The existing contracts for the supply of nuclear fuel fabrication services and the delivery of fabricated nuclear fuel to Koeberg Nuclear Power Station are sufficient to cover Koeberg's demand until 2021/22. The existing contracts for uranium and enriched uranium to be used as feed for the abovementioned fuel fabrications are sufficient for Koeberg's demand until the end of 2017. Normal commercial processes will be followed to enter into appropriate contracts for the supply of nuclear fuel to Koeberg. The contracting and pricing strategy will depend on the market and policies applicable at that time.

See note 10 on future fuel supplies and note 20 on inventories in the annual financial statements for further information on nuclear fuel balances

## Progress on regional gas and hydro projects Mozambican projects

Mozambique's new 100MW gas-fired Gigawatt Power Station was commissioned in December 2015 and is adding much needed capacity to the region.

While we remain interested in pursuing hydro, gas and transmission projects in Mozambique, including the Gasnosu project reported on previously, further direction is awaited from the Ministry of Mineral Resources and Energy in Mozambique as to which projects it wishes to pursue and what role is envisaged for South Africa, and particularly Eskom.

### Grand Inga Hydro Project

The governments of South Africa and the Democratic Republic of Congo (DRC) signed a treaty for the establishment of a 4 800MW hydroelectric station on the Congo River in the DRC, of which 2 500MW

is allocated to South Africa. We continue to support DoE in its negotiations with the DRC. We have completed and submitted studies on the possible transmission solution.

## **Generation performance**

We aim to optimally operate and maintain our electricity generating assets for the duration of their economic life. We operate 28 base-load, peaking and renewable power stations with a total nominal capacity of 42 810MW, including Medupi Unit 6, with a nominal capacity of 720MW.

We are committed to accomplishing the overarching goals of meeting the country's demand and also improving the performance of Generation.

We will fulfil our commitment whilst avoiding load shedding and still conducting regular maintenance on the Generation fleet to sustain improved performance.

## **Generation Sustainability Strategy**

Until recently, we have deferred some outages as a result of capacity constraints. Since August 2015, the extent of unplanned breakdowns has improved and new capacity has been added. This has enabled us to adopt a revised maintenance strategy, which aims to perform all required maintenance, whilst adhering to the strict maintenance target (planned and unplanned) of 11 500MW in summer and 8 500MW in winter. We are implementing a number of key initiatives that will help ensure sustainable performance.

# Operational sustainability continued

The 80:10:10 strategy strives for 80% plant availability (EAF) by 2020/21, requiring unplanned losses (UCLF and OCLF) to be limited to 10% on average, while performing an average of 10% planned maintenance (PCLF). Additional capacity coming online through the new build programme will enable more planned maintenance and midlife refurbishments.

We aim to execute 441 outages, including 35 backlog outages, over the next five years, which will significantly improve the integrity of our asset base and lead to long-term recovery of plant availability.

We have improved our outage scheduling using the Tetris planning tool. It provides a graphical representation of the maintenance schedule and the capacity outlook. This allows for more informed decision making regarding the prioritisation of maintenance and rescheduling outages to minimise the risk of load shedding.

## **G**eneration technical performance

Generation's technical operations are assessed in terms of the following:

- Energy availability factor (EAF), which measures plant availability and takes account of planned and unplanned unavailability, and energy losses not under the control of plant management (OCLF)
- Unplanned capability loss factor (UCLF), which measures unplanned energy losses resulting from equipment failures and other plant conditions
- Planned capability loss factor (PCLF), which measures energy losses because of planned shutdowns during the period

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
EAF, % <sup>sc</sup>	80.00	72.00	74.10	71.07	73.73	75.13	
UCLF, % <sup>sc</sup>	8.90	16.90	13.90	14.91	15.22	12.61	
PCLF, %	10.00	10.00	10.60	12.99	9.91	10.50	

I. Medupi Unit 6 performance is still being excluded from the performance above.

EAF has improved from a monthly average of 67.84% in April 2015 to 74.21% in March 2016. This improvement in EAF is indicative of the turnaround in Generation's performance. The target for EAF in 2015/16 was 74.10%. This target was exceeded in February and March 2016.

## Merit order

We apply a least-cost merit order despatch approach, based on the incremental fuel cost, to select the order in which power stations are used. It starts with nuclear as the cheapest, then various groupings of coal-fired power stations, based on their coal cost, and lastly OCGTs.

The merit order is used in conjunction with the system energy requirements, fuel constraints and generation plant production constraints to determine the optimised, leastcost production plan.

Unplanned breakdowns (UCLF) have also improved from a monthly average of 16.15% in April 2015 to 11.48% in March 2016, due to a focus on reducing partial load losses and improvements due to previous planned maintenance.

Although our efforts have helped to improve system performance, it is important to note that the system remains constrained. Strategies are in place to address system constraints. Pressure on the system is expected to ease further as Medupi, Ingula and Kusile are progressively commissioned, combined with further increased production from IPPs. The main contributors to the system UCLF of 14.91% for the year to 31 March 2016 (March 2015: 15.22%) were as follows:



Plant utilisation (EUF) for the year to 31 March 2016 was 82.69% for all stations, compared to 83.42% in the previous year. The utilisation of coal-fired power stations was 92.66% (March 2015: 93.02%); Koeberg Nuclear Power Station was 99.19% (March 2015: 99.47%) and the peaking stations 20.26% (March 2015: 20.63%). Eskom's EUF is approximately 20% above the international norm, indicating the high levels at which we are operating our plant, in order to maintain security of supply.

## Post-outage UCLF

Post-outage UCLF is measured up to 60 days after a unit has returned from planned maintenance. Postoutage UCLF was 23.17% for the year (March 2015: 17.74%). This contributes 1.25% to the total UCLF of 14.91%, which is spread across the categories in the preceding graphs, depending on the reason. A number of initiatives are being implemented to improve postoutage UCLF performance.

## Maintenance plan and backlog

A total of 69 outages have been completed during the year or are in execution at year end; it includes 15 outages that were part of the backlog at the beginning of the financial year.

Eleven outages had to be deferred due to delays in contract negotiations, non-availability of specialised spares and capacity constraints. One of these has commenced execution as scheduled in April 2016, while the remaining 10 outages are scheduled to start by the end of December 2016.

We are making good progress in reducing the maintenance backlog. During the year, eight backlog outages were completed, while seven are in execution, leaving a total of 35 backlog outages. Of these, 34 are scheduled for 2016/17 and one for 2017/18.

## Update on significant events

Duvha Unit 3 over-pressurisation incident On 30 March 2014, we experienced an overpressurisation incident in the boiler of Unit 3 at Duvha Power Station, taking the 575MW unit out of service. This continues to have a material impact on UCLF, contributing 1.37% to the system total.

The incident investigation report was issued and the recommendations from the report are being addressed; the learnings have been shared with other power stations. A final decision was made to proceed with a cash insurance settlement in order to replace the boiler; negotiations are under way to conclude on the settlement amount.

The letter of commitment for the construction contract for a new boiler has been accepted by Eskom and the supplier, paving the way for site establishment and mobilisation. The contract is expected to be awarded in mid-2016. Demolition of the damaged property will commence in the coming year, whilst the detailed design of the new boiler is finalised. It is envisaged that the unit will be commercially operational in 2020.

## Collapse of the Majuba coal silo

Following the collapse of the coal silo at Majuba Power Station on I November 2014, construction of a coal silo interim solution was completed, replacing the temporary mobile equipment with conveyor belts running from the permanent stockpiles to the boilers, to ensure greater efficiency in the coal handling process. The contract for a permanent solution for the rebuilding of Silo 20, the reinforcement of Silos 10 and 30 and the reinstatement of the coal conveyor system has been awarded. Detail design and construction activities are under way. The permanent coal handling plant is expected to be completed by the end of 2016. The claim for the physical damage was completed and settled.

## Koeberg performance

Koeberg Unit I returned to service on 2 June 2015, slightly later than planned, after a refuelling and 10-year maintenance outage. Koeberg Unit 2 shut down for its refuelling and 10-year maintenance outage on 31 August 2015, and returned to service on 8 December 2015. The unit had remained online for 470 days since returning to service from its previous refuelling outage.

### Steam Generator Replacement Project

The Koeberg Steam Generator Replacement Project addresses ageing steam generators, the replacement of which is timed to allow a life extension programme for the plant. Manufacturing is progressing at SENPEC, the Chinese manufacturer. The last of the forgings at Japan Steel Works are forecast for completion by December 2016. At Creusot Forge in France, quality heat treatment of some intermediate shells has been completed; forging and rough machining of conical shells is in progress. Steam generator tube production at Sandvik in Sweden is nearing completion and is expected to be complete by the end of August 2016. We are aiming for installation during the refuelling outages in 2018.

For benchmarking relating to our nuclear and coal-fired power stations, refer to the fact sheet at the back of this report



We are conducting regular maintenance on our Generation fleet to sustain improved performance.

m

## **Operational sustainability**

continued

### **Transmission and Distribution performance**

Transmission plans, operates and maintains our transmission assets, while our Distribution network relays electricity from the high-voltage transmission network to customers, including municipalities that manage their own distribution networks.

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Number of system minutes lost <1 minute, minutes <sup>SC, 1</sup>	3.80	3.80	3.80	2.41	2.85	3.05	•
Number of major incidents >I minute, number	2	2	2	I	2	-	•
System average interruption frequency index (SAIFI), events <sup>SC</sup>	20.0	20.0	21.0	20.5	19.7	20.2	•
System average interruption duration index (SAIDI), hours <sup>sc</sup>	39.0	39.0	41.0	38.6	36.2	37.0	•

1. One system minute is equivalent to interrupting the entire South Africa at maximum demand for one minute.

Transmission achieved a best ever reported performance for system minutes lost <1 of 2.41 against a target of 3.80, as well as the best ever reported performance of 1.51 line faults per 100km. This was supported by a high level of maintenance execution, as well as improved transmission plant availability. There was one major incident at Witkop Substation in Limpopo Province, resulting in the supply to Polokwane and surrounding areas being interrupted for approximately 100 minutes. Performance risks still remain, with ageing assets and vulnerabilities due to network unfirmness.

Although SAIFI and SAIDI performed better than target, there is a worsening trend in distribution network performance. We remain focused on Distribution sustainability through refurbishment, reliability improvements and addressing maintenance backlogs. The sustained performance of the Distribution network is at risk given the prevailing resourcing constraints, which could lead to an inability to maintain network performance within regulatory norms. For benchmarking relating to Transmission and Distribution, refer to the fact sheet at the back of this report

## Equipment theft

The theft of steel members from transmission towers, as well as cable theft and vandalism of distribution network equipment is an ongoing occurrence. Treatment actions include upgrading security at several high risk and critical Transmission substation sites, patrols to prevent incidents on sensitive installations, installation of monitoring devices, and the development and piloting of technology solutions for lattice towers.

### Managing supply and demand

#### **Role of the System Operator**

The System Operator provides an integrative function for the operation and risk management of the interconnected power system by balancing supply and demand in real time, trading energy internationally and buying energy from IPPs, all of which enable us to supply electricity to our customers in accordance with our mandate.



The HV yard at Medupi assists in evacuating energy sent out by Unit 6 to the national grid.

In order to balance and protect the power system, we have to apply demand management practices, which include supply and demand side options. Supply side options focus on increasing electricity supply, including utilising our OCGTs and pumped storage schemes, as well as supply by IPPs and international power imports. Demand side options, which are contingent upon the support of customers, focus on reducing demand, and include demand response programmes which utilise interruptible load agreements, demand side management, energy efficiency initiatives and the "5pm to 9pm" demand reduction campaign aimed mainly at residential customers, as well as higher winter tariffs.

The System Operator places great focus on risk management to protect the stability of the power system. The various defence systems in place are frequently tested to ensure their effective response capability to prevent a major system event.

Power system emergency declarations and load shedding

1

From I April to 8 August 2015, a total of 79 load reductions were required, particularly over evening peaks. Since then, we have had no load shedding, apart from one incident on 14 September 2015, when a low frequency event led to load shedding for 2 hours and 20 minutes. In addition, load to key

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
OCGT production, GWh <sup>1</sup>	n/a	n/a	1 180	3 936	3 709	3 621	
OCGT diesel usage, R million <sup>1</sup>	n/a	n/a	2 885	8 690	9 546	10 561	

1. Future targets are dependent on system requirements.

Expenditure on OCGTs amounted to R8.7 billion (March 2015: R9.5 billion), against an original budget of R2.9 billion.



customers had to be curtailed on 9 October 2015, when five generating units tripped or had to be taken off load.

The reduction in load shedding since August can be attributed to Medupi Unit 6 going into commercial operation on 23 August 2015, adding nominal capacity of 720MW to the national grid, the implementation of the Generation maintenance strategy, lower than expected demand, increased supply from IPPs and other interventions. No load shedding is currently forecast for 2016/17. Additional generation capacity is planned to be commissioned by both Eskom and IPPs in the coming financial year. However, the system remains vulnerable to incidents of simultaneous high demand and high unplanned outages or partial load losses.

## Use of open-cycle gas turbines

Production by the diesel powered OCGTs has decreased significantly from August 2015 to March 2016 due to more Generation capacity being available, lower demand, as well as increased production by IPPs. OCGT production for the eight months from August 2015 to March 2016 (since load shedding has ceased) totalled I 539GWh, compared to production of 2 397GWh for the four months from April to July 2015 (during regular load shedding).

## Operational sustainability continued

#### Independent power producers (IPPs)

We acknowledge the role that IPPs play in the South African electricity market and remain committed to facilitating their entry.

DoE launched the RE-IPP Programme in 2011, which called for 3 725MW of renewable energy technologies. Capacity under existing signed agreements is expected to be in commercial operation by the end of 2018. Power purchase agreements (PPAs) were concluded with successful bidders. We have received assurance from NERSA that these PPA costs will be treated as a pass-through for revenue regulation purposes.

Most of the short- and medium-term IPP contracts that were due to expire at the end of March 2016 have been renewed for another two years.

### Energy capacity and purchases

The following table summarises the IPP capacity available and the actual energy procured under various IPP programmes for the year to 31 March 2016.

Projects with signed PPAs are in various stages of

To date, we have contracted for 3 901MW of

renewable IPP capacity (March 2015: 3 887MW).

while RE-IPP capacity of 2 145MW (March 2015:

IPPs achieved an average load factor of 30.7% during

the year (March 2015: 30.9%), while the weighted

average cost amounted to 171c/kWh (March 2015:

We expect I 030MW from the RE-IPPP Programme

to be commissioned during 2016/17, including

504MW wind, 510MW solar PV, 4MW hydro

and IIMW landfill. Under the DoE gas peaker

programme, the 670MW from Avon should be in

commercial operation during the year. Furthermore,

the contracts awarded under bid windows 3.5, 4 and

4.5 are expected to be concluded during the year

(as well as the remaining I6MW contract under

bid window 3), together with the co-generation

have seen reductions in the cost of renewable energy,

such that it is now competitive compared to the cost

Successive bid windows of the RE-IPP Programme

I 795MW) has been connected to the grid. Renewable

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Total capacity, MW <sup>1</sup>	n/a	n/a	3 454	3 392	2 606	I 677	•
Total energy purchases, GWh	20 000	13 000	10 850	9 033	6 022	3 671	•
Total spent on energy, R million <sup>1</sup>	n/a	n/a	18 425	15 446	9 454	3 228	
IFRIC 4 reallocation, R million Total spent after reallocation, R million	n/a n/a	n/a n/a	- 18 425	(340) 15 106	- 9 454	38 3 266	
Weighted average cost, c/kWh <sup>1, 2</sup>	n/a	n/a	170	171	157	88	

construction.

217c/kWh).

programme.

of new coal-fired generation.

1. Future targets are dependent on system requirements and availability of IPP capacity.

2. The weighted average cost has been calculated on the total energy cost before the IFRIC 4 reallocation.

We entered into a PPA with the Dedisa IPP gas peaker. For accounting purposes, the capacity charge is treated as an arrangement that contains a lease in terms of IFRIC 4. The lease has been assessed as a finance lease and is accounted for under property, plant and equipment at a value of R3.5 billion. The IPP cost for Dedisa under primary energy has been reduced by R340 million, and depreciation of R135 million and interest of R302 million charged to the income statement.

During the peak demand hour in 2015, renewable IPPs were producing at 24% of their total capacity, with wind generating at 52% of capacity, but none from solar photovoltaic (PV), as the peak hour occurred during the evening. Deemed energy payments of R24 million were made during the year (March 2015: R129 million), due to delays in grid connection for two projects and a network failure at a substation taking power from the IPP, which resulted in 24 hours of lost generation. Furthermore, a compensation payment of R12 million was required for a delay in the issuing of the grid compliance certificate for one IPP. These amounts are included in the total spent on energy.

**IPPs contracted and connected** 

MW	Connected	Contracted not	Total
	to date	yet connected	contracted
RE-IPP Programme	2 145	I 756	3 901
DoE Peaker Programme	335	670	I 005
Long-term IPPs	2 480	2 426	4 906
Short-term IPPs	912		912
Total	3 392	2 426	5 818

### IPPs contracted and connected (by province)



**Cross-border sales and purchases of electricity** The drought affecting the Southern African region

and the and the southern Antal region continues, resulting in reduced hydroelectric capacity available in the DRC, Zambia and Zimbabwe. This provides us with a market for additional electricity sales. Non-firm sales are being made to Zambia and Zimbabwe. Supply from Hidroeléctrica de Cahora Bassa (HCB) in Mozambique has not been affected by the prevailing drought.

We are providing support to the region to the extent possible, but given the domestic constraints, support is mainly limited to off-peak hours. We are aware of our responsibility to South Africa regarding the exporting of electricity when the domestic supplydemand balance is constrained. We have ensured that sales contracts with SAPP trading partners are sufficiently flexible to allow us to restrict supply during emergency situations in South Africa.

With the growing anticipation of surplus capacity in the coming years, we are focusing on the SADC region as one of the possible future markets. Engagements with utilities and mining houses active in the region have commenced, to test the appetite for longer term firm power supply agreements.

GWh	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
International sales	12 024	11 918	11 750	13 465	12 000	12 378	
International purchases <sup>1</sup>	n/a	n/a	9 885	9 703	10 731	9 425	
Net sales <sup>1</sup>	n/a	n/a	I 865	3 762	I 269	2 953	

1. Future targets are dependent on system requirements.

## **Operational sustainability**

continued

63

## Integrated demand management

Integrated demand management (IDM) plays a key role in assisting us to balance power supply and demand during periods of constraint. Demand side management interventions encourage customers to use electricity more efficiently, thereby contributing to security of supply in the short to medium term.

### **Demand management costs**

R million	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Total energy efficiency demand side management	n/a	n/a	1 017	413	656	3 4	•
Power buybacks	n/a	n/a	-	-	-	87	
Demand response	n/a	n/a	312	248	309	262	•
Total (excluding transfer pricing)	n/a	n/a	1 329	661	965	I 663	

1. Future targets are dependent on system requirements.

## Verified demand side management and internal energy efficiency savings

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Demand savings (evening peak), MW	126.0	196.0	187.0	214.9	171.5	409.6	
Internal energy efficiency, GWh	n/a	n/a	1.2	1.7	10.4	19.4	

IDM programmes were put on hold for the first three months of the financial year, but have since resumed.

IDM runs a number of programmes to manage demand and improve energy efficiency. The Demand Response Programme has a combined certified capacity of I 466MW of dispatchable load (March 2015: I 356MW), which can be reduced for short intervals to restore system security, if requested by the System Operator. The compact fluorescent light (CFL) sustainability programme has installed a total of I 696 I20 CFLs since the project commenced in November 2015. A total of 10 million CFLs will be rolled out in phases, with a second phase being implemented in 2016/17 and 2017/18. Our Power Alert and "5pm to 9pm" campaigns continue to reduce power demand during the evening peak.

## **Future focus areas**

- Collaborate with cost-plus mines to increase volumes through capital expansion
- Employ competitive bidding to improve the pricing of medium-term coal contracts
- Develop contingency water-supply plans for the prevailing drought, and ensure an adequate water supply, improved water conservation, as well as better management and usage of water resources
- Improve EAF to enable increased maintenance without the risk of load shedding
- · Manage planned maintenance throughout the Generation fleet, through the use of a risk-based outage selection system and the dynamic Tetris tool, to balance demand and planned maintenance
- · Implement the Generation fleet renewal strategy, which is based on the economic viability of power stations as opposed to agebased decommissioning
- Strengthen the transmission backbone towards attainment of N-I compliance
- Achieve an acceptable balance between customer 6 service, network reliability and social responsibility within constrained budgets, while also creating capacity for future customer growth
- · Connect new IPP generators and load customers to the grid
- · Pursue demand management with a focus on energy efficiency, to provide the necessary peak demand reduction

## **Operating performance**



## HIGHLIGHTS

Q

- synchronised in March 2016, earlier than
- expected A total of 345.8km of transmission lines constructed and 2 435MVA substation capacity commissioned, exceeding the ann tarret

PROGRESS

- Kusile project achieved all milestones except one during the past year
   Considerable attention focused on new
- Considerable attention focused on new build site stability, following worker unrest and demonstrations early in the year, with and demonstrations early in the year, with a recommitment to the labour partnership agreements

#### $\bigcirc$ CHALLENGES

- continual management attention to ensure that progress is sustained Completion of databooks (technical specifications) remains a significant issue at Medupi, together with boiler insulation and cladding

#### Ē LOWLIGHTS



Our capital expansion strategy focuses on new build projects, infrastructure upgrades and conversions aimed at generation sustainability, environmental compliance, transmission strengthening, IPP and customer connections, as well as asset maintenance and replacement projects. We strive to deliver projects on time, within budget and to the desired quality.

## Looking back on 2015

The biggest commitment we made last year was to drive significant performance improvements by all principal contractors at the Kusile project, in order to claw back schedule on all six units. The project achieved all milestones during the past year, only missing the commissioning of the diesel generator in December 2015. Unit I is on track for commercial operation by the second half of 2018, somewhat later than previously indicated. At Medupi, commercial operation of Unit 5 is expected by the first half of 2018.

Following the labour unrest at Medupi early in the financial year, stability has returned to the site. Managing the new build projects within the existing capital allocations remains a challenge.

## **Delivering capacity expansion**

We started the capacity expansion programme in 2005, to build new power stations and increase highvoltage transmission power lines and transformer capacity to meet South Africa's rising demand for electricity, and also to diversify our energy mix. The programme, which started with the return-to-service (RTS) programme and is currently expected to be completed by 2022, will increase installed generation capacity by 17 384MW, transmission lines by 9 756km and substation capacity by 42 470MVA.

Since inception, we have increased installed generation capacity by 7 031MWV, mainly through the RTS programme and most recently, Medupi Unit 6; transmission lines by 6 162km and substation capacity by 32 090MVA. The programme has cost R289.5 billion to date (excluding capitalised borrowing costs).

Ongoing schedule delays and insufficient time for front end planning have impacted the total cost of projects, specifically Medupi and Kusile. The Board approved revised business cases, thereby increasing the available amounts to R145 billion for Medupi and R161.4 billion for Kusile (previously R105 billion and R118.5 billion respectively).

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Generation capacity installed and commissioned (commercial operation), MW <sup>SC, 1, 2</sup>	8 602	666	794	794	100	120	•
Generation capacity installed: Ingula Unit 3 and 4 first synchronisation in quarter $4^{\mbox{\scriptsize sc}}$	n/a	n/a	Yes	Yes	n/a	n/a	•
Generation capacity milestones (Medupi, Kusile and Ingula), days delay	30.00	30.00	30.00	3.08	59.56	48.90	٠
Transmission lines installed, km <sup>SC, 2</sup>	2 390.0	525.0	341.0	345.8	318.6	810.9	•
Transmission capacity installed and commissioned, MVA <sup>SC, 2</sup>	10 555	1 800	2 120	2 435	2 090	3 790	٠

1. The target for 2015/16 refers to the commercial operation of Medupi Unit 6, while the 2016/17 target refers to Units 3 and 4 of Ingula.

2. The 2020/21 target is the cumulative capacity to be commissioned and/or installed over the next five years.

Commercial operation of Medupi Unit 6 was achieved on 23 August 2015 in line with commitments to accelerate delivery of all current new build projects. This marks the first new unit commissioned under our capacity expansion programme and the first since April 2001, delivering nominal capacity of 720MW (compared to installed capacity of 794MW) to the national grid, although the schedule was impacted by low productivity due to labour unrest. Support was provided to National Control to maintain the stability of the grid during times of constrained supply.

The shareholder compact target of first synchronisation of Units 3 and 4 at Ingula during the final quarter of this financial year was achieved.

The positive performance on capacity milestones is due to a number of milestones being achieved either on time or ahead of schedule, such as the synchronisation of Ingula Units 3 and 4; the completion of the Kusile Unit I draught group run by the end of March 2016; and the earlier than planned achievement of the Medupi Unit 5 boiler hydro test and back-energisation.

The construction of transmission lines and substation capacity commissioned exceeded target, mainly due to successful schedule management by our project managers and contractor performance exceeding expectations.

## Capital expenditure (excluding capitalised borrowing costs) per division

Division, R million	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14
Group Capital	33 456	33 799	31 691	33 475
Generation	8 831	11 440	10 555	10 326
Transmission	934	998	2	1 516
Distribution	6 293	5 490	6 073	10 265
Subtotal	49 514	51 727	49 440	55 582
Future fuel	2 187	2 1 1 4	65	2 675
Eskom Enterprises	2 052	373	439	453
Other areas including intergroup eliminations	3 736	3 138	I 547	I 093
Total Eskom group-funded capital expenditure <sup>1</sup>	57 489	57 352	53 077	59 803

1. Capital expenditure includes additions to property, plant and equipment, intangible assets and future fuel, but excludes construction stock and capitalised borrowing costs.

### Medupi Power Station

visible in the background

60

At a ceremony held on site on 30 August 2015, Unit 6 was officially opened by the President of the Republic of South Africa, with the Minister of Public Enterprises in attendance. Medupi Unit 6 has now been in operation, feeding power into the grid, since formal handover to Generation Division on 23 August 2015. Various performance and optimisation tests have since been completed satisfactorily.

Labour unrest occurred during April and May 2015. The disciplinary process following the unprotected strike action was finalised and contractor employees who were not dismissed returned to work. We worked with contractors to rebuild relationships with the respective labour unions, through regular labour partnership forum meetings. All parties agreed on steps to re-establish the partnership agreement forums. The labour situation is stable, with no indications of possible disruptions. Security plans were put in place for accommodation areas, consisting of early warnings and direct protection. Plant protection has been tightened considerably, with no compromise to access, increased patrols, more effective supervision of guards, improved response capability and upgraded control room management, with effective monitoring of closed-circuit television (CCTV).

Full back-energisation of Unit 5 was achieved on schedule on I December 2015, providing the power supply for critical future activities like commissioning the boiler feed pumps and performing the draught group test runs; the factory acceptance tests (FAT) were completed on 16 December 2015. The Unit 5 boiler was officially registered as a pressure vessel on 14 March 2016. The draught group run milestone, dry fires and installation of the chemical clean piping were all achieved in March 2016, in preparation for chemical cleaning and first oil- and coal fires, leading to



boiler blow through, the next critical commissioning milestone. The focus remains on the boiler insulation and cladding, which has been identified as the principal bottleneck to achieving significant milestones, and without which the unit cannot be operated safely. We have provided in-depth assistance and guidance to the boiler contractor to increase manpower strength in the areas of supervisors, planners and insulators.

Satisfactory progress is being maintained on Units 4 to 1, although schedule pressure on Unit 5 has caused some contractors to pull resources from later units to achieve scheduled milestone dates on Unit 5. The risk that work may be further delayed by industrial action is currently considered very low, and manpower levels are back to planned levels following the year-end break. The integrated master schedule has been finalised, providing planning and construction guideline dates for critical activities for all five remaining units.

Implementation of site-wide productivity enhancements continues to produce satisfactory results. Daily planning and tracking of actual performance against plan has been enhanced, with various plans implemented to improve the daily production rate. However, contractor productivity remains a concern, and continual management attention is required to ensure that progress is sustained. Although there has been an improvement, performance remains below the required rate; this is impacting the achievement of the "first fires" milestone. A revised resource plan is required to determine the impact.

In addition, cost escalations resulting from extension of time and strike settlements are a key concern, as these impact the schedule and total project cost. Nonetheless, the planned date for commercial operation of Unit 5 is achievable, provided that the risk mitigation strategies are successfully implemented. Commercial operation of Unit 5 is currently planned for the first half of 2018, with the final unit expected to be in commercial operation by the first half of 2020. The cumulative cost incurred on the project is R93.9 billion (March 2015: R84.7 billion) against the revised budget of R145 billion. All amounts exclude capitalised borrowing costs.

## Kusile Power Station

Sadly, the Kusile project experienced a tragic contractor fatality involving a crane collapse during August 2015. The investigation into the incident has been concluded. Lessons learnt are being incorporated into operations on site.

The Unit I recovery plans, namely working six full days per week, with additional crews working night shift across critical packages, have contributed significantly to the current project performance.

The project achieved a number of significant milestones since April 2015, achieving all planned milestones during the year, only missing the commissioning of the diesel generator in December 2015. Milestones achieved include the boiler reheater hydro test, turbine air-cooled condenser leak test and super heater hydro test of Unit I. Further areas of significant progress during the year include the Unit I stator coolant system flush that was successfully completed: commencement of Unit 6 boiler steel erection; as well as starting the pre-setting of fan blades and shrouds for all units, in preparation for fan testing. Progress on Unit 2 is also positive, with the air-cooled condenser condensate tank building structure being completed, turbine lube oil piping starting in August 2015, and the generator stator being transported and set into position on 23 September 2015. Commissioning of the auxiliary cooling tower was completed. The sewerage plant was also commissioned.



The Kusile project continues to achieve set milestones, on track for commercial operation of Unit 1 by the second half of 2018. Good progress is also being made on Units 2 to 6.



Units 3 and 4 of Ingula Pumped Storage Scheme were synchronised to the national grid in March 2016, with commercial operation of these units being planned for the 2016/17 financial year. (Photo: Heidi Pieterse)

The project received the main and auxiliary boiler regulation certificate of registration in January 2016, while limestone needed for the FGD plant was delivered in February 2016.

Integration of the new control and instrumentation (C&I) contractor required streamlined execution, primarily through completion of designs, delivery of equipment and providing access. The C&I contractor started installation in June 2015 and the detail design freeze on the balance of plant was concluded in September 2015.

- Significant progress in fostering collaboration between Eskom, contractors and organised labour was achieved through the Site Partnership Forum. The Kusile safety and production bonus has been aligned to that of Medupi and the rules finalised. The intention is to ensure the project achieves key safety measures and production milestones that support Unit I commercial operation according to plan.
- However, the project is experiencing an increase in contractor claims, both in volume and value. We are taking an active role in ensuring that claims are settled on a global basis in the most efficient manner, with minimal impact on progress and without creating work stoppages.
- Also of concern is that the scarcity of jobs nationally, and in Mpumalanga Province in particular, is causing stability issues in the surrounding communities, while project recruitment has peaked at nearly 16 500 workers. Continual emergence of disgruntled groups within the surrounding communities has led to some disruption to transport services to and from site, with the N4 being closed temporarily on 11 April 2016. An intensive stakeholder management plan is in place to manage external stability and security issues. External stability teams have been appointed to ensure that issues are dealt with in a manner that limits and/or eliminates the impact on the project.

The project continues to achieve set milestones, on track for Unit I commercial operation by the second half of 2018. Good progress is also being made on Units 2 to 6, with the final unit expected to be in commercial operation by the second half of 2022.

The cumulative cost incurred on the project is R95.1 billion (March 2015: R78.7 billion) against the revised budget of R161.4 billion. All amounts exclude capitalised borrowing costs.

## Ingula Pumped Storage Scheme

Watering of the upper and lower waterways was achieved in December 2015. Units 3 and 4 were synchronised on 3 March and 25 March 2016 respectively, exceeding the scheduled target of synchronising the units in the 2016/17 financial year.

Ingula Unit 3 was successfully synchronised to the national grid on 3 March 2016 and performed excellently for over a month. However, an unfortunate incident occurred on 6 April 2016 when the unit faulted and was damaged during commissioning and optimisation by the contractor. A full investigation to evaluate the extent of the damage is under way. The unit will be repaired, ready for commercial operation before the end of the 2016/17 financial year.

The lower Braamhoek Dam is feeding directly into the tailrace – the lower waterway channel conveying water away from the turbines – without restrictions, and the upper Bedford Dam is feeding directly to headrace 3 and 4 – the upper waterway channel feeding water to the turbines – without restrictions. The underground refuge bay has been completed; this is a special underground station for use in emergencies, where workers can shelter until it is safe to return or until they are rescued.

Commercial operation of Units 3 and 4 is planned for the 2016/17 financial year, with commercial operation of Units 2 and I targeted for the second half of 2017. Work on the critical path is being closely monitored to ensure that key dates and associated milestones on the accelerated schedule are not at risk of being delayed. The demobilisation of local labour is being managed through engagement with various stakeholders, to avoid negative outcomes.

The Department of Mineral Resources has licensed the use of platforms for the entire length of the inclined high-pressure shafts, following the multiple fatality incident in October 2013.

The cumulative cost incurred on the project is R26.8 billion (March 2015: R22.8 billion) against a budget of R25.9 billion. The project budget will require revision prior to project completion, after conclusion of the legal reviews of contract-related disputes. All amounts exclude capitalised borrowing costs.

### Our Transmission projects at 31 March 2016

## Power lines and substation capacity

During the year, we installed 345.8km of high-voltage transmission lines and commissioned substation capacity of 2 435MVA under the new build programme, bringing the total since inception of the capacity expansion programme to 6 162km transmission lines and 32 090MVA substation capacity.

- Sadly, a fatality occurred on the Hendrina-Gumeni line on 3 August 2015, when a contractor fell to the ground while clamping conductors. The investigation into the incident has been concluded. The associated procedure is being updated to incorporate lessons learnt.
- A key risk in achieving the transmission strengthening project remains the time required to obtain environmental approvals, securing land and obtaining water-use licences required during line construction from the Department of Water Affairs.



Funds available for Transmission strengthening projects are currently limited, which will extend the time taken to meet network reliability requirements and may constrain our ability to connect customers.

## Renewables projects

We have been granted environmental authorisation for the establishment of the 300MW Kleinzee Wind Farm – which is proposed to comprise a cluster of up to 200 wind turbines – and associated infrastructure on a site approximately 6km south of the mining town of Kleinzee in the Nama Khoi Local Municipality in the Northern Cape. Additional prospective wind farm sites have been identified in the Western and Eastern Cape regions. These are undergoing further investigation to verify resource availability and levelised cost of energy estimations.

The 326kWp Mkondeni solar PV rooftop system will be in commercial operation during the first half of 2016/17, slightly later than previously anticipated. The business case for the 8MW ground-mounted PV plant at Grootvlei Power Station was approved. The commercial process has commenced but will only be finalised once funds are made available.

The concentrated solar power (CSP) project has advanced, with the two bids received being evaluated.

A strategy to provide distributed generation solutions to industrial and commercial customers across South Africa, in response to envisaged rapid expansion of the local distributed generation market, was approved by Exco and the Social, Ethics and Sustainability Committee.

## Future new build

### Nuclear

We received correspondence from DoE in December 2015, including a Section 34 determination under the Electricity Regulation Act, 2006, reconfirming our role as owner and operator of the 9 600MW new build nuclear fleet. DoE was endorsed as the procuring agency in terms of the Section 34 determination gazetted on 21 December 2015. We need to work with DoE to define our responsibilities during the procurement process.

The Board provided its support in September 2015 to continue critical nuclear programme development activities.

## Gas strategy

ĉ

The conversion of the OCGTs to dual fuel is the most advanced of our gas initiatives. The ERA for phase I was approved in February 2016. The conversion will be completed during the upcoming major outage windows at Ankerlig and Gourikwa during 2017. Gas sourcing activities are under way.



Construction of the Bothaville 765kV line in progress.

## Investing in appropriate technologies

We spent R396 million on research projects, testing and development work during the year (March 2015: R138 million), of which R77 million was spent specifically on research projects. The Majuba Underground Coal Gasification project is purposely reducing scope as a result of capital constraints and the decision to scale back on the project. The related water-use licence is still in the application phase, as it has been for more than two years. We have submitted various requests to speed up the review of the application, although delays in obtaining environmental permits remain a challenge.

Other projects include coal DNA characterisation, ilarge-scale battery energy storage, high-voltage direct current (HVDC) test facilities, and biomass torrefaction.

Some examples of future projects are:

- Water utilisation efficiency at power stations: utilising eutectic freeze technologies to improve water treatment techniques and thus reduce overall water consumption
- Low hanging conductor test site: the ability to identify low-hanging power line conductors is critical for safety and operational reasons. The site will test a variety of techniques that will be used to identify such a condition
- HVDC test site: large transmission grid expansion over long distances and within constrained servitudes requires HVDC to be considered as an option. The test site will give us the ability to test line hardware and configurations for reliability and safety
- Fireside corrosion online monitor: fireside corrosion is a primary cause of boiler failure; this project will develop analysis techniques to measure corrosion and predict failure
- Coal DNA implementation: this project will enable us to identify coal based on its chemical composition down to a molecular level. This is essential in coal handling and coal quality management, and will lead to better control over coal contracts
- Online coal quality analyser: this will give us the ability to measure coal characteristics in real time and feed the results into a model that determines the impact of the coal which is en route to the boiler on plant performance, slagging, ashing and emissions

We installed 345.8km of high-voltage transmission lines under the new build programme during the year, bringing the total since inception of the programme to 6 162km.

## **Future focus areas**

- Completion of Medupi Unit 4 boiler hydro test during the first half of the 2016/17 financial year
- Commercial operation of two Ingula units during 2016/17, and commercial operation of the final two units by the second half of 2017
- Commercial operation of Medupi Unit 5 by the first half of 2018 and Kusile Unit 1 by the second half of 2018
- Construction of 525km transmission lines and commissioning of I 800MVA transformer capacity during the 2016/17 financial year
- Dual-fuel conversion of the Gourikwa and Ankerlig gas turbines, although the project is outage dependent

## **Operating performance**

Environmental and climate change sustainability



#### 

- Completed construction of the fabric filter plant retrofit at Grootvlei Unit 3; emissions performance has already improved significantly
- Air quality offset pilot project at KwaZamokuhle successfully complet
- Public participation process for the declaration of the Ingula Nature Reserve was completed in December 2015



 Retained our ISO 14001 certification at Generation, Group Capital, Transmission, Primary Energy, Eskom Rotek Industries and Sustainability Systems, with the certification of Distribution well under way

• Support provided to the official Government delegation at COP 21

## CHALLENGES

- Delays in obtaining water-use licences for power stations and power lines are affecting operations
- Financial and capacity constraints are forcing the rescheduling of critical environmental projects

#### 

 Water usage at coal-fired stations is high due to numerous system leaks as well as dry and hot conditions associated with the El Niño weather pattern We remain committed to our principle of Zero Harm to the environment, while operating under complex and evolving environmental requirements. Environmental compliance impacts operational sustainability and is critical to maintaining our licence to operate, thereby supporting security of supply.

## Looking back on 2015

The implementation of emissions reduction retrofit programmes has commenced with the fabric filter plant retrofit at Grootvlei Unit 3. Moreover, we have successfully completed our air quality offset pilot project at KwaZamokuhle, as part of our air quality offset plan for the Highveld power stations, required in terms of the response to the Minimum Emission Standards postponement applications.

Overall our performance on particulate emissions and water usage has deteriorated, mainly due to maintenance issues, poor operating practices and discipline, as well as financial and capacity constraints.

We have completed our assessment of available emissions reduction technology in the electricity sector. Reducing our pending carbon tax and carbon budget liability remains a concern until we are allocated additional lower carbon emitting technologies through the IRP process, and until we have clarity on the life extension of coal-fired plant.

## **Reducing our environmental footprint**

Our environmental performance is assessed in various ways, including relative particulate emissions, specific water consumption, being water usage by all commissioned power stations, as well as the number of environmental legal contraventions.

Refer to the fact sheet at the back of this report for information on the environmental impact of using or saving electricity

E

## Environmental and climate change sustainability

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Relative particulate emissions, kg/MWh sent out <sup>sc</sup>	0.30	0.37	0.35	0.36	0.37	0.35	•
Specific water consumption, $\ell/kWh$ sent out <sup>SC, 1</sup>	1.33	1.38	1.39	1.44	1.38	1.35	•
Net raw water consumption, million litres <sup>2</sup>	n/a	n/a	n/a	314 685	313 078	317 052	
Environmental legal contraventions in terms of the Operational Health Dashboard, number <sup>3</sup>	I	I	I	I.	I	2	

1. The volume of water consumed per unit of generated power from commissioned power stations, although Medupi performance is still excluded.

2. Future targets are dependent on system requirements.

In defined circumstances where the management of an environmental legal contravention indicates specific management issues or failings, it is recorded on the Eskom Operational Health Dashboard.

#### Provisions for environmental restoration and rehabilitation

We provide for the estimated decommissioning cost of nuclear plant, including the rehabilitation of the associated land, as well as for the management of nuclear fuel assemblies and radioactive waste. Provision is also made for the decommissioning of other generating plant and the rehabilitation of the associated land. Furthermore, where a constructive or contractual obligation exists to pay coal suppliers from cost-plus mines, provision is made for the estimated cost of closure at the end of the life of the mine, together with pollution control and rehabilitation of the land.

The following provisions for environmental rehabilitation and restoration have been raised:

R million	Actual 2015/16	Actual 2014/15	Actual 2013/14
Power station-related environmental restoration – nuclear plant	12 677	10 982	9 331
Power station-related environmental restoration – other power plant	8 3 3 9	7 705	6 942
Mine-related closure, pollution control and rehabilitation	8 580	5 465	4 366
Total environmental provisions	29 596	24 152	20 639

Refer to note 29 in the annual financial statements for more information on environmental provisions  $% \left( {{{\rm{P}}_{\rm{s}}}} \right)$ 

#### **Reducing particulate and gaseous emissions**

Our poor emissions performance, against both prior year and target, can be attributed to delays in implementing required maintenance due to postponed outages, as well as poor operating practices at several power stations. Initiatives aimed at improving emissions performance include focused interventions to support stations on emissions management and emission-related outages (where capacity and finances permit).

Information on gaseous emissions is available in the statistical tables at the back of the report

E

### Atmospheric emission licences (AELs)

Compliance with the 2020 Minimum Emission Standards requires the installation of fabric filter plants and low  $NO_x$  burners at most coal-fired power stations, and flue gas desulphurisation (FGD) at all coal-fired power stations. The DEA decision on the Minimum Emission Standards postponement applications allows power stations to continue operating from I April 2015, but is contingent on the execution of an emissions reduction programme at nine power stations by 2025, and implementing air quality offset programmes for all Highveld power

stations, to improve ambient air quality (specifically particulate matter levels) in communities close to our power stations.

The pilot study on air quality offsets carried out at KwaZamokuhle in Mpumalanga was successfully completed during the winter of 2015. Since then, we have developed a programme to roll out offsets over a wider area, estimated at more than R4 billion over the next nine years. It includes providing insulation and switching out the coal stoves for clean burning liquid petroleum gas (LPG) appliances in around 40 000 low income homes. Initial public consultation on the plan has been completed; the plan was submitted to DEA and licensing authorities for approval in April 2016.

We have adopted a phased and prioritised approach to emissions reduction, considering the remaining life of power stations and the impact of our coal-fired power stations on ambient air quality. One unit of the Grootvlei fabric filter retrofit has been completed, while project development and design for Tutuka and Kriel Power Stations' fabric filter plant retrofits is progressing well. Upgrades are also planned to improve the efficiency of the electrostatic precipitators at Duvha, Lethabo, Kendal and Matla Power Stations. Development for low NO<sub>x</sub> burner retrofits at Tutuka, Majuba and Matla Power Stations, and the FGD retrofit at Medupi Power Station, is under way. Six power stations are not complying with the requirement to measure and report on verified gaseous emissions data, and no extensions have been granted by the authorities. Work to meet the requirements is ongoing. We remain committed to compliance and will engage with DEA and other relevant stakeholders where any further challenges arise.

### NEMA Section 30 performance

The AELs state that high atmospheric emissions from power stations need to be reported in terms of Section 30 of the National Environmental Management Act, 1998 (NEMA). During the year, there were 59 high emission incidents reported under Section 30 (March 2015: 41); and power stations have operated under Section 30 for 6.6% of the time, which is higher than the 3% reported during the previous financial year. The main reasons are the poor availability of dust handling plant, poor electrostatic precipitator performance and SO<sub>3</sub> plant problems. Actions to address these issues have been identified.

The authorities are concerned about the high number of incidents reported and have visited stations to investigate issues and obtain evidence that action has indeed been taken to mitigate the high emissions, such as repairs, maintenance and outages. Of the 59 high emission incidents reported, 24 were reported by Kendal Power Station. There is a risk that the Environmental Management Inspectorate may take compliance action against Kendal.



Ash at Kendal is loaded into trucks, as part of our ash utilisation strategy, which focuses on developing existing ash markets, particularly the brickmaking and cement industries.

## Ashing facilities

We submitted exemption applications to allow for a period of four to six years after authorisation to install the water linings at the Majuba, Kendal, Tutuka and Matimba dry-ashing facilities. Exemptions to allow continued ashing without installing a barrier system at the Kendal and Tutuka ashing facilities have since been obtained. Decisions on the exemption applications for the Majuba and Matimba ashing facilities are expected soon.

Environmental authorisation work to ensure sufficient ashing space and compliance with environmental requirements regarding ash disposal at coal-fired power stations is ongoing. Integrated Environmental Authorisations have been received for the Camden, Hendrina, Kendal, Majuba and Tutuka ashing facilities. The environmental impact assessment for the Kriel ashing facility is under way.

The utilisation of our ash has increased from 7.35% in the prior year to 8.32% during the current year, largely due to the implementation of our ash utilisation strategy, which focuses on the development of existing ash markets, in particular the brickmaking and cement industries. Key to increasing the utilisation of ash is the development of new ash markets in the agricultural sector, as well as the application of ash in mine backfilling and road stabilisation. Furthermore, the strategy will address both internal logistical constraints and external legislative constraints.

# Environmental and climate change sustainability continued

## Reducing water consumption

Specific water usage by power stations for the year to 31 March 2016 was significantly worse than target and prior year. Operational inefficiencies, system leaks and poor water management practices, and the hot and dry conditions being experienced as a result of the prevailing drought, are the primary factors affecting water performance. Initiatives aimed at improving water performance have been identified and include implementing projects which do not require capex; more systematic approaches to address water leaks, ash and oil spillages; and the resuscitation of the Water Management Task Teams.

### Collieries decanting mine-affected water

The Kilbarchan Colliery, a closed-down colliery owned by one of our subsidiaries, is decanting mine-affected water. The pilot water treatment plant authorised by DWS is still operational on site and will continue until the interim water treatment plant is constructed. Tenders for the interim water treatment plant are being evaluated.

## Reducing environmental legal contraventions

One Operational Health Dashboard contravention was declared for the cutting of a tree without a permit in KwaZulu-Natal. This is a breach of the National Forests Act, 1998 and a repeat of a similar legal contravention during the previous year.

The total number of environmental legal contraventions stabilised at 20, against 20 (restated) in 2014/15. There were 13 water-related contraventions (pipeline leaks, spills and sewerage spills), two cases of cutting trees without the necessary approvals, three cases of failure to obtain or comply with other required authorisations, and two cases of exceeding atmospheric emissions limits.

Six compliance matters remain open from previous years. Five await closure by the authorities; the sixth matter is the Dreunberg-Ruigtevallei 132kV Distribution line in the Eastern Cape, where we commenced construction without an environmental authorisation. DEA issued us with an administrative fine of R1 million in March 2016. DEA and the National Prosecuting Authority have initiated a forensic investigation into the matter.

## Biodiversity

The public participation process for the declaration of the Ingula Nature Reserve associated with the Ingula Pumped Storage Scheme was completed in December 2015. The Board is required to approve the declaration agreement and the management plan, after which the documents will be submitted to the MECs for KwaZulu-Natal and Free State for final approval.

We have developed a land and biodiversity policy which assists us with complying with legislation, and integrating and managing biodiversity impacts across the entire business and value chain. It covers: • Compliance with biodiversity legislation

- Integrating biodiversity aspects into all renewables projects
- Development of partnerships to reduce negative interactions between electrical infrastructure and wildlife
- Vegetation management, and game management on Eskom properties
- Initiating relevant research projects to resolve specific operational requirements linked to biodiversity conservation

## Eskom and vulture interactions: Understanding the environmental and business impacts

South Africa is home to nine vulture species, of which six are under threat of extinction. Vultures are one of the most high-risk bird groups, as their large wingspans and heavy bodies make them vulnerable to electrocution on pylons and collision with power lines. Vultures can potentially touch two live lines simultaneously, resulting in electrocution as well as causing the electricity supply to trip.

Our strategic partnership with the Endangered Wildlife Trust (EWT) is continually researching new methodologies to decrease the mortality of vultures due to our infrastructure. Power line design has progressed in the last two decades, requiring all new power lines to have a bird-friendly design.

Other proactive projects already in progress include:

- Bird sensitivity maps developed between the EWT and Eskom will be used to identify and mitigate high-risk areas of electrocutions and collisions in South Africa. Distribution Division's strategy for reducing bird electrocutions will utilise these baseline maps to guide proactive implementation of mitigation measures, such as bird flight diverters
- The Karoo and North West Research Projects aim to determine the effectiveness of mitigation measures installed on our pylons and Transmission and Distribution power lines respectively
- The Limpopo Vulture Tracking Project assists in monitoring vulture ranges and locations

The partnership has further formalised the reporting and investigation of any wildlife incident. Reporting is the key to obtaining information and implementing appropriate mitigation measures.

Members of the public can report any wildlife fatalities linked to electrical infrastructure to wep@ewt.org.za, @EWTEskom, www.facebook.com/EndangeredWildlifeTrust or 0860 111 535



Bird guards are one of the mitigation measures installed on our pylons, to decrease the mortality of vultures and other bird species due to our infrastructure.

## Investing in renewable energy

60

We continue to deliver on our commitment to environmental sustainability and reducing our carbon footprint with purchases of renewable energy from IPPs. Renewable energy sources include wind, solar power, biomass, landfill gas and small hydro technologies.

Our 100MW Sere Wind Farm is in commercial operation, and continues to add capacity to the grid, while diversifying our energy mix. Sere Wind Farm achieved energy production of 311GWh for the year, at a load factor of 34.10%, with average annual availability 97.67%. The first annual maintenance programme commenced on I August 2015; all 46 turbines were serviced by mid-November 2015.

Under our solar PV programme at existing administration buildings, power stations and transmission substations, the 400kWp solar PV facility at Rosherville was transferred to commercial operation in September 2015; the project was completed within budget. During March 2016, the solar PV projects at the Bellville and Sunilaws offices, with total capacity of 360kWp for own consumption, were transferred to commercial operation.

For further information on renewable IPPs and renewables projects, refer to pages 52 and 61

The Public-Private Partnerships (PPP) model to progress the solar augmentation project at four power stations through the definition and execution phases is being finalised.

### **Climate change**

## Climate change strategy

We reported on our climate change strategy last year. In brief, it focuses on diversifying our energy mix to lower carbon emitting technologies, energy efficiency and green financing measures, as well as adapting to climate change.

We have been working closely with DEA to develop a national climate adaptation strategy. Nevertheless, we remain under pressure to transition to a lower carbon electricity mix and reduce emissions. Although this is perceived to be solely our responsibility, we are dependent on energy regulations governing the allocation of new build, the single buyer model, electricity planning and price regulation.

This poses a challenge, but also represents a great opportunity for us to influence our future business model. To this end, a mature national discussion is needed on the country's view of the future electricity energy mix, and its relation to climate policy, along with our country's other imperatives.

We received the Green Grand Prix Award in the 2015 *Sunday Times* Top Brands Awards for our efforts to preserve the environment and harness the country's natural resources, through environmentally friendly initiatives in the following areas:

- The 100MW Sere Wind Farm, near Vredendal in the Western Cape
- Solar photovoltaic plants for our own consumption at Kendal and Lethabo Power Stations
- Developing a diversified energy mix which includes wind, solar, hydro, pumped storage, a nuclear power station and coalfired power stations

A

## Environmental and climate change sustainability continued

The recent United Nations COP 21 climate change conference resulted in the Paris Agreement. which will drive towards a low carbon future and ensure that funding is made available to assist vulnerable developing countries in adapting to a changing climate. The overarching purpose is stated as follows: "Recognising that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions."

The Paris Agreement is a legally binding document. All countries have accepted that they are bound to fulfil the purpose of the Agreement, albeit in different ways. Portions of the agreement, such as the provision of finance, are however voluntary. The principle of differentiation is applied; this means that developed nations must continue to take the lead, although developing nations must make a contribution, depending on their national circumstances and respective capabilities.

Of significance is the agreement by all countries to a common global goal, namely to ensure that the average temperature does not increase by more

## Carbon budgeting

DEA is setting carbon budgets per economic sector to reduce greenhouse gas emissions, and has requested emissions data from 2016 to 2020. The budgets will only become mandatory from 2020. This will be a pilot phase with companies receiving a carbon budget, without financial penalties for noncompliance. However, reporting against the budget and the preparation of pollution prevention plans will be mandatory. We are in the process of rolling out our greenhouse gas reporting procedure to all power stations, based on the carbon budget set by DEA for 2016 to 2020.

There appears to be misalignment between National Treasury's carbon tax process and DEA's carbon budget process. The implementation of the carbon tax and the carbon budget will both result in an increase in the electricity price, in an attempt to reduce emissions by influencing consumption. We have had several consultations with DEA, National Treasury and BUSA to discuss challenges and possible solutions. Given the complexity and number of stakeholders affected, this process is expected to take some time to resolve

than 2°C by 2050, by ensuring that greenhouse gas emissions peak at 40Gt and then start to reduce (current global emissions are estimated at 36Gt). Developed countries should no longer invest in fossil fuels while developing countries must retard this growth rate: both must invest in lower or non-carbon emitting technologies. This speaks directly to a global carbon budget, which devolves to national carbon budgets. This process is already under way in South Africa.

The implications for the country very much mirror the implications for Eskom, given the country's reliance on fossil fuels for its primary energy needs. South Africa will be expected to demonstrate its aspirations to transition to a lower carbon economy and will be pressurised to do so by this international process. We continue to pursue a more diverse energy mix with the objective of reducing our relative emissions and subsequently reducing absolute emissions, thereby also reducing our vulnerability to the impacts of climate change.

The Paris Agreement also brings opportunities. We will continue to pursue carbon credits for our lower carbon emitting technologies through carbon markets as well as investigate green funds available for projects that promote emissions reduction.

## **Future focus areas**

- · Reduction in particulate emissions and water use in the short term, and moving towards full environmental compliance over the long term
- · Large-scale rollout of air quality offsets in Mpumalanga and the Vaal regions
- Implementation of the greenhouse gas reporting process



**Operation Khanyisa** is an Eskom-led national partnership campaign aimed at fighting electricity theft in South Africa. Electricity theft is a serious crime that causes R4.2 bn in revenue losses to Eskom. Dealing with electricity thieves, educating and mobilising customers across all sectors, partners, stakeholders, contractors and Eskom Guardians, and **recovering revenue** due to Eskom, is therefore a **key strategic focus**.



March 2015



## Winning the war against electricity theft



## **Customer Compliance Campaign**

Operation Khanyisa is currently rolling out a new Customer Compliance Approach (CCA). The CCA combines audits, investigations and prosecution, customer education and engagement, and supporting communications in one integrated team on the ground. Phased implementation is taking place in the Free State, North West, Limpopo and Mpumalanga in hot spot areas, using a localised approach and working closely with the Operating Units, local government and other stakeholders. **Positive results as follows:** 


#### **Operating performance**

#### Safety and security



#### PROGRESS

- The LTIR target was met
- Our public safety programme, which educates the public about the dangers of the unsafe use of electricity, and initiatives to improve employee driver safety, continue
- A contractor induction pack has been introduced to ensure that contractors are made aware of our broad-based safety requirements
- Crime decreased by 28% in terms of value against prior year



- Smaller contractors may struggle to comply with the 2014 Construction Regulations, risking a delay in projects
- Our facilities are vulnerable to vandalism and theft due to high demand for nonferrous metals



 Fatalities, including public fatalities related to electrical contact, remain unacceptably high Our safety performance remains a concern, particularly in light of the number of fatalities and serious injuries suffered by employees, contractors and the public. Safety improvement initiatives aim to instil responsible behaviour across Eskom, leading towards Zero Harm – an Eskom value, which forms the foundation of all our operations.

Zero Harm means that no operating condition or urgency of service justifies exposing anyone to risk as a result of exposure to our business or causing them injury, or damage to the environment. It implies sustaining a work environment which supports the health and safety of all people, and involves building strong relationships with contractors, the community and our supply chain, as well as enhancing the organisation in a sustainable way.

Exco sets the direction for Zero Harm and is committed to caring for and protecting all people exposed to our operations, through the belief that any workplace injury or disease is preventable.

#### Looking back on 2015

The implementation and monitoring of compliance with the 2014 Construction Regulations is ongoing.

We complete safety, health and environmental evaluations on all new supplier registrations to ensure that suppliers have adequate safety processes in place. Furthermore, we have created a contractor induction pack, which aims to educate contractors about our safety practices.

#### Focus on safety

Our safety performance is assessed in terms of the number of fatalities among employees and contractors, as well as the lost-time injury rate (LTIR), which is a proportional representation of the occurrence of lost-time injuries per 200 000 working hours over a period of 12 months.

A total of 202 lost-time injuries (LTIs) including occupational diseases was reported in 2015/16 (March 2015: 261). Excluding occupational diseases, 188 LTIs were reported in 2015/16 (March 2015: 224). From I April 2016, the calculation of LTIR will exclude occupational disease (noise-induced hearing loss) incidents. If calculated on that basis in the current year, the reported figure would have been 0.27.

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Fatalities (employees and contractors), number	-	-	-	17	10	23	•
Fatalities (public), number <sup>1</sup>	-	-	-	25	27	33	•
Employee lost-time injury rate, index <sup>sc</sup>	0.30	0.30	0.31	0.29	0.36	0.31	٠

 After investigation by the Distribution KwaZulu-Natal Operating Unit, one incident was found not to be a public recordable fatality, reducing the number of public fatalities at 31 March 2015 from 28 to 27.

Regrettably, despite our commitment to safety, we experienced an increase in both employee and contractor fatalities. We suffered four employee fatalities (March 2015: three) and 13 contractor employee fatalities (March 2015: seven). The causes of fatalities are shown alongside.

#### In memoriam

Our sincere condolences to the families, friends and colleagues of the following people who lost their lives in the line of duty:

#### Employees

- Mr Ntavhanyeni Samuel Managa
- Mr Ntokozo Richard Ndhlovu
- Mr Patrick Ndhlovu
- Mr Hermanus Johannes van Aardt

#### Contractors

- Mr Juan-Perrie Botes
- Mr Leonard Dimba
- Mr Musa Ioshua Hlatshwako
- Mr Batsho Piet Masemola
- Mr King Sipho Masina
- Mr Sindisile Mayoyo
- Mr Veli Lucas Mazibuko
- Mr Thokozani Vincent Mbhele
- Mr Albert Makhaza Mbuyane
- Mr Songezo Njokweni
- Mr Mthetho Ntakumba
- Mr Hulisani Ramulongo
- Mr Burgert Frederik Janse van Vuuren



number

Vehicle accidents
 Electrical contact
 Caught between or under objects
 Struck by or against an object

#### Safety programmes

In response to recent fatalities and serious injuries, we have embarked on a leadership intervention to engage with all senior leaders in the organisation, to ensure that they understand their roles and responsibilities in creating a safety culture. In addition, a project is being piloted in Transmission Division, North West Grid for rollout across Eskom, aimed at developing a programme to empower supervisors with the practical skills and knowledge necessary to ensure a safe work environment.

Safety culture surveys – which assess site culture relating to safety issues, such as adherence to safety rules, and the extent to which supervisors and managers set an appropriate example and share lessons learnt from other incidents – were conducted in the Generation Peaking and Distribution Eastern Cape Operating Unit environments, with the results and recommendations being shared with senior management.

#### Safety and security continued

We have introduced several initiatives to enhance vehicle and driver safety, including:

- Easter holiday vehicle safety campaign held in collaboration with Arrive Alive
- Installation of DriveCam event recorders in our vehicle fleet, allowing continuous monitoring of driver behaviour: deviations are reported to and addressed by senior management
- · Vehicle safety reviews
- We dedicated the period 16 November to 4 December 2015 to road safety awareness, with specific emphasis on defensive driving, in support of the international road safety campaign "Decade of Action"

#### Update on the Ingula Pumped Storage construction site incident

As reported previously, the investigation into the cause of the tragic incident at Ingula on 31 October 2013, which resulted in the untimely deaths of six contractors, has been concluded. We are still awaiting a response from the Department of Mineral Resources in terms of Section 72 of the Mine Health and Safety Act, 1996.

#### **Contractor management**

An analysis of contractor incidents was conducted in order to determine immediate causes of incidents as well as formulate more effective contractor safety action plans. Improvement and mitigation measures have been implemented.

Ongoing emphasis is placed on the implementation of the Construction Regulations 2014 compliance roadmap. Continual inspections are under way at sites. Inspection teams regularly follow up on closing out findings emanating from these inspections.

#### Public safety education

We hosted our annual National Electricity Safety Week from 17 to 23 August 2015. The focus was on electricity safety and the public's role in using electricity safely, thereby reducing injuries and fatalities. Moreover, ongoing school, crèche and community visits; agricultural and community leader forums: consultations with commercial and large power users as well as media campaigns are organised, reaching close to four million people during the year under review. In addition, we are in continuous discussions with the Department of Basic Education to incorporate electricity safety into the school curriculum.

#### ര Nuclear safety

The Koeberg plant design and resultant assessment of risk to the public are better than the recommended international standards and well within licensing limits. Operational practices at Koeberg are not challenging the design boundaries or assumptions, and there is therefore no current unacceptable nuclear risk due to the design or operation of Koeberg Nuclear Power Station. However, additional improvements to further reduce the risk have been identified through the assessment of the Fukushima Daiichi incident, coupled with operational experience.

The interaction between relevant oversight organisations and line management is continuously monitored by the related governance and nuclear oversight bodies; there is adequate evidence that these organisations are having a positive impact on nuclear safety and our efficiency.

The Koeberg units continue to be operated safely, with solid technical performance demonstrated by long periods of continuous operation.

#### Security

In addition to being a popular mark for economic crime in general, we find ourselves in the distressing position of being a preferred target of organised crime syndicates. We are losing a significant amount of revenue due to illegal connections and ghost vending. In addition, undue strain on the network 0 and our supply capacity constitute a significant threat to our operations.

There has been a general decrease in crime compared to last year. Criminal incidents relating to copper theft are decreasing, attributable to a decrease in demand for copper, and more effective policing resulting in the arrest of a number of crime syndicates. The decrease in the value of incidents is due to the decrease in conductor theft and losses of earthing. and a decrease in transformer theft and possession of suspected stolen property.

Losses due to conductor theft, cabling and related equipment during the year totalled R85 million, involving 5 161 incidents (March 2015: R102 million and 5 680 incidents). Actions to combat these losses are managed by the Eskom Network Equipment Crime Committee, in collaboration with other affected state-owned enterprises and the South African Police Services. The combined effort resulted in 229 arrests (March 2015: 297 arrests).

A Security Division, with the aim of improving the operational effectiveness of Eskom's security function through a centralised security operating model, was recently approved by Exco. A Security Programme Office was established to implement this initiative.

#### **Future focus areas**

- · Review and realignment of the existing public safety plan to ensure the effective implementation across divisions and operating/business units
- · Development and implementation of the OHS Inspection Plan based on findings emanating from the monthly contractor incident data analysis

#### **Operating performance**

Building a sustainable skills base



#### Q HIGHLIGHTS

Exceeded shareholder targets for engineering and artisan learners

- and a total rearners
   Partnered with the Department of Women in the Presidency and Uweso Consulting to expose 55 girls interested in pursuing careers in the STEM fields (science, technology, engineering and maths) to job shadowing
   Two Eskom training centres were accredited
- Agreements signed with tertiary institutions aimed at supporting and facilitating academic
- at the Inaugural Employment Equity A hosted by the Department of Labour

#### PROGRESS ~7

- throughput, although target was not met due challenges in funding the appointment of
- National Skills Fund has approved R174 millic for artisan training, although it will be receive in three tranches
- Successfully concluded discussions with organised labour on the Employment Equity organised labour Plan and Report

#### $\bigcirc$ **CHALLENGES**

target, due to appointment of trainees and temporary staff to align to the Labour Relations Act, 1998

#### LOWLIGHTS

(ê

work stoppage during April and May 2015, thereby delaying progress on the project

The focus is on driving a culture of performance and creating a productive workforce, which includes building a strong learner pipeline. In order to sustain our business, we aim to recruit, develop and retain appropriately skilled, committed, engaged and accountable employees.

#### Looking back on 2015

The targets set for closing competency gaps and leadership behavioural change were achieved during the past year. Nevertheless, this remains a high priority focus; targets have been set until 2020/21.

Following the labour unrest at Medupi during 👘 2015, the parties have recommitted to the labour partnership agreement principles with worker unrest and demonstrations stabilised.

#### **Building strong skills**

Despite the challenges facing the organisation, it has been a successful year for skills development. The learner pipeline has been maintained at a level which is more than adequate to meet the future demand for core, critical and scarce skills, as well as the needs of the organisation due to normal attrition.

Our learner pipeline is one of the critical development areas that not only supports the country's socioeconomic contribution, but also sustains our supply of skills. A total of 8.2% of the total Eskom staff complement consists of learners, against a target of 8%, and 1 370 learner artisans were permanently appointed (March 2015: 1 752), against a target of I 250. Furthermore, RI 228 million was spent on training and development.

#### Building a sustainable skills base

continued

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Engineering learners	285	456	521	895	3 5	1 962	
Technician learners	475	760	869	415	826	815	
Artisan learners	I 045	I 673	1 912	1 955	I 752	2 383	
Learner throughput or qualifying $^{\text{SC, I, 2}}$	I 250	-	I 200	1 108	424	n/a	
Training spend as % of gross employee benefit costs <sup>SC</sup>	5.00	5.00	5.00	4.45	6.18	7.87	•

I. This was a new measure effective from 1 April 2014. The measure is a cumulative year-to-date assessment of learners completing their studies, and follows a three-year cycle in future.

2. The 2020/21 target is the cumulative figure targeted over the next five years.

We have signed agreements with the South African Institute of Electrical Engineering, Mangosuthu University of Technology and Durban University of Technology, with the aim to support and facilitate academic qualifications despite our financial challenges. These agreements will facilitate our contribution to the National Skills Accord through providing on-the-job experience for young people. Furthermore, the Eskom Academy of Learning (EAL) established a successful partnership with the SA National Intelligence Services – a total of 180 National Key Point security officers completed their compliance training. The EAL is now also registered with SASSETA (Safety Security Sector Education and Training Authority), which will assist with adequate regulation of the discipline.

6

Among our external programmes that support the access and success goal of the National Skills Development Strategy is the Maths and Science Programme that sponsors 20 schools across all nine provinces. Matric pass rates for these two subjects improved in most of these schools. Schools funded by us recorded a number of significant achievements:

- A matric learner at Mbilwi Secondary School in Venda, Limpopo became the top national maths and science learner, scoring 100% in both subjects
- Thengwe Secondary School in Venda was voted the top school in Limpopo
- Umso Secondary School in Northern Cape was recognised as the most improved school in the province
- Oval North High School in Mitchells Plain, Western Cape achieved an overall matric pass rate of 95.1%

The programme was established in 2003; our strategy was to double the number of learners who passed mathematics and science, and also increase the number of girl learners in these subjects. We provide educator development support programmes; winter schools for learners; constant monitoring of progress; as well as resources, such as salaries for additional teachers required by the school, books, study material, electronic instruments, computers and the like.

#### Training

The EAL is mandated to close competency gaps by coordinating, integrating and addressing all learning needs of employees, as well as enhancing performance throughout our company, by focusing on business needs and catering for all facets of learning operations and the learning value chain.

Primarily as a result of the robust cost-savings drive, training spend is below target. This has resulted in the underutilisation of the EAL's training facilities; plans are being developed to increase utilisation. The Line Construction Training Centre in Uitenhage, Eastern Cape and Artisan Training Centre at Coastal Network Centre were accredited in 2015/16. Regarding our high priority welding training initiative, a total of 119 learners have completed their trade tests and qualified on national and international level, while 18 learners qualified on international level only, contributing to our commitment to train artisans for the country.

#### Headcount

The Eskom group headcount at 31 March 2016 was 47 978 (March 2015: 46 490), which includes both permanent staff and full-time contractors, consisting of 42 767 Eskom employees and 5 211 Eskom Rotek Industries employees (March 2015: 41 787 and 4 703 respectively).

Based on the recently approved Corporate Plan, Human Resources has reviewed the workforce plan, mainly focusing on retention of critical workforce segments (i.e. core, critical and scarce skills) across the business, while reducing non-essential positions. The plan also caters for the operations and maintenance of the new build stations. We are targeting a reduction in the Eskom company workforce to 36 768 by 2020/21 in terms of our strategy.

The staff turnover rate in our workforce during the past year was approximately 5%.

#### The reconciliation of our headcount is shown below:

Number of employees	2015/16
Headcount at 1 April 2015	46 490
Add: Appointments	3 723
Less: Resignations	(1 212)
Deaths in service	(222)
Dismissals	(128)
Retirements	(582)
Separation packages	(78)
Other	(13)
Headcount at 31 March 2016	47 978

The breakdown of our workforce at 31 March 2016 according to age categories is shown below.

Age distribution of workforce	Number	%
18 to 20	2	0.00
20 to 29	7 498	15.63
30 to 39	19 293	40.21
40 to 49	9 413	19.62
50 to 59	9 120	19.01
Over 60	2 652	5.53
Total	47 978	100.00

#### **Employee relations**

The factor that posed the greatest risk to labour stability at new build sites was the reimplementation and operation of partnership structures that collapsed after the strike at Medupi, which was followed by disciplinary action instituted against contractor employees. Labour relations have since improved.

The workgroups established subsequent to the 2014 Central Bargaining Forum negotiations to consider the pension fund, medical aid, housing and recognition agreements, as well as disciplinary and grievance procedures, are progressing. Due to the work of the medical aid workgroup, two additional medical aids were added to the basket of recognised medical aids.

An Employee Relations Indaba involving management and organised labour was held in September 2015, where all parties committed to abide by the provisions of the recognition agreement and to fully participate in all relevant structures.

#### **Income differentials**

The Income Differentials workgroup is now chaired by the Group Executive: Human Resources. The workgroup has recommenced to resolve income differential demands, with both management and trade unions participating and reporting through the recognised participative structures. The South African Human Rights Commission announced Eskom as the winner of the Golden Key Award for "Most Responsive Public Body", as voted for by the media, political parties and Chapter 9 institutions. The awards are held annually, recognising Government departments, deputy information officers and private institutions for best practice in nurturing positive sentiment to openness, and setting up enabling organisational systems and procedures that promote compliance with the provisions of the Promotion of Access to Information Act, 2000 (PAIA).

PAIA is a component of anti-corruption legislation which enables individuals and communities to request information from public bodies and private institutions. It is especially important in the area of service delivery and the enforcement of socio-economic rights.

#### **Future focus areas**

- Continue advancing learning and development aimed at addressing the competency gaps as well as developing skills for specific requirements, despite the current financial constraints
- Intensify leadership development to drive culture change from the top down



We contribute to the National Skills Accord by providing on-the-job experience for young people, facilitated by agreements with the South African Institute of Electrical Engineering, Mangosuthu University of Technology and Durban University of Technology.

A

#### **Operating performance**



#### 

0

- Achieved third place in the 2015 Sunday Times Top Brands Awards community upliftment category
   Finalists in our Business Investment
- Finalists in our Business Investment Competition and Simama Ranta School Entrepreneurial Competition finalists exhibited at the annual Business Entrepreneurship and Franchise Expo
- Social Return on Investment assessment on Medupi shows that 80% of projects selected are generating a positive return
- A total of 6/1 existing and potential suppliers, mainly electrical contractors in the BO, BWO, BYO and BPLwD categories, have been developed countrywide
   <u>All contractual media and communications</u>
- All contractual media and communications spend was allocated to black-owned suppliers, a first for a state-owned enterprise



- Spend with black-owned, black youth and black women-owned suppliers sh
- Improvement from last year
  We signed a Memorandum of Understanding for renewables with the Department of Small Business Development (DSBD) and the dti, with the objective of identifying both emerging and established black industrialists and SMMEs within the focus areas

# CHALLENGES

LOWLIGHTS

Procurement spend remains significantly below target for a number of supplier

initiatives Underrepresentation of women in various workforce segments remains a concern, given limited recruitment opportunities Eskom plays a critical role in skills development and economic empowerment. We aim to transform society through our supplier localisation drive, as well as corporate social investment (CSI) in community education, health and developmental projects. Our most direct contribution to transformation is through the rollout of Government's electrification programme.

#### Looking back on 2015

Last year we said we would drive focused and heightened efforts on strategic industrialisation in partnership with **the dti** and other stakeholders, particularly in the procurement of transformers; this initiative is ongoing, due to the long lead times involved.

#### Maximising our socio-economic contribution

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Corporate social investment committed, R million <sup>1</sup>	953.6	225.3	98.6	103.6	115.5	132.9	•
Corporate social investment, number of beneficiaries <sup>1</sup>	1 810 000	400 000	300 000	302 736	323 882	357 443	•
Total electrification connections, number <sup>1, 2</sup>	1 010 000	160 000	194 374	158 016	159 853	201 788	

I. The 2020/2I targets are the cumulative figures targeted over the next five years.

2. The reporting boundary for the number of connections was changed in March 2014, to exclude farm worker connections. A total of 296 farm worker connections were also completed during the year, resulting in a total of 158 312 connections being achieved.

#### **Corporate social investment**

The Eskom Development Foundation (the Foundation) fulfils our CSI mandate to promote transformation and social sustainability, through initiatives to develop small and medium enterprises, education, health, food security, community development, energy and the environment. During the year, our CSI activities impacted 302 736 beneficiaries, with a committed spend of R103.6 million (March 2015: 323 882 beneficiaries and committed spend of R115.5 million). However, financial constraints have resulted in the Foundation having to reprioritise and defer pipelined initiatives.

The Foundation donated 139 bicycles to Hlomisa Primary School and Mpophomo Intermediate School in the Free State, and also sponsored the participation of our then acting Chief Executive in the 702 CEO Sleep-Out during June 2015, in support of Boys and Girls Town.

To date a sum of R2.4 million has been invested in infrastructure development for NST Majadibodu Crèche in Mokuruanyane Village in Lephalale, with Medupi Power Station Project and Impulse International providing R2.2 million and R200 000 respectively. The landscaping, water purification system and jungle gym were handed over on 12 August 2015, as part of our CSI initiatives. We established the Eskom Contractor Academy as part of our enterprise development programme to support skills development, which enhances job creation and contributes to the alleviation of poverty. A total of 148 students from all provinces participated in the 2015/16 Contractor Academy Programme. Graduation ceremonies took place during March 2016, celebrating 144 emerging contractors and suppliers being trained.

Although we did not meet the shareholder target, we are still delivering on the DoE gazetted

electrification connections. A national performance

centre, established to monitor progress and resolve

challenges as they arise, has realised immediate

success, achieving 100 000 connections in the last

four months of the year. Steps will be implemented

to manage and measure performance through this centre on a weekly basis. We also aim to improve

the contracting process and project management,

We have completed our tool to measure the value

of our socio-economic development activities. Our

efforts to find innovative funding solutions for our

CSI spend are ongoing.

including general skills and resources, in this area.

The Contractor Academy started as a pilot programme in 2008 and has since grown significantly. To date, we have completed 73 academies and almost I 000 contractors have been successfully trained. Over the last three years, we trained 518 contractors from all nine provinces, with the youth accounting for approximately 60% of participants.

Several school infrastructure projects have also been completed. The annual Eskom Expo for Young Scientists International Science Fair took place on 8 and 9 October 2015.

For more information on our CSI initiatives, please refer to the Foundation's report for the 2015/16 year, which is available online

#### **Transformation and social sustainability** continued

#### Implementation of our Socio-economic **Development (SED) Strategy**

We undertook a Sustainable Development Value Assessment, to provide us with an independent assessment of the value of our sustainable development activities, by estimating the economic value created through our operations and new build programme. It determined the extent to which our activities contribute towards South Africa's development agenda, and societal value creation as a whole. The Social Return on Investment (SROI) assessment of the Medupi Project has been completed. Results show that 80% of projects selected are generating a positive return, with the social return being greater than the initial investment. The assessment indicates that we achieved an overall SROI of R2.36 for every RI invested in SED projects around Medupi Power Station. Infrastructure road building projects generated the highest SROI ratio of R3.72; second was health with an SROI of R3.36; education delivered R2.81: enterprise development returned R2.05.

We donated a computer lab and library to a community in the Maluti-a-Phofung Local Municipality in the Free State. Furthermore, two facilities were launched at the Mohale Intermediate School in Makeneng Village. Phuthaditjhaba, Free State. The launch was a follow-up to a recent CSI initiative which raised information communication technology worth roughly RI.7 million - including computers, a server and printer - which was donated to the Abantungwa-Kholwa Community IT Centre in Ladysmith, KwaZulu-Natal. These initiatives were made possible by our IT suppliers.

#### Electrification

The Government-funded electrification programme. through the DoE, continues to connect previously disadvantaged households in our licensed areas of supply. The majority of the electrification programme is now being implemented in more remote and deep rural areas, where the construction of network infrastructure is challenging, more expensive and on difficult terrain.

The shortfall compared to target in the total connections is due to various reasons, including but not limited to delays in finalising designs, the late start of projects and shortages of material. In some provinces, delays in obtaining approval of the Integrated Development Plan further delayed the start of the projects.

With the assistance from DoE, we continue to respond to areas where sporadic community service delivery unrest has been experienced, to address electrification concerns.

Electrification of grid schools and clinics

Only 12 schools were electrified this year, well short of the target of 49 schools. No further schools or clinics could be electrified as the contract between Eskom and the Department of Basic Education had not been signed. This is expected to be finalised in the near future, allowing electrification of schools to resume.

#### **Our contribution to supplier** development

Our attributable spend targets are in line with the Codes of Good Practice, which prescribe a minimum of 50% for the first five years that the Codes are in effect. To ensure a sustainable contribution to transformation, our contracts with key suppliers include targets for skills development and job creation.



Our acting CIO, Mr Sean Maritz, opens the Abantungwa-Kholwa Community IT Centre in Ladysmith, KwaZulu-Natal, which was made possible by our IT suppliers

#### **Procurement equity performance**

	<b>-</b> .	<b>—</b> .					-
Measure and unit	1 arget 2020/21	1arget 2016/17	1arget 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Company							
Local content contracted (Eskom-wide), % <sup>sc</sup>	75.00	65.00	65.00	75.22	25.13	40.80	
Local content contracted (new build), $\%^{\rm SC}$	60.00	50.00	65.00	84.04	33.62	54.60	•
Job creation, number	-	-	8 317	23 169	25 875	25 181	
Group	1	1					
Procurement from B-BBEE compliant suppliers, % of total measured procurement spend (TMPS)	85.00	80.00	80.00	81.65	89.39	91.80	•
Procurement from black-owned (BO) suppliers, % of TMPS	45.00	40.00	40.00	33.61	34.41	35.30	٠
Procurement from black women-owned (BWO) suppliers, % of TMPS	12.00	12.00	12.00	19.30	6.49	7.50	٠
Procurement from black youth-owned (BYO) suppliers, % of TMPS	2.00	2.00	2.00	0.94	0.63	1.00	•
Procurement spend with suppliers owned by black people living with disabilities (BPLwD), % of TMPS	1.00	1.00	1.00	0.01	0	0	٠
Procurement spend with qualifying small enterprises (QSE), % of TMPS <sup>1</sup>	15.00	15.00	15.00	4.62	6.75	15.09	٠
Procurement spend with exempted micro enterprises (EME), % of TMPS <sup>1</sup>	15.00	15.00	15.00	5.89	5.78	n/a	•
Company	1	1					
Acquisition of intellectual property, R million <sup>SC, 2, 3</sup>	125.00	25.00	40.00	54.00	n/a	n/a	•
Skills development, number of $people^{SC,2,3}$	100	20	20	29	n/a	n/a	
Job creation, number of people <sup>SC, 2, 3</sup>	150	30	30	54	n/a	n/a	

I. In the 2013/14 financial year, spend with OSE and EME enterprises was reported as a single number.

2. These are new measures with effect from 1 April 2015, therefore comparative information is not presented.

3. The 2020/21 targets are the cumulative figures targeted over the next five years.

We have created 23 169 jobs at 31 March 2016 through the capacity expansion programme at the Medupi, Kusile and Ingula new build sites and Power Delivery Projects (March 2015: 25 875).

B-BBEE and BWO attributable spend exceeded the annual target. The positive performance is due to Eskom's preference to procure from level I to 4 B-BBEE compliant suppliers. The improvement in procurement spend with BWO suppliers is due to the application of a new method, which recognises procurement spend with suppliers that are 30% owned by black women in line with the Codes of Good Practice (the previous method recognised suppliers 50% owned by black women). Attributable spend on other supplier categories remains below target, as the majority of these vendors have low value contracts and the procurement spend with these suppliers is small relative to our total procurement spend.

Contracts worth R68.3 billion were awarded during the year (excluding intercompany and subsidiary spend). At company level, a total amount of R51.4 billion, or 75.22% of contract value, has been committed to local content.

#### **Technology transfer**

We have been acquiring intellectual property (IP) and undertook a transfer of design know-how in order to stimulate local industrialisation through knowledge transfer. Particular areas of focus in the current financial year include power plant air quality related technology retrofit projects such as low NO burners, FGD plant and fabric filter plant (FFPs). In-house retrofit design projects are currently being executed through an on-the-job training approach to ensure skills development is effectively established over time.

The Camden Power Station burner retrofit project is in the execution phase. The inhouse design capability enabled Eskom to place the fabrication contract with a relatively small up-and-coming black woman-owned fabrication company, which has now employed 51 additional staff to fabricate the Camden order

# Transformation and social sustainability continued

#### Improving internal transformation

We continue our commitment of cultivating a balanced workforce that will support and further our organisation in the most efficient and effective manner. The Employment Equity Plan ensures that our workforce profile at all occupational levels is transformed; it serves as a vehicle with which employment barriers and affirmative action measures are addressed.

Employment equity performance for the group

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Employment equity – disability, %	2.50	2.50	2.50	2.73	2.89	2.77	•
Racial equity in senior management, % black employees	88.90	72.00	63.00	61.06	61.70	59.30	•
Racial equity in professionals and middle management, % black employees	88.90	78.00	73.00	71.68	71.77	70.60	•
Gender equity in senior management, % female employees	45.70	36.00	32.00	28.13	29.82	28.80	•
Gender equity in professionals and middle management, % female employees	45.70	40.00	38.00	35.11	35.29	34.90	•

Neither racial nor gender employment equity targets were achieved. With the reality of limited opportunities to recruit, meeting the employment equity targets continues to pose a challenge. Our focus remains on occupational levels that are underrepresented. We are committed to achieving employment equity expectations and are reviewing various options.

#### Our total workforce comprises 68% male employees and 32% female employees at all occupational levels.

At executive level, there is renewed effort to use all recruitment and promotion opportunities available to address employment equity. Efforts will be put in place to accelerate the development of female employees in professional and middle management levels to ensure a pool of suitably qualified women for senior management positions when such opportunities arise. This will be part of the overarching Eskom Women Advancement Programme, through which deliberate efforts are made to develop, prioritise and deploy competent female employees in meaningful roles.

The overall picture regarding employees with disabilities is discouraging, as they are represented more at lower occupational levels. There are renewed plans to encourage managers to recruit and promote more employees with disabilities, which includes exposing all managers and employees to disability sensitisation training, aimed at increasing awareness on disability.

The approved Employment Equity Plan expired on 31 March 2016; a new plan which complies with the Employment Equity Act, 1998 is awaiting final approval. The revised plan ensures that our workforce profile is transformed at all occupational levels; it serves as a vehicle with which employment barriers and affirmative action measures can be addressed.

#### Future focus areas

- Drive systematic and sustainable supplier development and localisation (SD&L) in a manner that will not increase the total cost of ownership, thus contributing to commercial cost savings
- Coordinate and drive our socio-economic contribution through ensuring that sustainable SD&L objectives are enabled in strategies and commercial transactions
- Continue focusing on occupational levels that are underrepresented in order to achieve employment equity expectations
- Create a conducive environment to ensure that male and female employees benefit equally, with an increased representation of women in leadership positions



#### **Financial review**

#### **Chief Financial Officer's report**



#### An affordable electricity price path to support economic growth

Reliable and affordable electricity supply is the foundation for economic growth. We aim to reestablish Eskom as a catalyst for growth.

In recent years, our financial health has deteriorated due to an electricity price which is not costreflective, coupled with above-inflation cost increases, coupled with a ratings downgrade to subm investment grade and an ambitious capital expansion programme.

In response, we launched the Business Productivity Programme (BPP) to save R61.9 billion in operating and capital costs, as well as working capital, over five years. We also engaged with the shareholder to provide a Government guarantee of R350 billion to support funding. During the year under review, the shareholder loan of R60 billion was converted to equity, and the shareholder provided a further equity injection of R23 billion.

Key to strengthening our financial health is achieving an appropriate return on assets through long-term revenue certainty, with the price of electricity ultimately migrating to cost reflectivity, and by driving cost efficiencies in primary energy and operating expenses. Our financial plan over the next five years is based on a number of levers, namely moderate price increases as well as the optimisation of costs, capital and the balance sheet. The plan was based on the design-to-cost principles, to limit the growth in costs.

63 We are committed to delivering an affordable electricity price path that supports economic growth, which also restores our financial sustainability, by creating revenue certainty for the business and our lenders. We aim to submit a revenue application that can provide price certainty by applying for a three-year determination and a longer term indicative electricity price path. This will smooth the impact of potential price increases on the economy over a longer period of time, as opposed to creating shorter term price shocks.

Although our MYPD 4 revenue application will be based on the design-to-cost principles, aboveinflationary electricity price increases are necessary to ultimately migrate to cost-reflectivity. We anticipate applying for annual increases above inflation over the MYPD 4 period. This marks a change from a significantly higher price trajectory, which would have seen electricity price increases exceeding 20% per year over the next five years -ascenario that would be unsustainable for the South African economy.

A clear distinction will be made between the revenue requirement to sustain current operations. M and that which is needed for IPPs and new build projects. However, the impact of the drivers of costs and sales, and any other factors that fall outside our control, is likely to require some adjustments through the RCA process.

Cost containment measures, coupled with moderate price increases, are expected to drive substantial EBITDA growth. However, our target of increasing profitability over the next five years is under threat due to significantly increased depreciation costs, created by capitalising R300 billion in new assets. as well as higher finance costs due to growth in debt and lower interest capitalised as assets are commercialised. Furthermore, delivery of the new build programme ahead of schedule can realise 🕐 additional savings, while continuous improvement in procurement efficiencies can reap further savings.

We have optimised the capital investment plan of R339 billion to prioritise the new build programme, Generation sustainability, N-I compliance for the transmission grid and environmental compliance. The capital investment plan includes funding of current cost-plus mines to improve production and minimise cost increases from these mines. The project portfolio will be scrubbed even further in 2016/17 to release additional capital savings for the existing portfolio.

Given the challenges during the previous financial year, we are closely managing liquidity, having secured facilities which act as committed funding lines. Our strategy is to first stabilise our financial position, and then improve financial sustainability. During the stabilisation phase, key financial indicators will remain at current levels or even weaken, before improving.

We will maximise the use of our balance sheet to obtain funding by delivering increased profit, driving efficiencies, optimising Government guarantees, and sourcing funding more broadly. This leads to a funding target of R327 billion over the next five years. Over the same period, debt servicing of R383 billion will be required.

Our funding plan will focus on increasing borrowings from a number of sources, including export credit agencies (ECAs), development financing institutions (DFIs), domestic and international bond markets, and the sale of non-core assets. We are committed to maximising the use of all available levers to deliver a credible and sustainable funding strategy.

#### Financial results for the year

For the year ended 31 March 2016, the group achieved a net profit after tax of R4.6 billion (March 2015: R0.2 billion, restated), Group operating EBITDA (earnings before interest, tax, depreciation and amortisation and before fair value adjustments on financial instruments and embedded derivatives) of R32 billion has increased significantly (March 2015: R23.3 billion). The operating EBITDA margin improved to 19.77% (March 2015: 15.90%). This is largely due to revenue growth as a result of the 12.69% standard tariff increase allowed, and containing cost increases.

Group revenue amounted to R163.4 billion 1 (March 2015: R147.7 billion). Sales volumes have decreased by 0.8% against the prior year. Primary energy costs of R84.7 billion are marginally higher than the prior year (March 2015: R83.4 billion). Coal costs have reduced through the use of less expensive short- and medium-term coal sources. Spending on IPPs has increased significantly, due

to higher volumes being produced. The increase in operating expenditure to R65.6 billion (March 2015: R59.6 billion) is driven largely by an increase in

- employee benefit costs and depreciation. BPP savings of R17.5 billion (March 2015: R8.7 billion) were achieved against a target of RI3.4 billion; inception-to-date savings amount to R28.5 billion M against a target of R25.9 billion. Group capital
- expenditure amounted to R57.4 billion for the year (March 2015: R53.1 billion).
- Based on the RCA application of R22.8 billion for the 2013/14 year. NERSA awarded us additional revenue of R11.2 billion for the 2016/17 year only.
- The group's liquidity position has improved dramatically, from liquid assets of R17.4 billion a year ago to R38.7 billion at year end, largely due to the equity injection of R23 billion from the shareholder. The improvement in our liquidity position removed the concerns related to our status as a going concern, reported in the prior year.

Given the improvement in operational performance and liquidity, key financial metrics all show an improvement against the prior year.

#### Funding programme

The Board approved a borrowing programme of R327 billion for 2016/17 to 2020/21. For 2015/16 and 2016/17, funding sources of R147.9 billion have

been identified, of which R108.5 billion has already been committed at 31 March 2016: R76.9 billion has been drawn down to date. These amounts include the R23 billion equity injection received from the shareholder.

#### Outlook

Ratings agencies have raised a number of key concerns which could result in a further ratings downgrade: a Sovereign rating downgrade: a weakened liquidity position and/or a prolonged state of poor liquidity: free funds from operations as a percentage of debt below 5%; and operational weakness, with costs rising well above the budgeted targets. We are confident that our financial plan adequately addresses these concerns.

Key to the successful delivery of the financial plan will be the management of profitability and liquidity. Operational cash flow is anticipated to show strong growth over the next five years. Short-term liquidity will be managed closely by delivering operational and cost efficiencies, and ensuring revenue uplift, as well as assessing options to rephase debt redemptions between 2017/18 and 2020/21. Debt servicing is anticipated to increase over the next five years. driven by increases in interest repayments, as well as debt repayments as loans mature.

In addition, cost containment is another key component of our strategy. We have developed programmes which will deliver long-term sustainable savings and/or avoid cost escalation. These include delivering a total-cost-of-ownership (TCO) based procurement programme on major commodities; limiting the escalation of coal costs to 8% to 12% 👩 per year by increasing volumes from cost-plus mines, and improving the negotiation of other coal contracts; and reducing our company headcount to 36 768 by 2020/21, while also supporting productivity through skills-based assessments and

Given this context, our financial health is expected to improve slightly in the short term as we complete major investments in new and existing capacity and service debt commitments. The five-year plan will create a platform for Eskom to make a step-change in financial health over the remaining five years to 2025/26, while delivering an affordable electricity price path for South Africa.

Anoj Singh Group Chief Financial Officer

#### Value added statement

for the year ended 31 March 2016

	2016 Rm	2015 Rm
Revenue Other income	163 395 2 433	147 691 4 493
Less: Primary energy and other operating expenses	(104 912)	(105 695)
Value added Finance income	60 916 3 447	46 489 2 996
Wealth created	64 363	49 485
Value distributed	63 961	55 657
Benefits to employees	32 523	28 918
Social spending to communities	104	116
Taxation to Government	542	129
Value reinvested in the group to maintain and develop operations	402	(6 172)
Depreciation and amortisation	16 531	14 115
Borrowing costs capitalised	(19 426)	(17 389)
Employee costs capitalised	(3 266)	(3 006)
Deferred tax Net profit	1 946 4 617	(92) 200
Wealth created	64 363	49 485
Value created per employee		
Revenue per employee, R million	3.41	3.18
Value added per employee, R million	1.27	1.00
Value added per GWh generated, R million	0.28	0.21
Wealth created per employee, R million	1.34	1.06
Number of employees and fixed-term contractors	47 978	46 490
GWh generated	219 979	226 300



Revenue per employee
 Value added per GWh genera
 Value added per employee
 Wealth created per employee

# Condensed annual financial statements

for the year ended 31 March 2016

The group and company financial results set out in the condensed financial statements which follow have been extracted from the Eskom Holdings SOC Ltd consolidated annual financial statements for the year ended 31 March 2016, which have been prepared in accordance with International Financial Reporting Standards (IFRS) and in the manner required by the Companies Act, 2008.

The consolidated annual financial statements have been prepared under the supervision of the Group Chief Financial Officer, Mr Anoj Singh CA(SA), and were duly approved by the Board of Directors on 31 May 2016.

The consolidated annual financial statements have been audited by the group's independent auditors, SizweNtsalubaGobodo Inc. in accordance with the

# **Condensed income statements** for the year ended 31 March 2016

**Continuing operations** 163 395 147 691 163 395 147 691 Revenue Other income 2 390 4 4 4 4 2 471 6 6 4 5 Primary energy (84 728) (83 425) (84 728) (83 425) Net employee benefit expense (29 257) (25 912) (24 721) (22 187) (1 170) (3 766) (3 755) Net impairment loss (1 159) Other expenses (18 663) (15 771) (25 170) (22 083) Profit before depreciation and amortisation and net fair value loss 31 967 23 261 30 088 22 886 (operating EBITDA) (16 517) Depreciation and amortisation expense (16 531) (14 115) (14 001) Net fair value loss on financial instruments excluding embedded derivatives (1 452) (4 117) (1 492) (4 208) Net fair value gain on embedded derivatives 997 1 310 996 1 310 5 987 Profit before net finance cost 14 981 6 339 13 075 Net finance cost (7 919) (6 109) (8 776) (6 769) Finance income 3 4 4 7 2 996 2 667 2 360 Finance cost (11 366) (9 105) (11 443) (9 129) Share of profit of equity-accounted investees, net of tax 43 49 -\_ Profit before tax 7 105 279 4 2 9 9 (782) (2 488) (1 697) 160 Income tax (37) Profit for the year from continuing operations 4 617 242 2 602 (622) **Discontinued operations** Profit for the year from discontinued operations (42) Profit for the year 4 617 200 2 602 (622) Attributable to: Owner of the company 4 617 200 2 602 (622)

Refer to note 49 in the consolidated annual financial statements for detail of the restatement of comparatives.

Public Audit Act of South Africa, 2008, the General Notice issued in terms thereof and International Standards on Auditing; they issued an unmodified opinion.

The consolidated annual financial statements, which detail the financial performance of the group and company, together with the unmodified audit opinion issued by the independent auditors, are available online

The financial statements may also be inspected at Eskom's registered office; limited copies are available on request.

Any reference to future performance plans and/ or strategies included in the integrated report has not been reviewed or reported on by the group's independent auditors.

www

# Condensed annual financial statements

#### **Condensed statements of comprehensive income**

for the year ended 31 March 2016

	Group		Company		
	2016 Rm	Restated 2015 Rm	2016 Rm	Restated 2015 Rm	
Profit for the year	4 617	200	2 602	(622)	
Other comprehensive income/(loss)	6 508	(1 155)	6 481	(1 162)	
Items that may be reclassified subsequently to profit or loss	5 903	(501)	5 884	(525)	
Available-for-sale financial assets – net change in fair value	(57)	(63)	(54)	(64)	
Cash flow hedges – effective portion of changes in fair value	8 829	471	8 8 2 9	471	
Net amount transferred to initial carrying amount of hedged items	(603)	(   36)	(603)	(1 136)	
Foreign currency translation differences on foreign operations	21	24	-	-	
Income tax thereon	(2 287)	203	(2 288)	204	
Items that may not be reclassified subsequently to profit or loss	605	(654)	597	(637)	
Remeasurement of post-employment medical benefits	840	(909)	830	(884)	
Income tax thereon	(235)	255	(233)	247	
Total comprehensive income for the year	11 125	(955)	9 083	(1 784)	
Attributable to:					
Owner of the company	11 125	(955)	9 083	(1 784)	

#### Condensed statements of changes in equity

for the year ended 31 March 2016

	Group		Company	
	2016 Rm	Restated 2015 Rm	2016 Rm	Restated 2015 Rm
Restated balance at the beginning of the year	117 164	118 119	110 957	113 006
Previously reported Prior year restatements, net of tax	122 247 (5 083)	119 784 (1 665)	116 040 (5 083)	4 67  (  665)
Total comprehensive income/(loss) for the year Share capital issued Converison of subordinated shareholder loan to equity	11 125 23 000 29 274	(955) _ _	9 083 23 000 29 274	(I 784) - -
Balance at the end of the year	180 563	7  64	-	(265)
Comprising: Share capital Equity reserve Cash flow hedge reserve Available-for-sale reserve Unrealised fair value reserve Foreien currency translation reserve	83 000 	- 30 520 5 699 4 (8 854) 18	83 000 - 11 622 (34) (16 712)	
Accumulated profit	102 651	89 777	94 438	83 587

I. Includes the R23 billion equity injection and the R60 billion shareholder loan converted to equity.

Refer to note 49 in the consolidated annual financial statements for detail of the restatement of comparatives.

#### Condensed statements of financial position

at 31 March 2016

				Corr	npany
			Restated		Restated
	20	16			2015
		۱m	Rm	Rm	Rm
Assets					
Non-current assets	565 4	75	500 259	566 388	493 387
Property, plant and equipment and intangible assets	521	74	458 881	522 228	460 214
nvestment in equity-accounted investees	3	60	348	95	95
Future fuel supplies	10 5	02	9 079	10 502	9 079
investment in securities	2 4	85	2 481	2 485	2 481
Loans receivable		70	8 646	-	-
Derivatives held for risk management	27 6	00	14 303	27 600	14 303
Other assets	3 2	84	6 521	3 478	7 215
Current assets	86 2	68	57 686	87 644	59 442
Inventories	17 8	21	16 033	17 641	15 896
Investment in securities	7 3	41	6 015	2 067	2 321
Loans receivable		10	269	6 3 5 2	6 553
Derivatives held for risk management	2 5	82	709	2 582	709
Trade and other receivables	21 8	011	16 856	24 455	18 553
Financial trading assets	38	44	6 322	2 657	5 143
Other assets	4 (	06	2 619	3 754	2 281
Cash and cash equivalents	28 2	54	8 863	28 130	/ 986
Non-current assets held-for-sale	8 9	42	-	148	-
Total assets	660 6	85	557 945	654 180	552 829
Equity					
Capital and reserves attributable to the owner of the company	180 5	63	117 164	172 314	110 957
Liabilities					
Non-current liabilities	404 3	43	366 146	403 569	364 164
Debt securities and horrowings	306 9	70	277 458	306 901	275 954
Embedded derivatives	5.65	10	6 647	5 410	6 646
Derivatives held for risk management	2.8	62	2 641	2 862	2 641
Deferred tax	21 0	00	18 154	20 621	17 848
Deferred income	15 !	516	14 055	15 516	14 055
Employee benefit obligations	12 4	05	11 960	12 094	11 665
Provisions	32 8	41	31 078	32 826	31 039
Other liabilities	7 3	39	4 153	7 339	4 316
Current liabilities	73 9	71	74 635	78 297	77 708
Debt securities and borrowings	15 6	88	19 976	19 056	22 176
Embedded derivatives	1.0	515	I 375	1 615	I 375
Derivatives held for risk management	2 (	)	2 845	2 024	2 845
Employee benefit obligations	5	90	3 926	4 997	3 661
Provisions	11.4	115	9 972	11 198	9 807
Trade and other payables	32 3	19	27 984	33 739	29 267
Financial trading liabilities		50	2 059	1 250	5 499
Other habilities		0.5	3 038	4 410	3 078
Non-current liabilities held-for-sale	8 1	08	-	-	-
Total liabilities	480	22	440 781	481 866	441 872
Total equity and liabilities	660 6	85	557 945	654 180	552 829
	_				

Refer to note 49 in the consolidated annual financial statements for detail of the restatement of comparatives.

# Condensed annual financial statements continued

#### **Condensed statements of cash flows**

for the year ended 31 March 2016

		Group		pany
		Restated		Restated
	2016 Rm	2015 Rm	2016 Rm	2015 Rm
Cash flows from operating activities				
Profit/(loss) before tax	7 105	279	4 299	(782)
Adjustment for non-cash items	29 904	36 117	30 722	36 879
Changes in working capital	(2 201)	(8 868)	(2 305)	(10 647)
Cash generated from operations	34 808	27 528	32 716	25 450
Net cash flows from/(to) derivatives held for risk management	643	(751)	622	(751)
Interest received	2 3 2 2	697	2 322	696
Interest paid	(11)	(10)	(11)	(10)
Income taxes paid	(520)	(153)	-	-
Net cash from operating activities	37 242	27 311	35 649	25 385
Cash flows from investing activities				
Proceeds from disposal of property, plant and equipment	360	139	302	136
Acquisitions of property, plant and equipment and intangibles	(54 175)	(52 424)	(54 164)	(51 204)
Expenditure on future fuel supplies	(1 754)	(1 999)	(1 754)	(1 999)
Increase in payments made in advance	(274)	(966)	(274)	(966)
Expenditure incurred on provisions	(3 054)	(1 670)	(3 054)	(1 670)
Net cash flows from derivatives held for risk management	771	253	771	253
Increase in investment in securities and financial trading assets	(1 886)	(966)	-	-
Interest received	1 202	1 068	559	465
Other cash flows from investing activities	220	179	336	193
Net cash used in investing activities	(58 590)	(56 386)	(57 278)	(54 792)
Cash flows from financing activities				
Debt securities and borrowings raised	41 052	49 500	41 840	50 559
Payments made in advance to secure debt raised	(555)	(187)	(555)	(187)
Debt securities and borrowings repaid	(11 123)	(14 429)	(11 013)	(15 251)
Share capital issued	23 000	-	23 000	-
Net cash flows from/(used in) derivatives held for risk management	11 847	(1 982)	11 847	(1 982)
(Decrease)/increase in investment in securities and financial trading assets and liabilities	(1 621)	778	(1 621)	778
Interest received	1 275	1 449	1 250	4 7
Interest paid	(22 791)	(17 064)	(22 944)	(17 106)
Other cash flows from financing activities	(157)	(111)	(99)	(163)
Net cash from financing activities	40 927	17 954	41 705	18 065
Net increase/(decrease) in cash and cash equivalents	19 579	(    2 )	20 076	(11 342)
Cash and cash equivalents at the beginning of the year	8 863	19 676	7 986	19 044
Foreign currency translation	21	24	-	-
Effect of movements in exchange rates on cash held	75	284	74	284
Cash and cash equivalents transferred to non-current assets held-for-sale	(84)	-	-	
Cash and cash equivalents at the end of the year	28 454	8 863	28 136	7 986

Refer to note 49 in the consolidated annual financial statements for detail of the restatement of comparatives.

#### Key accounting policies, significant judgements and estimates

#### **Key accounting policies**

Our condensed annual financial statements do not include all the information required for full financial statements and should be read in conjunction with the consolidated annual financial statements for the year ended 31 March 2016, which have been prepared on the going concern basis.

The separate and consolidated annual financial statements are prepared on the historical cost basis, except for certain items that are measured at fair value.

We have consistently applied the accounting policies to all periods presented, except for new or revised statements and interpretations implemented during the year, the impact of which is detailed in the full set of consolidated annual financial statements, as well as restatements due to a change in the measurement basis of cross-currency swaps classified as derivatives held for risk management, and the classification of EFC as held-for-sale.

We use a valuation technique in terms of IFRS to determine the fair value of crosscurrency swaps held for risk management. We reviewed the methodology used in arriving at the fair value of cross currency swaps; this resulted in a change in the valuation technique which resulted in a measurement that is more representative of the fair value of the cross-currency swaps. The change resulted in an improvement in the adjustment for nonperformance risk, particularly credit risk. The fair value credit valuation adjustment (CVA) and debit valuation adjustment (DVA) ensured that the fair value of the cross-currency swaps represents the net exposure to the counterparty.

As the improvement in the valuation technique is relevant to determine the fair value in prior years, and given the size of the adjustments related to prior years, the prior year financial statements have been restated.

Certain of our key accounting policies are set out below.

Refer to note 2 in the consolidated annual financial statements for our significant accounting policies

#### Determination of fair value

Fair values are based on quoted bid prices if available, otherwise valuation techniques are used.

#### Foreign currency translation

Foreign currency transactions are translated into rand using the exchange rates prevailing at the date of the transaction. Non-monetary items are measured at historical cost. Foreign loans are remeasured to spot rate at every reporting date.

#### Revenue

We earn revenue through the sale of electricity to customers. Revenue is recognised when the electricity is consumed by the customer, but only to the extent that it is considered recoverable.

# Capital contributions received from customers

Contributions received in advance from electricity customers to construct infrastructure dedicated to them are recognised as other revenue once the customer is connected to the electricity network.

#### **Government grants**

Government grants received for the creation of electrification assets are first recognised in liabilities as deferred income, and thereafter credited to profit or loss within depreciation and amortisation expense on a straight-line basis over the expected useful lives of the related assets.

#### Impairment of non-financial assets

The carrying amounts of property, plant and equipment and intangibles are reviewed at each reporting date to determine if there is any indication of impairment, or when events indicate that the carrying amount may not be recoverable. Servitude rights, that are considered to have an indefinite useful life, are not subject to amortisation or depreciation but are tested annually for impairment.

#### Finance income

Finance income comprises interest receivable on loans, advances, trade receivables, finance lease receivables and income from financial market investments, and is recognised as it accrues using the effective interest rate method.

#### Finance cost

Finance cost comprises interest payable on borrowings, interest resulting from hedging instruments and interest from the unwinding of discount on liabilities. To the extent that assets are financed by borrowings, certain borrowing costs are capitalised to the cost of assets over the period of construction until the asset is substantially ready for its intended use. The weighted average of borrowing costs applicable to all borrowings is used, unless an asset is financed by a specific loan, in which case the specific rate is used.

#### Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation and impairment losses. Land is not depreciated; other assets are depreciated using the straight-line method to allocate their cost to their residual values over their estimated useful lives. Spare parts classified as strategic and critical spares are treated as property, plant and equipment. Repairs and maintenance is charged to profit or loss during the financial period in which it is incurred.

#### Key accounting policies, significant judgements and estimates continued

#### **Financial assets**

Non-derivative financial assets are initially recognised at fair value net of any directly attributable transaction costs and subsequently measured per asset category. Thereafter, heldfor-trading financial assets are recognised at fair value through profit or loss; loans and receivables are measured at amortised cost using the effective interest rate method less accumulated impairment losses.

#### **Financial liabilities**

Non-derivative financial liabilities are initially recognised at fair value net of any directly attributable transaction costs. Thereafter, held-fortrading financial liabilities are recognised at fair value through profit or loss; those financial liabilities that are not held for trading are measured at amortised cost using the effective interest rate method.

#### **Embedded derivatives**

An embedded derivative is an element of a combined instrument that includes a non-derivative host contract, with the effect that some of the cash flows of the combined instrument vary in a way similar to those of a standalone derivative. Embedded derivatives are disclosed separately from hedging instruments. Embedded derivatives that are not separated are effectively accounted for as part of the hybrid instrument.

#### **Provisions**

We recognise a provision when we have a present legal or constructive obligation as a result of a past event, when an outflow of resources is probable and the amount can be reliably estimated.

#### Significant judgements and estimates

We make judgements, estimates and assumptions concerning the future. Due to their nature, the resulting accounting estimates seldom equal the actual results. Estimates and judgements are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances, and are evaluated continually. Revisions to accounting estimates are recognised in the period in which they are revised and the future periods they affect.

The items that follow are those that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.



Critical accounting estimates and assumptions are set out in detail in note 4 in the consolidated annual financial statements

#### **Embedded derivatives**

We have entered into a number of agreements to supply electricity to electricity-intensive businesses. where the revenue from these contracts is linked to commodity prices, foreign currency rates or foreign production price indices, giving rise to embedded derivatives. The fair value of embedded derivatives is determined by using a forward electricity price curve to value the host contract, while the derivative contract is valued by using market forecasts of future commodity prices, foreign currency exchange rates, interest rate differential, future sales volumes, production price and liquidity, model risk and other economic factors.

#### **Post-employment medical benefits**

We recognise a liability for post-employment medical benefits to qualifying retirees, for both inservice and retired members, based on an actuarial valuation performed annually, using the projected unit credit method. The post-employment medical benefits plan is unfunded.

#### **Occasional and service leave**

A liability is recognised for occasional and service leave due to employees, based on an actuarial valuation performed annually.

#### Provisions for decommissioning, mine closure and rehabilitation

Provision is made for the estimated decommissioning cost of nuclear and other generating plant, as well as the management of spent nuclear fuel assemblies and radioactive waste. Provision is also made for the estimated mine-related closure, pollution control and rehabilitation costs at the end of the life of certain coal mines, where a constructive and contractual obligation exists to pay coal suppliers.

#### **Provision for coal-related obligations**

We provide for coal-related obligations which arise out of contractual obligations as a result of delays in commissioning of the related power stations. which are determined by taking into account the anticipated commissioning dates, future coal prices, coal utilisation and coal stockpiles.

#### **Financial review**

#### **Financial sustainability**



#### $\bigcirc$ HIGHLIGHTS

- Achieved operating EBITDA of R32 billion
  BPP savings of R17.5 billion banked
- Funding of R85.5 billion (excluding equity) secured for 2015/16 and 2016/17
- Equirements
   Equity injection of R23 billion received, and the R60 billion subordinated shareholder

#### $\bigcirc$ **CHALLENGES**

- Stagnating or declining sales in key customer segments
- Expenditure on OCGTs of R8.7 billion in order to ensure security of supply
   IPP purchases account for 18% of primary
- energy, although IPPs contribute only 4% of electricity generated
   NERSA approved RCA of R11.2 billion
- (against application of R22.8 billion), of which only R10.3 billion can be recovered from standard customers

#### LOWLIGHTS (ê

municipalities and Soweto, continues to

We faced a liquidity challenge due to the continued 🔞 use of OCGTs in order to keep the lights on, as well as the increased cost of IPPs, coupled with the electricity price and RCA awarded by NERSA being lower than requested. Although mostly funded externally, the costs related to the capital expansion programme add to the liquidity pressures. Ongoing 🔊 construction schedule delays have impacted the total cost of projects, specifically Medupi and Kusile, necessitating the revision of business cases. Nevertheless, liquidity has improved significantly compared to the prior year.

Total municipal arrear debt (including interest) increased to R6 billion at 31 March 2016 (March 2015: R5 billion). A total of 60 payment agreements have been signed with defaulting municipalities. including 19 of the top 20 defaulting municipalities. Soweto arrear debt has increased to R4.7 billion (March 2015: R4 billion), with the payment level during the period at 18%.

The conversion of the subordinated Government loan of R60 billion to equity delivers no additional cash inflow. It will alleviate the need to repay the loan in future and remove the need to account for interest thereon. The largest impact is the strengthening of our financial position, specifically our debt-to-equity ratio, which will assist in raising funding in future. Although the R23 billion equity injection will ease liquidity pressures in the short term, further interventions are required to improve our financial sustainability.



# Financial sustainability

#### Looking back on 2015

Our efforts to realise the benefits from the BPP Programme are ongoing; we exceeded our current year target.

Our strategy aims to alleviate ratings agencies' concerns regarding our highly leveraged financial profile, the inadequate electricity price and our extensive funding requirements, in order to avoid further ratings downgrades and ultimately, regain an investment grade credit rating.



The group achieved a net profit after tax of

R4.6 billion for the year (March 2015: R0.2 billion,

restated), while operating EBITDA of R32 billion

**Financial results of operations** 

We continue to raise funding for the new build programme – we met our target for funding in the current year.

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Company							
Cost of electricity (excluding depreciation), R/MWh <sup>sc</sup>	942.95	731.36	647.66	640.03	610.43	541.92	•
Electricity revenue per kWh (including environmental levy), c/kWh	134.55	85.94	78.32	76.24	67.91	62.82	•
Electricity operating EBITDA margin, %	30.57	16.84	18.93	18.61	15.65	16.15	•
Group							
Operating EBITDA, R million	90 650	30 355	33 432	31 967	23 261	23 586	
Operating EBITDA margin, %	31.08	16.92	19.86	19.77	15.90	17.23	
Interest cover, ratio	0.90	0.24	0.42	0.55	0.27	0.60	
Working capital, ratio	0.77	0.61	0.80	0.83	0.81	0.71	

company

1. Prior year figures have been restated.

#### Sales and revenue

#### Electricity revenue increased by 10.5%

Revenue for the group was R163.4 billion (March 2015: R147.7 billion). Electricity revenue of R161.7 billion (March 2015: R146.3 billion) increased by R15.4 billion year-on-year, which equates to an overall increase of 10.5% against the prior year, lower than the 12.69% standard tariff increase granted, due to a contraction in sales volumes. However, when comparing the revenue per kWh sold, the year-on-year increase is 12.3%, as we are not able to adjust the prices for international customers and certain special pricing agreements, as well as time-of-use customers shifting demand to less expensive periods.

Although NERSA awarded us additional revenue of R7.8 billion in the 2015/16 financial year, not all of the additional revenue was earned, due to the lower sales volumes, or collectable, highlighted by the current increasing debt amongst municipalities. Electricity sales of 214 487GWh for the year (March 2015: 216 274GWh) were 0.8% lower than last year. This is due to a warmer winter, sluggish economic growth as well as the impact of load shedding and load curtailment during the year, which is estimated at 1 064GWh. Smelters closing down or reducing production, as well as lower commodity prices, also contributed to the reduction in electricity sales. However, international sales increased, mainly due to the drought in the region curtailing hydro generation in Namibia, Zambia and Zimbabwe due to low water levels in the Gove and Kariba Dams, as well as increased sales to Swaziland.

#### Tariff design

6.3

We submitted two new tariff options to NERSA in the 2015/16 financial year. Landlight 60A and Critical Peak Day Pricing, as well as an amendment to the notified maximum demand (NMD) rules to accommodate generator export capacity. Landlight 60A is a tariff to cater for low-consumption rural supplies, while Critical Peak Day Pricing is an innovative tariff option that can be used in times of supply constraints; it provides very high prices on critical peak days and lower prices on other days. NERSA has approved Landlight 60A and will take Critical Peak Day Pricing through a public consultation process in 2016. More information on Critical Peak Day Pricing tariffs can be found at www.eskom.co.za/tariffs

We are investigating new tariff developments such as rationalisation of municipal tariffs, changes to time-of-use ratios, net-billing tariffs, residential time-of-use and short-term pricing products. These tariff options aim to increase the flexibility for both the customer and Eskom, while taking into account the changing business environment. Tariffs will also be updated to more accurately reflect time and location, demand, fixed versus variable costs, as well as the different cost drivers such as energy, Transmission and Distribution network costs, and retail costs.

#### **Operating costs** Electricity operating costs contained



#### **Primary energy**

Primary energy cost (including coal, water and liquid fuels) increased marginally to R84.7 billion (March 2015: R83.4 billion). We continued to operate the OCGTs at higher than expected levels during the first four months of the financial year in order to ease the strain on electricity supply, and to reduce the need for load shedding resulting from continued generating capacity constraints and tight operating reserve margins.

#### Merit order

We apply a least-cost merit order despatch approach, based on the incremental fuel cost, to select the order in which power stations are used. It starts with nuclear as the cheapest, then various groupings of coal-fired power stations, based on their coal cost, and lastly OCGTs.

The merit order is used in conjunction with the system energy requirements, fuel constraints and generation plant production constraints to determine the optimised, leastcost production plan.

During the prior year, we accounted for an obligation of R7.8 billion due in terms of the Medupi take-or-pay coal supply contract, of which R1.7 billion was reversed during the current year. Furthermore, the early closure of Arnot Colliery has resulted in an accelerated mine rehabilitation provision of R1.9 billion raised during the current year. Excluding these amounts, primary energy increased by R8.9 billion year-on-year, an increase of 12%, of which R5.6 billion relates to increased purchases from IPPs.

The cost of running the OCGTs remains a significant contributor to primary energy cost, amounting to R8.7 billion and powering the generation of 3 936GWh during the year (March 2015: R9.6 billion and 3 709GWh).

Purchases from IPPs amounted to R15.4 billion for the year, adding an additional 9 033GWh to the energy mix (March 2015: R9.5 billion and 6 022GWh). Increased production from IPPs contributed to a reduction in volumes required from coal-fired stations, which resulted in a reduction in coal usage.

60

Ô

#### **Financial sustainability** continued

The graphs set out the breakdown of primary energy costs, with the contribution to energy production in brackets.



Nuclear fue Environmental leve OGCTs Other Electricity imports



#### Other operating costs

The number of employees in the group (inclusive of fixed-term contractors) increased to 47 978 (March 2015: 46 490). The increase was primarily due to permanent appointment of trainees, as well as the alignment with the Labour Relations Act amendments, leading to the permanent appointment of 743 temporary employees. Net employee benefit costs for the year amounted to R29.3 billion (March 2015: R25.9 billion).

Net impairments recognised amounted to RI.2 billion (March 2015: R3.8 billion), largely due 63 to the uncertainty of collecting revenue, as well as impairment of property, plant and equipment. The CO cumulative impairment provision raised for arrear customer debt (excluding interest) was R7.8 billion at 31 March 2016 for all electricity debtors (March 2015: R7.4 billion).

Maintenance expenditure remains a large 🔞 contributor to operating expenditure. The group's net repairs and maintenance for the year (after capitalisation) amounted to R4.4 billion (March 2015: R4.9 billion).

Other operating expenses, including maintenance, amounted to R18.7 billion (March 2015: R15.8 billion). The increase is largely driven by an increase in insurance premiums.

Depreciation and amortisation increased to RI6.5 billion (March 2015: RI4.1 billion), due to more M capital projects being transferred to commercial operation, the largest of which is Medupi Unit 6.

#### Net fair value loss on financial instruments and embedded derivatives

The net fair value loss for the group on financial instruments, excluding embedded derivatives, was R1.5 billion (March 2015: R4.1 billion, restated), and arose from fair value movements, as well as premium and volume variances on forward exchange contracts due to the ongoing hedging of interest and principal repayments on foreign borrowings, coupled with exchange rate movements.

Changes in the fair value of embedded derivatives continued to impact the group income statement. The net impact for the year was a fair value gain of RI billion (March 2015: RI.3 billion), as a result of the depreciation of the rand against the US dollar. an average decrease in aluminium prices since 31 March 2015, and the unwinding of volumes and interest.

#### Net finance cost

Gross finance income for the year was R3.4 billion for the group (March 2015: R3 billion). Gross finance cost for the group was R30.8 billion (March 2015: R26.5 billion). Borrowing costs capitalised to property, plant and equipment amounted to RI9.4 billion (March 2015: RI7.4 billion), and the unwinding of interest included in gross finance cost amounted to R4 billion (March 2015: R3.6 billion).

#### Taxation

The effective tax rate for the year was 35% (March 2015: 13.3%), due to an increase in nondeductible expenditure.

#### 63 Update on revenue applications submitted to NERSA

We formally retracted the initial 2013/14 Regulatory Clearing Account (RCA) submission of R38 billion which was submitted in February 2015: we submitted a revised RCA application for 2013/14 amounting to R22.8 billion during November 2015.

The major drivers of the RCA balance comprise the underrecovery of revenue linked to lower sales volumes, as well as higher primary energy costs incurred relating to IPPs, OCGTs and coal in order to meet demand, thereby minimising the need for load shedding. We believe that the costs were prudently incurred.

#### The RCA process explained

For any company, including Eskom, to be financially sustainable, its revenue must cover the costs incurred for producing the electricity that is generated and distributed to customers. This is also recognised in the Electricity Regulation Act, 2006 which states that "the regulation of revenues must enable an efficient licensee to recover the full cost of its licensed activities. including a reasonable margin or return". This principle is the basis of NERSA's multi-year pricing determination (MYPD) methodology to determine our allowed revenue, which is divided into two distinct components.

The first component addresses the building blocks for the determination of the allowed revenue when we make an MYPD application. These include the recovery of primary energy costs: operating and maintenance costs: invested capital, including allowing for the repayment of the principal debt (depreciation); and return on assets, to provide a return on invested capital, including allowing for the payment of interest.

The second component is a risk management mechanism to address the risk of excess or inadequate returns. This is achieved through the adjustment of allowed revenue through the RCA. The RCA is a monitoring and tracking mechanism that compares certain costs and revenues assumed in NERSA's MYPD decision to actual costs prudently incurred by Eskom and actual revenues, as reflected in our audited

In response to our RCA application, NERSA allowed us additional revenue of R11.2 billion for the 2016/17 year only, although we will only be able to recover RI0.3 billion from standard tariff customers in 2016/17, an average increase of 9.4%. However, the additional revenue allowed was based on the sales volumes estimated in the MYPD 3 application, which are significantly higher than current sales volumes, and the full amount will therefore not be recovered. Due to binding tariffs, we will also not be able to recover the R983 million awarded by NERSA for local and international special pricing agreements (SPAs), as well as certain international utility agreements.

financial statements. Should there be a difference between the decision and actual costs and revenues, the difference is subject to the RCA rules which allow for an under- or overrecovery of such costs. If the RCA balance is in our favour. the electricity price will be adjusted upwards; if it is in the customers' favour, the electricity price will be adjusted downwards. This process is a globally-accepted regulatory principle.

The RCA mechanism applies to every elapsed year of the MYPD. It is a means to retrospectively reconcile the variances between the assumptions upon which NERSA had based its revenue decision, and the actual outcome, for certain specified elements. The RCA caters for overand underrecoveries, just as the petrol price is adjusted on a monthly basis; a similar principle applies but on an annual basis. Therefore, the criticism that we are seeking to change the MYPD decision under the guise of the RCA is not true.

The RCA process will take place on elapsed years whether or not a reopening on a future year takes place. Any approved recovery of variances takes place by adjusting the electricity price in a future year, relative to what was approved in the MYPD determination. It is inherent to the RCA process that there would be a delay of at least one year between a variance occurring and the revenue adjustment taking place, whether it is an increase (in Eskom's favour) or a decrease (in our customers' favour).

As allowed by the MYPD methodology, we will submit RCA applications for prudently incurred costs and revenue variances for 2014/15 and 2015/16, being the second and third years of MYPD 3. Based on the principles and precedents set in NERSA's RCA decision for 2013/14, indications are the submissions will amount to approximately RI9 billion and R22 billion respectively. We intend submitting both applications by the end of July 2016.

#### **Financial sustainability** continued

NERSA indicated that we must submit a new MYPD application, based on revised assumptions and forecasts that reflect recent circumstances. Once discussions with NERSA have been finalised. a decision will be made regarding the new revenue application. Nevertheless, we aim to smooth the impact of potential price increases on the economy over a longer period, as opposed to creating shorter term price shocks.

NERSA is currently reviewing the MYPD methodology and has circulated a consultation paper for stakeholder comment. Public hearings will be held in June 2016 with a decision expected by 30 June 2016. We will participate in the process.

Our review of the proposed MYPD methodology reflects an intention to transfer significant risk from the consumer to Eskom.

#### **Progress on the Business Productivity Programme**

BPP aims to deliver cost savings opportunities in order to close the revenue shortfall that resulted mainly from NERSA's MYPD 3 revenue determination granting an average increase of 8% per year. Savings opportunities to the value of R61.9 billion were identified over the five years to 31 March 2018.

For the year ended 31 March 2016, savings of R17.5 billion were achieved (March 2015: R8.7 billion) against a target of R13.4 billion, a stretch of R4.1 billion. Inception-to-date savings amount to R28.5 billion against a target of R25.9 billion,

#### **Credit ratings and solvency**

#### **Solvency** ratios

Measure and unit	Target 2020/21	Target 2016/17	Target 2015/16	Actual 2015/16	Actual 2014/15	Actual 2013/14	Target met?
Group							
Free funds from operations (FFO), R million	100 206	37 605	34 495	39 443	36 179	27 542	٠
FFO as % of total debt, %	16.36	8.40	9.02	10.98	11.00	9.73	
Gross debt/EBITDA, ratio	6.89	15.20	12.46	11.40	16.08	12.41	
Debt service cover, ratio	0.87	1.03	0.82	1.07	0.92	1.21	
Debt/equity (including long-term provisions), ratio	3.77	2.30	2.51	1.67	2.53	2.11	•
Gearing, %	79.04	69.70	71.51	62.55	71.67	67.85	

1. Prior year figures have been restated.

an overall stretch of R2.6 billion. The biggest contributions to date came from the external spend operational and capital expenditure value packages. as well as primary energy savings, which include the reduction in coal stockpile days.

#### Liquidity

page 57

Cash and cash equivalents increased to R28.5 billion at year end (March 2015: R8.9 billion), largely due to the receipt of the R23 billion equity injection in terms of the Government support package. Liquid assets, which include investment in securities, increased to R38.7 billion (March 2015: R17.4 billion).

The group's net cash inflow from operating activities for the year was R37.2 billion (March 2015: R27.3 billion). The working capital ratio remained stable at 0.82 (March 2015: 0.81), while the interest cover ratio improved slightly to 0.58 (March 2015: 0.47).

Cash flows used in investing activities were R58.6 billion for the year (March 2015: R56.4 billion) for the group. The capital expenditure cash flows on property, plant and equipment, intangible assets and future fuel included in this line item, exclusive of capitalised borrowing costs, amounted to R55.9 billion (March 2015: R54.4 billion), mainly due to expenditure on the capital expansion programme and Generation outages.

For detail of capital expenditure incurred, refer to the table on

Net cash inflows from financing activities for the period were R40.9 billion (March 2015: R18 billion) for the group, and include the equity injection of R23 billion

Our credit ratings were downgraded to subinvestment grade by both Moody's and S&P during the previous financial year, with S&P citing concerns such as poor operational performance, a weak 60 financial profile due to the lack of cost-reflective pricing and the lack of leadership stability. Fitch (1) also downgraded our local currency and standalone A ratings on 11 December 2015.

> Since then, credit ratings have remained unchanged, although Moody's placed our ratings on review for a possible downgrade on 9 March 2016, driven largely by the weakening of the Sovereign credit profile. Subsequently, the outlook was changed to negative, but the ratings affirmed, on 9 May 2016. This is driven by the confirmation of South Africa's Baa2 bond and issuer ratings on 6 May 2016.

Government support remains critical to stabilise credit ratings.

#### Summary of Eskom's credit ratings at 31 March 2016

Rating	Standard & Poor's	Moody's	Fitch: local currency
Foreign currency	BB+	Bal	-
Local currency	BB+	Bal	BBB
Standalone	ccc+	b3	В-
Outlook	Negative	Negative	Stable
Last rating action	Affirmed	Affirmed	Affirmed
Last action date	9 Dec 2015	9 May 2016	7 Mar 2016

In the event of a Sovereign downgrade to a subinvestment grade, there will be no additional impact on the Government guaranteed debt, but it may require engagement with the affected lenders. The impact of a Sovereign downgrade will however impact the cost and volume of future funding to be raised given the available Government guarantees to execute our funding plan.

#### Funding activities

We are still operating in a challenging environment. including a sub-investment grade credit rating and negative credit sentiment, which made the concluding of funding initiatives difficult, as well as increasing the pricing thereof. Notwithstanding these challenges, we have successfully managed the current liquidity and longer term funding requirements, and have satisfactorily implemented the approved borrowing programme, which remains focused on funding the balance of the committed build programme.

Our borrowing programme relates to the funding of Eskom Holdings SOC Ltd and excludes our subsidiaries. The Board has approved a revised borrowing programme of R327 billion, covering the period | April 2016 to 31 March 2021.

R billion	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Domestic bond private placement	10.0	-	-	_	-	10.0
Swap restructuring	1.8	-	_	-		1.8
Domestic bonds	7.0	8.0	8.0	8.5	10.0	41.5
International bonds and loans	-	5.5	7.0	12.0	-	24.5
Commercial paper <sup>1</sup>	6.0	6.0	7.5	8.5	10.0	38.0
DFI financing <sup>2</sup>	33.4	41.4	34.9	32.7		142.4
ECA financing <sup>3</sup>	10.3	5.5	7.8	3.2		26.8
Aspirational options <sup>4</sup>	-	2.2	2.9	3.5	33.3	41.9
Total	68.5	68.6	68.1	68.4	53.3	326.9

1. Gross issuance and redemptions of commercial paper are included in borrowing requirements.

2. DFI financing includes existing and new loans.

3. ECA financing includes existing and new loans.

4. Structured products include bank loans, Sukkuks, refinancing structures and swap restructurings.

The volume of debt per category takes into account a balance of anticipated investor capacity and appetite, market depth, cost, required covenants, tenor, phasing of liquidity requirements and execution risk. These elements are dynamic, and domestic funding in particular has been determined with reference to the historical market capacity of domestic institutional investors, considering collective state entity and sovereign domestic issuance which is typically placed annually. Given the relative value proposition, we will seek to maximise the amount of domestic funding.

The approval of the borrowing plan of R327 billion was done before NERSA's decision on the 2013/14 RCA application, which effectively allows maximum additional revenue of R10.3 billion in 2016/17. The shortfall of approximately R12.5 billion on our 🚺 application will be closed by additional cost savings and reprioritising the capital expenditure portfolio.

#### **Financial sustainability**

continued

Funding raised during the year is shown in the table below.

Progress on the execution of the 2015/16 and 2016/17 borrowing programmes

Potential sources, R billion	Source	Committed to date <sup>!</sup>	Drawdowns to date <sup>2</sup>
Domestic bonds	15.2	8.2	8.2
International bonds and loans	7.6	7.6	7.6
Commercial paper and short-term notes	12.3	6.3	6.3
Existing and new DFIs	23.7	23.7	10.9
Existing and new ECAs	11.9	11.9	4.7
New domestic bond private placement	20.0	20.0	10.0
Other/new <sup>3</sup>	26.4	-	-
Swap restructuring	7.9	7.9	6.2
Shareholder equity	23.0	23.0	23.0
Total	147.9	108.5	76.9

1. Funding raised or signed facilities with milestone drawdowns.

2. Period I April 2015 to 31 March 2016.

3. Unsigned ECA and DFI financing.

At 31 March 2016, we have secured the full R76.9 billion required for 2015/16, as well as R31.7 billion of the amount required for 2016/17. In order to obtain the balance required, we intend to raise the required borrowings by using a combination of local bonds, commercial paper, international bonds and loans, DFI funding, ECA supported funding, and structured products, which include private placements, balance sheet optimisation structures, notes and loans.

The execution of our funding plan will impact our cash flows for many years to come. The anticipated outflows of capital and interest payments on our debt book are shown below.



Anticipated capital and interest cashflow at 31 March 2016, R billion	s (including swaps)	) of the strategic a	and trading

Capital
 Interest

#### Future focus areas

- Maintain an appropriate liquidity buffer given operational requirements and the execution of the borrowing programme
- Focus on alleviating rating agencies' concerns regarding our highly leveraged financial profile, inadequate electricity price path and funding requirements
- 0 Continue to raise funding for the build programme, both cost effectively and within acceptable levels of risk

# $(\mathbf{F})$ $\square$

**Our governance** 

Ethical leadership forms the foundation of effective corporate governance. Integrating sustainability concerns with decision-making in an effective manner is of utmost importance.

#### **Governance Framework**

Eskom was founded in 1923; the company as it exists today was incorporated in accordance with the Eskom Conversion Act, 2001. We adhere to the statutory responsibilities imposed by the Companies Act, 2008 and the Public Finance Management Act, 1999. As a state-owned company, our purpose is to deliver on the strategic intent mandated by Government and set out in our Memorandum of Incorporation.

The Governance Framework, which regulates our relationship with the shareholder and guides the way we do business, is depicted below.



The materiality framework sets out the requirements for those matters needing approval in terms of the PFMA and, together with the Delegation of Authority Framework, guides the referral of matters from executive level to committees to Board, and where applicable to DPE and National Treasury

One of the essential components of the Governance Framework is the clarity of roles between the shareholder, the Board and the management of Eskom, as provided by the Strategic Intent Statement and our shareholder compact with DPE.

Executive authority over the company is vested in the Minister of Public Enterprises, the Honourable Ms Lynne Brown, MP. The Board of Directors (the Board) guides the strategic direction of the group, and monitors progress in executing the business strategy. The Board ensures that the utility and its subsidiaries comply with the requirements of the Companies Act and PFMA, as well as National Treasury regulations, together with any other legislative requirements and documents within the ambit of the Governance Framework.

#### **King III application**

In the spirit of good corporate governance, we endeavour to apply the principles and practices of the King Code on Corporate Governance (King III). As a state-owned company, a few of the principles are not applicable and, in such instances, we have adopted alternative practices to those recommended by King III.

We utilise the web-based Governance Assessment Instrument (GAI) of the Institute of Directors of Southern Africa (IoDSA) to assess our governance profile. The results of the assessment, based on a chapter view, are summarised in the table below.

#### King III governance register for the year ended 31 March 2016

Eskom Holdings SOC Ltd (2002	/015527/30)	loDSA GAI score	Applied/ Partially applied/ Not applied
Chapter I: Ethical leadership and co	rporate citizenship	AAA	Applied
Chapter 2: Boards and directors		AAA	Partially not applied
Chapter 3: Audit committees		AAA	Applied
Chapter 4: The governance of risk		AAA	Partially not applied
Chapter 5: The governance of inform	AAA	Applied	
Chapter 6: Compliance with laws, r	AAA	Applied	
Chapter 7: Internal audit	AAA	Applied	
Chapter 8: Governing stakeholder r	AAA	Applied	
Chapter 9: Integrated reporting and	AAA	Applied	
Overall score		AAA	
AAA Highest application B Moderate application	AA High application C Application to be improved	BB	Notable application Low application

#### Disclaimer

The assessment criteria of the web-based tool, the Governance Assessment Instrument (GAI), have been based on the practice recommendations of the King III report. These criteria are intended to assess quantitative aspects of corporate governance only and not qualitative governance. As such, the results are proposed to serve as an indication of the structures, systems and processes in place and are not intended to include an indication of the governance culture of an entity.

The responsibility for the input of data in order to attain a result through the use of this tool is that of the user and the entity in respect of which the user subscription has been granted.

Neither the Global Platform for Intellectual Property (Pty) Ltd (TGPIP), nor the IoDSA, as Licensor of the content of the GAI, makes any warranty or representation as to the accuracy or completeness of either the assessment criteria or the results.

The full report on Eskom's King III exceptions and alternative practices is available online as a fact sheet

We welcome the draft King IV<sup>™</sup> Report on Corporate Governance for South Africa 2016, which was released for public comment in March 2016. We are busy assessing the impact of the proposed changes on our governance.

B

continued

#### **Board of Directors and committees**

Governance of the group and the responsibility for driving good corporate citizenship is vested in a unitary board, which is supported by several Board committees and the Company Secretary. The Board, through its committees, provides strategic direction, while the Group Chief Executive, assisted by the Executive Management Committee (Exco) and its subcommittees, is accountable to the Board for implementing the strategy.

#### **Company Secretary**

The Company Secretary is an officer with a central role in the governance and administration of our affairs and is key to the efficiency and effectiveness of the Board, providing impartial advice and support to the directors. Ms Suzanne Daniels was appointed as Company Secretary on I October 2015, after the resignation of Mr Malesela Phukubje on 30 September 2015. With over 20 years' experience in the legal industry, she is suitably qualified to serve the Board and its committees in this role.

#### **Board constitution and appointments**

Non-executive directors are appointed to the Board by the shareholder for a period of three years. reviewable annually. The People and Governance Committee assists the shareholder by identifying the necessary skills, gualifications and experience required by the Board to achieve our objectives.

#### Changes in Board composition

Dr Baldwin Ngubane was appointed as Chairman of the Board, after acting as Chairman since March 2015. Mr Brian Molefe was appointed as Group Chief Executive with effect from 25 September 2015, following his secondment from Transnet since 20 April 2015. At the same time, Mr Anoj Singh was appointed as Chief Financial Officer, following his secondment from Transnet with effect from I August 2015.

Ms Mariam Cassim and Mr Giovanni Leonardi were appointed as non-executive directors on 25 May 2015.

Subsequent to year end, Mr Romeo Kumalo and Ms Mariam Cassim resigned as directors, on 12 and 14 April 2016 respectively.

Refer to pages 30 to 31 for the profiles and committee memberships of the Board

The Board consists of a majority of independent nonexecutive directors who possess diverse skills and experience in the fields of science, engineering, law, finance, economics, accounting and auditing, as well as business and enterprise risk management.

Qualifications and significant directorships of Board members are available in the fact sheet on leadership activities at the back of this report

#### Induction and orientation of directors

A director on-boarding plan is in place, comprising a formal induction and site visits for all directors. To ensure that all directors remain informed, continuous training and updates are provided on a regular basis. Time is set aside at each scheduled Board meeting æ to address the training needs of the Board or individual directors, and to brief directors on any new legislation or regulations which may be applicable.

#### **Board** evaluation

Two internal Board evaluations were conducted, 🌐 one at the request of the shareholder. Feedback on the outcome of that assessment was submitted to the shareholder. Preparations for a full independent Board evaluation, which covers the 2015/16 financial year, are under way.

#### Meetings

Meetings of the Board and its committees are scheduled annually in advance. Special meetings are convened as and when required to address specific material issues. The Board held six scheduled and eight special meetings during the year.

Attendance of Board, Exco and committee meetings is available in B the fact sheet on leadership activities at the back of this report

#### Key Board decisions

The Board approved the following matters, amongst others:

**(** 

Ô

Ð

- **Financial sustainability**
- Issuing share capital for the conversion of the R60 billion shareholder loan to equity and the R23 billion equity injection
- · Approach for the RCA application to NERSA
- Turnaround Plan, including the design-to-cost strategy

**R**evenue and customer sustainability

- · Disconnection of non-paying municipalities
- Implementation of the prepaid meter strategy

#### **Operational sustainability**

- Changes to the Primary Energy business strategy, in order to create a competitive coal market, by creating equal opportunities for emerging mining companies, and collaborating with Transnet to expand the rail network to all coal-fired power stations
- Ash utilisation strategy
- · Generation maintenance strategy, as well as strategies for the acceleration of the recovery of Duvha Unit 3 and Majuba Silo 20
- Procurement of additional gas capacity

#### Sustainable asset creation

· Revised business cases for Medupi and Kusile • Engagement with the Department of Energy for (i) funding the renewable energy programmes; (ii) the PPAs pursuant to the RE-IPP bid windows 3.5 and 4; and (iii) Eskom's participation in the nuclear new build programme

#### Bnvironmental and climate change sustainability

• Tutuka fabric filter plant retrofit programme to address additional requirements to comply with environmental legislation

#### Transformation and social sustainability

• Ex gratia payment of 6% of annual salary for all middle management and bargaining unit employees

#### **Board committees**

The effectiveness of the Board is enhanced by the use of six Board committees to which it delegates authority without diluting its own accountability. The Board appoints members to the various committees, with due consideration of the necessary skills and experience required by members of the different committees.

The Audit and Risk Committee and Social. Ethics and Sustainability Committee are statutory committees as prescribed by the Companies Act, 2008. These committees fulfil their duties as recommended by King III.

All Board committees are chaired by an independent non-executive director and consist of a majority of independent non-executive directors. Committees exercise their authority in accordance with Boardapproved terms of reference, which define their composition, mandate, roles and responsibilities. These terms of reference are aligned with the Delegation of Authority Framework, legislative requirements and best practice, and are reviewed each year.

Deliberations of the committees do not reduce the individual and collective responsibilities of directors regarding their fiduciary duties and responsibilities. Directors are required to exercise due care and judgement in accordance with their statutory obligations.

Refer to the fact sheet on leadership activities at the back of this report for the mandates and key activities of each of the Board committees

#### **Executive Management Committee**

Exco is established by the Group Chief Executive and assists him in guiding the overall direction of the business and exercising executive control in managing day-to-day operations.

Refer to pages 32 to 33 for the profiles and areas of responsibility of Exco members

The Board identifies, evaluates and nominates potential candidates for the positions of Group Chief Executive and Chief Financial Officer. The shareholder appoints the Group Chief Executive; the Chief Financial Officer is appointed by the Board,

provided that the shareholder approves. Other group executives are appointed by the Board and are fulltime employees of Eskom, subject to our conditions of service.

Exco members' qualifications, significant directorships and appointment dates are available in the fact sheet on leadership activities at the back of this report

Exco held 18 meetings during the year, four of which were workshops and five Exco indabas.

The following Exco subcommittees were constituted during the year:

- Capital Committee
- Finance Committee
- Nuclear Management Committee
- Operating Committee
- People Committee
- · Regulation, Policy and Ethics Committee
- Risk Committee

#### Changes in Exco in 2015/16

The Group Chief Executive announced a new Exco structure on 22 October 2015, to stabilise and strengthen Eskom's leadership, in order to implement the Turnaround Strategy:

- Mr Matshela Koko, Group Executive: Generation and Technology
- Mr Thava Govender, Group Executive: 🏠 🚱 Transmission and Sustainability
- Mr Mongezi Ntsokolo, Group Executive: Distribution
- Ms Ayanda Noah, Group Executive: Customer Services
- Mr Abram Masango, Group Executive: Group Capital
- Ms Elsie Pule, acting Group Executive: Human Resources

Refer to page 29 for the operating structure of the company

Ms Nonkululeko Veleti, acting Chief Financial Officer, resigned with effect from 31 August 2015. Although not a member of Exco, Ms Caroline Henry, Eskom Treasurer, resigned effective 31 January 2016. Our Group Chief Financial Officer assumed the role of Treasurer from 1 February 2016.

#### Update on the independent enquiry

As reported in 2015, the Board announced its decision to conduct an independent enquiry into the affairs of Eskom on 12 March 2015 and suspended four executives. Mr Tshediso Matona, former Chief Executive, resigned effective 31 May 2015. Mr Dan Marokane, former Group Executive: Group Capital, and Ms Tsholofelo Molefe, former Finance Director, both agreed to part ways with Eskom, with effect from I June and 30 June 2015 respectively.

E

# m

- Mr Anoj Singh, Group Chief Financial Officer
  - - 20

In July 2015, Dr Baldwin Ngubane confirmed that, following the independent enquiry, the Board had been advised that no wrongdoing had been found against any of the suspended executives. Mr Matshela Koko, then Group Executive: Group Technology and Commercial, was reinstated with immediate effect, while Mr Edwin Mabelane, who had been acting in the position, returned to his former position of Senior General Manager: Outages, prior to his appointment as a cting Chief Commercial Officer with effect from 28 September 2015.

The report following the investigation was finalised and shared with the Minister. The recommendations will be used to strengthen the current turnaround strategy.

#### **Remuneration and benefits**

#### Our approach to remuneration

Our approach to remuneration and benefits is designed to attract and retain skilled, high-performing executives and employees. We aim to remain competitive to attract and retain key skills, by providing market-related remuneration structures, benefits and conditions of service. Employees are remunerated in accordance with their job grade, and at least at the minimum of the applicable salary scale. We guarantee internal equity through defensible differentials in pay and benefits, and resolve unjustifiable race- and gender-based income differentials if they arise.

International and local benchmarks are considered in determining executive remuneration, to ensure that executive packages are aligned to those offered by companies of similar stature. Market factors are considered, to keep remuneration at levels that will assist us in retaining key leadership skills. We are mindful of the responsibilities and risks that directors and executives bear, given their broad accountability. The executive remuneration strategy is reviewed to align to the DPE Remuneration Guidelines and best practice; the balance between fixed and variable remuneration (short- and long-term incentives) is reviewed annually.

#### Remuneration structure Bargaining unit

Bargaining unit employees, being all those below middle management, receive a basic salary plus benefits. Major benefits include medical aid, a housing allowance and membership of the Eskom Pension and Provident Fund, as well as a thirteenth cheque. Basic salaries and conditions of service are reviewed annually through a collective bargaining process. Bargaining unit employees participate in an annual short-term incentive scheme.

#### Managerial level

Managerial level employees are remunerated on a cost-to-company basis. The package includes pensionable earnings, compulsory benefits and a residual cash component. Managerial employees also participate in an annual short-term incentive scheme, consisting of rewards for achieving objectives set by the Group Chief Executive and approved by the People and Governance Committee.

#### Non-executive directors

Remuneration of non-executive directors is benchmarked against companies of a similar size, and is in line with guidelines issued by DPE. Remuneration proposals from the People and Governance Committee are submitted to the Board, which makes recommendations to the shareholder.

Non-executive directors receive a fixed monthly fee and are reimbursed for out-of-pocket expenses incurred in fulfilling their duties.

#### **Executive remuneration**

The Group Chief Executive and Chief Financial Officer have term contracts. Other group executives have permanent employment contracts based on our standard conditions of service. None of the executives have extended employment contracts or special termination benefits. No restraints of trade are in place.

The employment contracts of executive directors and Exco members are subject to a six-month notice period. Other executives have to serve one month's notice in terms of our standard conditions of service.

The Group Chief Executive's remuneration is approved by the Board. The People and Governance Committee approves the remuneration of the Chief Financial Officer and other group executives, in accordance with the shareholder-approved framework. Executive remuneration consists of a basic salary augmented by short- and long-term incentives, which is based on organisational as well as individual performance, and takes account of executives' levels of skills and experience.

Remuneration of Exco members consists of the following:

- A guaranteed package based on cost-tocompany, consisting of a fixed cash portion and compulsory benefits, such as life cover and pension. This is reviewed annually to remain market-related
- Short-term incentives, which reward the achievement of predetermined performance objectives and targets, linked to the shareholder compact, set by the Group Chief Executive. It is calculated as a percentage of pensionable earnings
- Long-term incentives, designed to attract, retain and reward Exco members for achieving organisational objectives set by the shareholder over a period of three years. It is dependent on the individual remaining in our employment throughout the vesting period, and lapses if employment ceases during the vesting period, other than for permitted reasons

A market-benchmarked long-term incentive scheme, approved by the shareholder, has been in place since I April 2005.

#### **Incentive schemes**

Bargaining unit and managerial level

Our short-term incentive scheme aims to align individual performance with organisational strategic objectives, by setting targets for key performance indicators that contribute to these objectives. All permanent employees participate in the scheme.

Key performance indicators (KPIs) are linked to our strategic objectives and cascade down from the organisational to the individual level. Employees are contracted to achieve targets for selected KPIs and are rewarded for meeting or exceeding these targets. The bonus paid to an individual is derived by taking into consideration the available bonus pool amount, the respective group or division's achievement and the individual's performance. An on-target bonus equates to 12% of basic salary for bargaining unit employees, 16.67% of pensionable earnings for middle managers and 25% for senior managers.

The bonus pool is determined by Eskom's overall performance. The bonus pool is further influenced by four factors: qualifiers (for managerial levels) or a primary bonus driver (for bargaining unit employees), operational modifiers, gatekeepers as well as a qualitative Exco rating. Key performance areas (KPAs) focus on financial sustainability, improved operations, safety, compliance and the achievement of new build milestones.

Managerial levels will qualify for 50% of the on-target bonus if we achieve EBITDA of R29.6 billion, with another 50% for load shedding of less than or equal to 432 hours for the year. For the bargaining unit, EBITDA is a primary bonus driver measured on a sliding scale, with a target of R29.6 billion. Should we achieve the EBITDA target, a 100% on-target bonus will be generated for bargaining unit employees. Gatekeepers measure the minimum standard that a specific KPI is expected to achieve. When gatekeepers are not achieved, a maximum 25% penalty will be applied. The Exco rating is discretionary and can reduce the incentive payable to the bargaining unit and managerial level by a maximum of 20%.

#### Executives

Our formal remuneration plan links executive remuneration to organisational performance and individual contribution. All KPAs and KPIs in the shareholder compact are included in the Exco performance compacts. Exco compacts are linked to our strategic objectives and focused on the implementation of the Corporate Plan. The People and Governance Committee reviews the KPAs and KPIs of Exco members' compacts annually to ensure alignment with the shareholder compact and the Corporate Plan, through company and divisionspecific targets. Individual performance is reviewed annually and is based on a performance contract between group executives and the Group Chief Executive. Compacts for all other executives are aligned with Exco compacts.

Exco compacts rely on three elements to determine bonuses for executives:

- **Qualifiers** need to be achieved to qualify for a bonus; if not, there will be no bonus
- Modifiers determine the size of the bonus pool (between 60% and 120%), depending on the achievement of set targets
- **Gatekeepers**, if not reached, reduce the performance score

#### Short-term incentives

Short-term incentives reward executives for achieving set objectives over a 12-month period. Executive compact KPAs include financial performance, operating safely, group key priorities and the discretion of the Group Chief Executive. The weight allocated to each person for each of the compact areas will depend on the responsibilities of the specific individual.

#### Long-term incentives

The Board has set performance conditions in line with the shareholder compact and Corporate Plan over a three-year performance period. This covers financial and non-financial targets, such as ensuring Eskom's business sustainability, ensuring reliability of supply to all South Africans and that South Africa's future power needs are adequately provided for, as well as supporting the country's developmental objectives, with an agreed weighting in each category.

Awards only vest if, and to the extent that, these targets are met. However, if gatekeeper conditions are not met, the Board may adjust the vesting percentages, even though targets have been met. Potential vesting percentages range from 0% to 100%, with an expected (on-target) vesting rate of 50%, based on a threshold and stretch targets for each measure.

The vesting period for award performance shares is three years from the grant date. At the end of that period, the People and Governance Committee decides on the amounts to be paid, in line with the percentage of award performance shares that vest, based on the performance conditions achieved, as well as the value of the award performance shares, based on the grant value, which is deemed to be RI at grant date, and thereafter escalated at a money market rate.

A number of performance shares (award performance shares) were awarded to Exco members on 1 April 2013, 2014 and 2015. The long-term incentive vesting rate for shares awarded on 1 April 2013 and vesting on 31 March 2016 was 44.48% (March 2015: 47.06%). The People and Governance Committee exercised its discretion and reduced the vesting rate from 44.48% to 34.48% (March 2015: 47.06% to 42.06%). The cash value of the shares is payable in June 2016 at R1.23 per share, based on the money market rate. Shares awarded on 1 April 2012 were redeemed during the year.

continued

Remuneration of directors and group executives

Category	2015/16 R000	2014/15 R000
Non-executive directors	6 656	9 998
Executive directors	30 020	8 056
Other Exco members	38 650	32 556
Total remuneration	75 326	50 610

Refer to note 50 in the annual financial statements for detailed remuneration information, which includes disclosure of the remuneration of the three highest paid individuals in Eskom, as required by King III

#### Ethics in Eskom

The Board and Exco recognise the need to integrate strategy, governance and sustainability. As a signatory to the United Nations Global Compact LEAD initiative, which includes a clause related to anticorruption behaviour, as well as to the World Economic Forum's Partnership Against Corruption initiative, we strive to embed these ethical principles.

#### Values

Our values underpin our vision, and guide us in our everyday activities and how we do business.



#### Code of Ethics



The Board, through the People and Governance Committee, ensures that the Ethics Management Programme is effectively implemented, and receives quarterly ethics status reports on the ethical culture and any associated issues.

- We maintain a zero tolerance approach to fraud, corruption and other forms of economic crime or dishonest activity. We aim to reduce these incidents by:
- Continuously fostering ethical standards and raising ethics awareness through training and reporting, as well as through the Ethics Advisory Service Helpdesk. A total of 7 170 employees were trained on ethics at Eskom
- Encouraging whistle-blowing through mechanisms such as the fraud and corruption hotline on 0800 112 722
- Conducting forensic investigations and taking corrective action where applicable

A detailed forensic report is tabled at the Audit and Risk Committee quarterly, noting incidents and cases relating to fraud, corruption and other economic crimes. The report details the progress on incident investigations, trends and observations stemming from these, as well as losses and recoveries recorded.

A total of 173 investigations were undertaken during the year, consisting of incidents related to irregularities (91), fraud (48), corruption (32) and sexual harassment (2). Thirteen employees were dismissed during the year as a result of the outcome of forensic investigations and disciplinary action; 13 employees received suspensions without pay; 14 resigned and 21 received written and/or verbal warnings.

The proactive identification of incidents is critical to ensuring that exposure is mitigated and losses prevented or minimised. The number of reported incidents has reduced significantly over the last five years, proving that preventative actions such as fraud awareness training are starting to show results.

#### Assurance and controls

#### **Combined assurance**

The combined assurance model assists the Audit and Risk Committee (ARC) and the Board in forming their view of the adequacy of risk management and internal control in the organisation. The model recognises three lines of defence:



The integrated report is subject to combined assurance. The report is reviewed by management and Exco and internally assured by the Assurance and Forensic Department (A&F), while the shareholder compact KPIs are externally assured. Both the Audit and Risk Committee and the Social, Ethics and Sustainability Committee consider the report and recommend its approval to Board.

Combined assurance assists management in identifying potential assurance shortfalls or duplication in assurance work, and developing improvement plans where necessary. The model guides assurance providers to reach consensus on the key risks faced by the company, and reduces the likelihood that significant risks remain unidentified.

ARC is ultimately responsible for providing oversight over the combined assurance activities and approved the Combined Assurance Framework to guide these. Operational accountability for combined assurance has been delegated to A&F, which performs our internal audit function, facilitates and coordinates the execution of the combined assurance activities and reports back to the committee. ARC receives reports on the status of governance, risk management, compliance and the adequacy of preventative and corrective controls from the various levels of assurance.

# Independent quality assessment of internal audit

The internal audit function is subjected to an independent quality review every five years, or more frequently if required by ARC. The most recent review, which was conducted three years ago, assessed the function as generally compliant. The next scheduled review will take place in 2017/18.

#### Risk management and internal controls

The Board, through ARC, ensures that there is an effective risk management process in place and that internal controls are effective and adequately reported for auditing and regulatory purposes. The combined assurance model provides ARC with an overview of significant risks, as well as the effectiveness of critical controls to mitigate these risks.

Our enterprise risks, with the associated risk rating and treatment response, are set out on pages 25 to 27

A&F performs bi-annual assessments on the design, implementation and effectiveness of the risk management process, IT controls as well as internal financial and operational internal controls. The outcome of the assessments, based on the results of audit work planned and completed by both internal and external assurance providers, concluded the following:

Risk management process	Internal financial controls	IT governance	IT controls	Operational controls
A risk management system for identifying, managing and reporting on risk is in place and adequate Gaps relating to the effectiveness of risk management have been noted	Nothing significant has come to the attention of A&F causing it to believe that the internal financial controls do not form a reasonable basis for the preparation of reliable financial statements	Group IT has maintained alignment to the IT governance principles in King III	IT controls are effective and form an adequate basis for the preparation of reliable financial statements	Internal controls are partially effective Control deficiencies were identified relating to the governance framework components of the system of internal control, which could affect the

Interventions designed to address and improve the control environment have been implemented and benefits are expected to be realised in the medium to long term. Improvements are being seen in some areas where these have been implemented.

ARC has concluded, based on the information and explanations given by management and the Assurance and Forensic Department, as well as through discussions with the external auditors, that the system and process of risk management and compliance are adequate, and that the internal controls are adequate to ensure that the financial records can be relied on for the preparation of reliable financial statements.

Refer to the report of the Audit and Risk Committee on pages 3 to 4 of the annual financial statements for the full assessment of the internal control environment

#### IT governance

The Board has delegated responsibility of IT governance to the acting Chief Information Officer within Group IT. Further oversight is provided by the IT Steering Committee, an advisory committee to ARC, and the IT Oversight Committee, a subcommittee of Exco.

An independent assessment of IT governance was performed by KPMG Inc. during 2013/14, with a follow-up performed by A&F during 2015/16. The results indicated that we have made considerable progress towards achieving the required maturity levels for each of the seven principles of King III related to IT governance. The assessment also indicated that we have made progress in addressing several of the internal audit findings raised previously. Specific improvement was noted in the formal development, approval and implementation of an IT Governance Framework.



Our 100MW Sere Wind Farm continues to add capacity to the grid, while diversifying our energy mix, producing 311GWh for the year



#### **Supplementary information**

#### 110 Abbreviations

- III Glossary of terms
- 113 Independent sustainability assurance report
- 116 GRI G4 indicator table
- 120 Statistical tables: ten years' information for technical KPIs and five years for nontechnical KPIs
- 126 Customer information, such as number of customers, electricity sales and revenue per customer category
- 128 Power station capacities
- 130 Power lines and substations
- 131 Benchmarking information
  - 136 Environmental implications of using or saving electricity
- 137 Leadership activities, including Board and Exco qualifications and directorships, Board committee mandates and decisions, as well as meeting attendance
- 148 Contact details

#### Fact sheets available online

#### • Eskom's energy flow diagram

- Full list of stakeholder issues mapped to who raised them
- King III checklist noting exceptions or partial application
- Declaration in terms of Section 32 of PAIA

All fact sheets are available on our website, www.eskom.co.za/IR2016

# Abbreviations

B-BBEE	Broad-based black economic empowerment
COGTA	Department of Cooperative Governance and Traditional Affairs
DEA	Department of Environmental Affairs
DoE	Department of Energy
DPE	Department of Public Enterprises
DWS	Department of Water and Sanitation
EAF	Energy availability factor (see glossary)
EBITDA	Earnings before interest, taxation, depreciation and amortisation
EUF	Energy utilisation factor (see glossary)
GRI	Global Reporting Initiative
GW	Gigawatt = 1 000 megawatts
GWh	Gigawatt-hour = 1 000MWh
IDM	Integrated demand management
IIRC	International Integrated Reporting Council
IPP	Independent power producer (see glossary)
IRP 2010	Integrated Resource Plan 2010-2030 (updated)
King III	King Code of Corporate Governance in South Africa 2009
kt	Kiloton = 1 000 tons
kV	Kilovolt
kWh	Kilowatt-hour = 1 000 watt-hours (see glossary)
LTIR	Lost-time injury rate (see glossary)
Μℓ	Megalitre = 1 million litres
mSv	Millisievert
Mt	Million tons
MVA	Megavolt-ampere
MW	Megawatt = 1 million watts
MWh	Megawatt-hour = 1 000kWh
MYPD	Multi-year price determination
NERSA	National Energy Regulator of South Africa
OCGT	Open-cycle gas turbine (see glossary)
OCLF	Other capability loss factor
OHS	Occupational health and safety
PCLF	Planned capability loss factor
PAIA	Promotion of Access to Information Act, 2000
PAJA	Promotion of Administrative Justice Act, 2000
PFMA	Public Finance Management Act, 1999
PPA	Power purchase agreement
PPPFA	Preferential Procurement Policy Framework Act, 2000
RCA	Regulatory Clearing Account
SAIDI	System average interruption duration index
SAIFI	System average interruption frequency index
TMPS	Total measured procurement spend
UAGS	Unplanned automatic grid separations
UCLF	Unplanned capability loss factor (see glossary)

# **Glossary of terms**

49M	The 49M initiative aims to inspire and rally all South Africans behind a common goal: to save electricity and create a better economic, social and environmental future for all
Base-load plant	Largely coal-fired and nuclear power stations, designed to operate continuously
Cost of electricity (excluding depreciation)	Electricity-related costs (primary energy costs, employee benefit costs plus impairment loss and other operating expenses) divided by total electricity sales in GWh multiplied by 1 000
Daily peak	Maximum amount of energy demanded by consumers in one day
Debt/equity including long-term provisions	Net financial assets and liabilities plus non-current retirement benefit obligations and non-current provisions divided by total equity
Debt service cover ratio	Cash generated from operations divided by (net interest paid from financing activities plus debt securities and borrowings repaid)
Decommission	To remove a facility (e.g. reactor) from service and either store it safely or dismantle it
Demand side management	Planning, implementing and monitoring activities to encourage consumers to use electricity more efficiently, including both the timing and level of demand
Electricity EBITDA margin	Electricity revenue (excluding electricity revenue not recognised due to uncollectability) as a percentage of EBITDA
Electricity operating costs per kWh	Electricity-related costs (primary energy costs, employee benefit costs, depreciation and amortisation plus impairment loss and other operating expenses) divided by total electricity sales in kWh multiplied by 100
Electricity revenue per kWh	Electricity revenue (including electricity revenue not recognised due to uncollectability) divided by total kWh sales multiplied by 100
Embedded derivative	Financial instrument that causes cash flows that would otherwise be required by modifying a contract according to a specified variable such as currency
Energy availability factor (EAF)	Measure of power station availability, taking account of energy losses not under the control of plant management and internal non-engineering constraints
Energy efficiency	Programmes to reduce energy used by specific end-use devices and systems, typically without affecting services provided
Energy utilisation factor (EUF)	Ratio of actual electrical energy produced during a period of time divided by the total available energy capacity. It is a measure of the degree to which the available energy capacity of an electricity supply network is utilised. Available energy capacity refers to the capacity after all unavailable energy (planned and unplanned energy losses) has been taken into account, and represents the net energy capacity made available to the System Operator or national grid
Forced outage	Shutdown of a generating unit, transmission line or other facility for emergency reasons or a condition in which generating equipment is unavailable for load due to unanticipated breakdown
Free basic electricity	Amount of electricity deemed sufficient to provide basic electricity services to a poor household (S0kWh per month)
Free funds from operations	Cash generated from operations adjusted for working capital
Gross debt	Debt securities and borrowings plus finance lease liabilities plus the after-tax effect of provisions and employee benefit obligations
Gross debt/EBITDA ratio	Gross debt divided by earnings before interest, taxation, depreciation and amortisation
Independent non-executive director	<ul> <li>A director who is:</li> <li>Not a full-time salaried employee of the company or its subsidiary</li> <li>Not a shareholder representative</li> <li>Has not been employed by the company and is not a member of the immediate family of an individual who is, or has been in any of the past three financial years, employed by the company in any executive capacity</li> <li>Not a professional advisor to the company</li> <li>Not a significant supplier or customer of the company</li> </ul>
Independent power producer (IPP)	Any entity, other than Eskom, that owns or operates, in whole or in part, one or more independent power generation facilities
Interest cover	EBIT divided by (gross finance cost less gross finance income)
Kilowatt-hour (kWh)	Basic unit of electric energy equal to one kilowatt of power supplied to or taken from an electric circuit steadily for one hour
Load	Amount of electric power delivered or required on a system at any specific point

# **Glossary of terms**

112 Integrated report | 31 March 2016

continued

Load curtailment	Typically larger industrial customers reduce their demand by a specified percentage for the duration of a power system emergency. Due to the nature of their business, these customers require two hours' notification before they can reduce demand
Load management	Activities to influence the level and shape of demand for electricity so that demand conforms to the present supply situation, long-term objectives and constraints
Load shedding	Scheduled and controlled power cuts that rotate available capacity between all customers when demand is greater than supply in order to avoid blackouts. Distribution or municipal control rooms open breakers and interrupt load according to predefined schedules
Lost-time injury (LTI)	A work injury which arises out of and in the course of employment and which renders the injured employee or contractor unable to perform his/her regular/normal work on one or more full calendar days or shifts other than the day or shift on which the injury occurred. It includes occupational diseases
Lost-time injury rate (LTIR)	Proportional representation of the occurrence of lost-time injuries over 12 months per 200 000 working hours. It includes occupational diseases
Maximum demand	Highest demand of load within a specified period
Off-peak	Period of relatively low system demand
Open-cycle gas turbine (OCGT)	Liquid fuel turbine power station that forms part of peak-load plant and runs on kerosene or diesel. Designed to operate in periods of peak demand
Outage	Period in which a generating unit, transmission line, or other facility is out of service
Peak demand	Maximum power used in a given period, traditionally between 7:00 and 10:00, as well as $18:00$ to $22:00$ in summer and $17:00$ to $21:00$ in winter
Peaking capacity	Generating equipment normally operated only during hours of highest daily, weekly or seasonal loads
Peak-load plant	Gas turbines, hydroelectric or a pumped storage scheme used during periods of peak demand
Primary energy	Energy in natural resources, e.g. coal, liquid fuels, sunlight, wind, uranium and water
Pumped storage scheme	A lower and an upper reservoir with a power station/pumping plant between the two. During off-peak periods the reversible pumps/turbines use electricity to pump water from the lower to the upper reservoir. During periods of peak demand, water runs back into the lower reservoir through the turbines, generating electricity
Reserve margin	Difference between net system capability and the system's maximum load requirements (peak load or peak demand)
Return on assets	EBIT divided by the regulated asset base, which is the sum of property, plant and equipment, trade and other receivables, inventory and future fuel, less trade and other payables and deferred income
System minutes	Global benchmark for measuring the severity of interruptions to customers. One system minute is equivalent to the loss of the entire system for one minute at annual peak. A major incident is an interruption with a severity $\geq 1$ system minute
Technical losses	Naturally occurring losses that depend on the power systems used
Unit capability factor (UCF)	Measure of availability of a generating unit, indicating how well it is operated and maintained
Unplanned capability loss factor (UCLF)	Energy losses due to outages are considered unplanned when a power station unit has to be taken out of service and it is not scheduled at least four weeks in advance
Used nuclear fuel	Nuclear fuel irradiated in and permanently removed from a nuclear reactor. Used nuclear fuel is stored on-site in used fuel pools or storage casks
Watt	The watt is the International System of Units' (SI) standard unit of power. It specifies the rate at which electrical energy is dissipated (energy per unit of time)
Working capital ratio	(Inventory plus the current portion of payments made in advance, trade and other receivables and taxation assets) divided by (the current portion of trade and other payables, payments received in advance, provisions, employee benefit obligations and taxation liabilities)

#### Independent sustainability assurance report

# Independent assurance provider's reasonable assurance report on selected key performance indicators to the Directors of Eskom

#### Introduction

We have been engaged to perform an independent assurance engagement for Eskom Holdings SOC Ltd (Eskom) on selected key performance indicators (KPIs) reported in Eskom's integrated report for the year ended 31 March 2016. Our engagement was conducted by a multi-disciplinary team including specialists with relevant experience in sustainability reporting.

#### Subject matter

We are required to provide reasonable assurance on the following selected sustainability key performance indicators to be published in the Integrated Report, which include the indicators contained in the Eskom's shareholder compact as well as KPIs selected by the directors. The KPIs described below cover only Eskom (company and not group) and have been prepared in accordance with Eskom's reporting criteria that is available on Eskom's website, at www.eskom.co.za/OurCompany/SustainableDevelopment/Pages/Sustainable\_Development.aspx

Key performance areas	Key performance indicator			
Focus on safety	Lost-time injury rate (employee) (LTIR) (excluding occupational diseases)			
Sustainable asset base while ensuring security of supply	Internal energy efficiency			
Put customer at the centre	Eskom KeyCare <sup>i</sup>			
	Enhanced MaxiCare <sup>1</sup>			
Improve operations	Unplanned capability loss factor (UCLF)			
	Energy availability factor (EAF)			
	System average interruption duration index (SAIDI)			
	System average interruption frequency index (SAIFI)			
	Total system minutes lost for events <1 minute			
Deliver capital expansion	Generation capacity installed and commissioned (commercial operation)			
	Ingula Unit 3 and 4 synchronisation <sup>1</sup>			
	Transmission lines installed			
	Transmission transformers capacity installed and commissioned			
	Electrification connections <sup>2</sup>			
Reduce environmental footprint in	Relative particulate emissions (kg/MWh sent out)			
existing fleet	Water usage (litres per kWh sent out)			
	Carbon dioxide emissions <sup>1, 2</sup>			
Implementing coal haulage and the road-to-rail migration plan	Migration of coal delivery volume from road to rail			
Ensure financial sustainability	Operating cost per MWh (excluding depreciation)			
	Interest cover			
	Debt equity ratio			
	Free funds from operations as percentage of gross debt			
	BPP savings'			
Human capital	Training spend as % of gross manpower costs			
	Learners throughput or qualifying			
	Disability equity in total workforce			
	Racial equity in senior management			
	Gender equity in senior management			
	Racial equity in professional and middle management			
	Gender equity in professional and middle management			

Not reviewed in the prior year.

2. Not included in the shareholder compact.

# Independent sustainability assurance report continued

Key performance areas	Key performance indicator			
Economic impact	Percentage of local content contracted in new build			
	Percentage of local sourcing in procurement (Eskom-wide)			
	Percentage of B-BBEE attributable spend against TMPS			
	Percentage of BO attributable spend against TMPS <sup>1</sup>			
	Percentage of BWO attributable spend against TMPS <sup>1</sup>			
	Percentage of BYO attributable spend against TMPS			
	Percentage of BPLwD attributable spend against TMPS <sup>1</sup>			
	Percentage of QSE attributable spend against TMPS			
	Percentage of EME attributable spend against TMPS			
Technology transfer	Acquisition of intellectual property			
	Skills development <sup>1</sup>			
	Job creation <sup>1</sup>			

Not reviewed in the prior year.

2. Not included in the shareholder compact.

#### **Directors' responsibilities**

The directors are responsible for the selection, preparation and presentation of the sustainability information in accordance with the Eskom's reporting criteria. This responsibility includes the identification of stakeholders and stakeholder requirements, material issues, commitments with respect to sustainability performance and design, implementation and maintenance of internal control relevant to the preparation of the report that is free from material misstatement, whether due to fraud or error.

#### Inherent limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the method used for determining, calculating, sampling and estimating such information. The absence of a significant body of established practice on which to draw allows for the selection of certain different but acceptable measurement techniques which can result in materially different measurements and can impact comparability. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments. The precision thereof may change over time. It is important to read the report in the context of the reporting criteria.

In particular, where the information relies on the factors derived by independent third parties, our assurance work has not included examination of the derivation of those factors and other third party information.

#### Our independence and quality control

We have complied with the independence and all other ethical requirements of the Code of Professional Conduct for Registered Auditors issued by the Independent Regulatory Board of Auditors, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

SizweNtsalubaGobodo Inc. applies the International Standard on Quality Control I and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

#### **Our responsibility**

Our responsibility is to express a reasonable assurance conclusion on the selected KPIs based on the procedures we have performed and the evidence we have obtained. We conducted our reasonable assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board. That Standard requires that we plan and perform our engagement to obtain reasonable assurance about whether the selected KPIs are free from material misstatement.

A reasonable assurance engagement in accordance with ISAE 3000 (Revised) involves performing procedures to obtain evidence about the quantification of the selected sustainability information and related disclosures. The nature, timing and extent of procedures selected depend on our judgement, including the assessment of the risks of material misstatement, whether due to fraud or error. In making those risk assessments we considered internal control relevant to Eskom's preparation of the selected KPIs. A reasonable assurance engagement also includes:

 Assessing the suitability in the circumstances of Eskom's use of its reporting criteria as the basis for preparing the selected sustainability information

- Evaluating the appropriateness of quantification methods and reporting policies used, and the reasonableness of estimates made by Eskom Holdings SOC Ltd
- Evaluating the overall presentation of the selected KPIs

#### Summary of work performed

Our work included examination, on a test basis, of evidence relevant to the selected sustainability information. It also included an assessment of the significant estimates and judgments made by the directors in the preparation of the selected sustainability information. We planned and performed our work so as to obtain all the information and explanations that we considered necessary in order to provide us with sufficient evidence on which to base our conclusion in respect of the selected sustainability information.

Our procedures included the understanding of risk assessment procedures, internal control, and the procedures performed in response to the assessed risks. The procedures we performed were based on our professional judgement and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Interviewed management and senior executives to obtain an understanding of the internal control environment, risk assessment process and information systems relevant to the sustainability reporting process
- Inspected documentation to corroborate the statements obtained from management and senior executives in our interviews
- Reviewed the process that Eskom has in place for determining material selected key performance indicators to be included in the report
- Applied the assurance criteria in evaluating the data generation and reporting processes
- Reviewed the processes and systems to generate, collate, aggregate, monitor and report on the selected key performance indicators
- Conducted interviews with senior management to evaluate reporting processes against the GRI G4 Core guidelines
- Evaluated the reasonableness and appropriateness of significant estimates and judgements made by management in the preparation of the key performance indicators
- Performed site work at various power stations, Transmission Operating Units and Distribution Operating Units
- Evaluated whether the selected key performance indicators presented in the integrated report are

consistent with our overall knowledge and experience of sustainability management and performance at Eskom

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

#### Basis for qualified conclusion

The completeness of the Local content (Eskom-wide) KPI could not be verified as the processes and systems put in place to collate, review and monitor the data that supports the reliable measurement of the KPI were not adequately designed. We were unable to verify the KPI by performing alternative procedures.

#### Conclusion

In our opinion, except for the effects of the matter described in the "Basis for qualified conclusion" section of our report, the directors' statement that the key performance indicators are presented in accordance with Eskom Holdings SOC Ltd's reporting criteria is, in all material respects, fairly stated.

#### **Other matters**

No assurance procedures were performed on the previous sustainability report. The current year information relating to the prior reporting periods has not been subject to assurance procedures.

Our report includes the provision of reasonable assurance on selected KPIs, indicated in the table above, on which we were not previously required to provide assurance.

The maintenance and integrity of the Eskom website is the responsibility of Eskom management. Our procedures did not involve consideration of these matters and, accordingly we accept no responsibility for any changes to either the information in the Report or our independent reasonable assurance report that may have occurred since the initial date of its presentation on the Eskom website.

#### Restriction of liability

Our work has been undertaken to enable us to express the conclusions on the selected KPIs to the directors of Eskom in accordance with the terms of our engagement and for no other purpose. We do not accept or assume liability to any party other than Eskom, for our work, for this report, or for the conclusion we have reached.

SizweNtsalubaGobodo Inc. Registered auditors

Per A Mthimunye Chartered Accountant (SA) Director 6 June 2016

# **GRI G4** indicator table

We have provided some GRI disclosures in our 2016 integrated report. The disclosures provided are set out in the table below, with a reference to where in the document the information may be found.

#### General standard disclosures

Ref	Description	Reference
Strate	gy and analysis	
G4-I	Statement from most senior decision-maker about the relevance of sustainability and the organisation's strategy for addressing sustainability. The statement should present the overall vision and strategy for the short term, medium term, and long term, particularly with regard to managing the significant economic, environmental and social impacts that the organisation causes and contributes to, or the impacts that can be linked to its activities as a result of relationships with others (such as suppliers, people or organisations in local communities)	Chairman's statement, pages 5 to 6
G4-2	Description of key impacts, risks, and opportunities (including the organisation's key impacts on sustainability and effects on stakeholders, and the impact of sustainability trends, risks, and opportunities on the long-term prospects and financial performance of the organisation)	Integrating risk and resilience, pages 24 to 27
Organ	isational profile	
G4-3	Report the name of the organisation	Contact details, page 148
G4-4	Report the primary brands, products, and services	Our mandate, vision and mission, page 7
G4-5	Report the location of the organisation's headquarters	Legal structure, page 28
G4-6	Report the number of countries where the organisation operates, and names of countries where either the organisation has significant operations or that are specifically relevant to the sustainability topics covered in the report	Legal structure, page 28
G4-7	Report the nature of ownership and legal form	Our mandate, vision and mission, page 7
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	Our operating environment, page 10 Nature of our business and customer base, page 11
G4-9	Report the scale of the organisation (including total number of employees, operations, net sales, total capitalisation broken down in terms of debt and equity, and quantity of products or services provided)	Nature of our business and customer base, page 11 Our value chain – Workforce, page 15 Our value chain – Finance, page 15 Fact sheet on customer information, page 126
G4-10	Report the total number of employees by employment contract and gender, as well as permanent employees, supervised workforce, workforce by region and gender, workers legally recognised as self-employed, or employees of contractors, and significant variations in employment numbers (due to seasonal variations)	Our value chain – Workforce, page 15 Building a sustainable skills base – Headcount, page 74 Transformation and social sustainability – Improving internal transformation, page 80
G4-11	Report the percentage of total employees covered by collective bargaining agreements	Our value chain – Workforce, page 15
G4-12	Describe the organisation's supply chain	Our value chain – Procurement, page 16
G4-13	Report any significant changes during the reporting period regarding the organisation's size, structure, ownership, or its supply chain	Not applicable
G4-14	Report whether and how the precautionary approach or principle is addressed by the organisation	We do not currently apply the precautionary approach
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organisation subscribes or which it endorses	United Nations Global Compact; other key UN initiatives, such as the CEO Water Mandate, Caring for Climate, as well as Sustainable Energy for All; Carbon Disclosure Project. We are also a UNGC LEAD company, recognised for leadership in the sustainability field
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organisations in which the organisation holds a position on the governance body, participates in projects or committees, provides substantive funding beyond routine membership dues, or views membership as strategic	Our key strategic international memberships include Electric Power Research Institute (EPRI), World Economic Forum (WEF), World Association of Nuclear Operators (WANO), Pressurised Water Reactor Owners' Group (PWROG), and Institute of Nuclear Power Operations (INPO)

Ref	Description	Reference
EUI	Installed capacity, broken down by primary energy source and by regulatory regime	Nature of our business and customer base, page 10 Fact sheet on power station capacities, page 128
EU2	Net energy output broken down by primary energy source and by regulatory regime	Nature of our business and customer base, page 11
EU3	Number of residential, industrial, institutional and commercial customer accounts	Nature of our business and customer base, page 10 Fact sheet on customer information, page 126
EU4	Length of above and underground transmission and distribution lines by regulatory regime	Nature of our business and customer base, page 10 Fact sheet on power lines and substations in service, page 130
EU5	Allocation of CO $_{\rm 2}{\rm e}$ emissions allowances or equivalent, broken down by carbon trading framework	Not applicable – carbon budgets will only become mandatory from 2020
Identifi	ied material aspects and boundaries	
G4-17	List all entities included in the organisation's consolidated financial statements, and report any entity included in the organisation's consolidated financial statements not covered by the report	Legal structure, page 28 Annual financial statements, note 12
G4-18	Explain the process for defining the report content and the Aspect Boundaries, and how the organisation has implemented the Reporting Principles for Defining Report Content	Basis of preparation, IFC We believe that the principles of stakeholder inclusiveness, sustainability context, materiality and completeness have been addressed in this integrated report
G4-19	List all the material Aspects identified in the process for defining report content	Not applicable. We have not reported on material Aspects
G4-20	For each material Aspect, report the Aspect Boundary within the organisation	Not applicable. We have not reported on material Aspects
G4-21	For each material Aspect, report the Aspect Boundary outside the organisation	Not applicable. We have not reported on material Aspects
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	Not applicable for the integrated report The annual financial statements have been restated – refer Key accounting policies, significant judgements and estimates, page 89 and note 49 in the annual financial statements
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	Not applicable
Stakeh	older engagement	
G4-24	Provide a list of stakeholder groups engaged by the organisation	Stakeholder engagement and material matters, page 17
G4-25	Report the basis for identification and selection of stakeholders with whom to engage	Stakeholder engagement and material matters, page 17
G4-26	Report the organisation's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	Stakeholder engagement and material matters, pages 17 to 18
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns	Material stakeholder matters, pages 18 to 20
Report	profile	
G4-28	Reporting period (such as fiscal or calendar year) for information provided	Reporting boundary and frameworks, IFC
	Det al	Reporting hours down and from our alter JEC
G4-29	Date of most recent previous report	Reporting boundary and frameworks, IFC

# **GRI G4** indicator table

continued

Ref	Description	Reference
C4 31	Provide the contract point for questions recording the record of the	Commonte may be cont to IDfoodbook @columner
G4-31	Provide the contact point for questions regarding the report or its contents	(also noted on the inside flap)
G4-32	Report the "in accordance" option the organisation has chosen, as well as the GRI Content Index for the chosen option, and the reference to the External Assurance Report, if the report has been externally assured	Not applicable. This report is not prepared in accordance with GRI G4 reporting criteria, although it contains some GRI disclosures
G4-33	Report the organisation's policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided, as well as the relationship between the organisation and the assurance providers. Report whether the highest governance body or senior executives are involved in seeking assurance for the organisation's sustainability report	Assurance approach, page I
Govern	nance	
G4-34	Report the governance structure of the organisation, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	Board of Directors, pages 102 to 103. All Board committees play a role, although the Social, Ethics and Sustainability Committee has primary responsibility for sustainability matters
G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	Executive responsibility has been delegated to Mr Thava Govender, Group Executive: Transmission and Sustainability, who reports to the Group Chief Executive
G4-36	Report whether the organisation has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	Executive responsibility has been delegated to Mr Thava Govender, Group Executive: Transmission and Sustainability, who reports to the Group Chief Executive
G4-37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body	Consultation with stakeholders has been delegated to the Stakeholder Relations Department, which reports to the Board on a quarterly basis
G4-38	Report the composition of the highest governance body and its committees by executive or non-executive; independence; tenure on the governance body; number of each individual's other significant positions and commitments, and the nature of the commitments; gender; membership of under-represented social groups; competencies relating to economic, environmental and social impacts; stakeholder representation	Racial and gender equity of the Board of Directors is noted on page 31 Other significant commitments are noted in the fact sheet on pages 137 to 139 Directors are appointed by the Minister of Public Enterprises; no stakeholders other than the shareholder are specifically represented on the Board
G4-39	Report whether the Chair of the highest governance body is also an executive officer	The Chairman is an independent non-executive director
G4-40	Report the nomination processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members (including diversity, independence, expertise and experience relating to economic, environmental and social topics, and how stakeholders are involved)	Board constitution and appointments, page 102
G4-4I	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders	Code of Ethics, page 106
G4-42	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organisation's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	Board of Directors and committees, page 102
G4-43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	Induction and orientation of directors, page 102

Ref	Description	Reference
G4-44	Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency, and whether it is a self-assessment. Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, as a minimum, changes in membership and organisational practice	Board evaluation, page 102
G4-45	Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes. Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities	Integrating risk and resilience, page 24
G4-46	Report the highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics	Integrating risk and resilience, page 24
G4-47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities	At least quarterly
G4-48	Report the highest committee or position that formally reviews and approves the organisation's sustainability report and ensures that all material Aspects are covered	Not applicable in the current year, as material Aspects are not reported on, although the Social, Ethics and Sustainability Committee is responsible for ensuring the integrity of information presented
G4-51	Report the remuneration policies for the highest governance body and senior executives for different types of remuneration, and how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives	Remuneration and benefits, pages 104 to 105
G4-52	Report the process for determining remuneration, and whether remuneration consultants are involved	Remuneration and benefits, pages 104 to 105
Ethics	and integrity	1
G4-56	Describe the organisation's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	Ethics in Eskom, page 106
G4-57	Report the internal and external mechanisms for seeking advice on ethical and unlawful behavior, and matters related to organisational integrity, such as helplines or advice lines	Code of Ethics, page 106
G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organisational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	Code of Ethics, page 106

### Ten-year technical statistics

Short         Short <th< th=""><th>Measure and unit</th><th>2015/16</th><th>2014/15</th><th>2013/14</th><th>2012/13</th><th>2011/12</th><th>2010/11</th><th>2009/10</th><th>2008/9</th><th>2007/8</th><th>2006/7</th></th<>	Measure and unit	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11	2009/10	2008/9	2007/8	2006/7
Employe tenser ensury res (TR), see, "         0.59         0.59         0.19*         0.40*         0.45*         0.57*         0.57*         0.59         0.44         0.50           Converse functs, number         1         7         10*         7         10*         7         20 </td <td>Safety</td> <td></td>	Safety										
	Employee lost-time injury rate (LTIR), index <sup>1, 2</sup>	0.29	0.36	0.31RA	0.40 <sup>RA</sup>	0.41 <sup>RA</sup>	0.47 <sup>RA</sup>	0.54 <sup>RA</sup>	0.50	0.46	0.52
	Fatalities (employees and contractors), number	17	10	23 <sup>RA</sup>	19 <sup>RA</sup>	24 <sup>RA</sup>	25 <sup>RA</sup>	17 <sup>RA</sup>	27	29	26
	Employee fatalities, number	4	3	5 <sup>RA</sup>	3 <sup>RA</sup>	13 <sup>RA</sup>	7 <sup>RA</sup>	2 <sup>RA</sup>	6	17	8
	Contractor fatalities, number	13	7	18 <sup>RA</sup>	I6 <sup>RA</sup>	I I RA	18 <sup>RA</sup>	15 <sup>RA</sup>	21	12	18
Tack late power static a pact - static a pact	Supply and demand										
Tical allow power static capacy - normal, HW         42 80         42 800         41 995         41 995         41 997         41 807         40 805         40 807         40 803 $a_{1}$	Total Eskom power station capacity – installed, MW	45 075	44 281	44 189	44 206	44 115	44 145	44 175	44 193	43 037	42 618
	Total Eskom power station capacity – nominal, MW	42 810	42 090	41 995	41 919	41 647	41 194	40 870	40 506	38 747	37 764
Pack density on protein, WW       13 245       13 7478       13 7479       13 525       35 202       35 202       35 2579       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529       35 529	Total IPP power station capacity – nominal, MW	3 392	2 606	I 677	I 135	1 008	803	-	-	-	-
Pack density of the state of the	Peak demand on integrated Eskom system, MW	33 345	34 768	34 977	35 525	36 212	36 664	35 850	35 959	36 513	34 807
Name         Yes         Yes </td <td>Peak demand on integrated Eskom system, including load reductions and non-Eskom generation. MW</td> <td>34 481</td> <td>36 170</td> <td>36 002</td> <td>36 345</td> <td>37 065</td> <td>36 970</td> <td>35 912</td> <td>36 227</td> <td>37 158</td> <td>35 441</td>	Peak demand on integrated Eskom system, including load reductions and non-Eskom generation. MW	34 481	36 170	36 002	36 345	37 065	36 970	35 912	36 227	37 158	35 441
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	National rotational load shedding	Yes	Yes	Yes <sup>RA</sup>	No <sup>ra</sup>	Nora	Nora	Nora	Yes	_	_
$\frac{1}{1000} matrix mat$	Demand savings, MW	214.9	171.5 <sup>RA</sup>	409.6 <sup>RA</sup>	595.0 <sup>RA</sup>	365.0 <sup>RA</sup>	354.1	_	_	_	_
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Internal energy efficiency, GWh	1.7 <sup>RA</sup>	10.4 <sup>RA</sup>	19.4 <sup>RA</sup>	28.9 <sup>RA</sup>	45.0 <sup>RA</sup>	26.2 <sup>RA</sup>	_	_	_	_
$\frac{1}{10000000000000000000000000000000000$	Electricity output										
	Power sent out by Eskom stations, GWh (net)	219 979	226 300	231 129	232 749	237 289	237 430	232 812	228 944	239 109	232 445
$\frac{h}{h} (rescard constraints, GVh) (resc) (rescard constraints, GVh) (rescard constraints, G$	Coal-fired stations, GWh (net)	199 888	204 838	209 483	214 807	218 210	220 219	215 940	211 941	222 908	215 211
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Hydroelectric stations, GWh (net)	688	851	1 036	1 077	1 904	1 960	1 274	1 082	751	2 443
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} cas with even even even even even even even eve$	Pumped storage stations. GWh (net)	2 9 1 9	3 107	2 881	3 006	2 962	2 953	2 742	2 772	2 979	2 947
Wind energy GWn (neg) $1$ $1$ $1$ $2$ $2$ $1$ $2$ $1$ $2$ $1$ $2$ $1$ $2$ $1$ $2$ $1$ $2$ $1$ $2$ $1$	Gas turbine stations. GWh (net)	3 936	3 709	3 621	1 904	709	197	49	143	1 153	62
Nuclear power station, GWh (net)         12 237         13 794         14 106         11 954         13 502         12 0.99         12 800         11 300         11 317         11 720           1PP purchases, GWh         9 033         6 022         3 717         -	Wind energy GWh (net)	311		2		2	2		2		2
IPP purchases, CWh         9 033         6 022         3 671           Yheeling, CWh         3 010         3 623         3 333         2 948         3 099         3 433         3 175         -         <	Nuclear power station, GWh (net)	12 237	13 794	14 106	II 954	13 502	12 099	12 806	13 004	11 317	11 780
Wheneling, GWH <sup>1</sup> 2,946       3,099       3,423       3,175       -       -       -         Energy imports from SADC countries, GWH <sup>1</sup> 9703       10,71       9425       7698       9939       10,100       10,579       12,189       11,510       11,483         Total electricity svaliable (generated by Eskom and purchased), GWh       242,452       26,676       247,578       246,911       224,444       22,665       241,133       22,069       239,393         Total example for distribution, GWh <sup>4</sup> 246,676       247,578       246,911       224,484       22,06,91       244,687       239,923       3,816       4,136       3,937         Total exercise       242,674       22,07       3,962       3,695       3,816       4,136       3,937         Total sate, GWH       242,674       216,561       224,785       224,469       218,591       244,680       228,999         Generation GWH in GWh sales, %       214,487       216,624       217,903       247,855       224,446       218,591       214,850       224,366       218,919       214,850       224,366       218,919       214,850       218,819       218,819       214,850       218,819       214,850       224,366       218,919       214,850       <	IPP purchases GWh	9 033	6.022	3 671	3 516	4 107	1 833				
Energy input from SADC countries, GWh <sup>1</sup> 9 703       10 721       9 425       7 698       9 999       10 190       10 579       12 189       11 50       11 483         Total electricity available (generated by Eskom and purchased), GWh       242 64 57       246 676       247 578       246 911       254 434       252 876       246 566       241 133       250 619       243 928         Total consumed by Eskom, GWh <sup>1</sup> 23 8599       242 502       23 710       242 874       250 452       249 914       242 871       23 962       3 963       3 816       4 136       3 937         Total available for distribution, GWh       214 487       216 777       0.6       217 903       224 785       224 785       224 484       228 78       224 785       224 486       226 984       224 785       224 486       226 984       224 785       224 485       218 100       10 80 999       218 999       218 999       214 885       10 10       10 70       6       218 999       218 999       218 99       218 99       218 90       218 90       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       218 99       21	Wheeling GWh <sup>3</sup>	3 930	3 622	3 353	2 948	3 099	3 423	3 175	_	_	_
Total electricity available (generated by Eskon and purchased), GWh         242 645         246 676         247 578         246 911         252 876         246 566         241 133         220 619         243 928           Total consumed by Eskon, GWh <sup>4</sup> 4 046         4 114         3 862         3 962         3 695         3 816         4 133         3 927           Total available for distribution, GWh         238 599         242 242 562         243 716         242 674         250 527         248 974         223 71         237 317         246 683         233 997           Total section/growth iGWh asles, %         214 487         216 224 786         214 785         224 446         218 519         214 880         246 914         220 27         27 976         246 914           Growth iGWh asles, %         0.63         0.07         0.6         37.7         22 4 785         224 446         218 519         214 850         243 521         39 389           Growth in revenue, %         10.5         6.9         8.1         82.6         122 663         112 999         90 375         68 34         22.9 96         43 521         39 389           Growth in revenue, %         1.14         2.17         1.10         0.82         0.53         0.75         0.83	Energy imports from SADC countries, GWh <sup>3</sup>	9 703	10 731	9 425	7 698	9 939	10 190	10 579	12 189	11 510	11 483
Total consumed by Eskon, GWh' Total available for distribution, GWh $\frac{4\ 046}{238\ 599}$ $\frac{4\ 114}{242\ 562}$ $\frac{3\ 862}{243\ 716}$ $\frac{3\ 962}{242\ 562}$ $\frac{3\ 962}{248\ 914}$ $\frac{3\ 962}{242\ 871}$ $\frac{214\ 850}{244\ 850}$ $\frac{224\ 860}{248\ 80}$ $\frac{214\ 850}{229\ 9}$ $\frac{224\ 860}{248\ 91}$ $\frac{214\ 850}{229\ 9}$ $\frac{224\ 860}{243\ 91}$ $\frac{214\ 850}{229\ 9}$ $\frac{224\ 860}{243\ 91}$ $\frac{214\ 850}{229\ 9}$ $\frac{224\ 860}{243\ 91}$ $\frac{214\ 850}{229\ 90\ 937\ 82\ 983\ 82\ 92\ 939\ 937\ 93\ 937\ 93\ 937\ 93\ 93\ 93\ 93\ 93\ 93\ 93\ 93\ 93\ 93$	Total electricity available (generated by Eskom and purchased), GWh	242 645	246 676	247 578	246 911	254 434	252 876	246 566	241 133	250 619	243 928
Total variable by Linking CWh         238 59         243 522         243 716         242 574         237 37         246 483         239 991           Sales and revenue         Total variable for distribution, GWh         214 487         216 52         224 785         224 991         242 571         237 37         246 483         239 991           Sales and revenue         10         114 487         216 52         224 785         224 785         224 981         214 820         229 991         245 981         243 916 <td< td=""><td>Total consumed by Eskom, GWh<sup>4</sup></td><td>4 046</td><td>4 1 4</td><td>3 862</td><td>4 037</td><td>3 982</td><td>3 962</td><td>3 695</td><td>3.816</td><td>4 136</td><td>3 937</td></td<>	Total consumed by Eskom, GWh <sup>4</sup>	4 046	4 1 4	3 862	4 037	3 982	3 962	3 695	3.816	4 136	3 937
Sales and revenue         Zif 487         Zif 274         Zif 7903         Zif 651         Zif 485         Zif 4850         Zif 4850 <thzif 4850<="" th=""></thzif>	Total available for distribution, GWh	238 599	242 562	243 716	242 874	250 452	248 914	242 871	237 317	246 483	239 991
Sales and revenueSales and revenueTotal alse, GWh <sup>1</sup> 214 487(0.8)<th colspan="6</td> <td></td>											
Total sales, GWh <sup>5</sup> 214 487       216 274       217 903       216 561       224 785       224 446       218 50       224 366       235 33 389       367       368 36       368	Sales and revenue										
(Reduction)growth in GWh sales, %(0.8)(0.7)0.6(3.7)0.22.71.7(4.2)2.94.9Electricity revenue, %161 688146 268136 869126 663112 99990 37569 83452 99643 52139 389Customer statistics0.56.98.11.142.171.100.820.530.750.831.54Debtors days - nuncipalities, average debtors days42.947.632.72.24<	Total sales, GWh <sup>3</sup>	214 487	216 274	217 903	216 561	224 785	224 446	218 591	214 850	224 366	218 120
Electricity revenue, R million       161 688       146 268       136 869       126 663       112 999       90 375       69 834       52 996       43 521       39 389         Growth in revenue, %       12.1       25.0       29.4       31.8       21.8       10.5       10.9         Customer statistic       7       7.10       0.82       0.53       0.75       0.83       1.54       - <th< td=""><td>(Reduction)/growth in GWh sales, %</td><td>(0.8)</td><td>(0.7)</td><td>0.6</td><td>(3.7)</td><td>0.2</td><td>2.7</td><td>1.7</td><td>(4.2)</td><td>2.9</td><td>4.9</td></th<>	(Reduction)/growth in GWh sales, %	(0.8)	(0.7)	0.6	(3.7)	0.2	2.7	1.7	(4.2)	2.9	4.9
Growth in revenue, %       10.5       6.9       8.1       12.1       25.0       29.4       31.8       21.8       10.5       10.9         Customer statistics       Arrear debt as % of revenue, %       1.14       2.17       1.10       0.82       0.53       0.75       0.83       1.54       -	Electricity revenue, R million	161 688	146 268	136 869	126 663	112 999	90 375	69 834	52 996	43 521	39 389
Customer statistics         Arrear debt as % of revenue, %       1.14       2.17       1.10       0.82       0.53       0.75       0.83       1.54       -       -         Debtors days - large power top customers excluding disputes, average debtors days       12.5       16.8       14.5       12.3       1.4       1.5       15.4       16.5       -	Growth in revenue, %	10.5	6.9	8.1	12.1	25.0	29.4	31.8	21.8	10.5	10.9
Arrear debt as % of revenue, %1.142.171.100.820.530.750.831.54Debtors days - municipalities, average debtors days42.947.632.722.4 <td>Customer statistics</td> <td></td>	Customer statistics										
Debtors days - municipalities, average debtors days       42.9       47.6       32.7       22.4       -       <	Arrear debt as % of revenue, %	1.14	2.17	1.10	0.82	0.53	0.75	0.83	1.54	-	-
Debtors days - large power top customers excluding disputes, average debtors days15.516.814.512.314.415.515.416.5Debtors days - other large power users (<100 GWh p.a.), average debtors days	Debtors days – municipalities, average debtors days	42.9	47.6	32.7	22.4	-	-	-	-	-	-
Debtors days - other large power users (<100 GWh p.a.), average debtors days16.217.016.918.3 $   -$	Debtors days – large power top customers excluding disputes, average debtors days	15.5	16.8	14.5	12.3	14.4	15.5	15.4	16.5	-	-
Debtors days - small power users (excluding Soweto), average debtors days $48.2$ $49.1$ $50.2$ $48.2$ $42.9$ $45.1$ $40.5$ $47.5$ $ -$ Eskom KeyCare, index $104.3^{RA}$ $108.7$ $108.7$ $108.7$ $105.8$ $105.9$ $101.2$ $98.1$ $101.2$ $ 105.0$ Top Customer KeyCare, index $107.2$ $110.5$ $110.8$ $107.5$ $108.0$ $     -$ Enhanced MaxiCare $96.5^{RA}$ $99.8$ $92.7$ $93.2$ $90.7$ $89.4$ $93.0$ $92.8$ $89.2$ $93.9$ Customer Care, index $8.4$ $8.0$ $8.3$ $8.4$ $8.2$ $8.1$ $8.2$ $8.1$ $8.2$ $8.3$ $8.3$ Asset creationGeneration capacity installed: first synchronisation, units $2^{RA}$ $1^{RA}$ $     -$ Generation capacity installed and commissioned. MW $794^{RA}$ $100^{RA}$ $120^{RA}$ $261^{RA}$ $535^{RA}$ $315^{RA}$ $452^{RA}$ $1770$ $1043$ $1351$	Debtors days – other large power users (<100 GWh p.a.), average debtors days	16.2	17.0	16.9	18.3	-	-	-	-	-	-
Eskom KeyCare, index104.3 RA108.7108.7108.7105.8105.9101.298.1101.2-105.0Top Customer KeyCare, index107.2110.5110.8107.5108.0Enhanced MaxiCare96.5 RA99.892.793.290.789.493.092.889.293.9Customer Care, index8.48.08.38.48.28.18.28.38.38.3Asset creationGeneration capacity installed: first synchronisation, units $2^{RA}$ $1^{RA}$ Generation capacity installed and commissioned. MW794RA $100^{RA}$ $120^{RA}$ $261^{RA}$ $535^{RA}$ $315^{RA}$ $452^{RA}$ $1770$ $1043$ $1351$	Debtors days – small power users (excluding Soweto), average debtors days	48.2	49.1	50.2	48.2	42.9	45.I	40.5	47.5	-	-
Top Customer KeyCare, index       107.2       110.5       110.8       107.5       108.0       -       <	Eskom KeyCare, index <sup>6</sup>	104.3 <sup>RA</sup>	108.7	108.7	105.8	105.9	101.2	98.1	101.2	-	105.0
Enhanced MaxiCare       96.5 <sup>RA</sup> 99.8       92.7       93.2       90.7       89.4       93.0       92.8       89.2       93.9         CustomerCare, index       8.4       8.0       8.3       8.3       8.4       8.2       8.1       8.2       8.3       8.3       8.3         Asset creation       Generation capacity installed: first synchronisation, units       2 <sup>RA</sup> 1 <sup>RA</sup> -       -	Top Customer KeyCare, index	107.2	110.5	110.8	107.5	108.0	-	-	-	-	-
CustomerCare, index       8.4       8.0       8.3       8.4       8.2       8.1       8.2       8.3       8.3         Asset creation       Generation capacity installed: first synchronisation, units       2 <sup>RA</sup> 1 <sup>RA</sup> -       -	Enhanced MaxiCare	96.5 <sup>RA</sup>	99.8	92.7	93.2	90.7	89.4	93.0	92.8	89.2	93.9
Asset creation Generation capacity installed: first synchronisation, units 2 <sup>RA</sup> 1 <sup>RA</sup>	CustomerCare, index	8.4	8.0	8.3	8.4	8.2	8.1	8.2	8.3	8.3	8.3
Generation capacity installed: first synchronisation, units $2^{RA}$ $1^{RA}$ $  -$ <td>Asset creation</td> <td></td>	Asset creation										
Generation capacity installed and commissioned. W 794 <sup>RA</sup> $100^{RA}$ $120^{RA}$ $261^{RA}$ $535^{RA}$ $315^{RA}$ $452^{RA}$ $1770$ $1043$ $1351$	Generation capacity installed: first synchronisation. units	2 <sup>RA</sup>	I <sup>RA</sup>	_	-	_	_	_	_	_	_
	Generation capacity installed and commissioned. MW	794 <sup>RA</sup>	100 <sup>RA</sup>	120 <sup>RA</sup>	261 <sup>RA</sup>	535 <sup>RA</sup>	315 <sup>ra</sup>	452 <sup>RA</sup>	1 770	1 043	35
Power lines installed, km 345.8 <sup>RA</sup> 318.6 <sup>RA</sup> 810.9 <sup>RA</sup> 787.1 <sup>RA</sup> 631.3 <sup>RA</sup> 443.4 <sup>RA</sup> 600.3 <sup>RA</sup> 418.3 480.0 430.0	Power lines installed, km	345.8 <sup>RA</sup>	318.6 <sup>RA</sup>	810.9 <sup>RA</sup>	787. I <sup>RA</sup>	631.3 <sup>RA</sup>	443.4 <sup>RA</sup>	600.3 <sup>RA</sup>	418.3	480.0	430.0
Substation capacity installed and commissioned, MVA 2435 <sup>RA</sup> 2 090 <sup>RA</sup> 3 790 <sup>RA</sup> 3 790 <sup>RA</sup> 3 580 <sup>RA</sup> 2 552 <sup>RA</sup> 5 940 <sup>RA</sup> 1 630 <sup>RA</sup> 1 375 1 355 1 000	Substation capacity installed and commissioned. MVA	2 435 <sup>RA</sup>	2 090 <sup>RA</sup>	3 790 <sup>RA</sup>	3 580 <sup>RA</sup>	2 525 <sup>RA</sup>	5 940 <sup>RA</sup>	630RA	375	1 355	1 000
Generation capacity milestones (Medupi, Kusile and Ingula), days 3.08 59.56 <sup>RA</sup> 48.90 <sup>RA</sup> 43.48	Generation capacity milestones (Medupi, Kusile and Ingula). days	3.08	59.56 <sup>RA</sup>	48.90 <sup>RA</sup>	43.48		_	_	_	-	-
Total capital expenditure – group (excluding capitalised borrowing costs),         57.4         53.1 <sup>RA</sup> 59.8 <sup>RA</sup> 60.1         58.8         47.9         48.7         43.7         24.0         17.5	Total capital expenditure – group (excluding capitalised borrowing costs), R billion	57.4	53.1 <sup>RA</sup>	59.8 <sup>RA</sup>	60.1	58.8	47.9	48.7	43.7	24.0	17.5

The employee LTIR includes occupational diseases.
 Figures prior to 2013/14 refer to company numbers. Since 2013/14, group numbers are reflected.
 Prior to 2009/10, wheeling was combined with the total imported for the Eskom system.
 Used by Eskom for pumped storage facilities and synchronous condenser mode of operation.
 Difference between electricity available for distribution and electricity sold is due to energy losses.
 The KeyCare index was not reported in 2008 due to difficulties in obtaining credible data as a result of load shedding. RA Reasonable assurance provided by the independent assurance provider. Refer to pages 113 to 115 of the integrated report.

#### **Ten-year technical statistics**

continued

Measure and unit	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11	2009/10	2008/9	2007/8	2006/7
Plant performance										
Unplanned capability loss factor (UCLF), %	14.91 RA	15.22 <sup>RA</sup>	12.61 <sup>RA</sup>	12.12 <sup>RA</sup>	7.97 <sup>RA</sup>	6.14 <sup>RA</sup>	5.10 <sup>RA</sup>	4.38	5.13	4.34
Planned capability loss factor (PCLF), %	12.99	9.91RA	10.50 <sup>RA</sup>	9.10	9.07	7.98	9.04	9.54	_	_
Energy availability factor (EAE) %	71.07RA	73 73RA	75 13 <sup>RA</sup>	77.65 <sup>RA</sup>	81 99 <sup>RA</sup>	84 59RA	85.21	85 32	84 85	87 50
Unit capability factor (LICE) %	72.10	74.87	76.90 <sup>RA</sup>	78 80 <sup>RA</sup>	83.00RA	85 90RA	85.90	86.10	86.20	88.60
Conception load factor, %	E0 0	415	42.9	42.4	45 1	65.70 44 A	44.2	47.0	72.2	72 4
OCCT load factor trend	19.6	174	10 2RA	03.0 10.4RA	20	11	00.2	67.0	72.5	72.7
laterated Felice system land factor (ELE) %	10.0	17.0	17.5	010	70.4	70 5	0.3	70 (	05.0	- 02 7
	02.7	7.00	03.0	01.7	77.4	78.5	//./	70.0	85.2	82.7
Network performance		0.0514	2.0504	2 5004						
lotal system minutes lost for events <1 minute, minutes	2.41**	2.85	3.05**	3.52**	4./3 <sup>RA</sup>	2.63	4.09	4.21	3.56	3.67
Major incidents, number	1. 	2	0 <sup>RA</sup>	3 <sup>RA</sup>	I <sup>RA</sup>	0 <sup>RA</sup>	I <sup>RA</sup>	3	5	2
System average interruption frequency index (SAIFI), events	20.5 <sup>RA</sup>	19.7 <sup>RA</sup>	20.2 <sup>RA</sup>	22.2 <sup>RA</sup>	23.7 <sup>RA</sup>	25.3 <sup>RA</sup>	24.7 <sup>RA</sup>	24.2	33.7	25.2
System average interruption duration index (SAIDI), hours	38.6 <sup>RA</sup>	36.2 <sup>RA</sup>	37.0 <sup>RA</sup>	41.9 <sup>RA</sup>	45.8 <sup>RA</sup>	52.6 <sup>RA</sup>	54.4 <sup>RA</sup>	51.5	73.7	51.4
Total energy losses, %	8.6	8.8	8.9	9.1	8.7	8.3	8.5	7.9	8.0	8.4
Transmission energy losses, %	2.6	2.5	2.3 <sup>RA</sup>	2.8 <sup>RA</sup>	3.1 <sup>RA</sup>	3.3 <sup>RA</sup>	3.3	3.1	3.1	-
Distribution energy losses, %	6.4	6.8	7.1 <sup>RA</sup>	7.1 <sup>RA</sup>	6.3 <sup>RA</sup>	5.7 <sup>RA</sup>	5.9	5.5	5.5	-
Coal statistics										
Coal stock, days	58	51	44 <sup>RA</sup>	46 <sup>RA</sup>	39 <sup>RA</sup>	41 <sup>RA</sup>	37 <sup>RA</sup>	41	13	29
Road-to-rail migration (additional tonnage transported on rail), Mt	13.6 <sup>RA</sup>	12.6 <sup>RA</sup>	11.6 <sup>RA</sup>	10.1 <sup>RA</sup>	8.5	7.1	5.1	4.3	4.4	3.9
Coal purchased, Mt	118.7	121.7	122.0	126.4	124.3	126.2	121.8	132.7	119.6	117.4
Coal burnt, Mt	114.8	119.2	122.4	123.0	125.2	124.7	122.7	121.2	125.3	119.1
Average calorific value, MJ/kg	19.57	19.68	19.77	19.76	19.61	19.45	19.22	19.10	18.51	19.06
Average ash content, %	28.19	27.63	28.56	28.69	28.88	29.03	29.56	29.70	29.09	29.70
Average sulphur content, %	1.07	0.80	0.87	0.88	0.79	0.78	0.81	0.83	0.87	0.86
Overall thermal efficiency, %	31.1	31.4	31.3	32.0	31.4	32.6	33.1	33.4	33.4	33.9
Liquid fuels Diesel and kerosene, Ml	1 247.8	178.6	1 148.5 <sup>ra</sup>	609.7 <sup>RA</sup>	225.5 <sup>RA</sup>	63.6 <sup>RA</sup>	16.1 <sup>RA</sup>	28.9	345.9	11.3
Environmental statistics										
Legal contraventions										
Environmental legal contraventions	20	20	34 <sup>RA</sup>	48	50	63	55	114	46	50
Environmental legal contraventions reported in terms of the Operational			-		-					
Health Dashboard, number <sup>2</sup>	1	I	2.44	2	5	4	0	12	6	0
Water										
Specific water consumption, l/kWh sent out <sup>3</sup>	1.44 <sup>RA</sup>	1.38 <sup>RA</sup>	1.35 <sup>RA</sup>	1.42 <sup>RA</sup>	1.34 <sup>RA</sup>	1.35 <sup>RA</sup>	1.34 <sup>RA</sup>	1.35	1.32	1.35
Net raw water consumption, Ml	314 685	313 078	317 052	334 275	319 772	327 252	316 202	323 190	322 666	313 064
Emissions										
Relative particulate emissions, kg/MWh sent out⁴	0.36	0.37 <sup>RA</sup>	0.35 <sup>RA</sup>	0.35 <sup>RA</sup>	0.31 <sup>RA</sup>	0.33 <sup>RA</sup>	0.39 <sup>RA</sup>	0.27	0.21	0.20
Carbon dioxide (CO <sub>2</sub> ), Mt <sup>4</sup>	215.6RA	223.4	233.3 <sup>RA</sup>	227.9 <sup>RA</sup>	231.9 <sup>RA</sup>	230.3 <sup>RA</sup>	224.7 <sup>RA</sup>	221.7	223.6	208.9
Sulphur dioxide (SO <sub>2</sub> ), kt <sup>4</sup>	I 699	I 834	I 975 <sup>RA</sup>	I 843 <sup>RA</sup>	I 849 <sup>RA</sup>	1 810 <sup>RA</sup>	I 856 <sup>RA</sup>	I 874	I 950	I 876
Nitrous oxide (N <sub>2</sub> O), t <sup>4</sup>	2 757	2 919	2 969	2 980	2 967	2 906	2 825	2 801	2 872	2 730
Nitrogen oxide (NO) as NO, kt <sup>5</sup>	893	937	954 <sup>RA</sup>	965 <sup>RA</sup>	977 <sup>RA</sup>	977 <sup>RA</sup>	959 <sup>RA</sup>	957	984	930
Particulate emissions, kt	78.37	82.34	78.92 <sup>RA</sup>	80.68 <sup>RA</sup>	72.42 <sup>RA</sup>	75.84 <sup>RA</sup>	88.27 <sup>RA</sup>	55.64	50.84	46.08
Waste										
Ash produced, Mt	32.59	34.41	34.97 <sup>RA</sup>	35.30 <sup>RA</sup>	36.21 <sup>RA</sup>	36.22 <sup>RA</sup>	36.01 <sup>RA</sup>	36.66	36.04	34.16
Ash sold, Mt	2.7	2.5	2.4	2.4	2.3	2.0	2.0	2.1	2.4	2.2
Ash (recycled), %	8.3	7.3	7.0 <sup>RA</sup>	6.8 <sup>RA</sup>	6.4 <sup>RA</sup>	5.5 <sup>RA</sup>	5.6	5.7	6.7	6.4
Asbestos disposed, tons	274.5	991.0	458.0	374.6	448.1	611.5	321.4	3 590.8	321.0	6 060.0
Material containing polychlorinated biphenyls thermally destroyed, tons	59.8	0	10.2	0.9	14.3	422.9	19.1	505.6	17.0	10.0
Nuclear										
Public individual radiation exposure due to effluents mSv <sup>6</sup>	A000 0	0.0010	0 0012	0 0019	0 0024	0 0043	0 0040	0 0045	0 0047	0 0034
Low-level radioactive waste generated cubic metros	174 1	12/1	100 7RA	100 DRA	10/ 7RA	IZE 2RA	0.0070	140 0	0.0077	0.0034
Low-level radioactive waste disposed of cubic metros	212.1	377 4	224 ORA	E4 ORA	ED ORA	01 ARA	137.0	100.0	270.0	C.F C
Intermediate level redicactive waste disposed of, cubic metres	213.1	377.0	227.0"	3T.0""	33.0 "	01.0 SRA	210.0	107.0	270.0	133.0
Intermediate level radioactive waste generated, cubic metres	33.4	27.0	20./ ICA	33./ <sup>104</sup>	23.4 <sup>-55</sup>	37.3 <sup>.00</sup>	47.1 266.0	23.7 473.4	419.0	47.8
Intermediate-level radioactive waste disposed of, cubic metres	0.0	138.0	1/8.0	0.0	128.0.5	0.0.0	200.0	4/3.6	418.0	436.0
Used nuclear fuel, number of elements discharged	2 2 2 2 0	2 172	48 2.047	302	6U	112	26	20	112	56
Osed nuclear ruer, number of elements discharged, cumulative figure	4 4 4 7	21/3	2 001	2013	1 73/	1 07/	1 /05	1 / 47	10/3	1 201

The March 2015 comparative has increased from 18 to 20 due to legal contraventions being reclassified once the investigations were finalised.
 Reported in terms of the 2002 definition of the Operational Health Dashboard. From 2008, repeat legal contraventions are included.
 Volume of water consumed per unit of generated power sent out by commissioned power stations.
 Calculated figures based on coal characteristics and power station design parameters based on coal analysis and using coal burnt tonnages. Figures include coal-fired and gas turbine power stations, as well as oil consumed during power station start-ups and, for carbon dioxide emissions, includes the underground coal gasification pilot plant.
 NO, reported as NO<sub>2</sub> is calculated using average station-specific emission factors (which are measured intermittently) and tonnages of coal burnt.
 The Imit set by the National Nuclear Regulator is 50,25mSv.
 The gross mass of a nuclear fuel element is approximately 670kg, with UO, mass, typically between 462kg and 464kg.
 RA Reasonable assurance provided by the independent assurance provider. Refer to pages 113 to 115 of the integrated report.

# Five-year non-technical statistics

			Company					Group		
Measure and unit	2015/16	2014/15	2013/14	2012/13	2011/12	2015/16	2014/15	2013/14	2012/13	2011/12
Finance										
Electricity revenue per kWh (including environmental levy), c/kWh	76.24	67.91	62.82	58.49	50.27					
Electricity operating cost per kWh (including depreciation and	72 07	67 52	59.67	54 15	41.28					
amortisation), c/kWh		07.52	57.07	51.15	11.20					
Cost of electricity (excluding depreciation), R/MWh	640.03RA	610.43 <sup>RA</sup>	541.92 <sup>KA</sup>	496.24 <sup>ka</sup>	374.19 <sup>RA</sup>					
Operating EBITDA margin, %	18.61	15.65	16.15	17.48	28.69	19.77	15.90	17.23	16.98	29.37
EBIT (before profit/(loss) on embedded derivatives), K million	12 079	4 6//	/ 101	10 694	21 343	13 986	9777	11 /44	9 919	21 985
Interest cover ratio	0.46***	0.25	0.52	0.27	3.27	0.55	0.27	0.60	0.22	3.35
vvorking capital ratio	0.80	0.82	0.70	0.67	0.76	0.83	0.81	0.71	0.68	0.76
Gross debt/EBI I DA, ratio	12.24	16.47 2.7084	13.27 2.2184	15.37	6.46	11.40	16.08	12.41	16.20	6.46
Enco fundo from encontrione B million	1.73	2.70***	2.21	1.76	20 502	1.07	2.55	2.11	1.04	1.37
Free funds from operations, K million	37 954	36 032	25 879 0 2184	19 105	30 503	39 443	36 1/9	2/ 542	18 108	30 483
Pree funds from operations as % of total debt, %	10.46	10.73	7.21	0.55	15.06	10.96	0.92	7.73	2.04	15.15
Debt service cover, ratio	1.00	0.82	1.16	2.05	3.50	1.07	0.92	1.21	2.01	3.50
	17.45	8.70	2.30							
Iransformation Socio-economic contribution										
Corporate social investment committed R million						103.6	115.5	132 9RA	194 3RA	87 9RA
Corporate social investment, number of beneficiaries						302 736	323 882	357 443RA	652 347RA	531 762
lob creation number	23 169	25 875	25 181 <sup>RA</sup>	35 759	28.616	502 / 50	525 002	557 115	032 5 17	331 702
Total number of electrification connections number	158 016RA	159 853LA	201 788 <sup>RA</sup>	139 881	154 250					
Technology transfer		107 000	201.700		101 200					
Acquisition of intellectual capital, R million	54 <sup>RA</sup>	_	_	_	_					
Skills development, number of people	29 <sup>RA</sup>	_	_	_	_					
lob creation, number of people	54 <sup>RA</sup>	_	_	_	_					
<u></u>										
Employment equity										
Disabilities, number of employees	1 271	1 294	I 283 <sup>RA</sup>	I 126 <sup>KA</sup>	I 022 <sup>RA</sup>	3	1 325	I 305 <sup>ka</sup>	I 137 <sup>ka</sup>	I 032 <sup>RA</sup>
Employment equity – disability, %	2.97	3.12 <sup>RA</sup>	2.99RA	2.59%	2.49 <sup>RA</sup>	2.73	2.89	2.77 <sup>RA</sup>	2.43 <sup>KA</sup>	2.36 <sup>RA</sup>
Racial equity in senior management, % black employees	60.90	61.58**	59.50	58.30**	53.90**	61.06	61.70	59.30KA	58.40	-
Racial equity in professionals and middle management, % black employees	71.98	72.28**	71.20**	69.60	65.69	71.68	/1.//	70.60 <sup>RA</sup>	69.00	-
Gender equity in senior management, % female employees	28.07	29.83**	28.90**	28.20**	24.31	28.13	29.82	28.80	28.50	-
Gender equity in professionals and middle management, % female employees	36.01	36.10**	35.80**	34.60	32.43	35.11	35.29	34.90	34.00	-
Procurement equity										
Local content contracted (Eskom-wide), %	75.22°	25.13	40.80	-	-					
Local content contracted (new build), %	84.04 <sup>RA</sup>	33.62 <sup>LA</sup>	54.60 <sup>RA</sup>	80.20	77.20 <sup>RA</sup>					
B-BBEE attributable expenditure, R billion	132.0	120.8	125.4 <sup>RA</sup>	103.4 <sup>RA</sup>	72.13 <sup>RA</sup>	125.0	116.0	119.4 <sup>RA</sup>	96.0 <sup>RA</sup>	-
Black women-owned expenditure, R billion	30.2	8.9	9.6 <sup>RA</sup>	5.7 <sup>KA</sup>	3.3 <sup>RA</sup>	30.8	9.3	9.8 <sup>KA</sup>	6.0 <sup>RA</sup>	-
Black-owned expenditure, R billion	51.0	47.5	43.6 <sup>RA</sup>	26.47 <sup>KA</sup>	14.38 <sup>KA</sup>	52.9	49.4	45.8 <sup>KA</sup>	-	-
Black youth-owned expenditure, R billion	1.3	0.9	I.3 <sup>KA</sup>	1.20 <sup>KA</sup>	_	1.4	0.9	1.3 <sup>KA</sup>	_	-
Procurement from B-BBEE compliant suppliers, %	83.08 <sup>RA</sup>	88.89 <sup>KA</sup>	93.90 <sup>RA</sup>	86.30 <sup>KA</sup>	73.20 <sup>RA</sup>	81.65	89.39	91.80 <sup>ka</sup>	82.10 <sup>RA</sup>	-
Procurement from black-owned suppliers, %	30.98**	34.91	32.70	22.10	14.60	33.61	34.41	35.30 KA	-	-
Procurement from black women-owned suppliers, %	17.72**	6.61	7.20 <sup>RA</sup>	4.70***	3.30**	19.30	6.49	7.50 <sup>KA</sup>	5.10	-
Procurement from black youth-owned suppliers, %	0.82	0.64	1.00	1.00	-	0.94	0.63	1.00	-	-
disability (BPLwD), % of TMPS	0.01 <sup>RA</sup>	0	0	-	-	0.01	0	0	-	-
Procurement spend with qualifying small enterprises (QSE), % of TMPS	4.03RA	6.74	11.90	-	-	4.62	6.75	15.09	-	-
Procurement spend with exempted micro enterprises (EME), % of TMPS	4.81 <sup>KA</sup>	5.12	-	-	-	5.89	5.78	-	-	-
Building skills										
Iraining spend as % of gross employee benefit costs	4.45	6.18 <sup>KA</sup>	7.87 <sup>KA</sup>	-	-					
lotal engineering learners in the system, number	895	1 315	1 962 <sup>rx</sup>	2 144 <sup>KA</sup>	2 2/3 <sup>RA</sup>					
Iotal technician learners in the system, number	415	826	815**	835**	844 <sup>rA</sup>					
Iotal artisan learners in the system, number	1 955	1 /52	2 383 KA	2 847 <sup>KA</sup>	2 598 <sup>RA</sup>					
Learners throughput or qualifying, number	I 108 <sup>KA</sup>	424 <sup>KA</sup>	-	-	-					

Ratios impacted by the restatements in the annual financial statements were restated.
 RA Reasonable assurance provided by the independent assurance provider. Refer to pages 113 to 115 of the integrated report.
 Q Qualified by the independent assurance provider.
 LA Limited assurance provided by the independent assurance provider.

#### **Customer information**

at 31 March 2016

Category	2015/16	2014/15	2013/14	2012/13	2011/12
Number of Eskom customers					
Local	5 688 629	5 477 591	5 232 904	5 013 435	4 852 712
Redistributors	801	804	801	795	786
Residential	5 550 307	5 338 723	5 093 847	4 874 004	4 713 178
Commercial	50 816	50 613	50 425	50 399	50 270
Industrial	2 733	2 773	2 781	2 789	2 775
Mining	1 013	I 034	I 054	I 062	1 100
Agricultural	82 450	83 136	83 489	83 877	84 095
Rail	509	508	507	509	508
International		11	11	11	10
Utilities	7	7	7	7	7
End users across the border	4	4	4	4	3
	5 688 640	5 477 602	5 232 915	5 013 446	4 852 722
Electricity sales per customer category, GWh					
Local	201 022	204 274	205 525	202 770	211 590
Redistributors	89 591	91 090	91 262	91 386	92 140
Residential	11 917	11 586	11 017	10 390	10 522
Commercial	10 150	9 644	9 605	9 519	9 270
Industrial	50 150	53 467	54 658	51 675	58 632
Mining	30 629	29 988	30 667	31 611	32 617
Agricultural	5 733	5 401	5 191	5 193	5 139
Rail	2 852	3 098	3 125	2 996	3 270
International	13 465	12 000	12 378	3 79	13 195
Utilities	4 018	2 797	3 401	4 659	3 607
End users across the border	9 447	9 203	8 977	9 132	9 588
	214 487	216 274	217 903	216 561	224 785
International sales to countries in					
southern Africa, GWh					
	13 465	12 000	12 378	13 791	13 195
Botswana	1 099	I 237	I 608	2 574	2 498
Lesotho	205	230	122	255	184
Mozambique	8 281	8 360	8 3 1 4	8 284	8 265
Namibia	1 746	924	248	1 822	I 507
Swaziland	1 044	882	741	598	596
∠ambia Zisakakasa	344	16	143	253	134
Zimbabwe	252	108	154	3	7
Short-term energy market <sup>2</sup>	494	243	48	2	4

I. Prepayments and public lighting are included under residential.

The short-term energy market consists of all the utilities in the southern African countries that form part of the Southern African Power Pool. Energy
is traded on a daily, weekly and monthly basis as there is no long-term bilateral contract.

Category	2015/16	2014/15	2013/14	2012/13	2011/12
Electricity revenue per customer category, R millio	on				
Local	154 959	140 074	129 688	114 307	103 863
Redistributors	66 396	60 051	55 371	49 891	44 251
Residential	12 884	11 361	10 181	9 044	8 155
Commercial	10 157	8 599	7 940	6 972	5 925
Industrial	31 412	30 377	28 305	23 543	23 522
Mining	23 895	20 848	19 829	17 620	15 689
Agricultural	7 349	6 247	5 645	5 180	4 482
Rail	2 755	2 591	2 417	2 057	1 839
IPP network charge	111	-	-	-	-
International	8 055	6 306	5 887	5 892	4 846
Jtilities	4 163	2 988	2 837	3 149	2 404
End users across the border	3 892	3 318	3 050	2 743	2 442
Gross electricity revenue	163 014	146 380	135 575	120 199	108 709
Environmental levy included in revenue <sup>2</sup>	513	485	322	6 464	4 290
Less: Revenue capitalised <sup>3</sup>	(367)	_	(28)	_	-
Less: IAS 18 revenue reversal <sup>4</sup>	(1 472)	(597)	-	-	-
Electricity revenue per note 32 in the annual financial statements	161 688	146 268	136 869	126 663	112 999

1. Prepayments and public lighting are included under residential.

The environmental levy of 2cl/kWh tax was effective from 1 July 2009 to 31 March 2011. On 1 April 2011 the levy was raised to 2.5c/kWh. On 1 July 2012 the levy was raised to 3.5c/kWh. The levy is payable for electricity produced from non-renewable sources (coal, nuclear and petroleum). The levy is raised on the total electricity production volumes and is recovered through sales.

3. Revenue from the sale of production while testing generating plant not yet commissioned, capitalised to plant.

4. The IAS 18 principle of only recognising revenue if it is deemed collectable at the date of sale, as opposed to recognising the revenue and then impairing the customer debt when conditions change, has been applied since 2015. External revenue to the value of RI 472 million was thus not recognised at 31 March 2016.

#### **Power station capacities** at 31 March 2016

#### The difference between installed and nominal capacity reflects auxiliary power consumption and reduced capacity caused by the age of plant.

		Years	Number and installed capacity	Total installed	Total nominal
Name of station	Location	commissioned – first to last unit	of generator sets MW	capacity MW	capacity MW
Base-load stations					
Coal-fired (14)				38 548	36 441
Arnot	Middelburg	Sep 1971 to Aug 1975	Ix370; Ix390; 2x396; 2x400	2 352	2 232
Camden <sup>1, 2</sup>	Ermelo	Mar 2005 to Jun 2008	3x200; 1x196; 2x195; 1x190; 1x185	56	48
Duvha <sup>3</sup>	Emalahleni	Aug 1980 to Feb 1984	6x600	3 600	3 450
Grootvlei	Balfour	Apr 2008 to Mar 2011	4×200; 2×190	I 180	I 120
Hendrina <sup>2</sup>	Middelburg	May 1970 to Dec 1976	5×200; 2×195; 2×170; 1×168	I 893	I 793
Kendal⁴	Emalahleni	Oct 1988 to Dec 1992	6x686	4 116	3 840
Komati <sup>I, 2</sup>	Middelburg	Mar 2009 to Oct 2013	4×100; 4×125; 1×90	990	904
Kriel	Bethal	May 1976 to Mar 1979	6×500	3 000	2 850
Lethabo	Vereeniging	Dec 1985 to Dec 1990	6x618	3 708	3 558
Majuba⁴	Volksrust	Apr 1996 to Apr 2001	3x657; 3x713	4 110	3 843
Matimba⁴	Lephalale	Dec 1987 to Oct 1991	6x665	3 990	3 690
Matla	Bethal	Sep 1979 to Jul 1983	6×600	3 600	3 450
Tutuka	Standerton	un 1985 to Jun 1990	6×609	3 654	3 510
Kusile⁴	Ogies	Under construction	6×800	-	-
Medupi⁴	Lephalale	Unit 6: Aug 2015	6x794	794	720
Nuclear (I)					
Koeberg	Cape Town	Jul 1984 to Nov 1985	2×970	1 940	1 860
Peaking stations					
Gas/liquid fuel				2.424	2 (22
turbine stations (4)				2 426	2 409
Acacia	Cape Town	May 1976 to Jul 1976	3×57	171	171
Ankerlig	Atlantis	Mar 2007 to Mar 2009	4x149.2; 5x148.3	1 338	I 327
Gourikwa	Mossel Bay	ul 2007 to Nov 2008	5×149.2	746	740
Port Rex	East London	Sep 1976 to Oct 1976	3×57	171	171
Pumped storage			l l		
schemes (2) <sup>5</sup>				I 400	I 400
Drakensberg	Bergville	Jun 1981 to Apr 1982	4×250	I 000	1 000
Palmiet	Grabouw	Apr 1988 to May 1988	2x200	400	400
Ingula	Ladysmith	Under construction	4x333	-	-
Hydroelectric			I		
stations (2) <sup>6</sup>				600	600
Garied	Norvalspont	Sep 1971 to Mar 1976	4×90	360	360
Vanderkloof	Petrusville	Jan 1977 to Feb 1977	2×120	240	240
Beneweblee					
Wind energy (1)					
Sere	Vredendal	Mar 2015	46×2.2	100	100
Solar energy					
Concentrated					
solar power	Upington	Under construction	100	-	-
Other hydroelectric stations (4) <sup>7</sup>				61	-
Colley Wobbles	Mbashe River		3×14	42	_
First Falls	Umtata River		2x3	6	_
Ncora	Ncora River		2x0.4: 1x1 3	2	_
Second Falls	Umtata River		2x5.5	-	-
Total power station c	apacities (28)			45 075	42 810
Available nominal car	acity – Eskon	n-owned			94.98%
	,				

Name of station	Total nominal capacity MW
Nominal capacity of Eskom-owned power stations	42 810
IPP capacity	3 392
Wind	970
Solar photovoltaic	965
Gas/liquid fuel	588
Coal	460
Concentrated solar power	200
Hydroelectric	10
Other	199
Total nominal capacity available to the grid – Eskom and IPPs	46 202

I. Former mothballed power stations that have been returned to service. The original commissioning dates were: Komati was originally commissioned between November 1961 and March 1966.

Camden was originally commissioned between August 1967 and September 1969.

Grootvlei was originally commissioned between June 1969 and November 1977.

2. Due to technical constraints, some coal-fired units at these stations have been de-rated.

3. Duvha Unit 3 (600MW) is out of commission and will be rebuilt.

4. Dry-cooled unit specifications based on design back-pressure and ambient air temperature.

5. Pumped storage facilities are net users of electricity. Water is pumped during off-peak periods so that electricity can be generated during peak periods.

6. Use restricted to periods of peak demand, dependent on the availability of water in the Gariep and Vanderkloof Dams.

7. Installed and operational, but not included for capacity management purposes.

#### **Power lines and substations in service** at 31 March 2016

	2015/14	2014/15	2012/14	2012/12	2011/12
	2013/10	2014/15	2013/14	2012/13	2011/12
Power lines					
Transmission power lines, km <sup>1</sup>	31 957	31 107	29 924	29 297	28 995
765kV	2 608	2 235	2 235	667	1 153
533kV DC (monopolar)	1 035	1 035	1 035	1 035	1 035
400kV <sup>2</sup>	18 872	18 377	17 011	16 899	17 118
275kV	7 343	7 361	7 361	7 360	7 361
220kV	1 217	2 7	1 217	2 7	2 7
I32kV	882	882	1 065	9	1 111
Distribution power lines, km	49 210	48 278	46 093	44 396	43 856
132kV and higher	25 528	24 929	22 719	21 508	21 068
88-33kV	23 682	23 349	23 374	22 888	22 788
Reticulation power lines, km					
22kV and lower	288 550	281 510	276 027	269 570	265 707
Underground cables, km	7 571	7 436	7 293	7 026	6 770
132kV and higher	66	65	65	65	50
33 – 88kV	375	361	364	212	217
22kV and lower	7 130	7 010	6 864	6 749	6 503
Total all power lines, km	377 287	368 331	359 337	350 289	345 328
Total transformer capacity, MVA	244 637	239 490	232 179	225 799	205 865
Transmission, MVA <sup>3</sup>	143 440	139 610	138 350	135 840	132 955
Distribution and reticulation, MVA	101 197	99 880	93 829	89 959	72 910
Total transformers, number	342 387	335 242	329 314	320 501	315 397
Transmission, number	427	423	420	412	408
Distribution and reticulation, number	341 960	334 819	328 894	320 089	314 989

I. Transmission power line lengths are included as per distances from the Geographic Information System (GIS).

2. The Majuba Umfolozi No 1 line, even though constructed at 765kV, is currently still being operated at 400kV and thus reflected under the 400kV total.

3. Base of definition: transformers rated ≥30 MVA and primary voltage ≥132 kV.

#### **Benchmarking information**

The fact sheet details the benchmarking exercises undertaken by the Generation, Transmission and Distribution divisions.

#### Generation

#### **Coal-fired stations**

Generation benchmarks the performance of its coalfired power stations against those of the members of VGB (Vereinigung der Großkesselbesitzer e.V), a European-based technical association for electricity and heat generation industries. VGB's objective is to provide support and facilitate the improvement of operating safety, environmental compatibility and the availability and efficiency of power plants for electricity and heat generation, either in operation or under construction.

When interpreting the results of the benchmarking study, it must be noted that the operating regimes of other utilities contributing to the VGB database may not be the same as those of Eskom.

The results indicate that:

- The trend in the performance of our coal-fired plant across all indicators continues to be worse than the VGB benchmark
- The availability of the top performing stations in the VGB benchmark shows a recovery from a decline in 2012 and 2013
- Our units are on a par with the VGB benchmark with respect to planned maintenance in the median and low quartiles, while the PCLF of our best performing units was significantly better than that of the VGB benchmark units
- Since 2012, our UCLF performance showed a significant deterioration compared to the VGB benchmark on all quartiles
- With respect to the use of available plant (measured by energy utilisation factor or EUF), all our coal-fired units are performing at a level close to, and in many cases above the VGB best quartile, an indication that we are operating our power station units at much higher levels than the VGB benchmark units



Energy availability factor (EAF), all coal sizes (92 VGB units, excluding Eskom units), %

VGB worst quartile \cdots Eskom worst quartile — VGB median \cdots Eskom median — VGB best quartile 🚥 Eskom best quartile	VGB worst quartile	•••• Eskom worst quartile	- VGB median	•••• Eskom median	<ul> <li>VGB best quartile</li> </ul>	•••• Eskom best quartile
---	--------------------	---------------------------	--------------	-------------------	---------------------------------------	--------------------------



#### **Benchmarking information**

continued





#### **Koeberg Nuclear Power Station**

We are affiliated to the World Association of Nuclear Operators (WANO) and the Institute of Nuclear Power Operations (INPO); South Africa is a member of the International Atomic Energy Agency (IAEA). These affiliations enable us to benchmark performance, conduct periodic safety reviews, define standards, disseminate best practice and train personnel at our nuclear plant, Koeberg.

A WANO peer review of Koeberg was carried out in July 2014, followed by a WANO corporate peer review in February 2015. Following the Fukushima Daiichi event in Japan in March 2011, corporate peer reviews are being carried out to determine the adequacy of corporate support for nuclear power stations. Through INPO, we have maintained our accreditation from the National Nuclear Training Academy in the United States for our systematic approach to the training of licensed and non-licensed nuclear operators at Koeberg. We are the only non-US utility to receive such accreditation.

For the review period, Koeberg performance has generally been better than median for the suite of WANO performance indicators (the complete suite of WANO performance indicators is not shown here).

The graphs that follow depict the performance of Koeberg Nuclear Power Station against all pressurised water reactor (PWR) units worldwide.







#### **Benchmarking information**

continued





Worldwide PWR median

Worldwide PWR best quartile

#### Transmission

Transmission participates in benchmarking studies every two years. Data was submitted for a study during 2015, and the results are being finalised. The previous benchmarking study was conducted in 2012/13 with 27 other international transmission companies. The study focused on maintenance and plant performance and identified best international practices for the transmission industry.

These studies have been used to identify opportunities to develop continual improvement objectives and strategies. An analysis has been conducted and longterm improvement initiatives are being implemented. Existing asset categories performing well are monitored to ensure sustainable performance.

#### Distribution

Distribution continues to use reference data from previous benchmarking studies for planning purposes. In addition to the external benchmarks, Distribution also utilises an internal resource model that models workforce demand based on operating standards and underlying asset data. The model provides comparative data that is used for planning purposes by all operating units.

In preparing for a new benchmark cycle from 2016 onwards, Distribution is assessing proposals from external benchmarking service providers to compare technical and operational performance with international utilities.





Worldwide PWR worst quartile

•••• Koeberg mean

100

#### Environmental implications of using or saving electricity

Factor I figures are calculated based on total electricity sales by Eskom, which is based on the total available for distribution (including purchases), after excluding losses through Transmission and Distribution (technical losses), losses through theft (non-technical losses), our own internal use and wheeling. Thus to calculate CO, emissions, divide the quantity of CO emitted by the electricity sales: 215.6Mt ÷ 214 487GWh = 1.01 tons per MWh.

Factor 2 figures are calculated based on total electricity generated, which includes coal, nuclear, pumped storage, wind, hydro and gas turbines, but excludes the total consumed by Eskom. Thus the quantity of CO, emissions divided by (electricity generated less Eskom's own consumption): 215.6Mt ÷ (219 979GWh generated – 4 046GWh own consumption) = 1.00 tons per MWh.

Figures represent the 12-month period from 1 April 2015 to 31 March 2016.

	Factor I	Factor 2	2 If electricity consumption is measured in:				
	(total energy sold)	(total energy generated)	k₩h	MWh	GWh	TWh	
Coal use	0.54	0.53	kilogram	ton	thousand tons (kt)	million tons (Mt)	
Water use <sup>1</sup>	1.47	1.46	litre	kilolitre	megalitre (MI)	thousand megalitres	
Ash produced	152	151	gram	kilogram	ton	thousand tons (kt)	
Particulate emissions	0.37	0.36	gram	kilogram	ton	thousand tons (kt)	
CO <sub>2</sub> emissions <sup>2</sup>	1.01	1.00	kilogram	ton	thousand tons (kt)	million tons (Mt)	
SO <sub>2</sub> emissions <sup>2</sup>	7.92	7.87	gram	kilogram	ton	thousand tons (kt)	
NO <sub>v</sub> emissions <sup>3</sup>	4.16	4.14	gram	kilogram	ton	thousand tons (kt)	

Volume of water used at all Eskom power stations.

- 2. Calculated figures based on coal characteristics and power station design parameters. Sulphur dioxide and carbon dioxide emissions are based on coal analysis and using coal burnt tonnages. Figures include coal-fired and gas turbine power stations, as well as oil consumed during power station start-ups and, for carbon dioxide emissions, the underground coal gasification pilot plant
- 3. NO, reported as NO, is calculated using average station-specific emission factors, which have been measured intermittently between 1982 and 2006, and tonnages of coal burnt.

Multiply electricity consumption or saving by the relevant factor in the table above to determine the environmental implication.

Example I: Water consumption	Example 2: CO <sub>2</sub> emissions
Using Factor I	Using Factor I
Used 90MWh of electricity	Used 90MWh of electricity
90 × 1.47 = 132.3	90 × 1.01 = 90.9
Therefore 132.3 kilolitres of water used	Therefore 90.9 tons CO <sub>2</sub> emitted
Using Factor 2	Using Factor 2
Used 90MWh of electricity	Used 90MWh of electricity
90 x 1.46 = 131.4	90 × 1.00 = 90
Therefore 131.4 kilolitres of water used	Therefore 90 tons CO <sub>2</sub> emitted

Further information can be obtained through the Eskom Environmental Helpline. Contact details are available at the back of the integrated report

For CDM-related Eskom grid emission factor information, please go to the following link: www.eskom.co.za/OurCompany/SustainableDevelopment/Pages/CDM\_Calculations.aspx or via the Eskom website: Our Company > Sustainable Development > CDM calculations

#### Leadership activities

This fact sheet supplements the leadership and governance information set out in the integrated report.

#### **Board of Directors and committees**

Governance of the group and the responsibility for driving good corporate citizenship is vested in a unitary board, which is supported by several Board committees and a Company Secretary. The Board, through its committees, provides the strategic direction, while the Group Chief Executive, assisted by the Executive Management Committee (Exco) and its committees, is accountable to the Board for implementing the strategy.

The composition of the Board at 31 March 2016 is depicted below.



#### ARC Audit and Risk Committee

- **IFC** Investment and Finance Committee
- (RBP) Board Recovery and Build Programme Committee
- SES Social, Ethics and Sustainability Committee
- Denotes chairmanship of a committee

P&G People and Governance Committee

TC Board Tender Committee

Ages are shown at 31 March 2016.

Mr Romeo Kumalo and Ms Mariam Cassim resigned as directors, on 12 and 14 April 2016 respectively.



#### Leadership activities

continued

#### Attendance at Board and committee meetings

The effectiveness of the Board is improved through the use of six Board committees to which it delegates authority without diluting its own accountability. The Board appoints members to committees, with due consideration of the necessary skills and experience required by members of the respective committees.

Meetings of the Board and its committees are scheduled annually in advance. Special meetings are convened as and when required to address specific material issues.

Members	Board	Audit and Risk	Invest- ment and Finance	People and Gover- nance	Board Recovery and Build Pro- gramme	Social, Ethics and Sustain- ability	Board Tender
Total number of meetings	14	9	10	6	6	5	10
Independent non-executives							
Dr BS Ngubane	* 4/ 4			5/5	2/6	0/1	
Ms N Carrim	9/14	4/4		4/4	6/6	4/4	8/10
Ms M Cassim (from 25 May 2015)	11/11	*5/5				2/4	
Mr ZW Khoza	13/14		9/10	5/5	1/2	5/5	*9/10
Ms VJ Klein	13/14	4/5	9/10	*6/6		4/4	
Mr R Kumalo	9/14	6/9	8/10	0/1	3/4		
Mr G Leonardi (from 25 May 2015)	5/11			0/3			
Ms C Mabude	13/14	9/9		5/6		*4/5	9/10
Ms DV Naidoo	12/14	6/9			*6/6	2/2	9/10
Dr P Naidoo	12/14		5/7	1/1	6/6	5/5	2/2
Mr MV Pamensky	10/14		*10/10				
Mr NT Baloyi (until 22 April 2015)	0/1		0/1				
Executives							
Mr B Molefe (from 2 October 2015)	1/2			1/1			
Mr A Singh (from 2 October 2015)	2/2						

1. Attendance as reflected above refers to directors who were members of that committee during the year to 31 March 2016, and reflects changes due to rotation of members in committee memberships.

2. An asterisk denotes the chairmanship of the Board or committee at 31 March 2016.

#### **Activities of Board committees**

IFC

Statutory and Board committees comprise a majority of independent non-executive directors. The committees exercise their powers in accordance with approved terms of reference that define their composition, role, responsibilities and authority. These terms of reference are aligned with the delegation of authority framework, legislative requirements and best governance practices, and are reviewed by the committees and approved by the Board each year.

Board committee	Number of meetings held in 2015/16	Key activities for 2015/16
Audit and Risk Committee		
The committee performs a statutory function as set out in the Companies Act, 2008, assisting the Board with oversight over financial reporting and disclosure, internal control and risk management systems, combined assurance functions and IT governance. The committee also serves as the Audit and Risk Committee for Eskom's wholly owned subsidiaries, with the exception of Escap SOC Ltd, which has its own audit committee as prescribed by the Short Term Insurance Act 53, 1998. Refer to the report of the Audit and Risk Committee on pages 3 to 4 of the annual financial statements for more information.	9	<ul> <li>Recommended to the Board for approval the 2015 year end and 2016 interim financial statements and integrated reports for Eskom Holdings SOC Ltd and all of its subsidiaries</li> <li>Recommended to the Board the reappointment of a consortium of SizweNtsalubaGobodo Inc. as the external auditors for Eskom Holdings SOC Ltd and its subsidiaries, with effect from the 2015 annual general meeting</li> <li>Reviewed the appropriateness of the going concern assumption</li> <li>Approved the Internal Audit Plan for the three-year period to 2018/19</li> <li>Monitored progress on the implementation of cost containment measures</li> <li>Reported to Board on the findings of the independent enquiry into the affairs of Eskom Holdings SOC Ltd conducted by Dentons</li> <li>Reported to the Board on the investigation of the process for awarding contracts to diesel suppliers</li> <li>Noted the report from KPMG on governance and control reporting and monitoring processes in Eskom</li> </ul>
Investment and Finance Committee		
<ul> <li>The committee oversees our investment strategy, including the capital expansion programme and the funding thereof, and is also responsible for the Treasury function and the health of the company's capital structure. Responsibilities of the committee include:</li> <li>Reviewing and approving business cases for new investments or projects within its delegated authority</li> <li>Overseeing the borrowing programme and approving financial budgets</li> </ul>	10	<ul> <li>Approved the conclusion of 10 PPAs and related project agreements under the Small IPPs programme, based on the risk allocation and standard PPA as provided by DoE</li> <li>Approved the ERA revision for the phased replacement of high risk transformers in Transmission</li> <li>Approved the ERA revision cost for the Duvha Power Station major refurbishment of the unit control systems, protection systems, MV and LV switchgear</li> <li>Noted that the Nuclear Programme DRA spend to date amounted to R475 million, leaving a remainder of R700 million</li> <li>Approved the Medupi Revision 3 P80 business case of R145 billion, excluding capitalised borrowing costs of R43.7 billion), an increase of R40 billion over the previously approved R105 billion</li> <li>Approved the Kusile Revision 3 of the P80 business case of R161.4 billion (excluding capitalised borrowing costs), an increase of R42.9 billion over the previously approved R118.5 billion</li> </ul>
## Leadership activities

continued

Board committee	Number of meetings held in 2015/16	Key activities for 2015/16
People and Governance Committee		
<ul> <li>The committee provides oversight on governance and human resources matters and is responsible for:</li> <li>Nomination of executive directors and prescribed officers</li> <li>Recommending remuneration and other human resources-related policies</li> <li>Determining and recommending individual remuneration packages for executive directors and prescribed officers</li> <li>Succession planning</li> <li>Induction, training and evaluation of the Board and its committees</li> <li>Monitoring the effectiveness of the Ethics Management Programme</li> <li>The Group Chief Executive is an ex officio member of the committee, but recuses himself during discussions of his remuneration, or at any time when there is an actual, perceived or potential conflict of interest.</li> </ul>	6	<ul> <li>Recommended that the Board approve the mutual agreement to part ways on an amicable basis by Ms Tsholofelo Molefe, Finance Director and Mr Dan Marokane, Group Executive: Group Capital</li> <li>Recommended the report on the independent enquiry into the affairs of Eskom Holdings SOC Ltd conducted by Dentons to the Board in respect of HR issues</li> <li>Disallowed the payment of short-term incentive bonuses to all employees in 2014/15 as targets were not met</li> <li>Recommended changes to the Memorandum of Incorporation to the Board for approval</li> <li>Approved the revised organisational structures for Exco, the Office of the Chief Executive, Exco direct reports and the revised Exco subcommittees</li> <li>Approved the revised Faxos for 2016</li> <li>Confirmed that Eskom will align with the DPE remuneration standards</li> <li>Approved the methodology and scope of the Board evaluation process</li> <li>Requested an independent analysis in respect of the conversion of the Eskom Pension and Provident Fund from a defined benefit fund to a defined contribution fund</li> <li>Reviewed the Human Resources Progress Report, including the Industrial Relations, Employment Equity and New Build Industrial Relations Reports, and the Ethics Status Report on a quarterly basis</li> <li>Reviewed the progress of the Koeberg Operating Unit Transformation Programme</li> </ul>
Board Recovery and Build Programme Committee Responsibilities of the committee include: Ensuring that financial sustainability is secured, demand for electricity is reliably met and that applicable legislation and regulations are complied with Providing an oversight role over the build programme, in terms of governance, monitoring and review	e 6	<ul> <li>Committee monitored the performance and progress of the:</li> <li>Build Programme Projects for Medupi, Kusile, Ingula and Transmission projects, relative to the locked-down dates, cost estimates and other milestones and raised alerts to the Board and Shareholder on risks identified that could impact the shareholder compact, including: <ul> <li>Interrogation of the build programme business cases (P50) with recommendations to the IFC</li> <li>Oversight of the mitigating strategies to manage the risks, cost containment measures and cost savings and achievements</li> <li>Recovery Programme of the Majuba coal silo and Duvha Unit 3</li> <li>Strategies for sustaining the Generation fleet, including oversight of the technical and Tetris plan</li> <li>Nuclear new build and Steam Generator Replacement projects</li> <li>Monitoring the load shedding schedule</li> <li>Conducted site visits to: <ul> <li>Kusile new build site</li> <li>Rotek Industries</li> </ul> </li> </ul></li></ul>

Ingula Pumped Storage new build site

# Board co

## Social, Ethics and Sustainability Committee

Number of meetings held in 2015/16

5

10

The committee is a statutory committee as set out in the Companies Act. It assists the Board in carrying out its functions regarding social and economic development, stakeholder relations, environment, health and safety practices and good corporate citizenship.

Responsibilities of the committee include:

- Monitoring the ethical culture of the organisation
   Ensuring the group strategy and the ethical implementation thereof promotes overall sustainability
- Monitoring safety and environmental practices to ensure compliance with regulatory and internal requirements, and alignment with international best practice
- Monitoring nuclear safety, and making recommendations on policies, strategies and guidelines relating to nuclear issues
- Monitoring performance, recommending targets and key performance indicators and ensuring the integrity of information presented in the integrated report

The committee also serves as the Social, Ethics and Sustainability Committee for Eskom's wholly owned subsidiaries.

## **Board Tender Committee**

The committee ensures that Eskom's procurement system is fair, equitable, transparent, competitive and cost effective, as required by PFMA and PPPFA. Responsibilities include approving tenders and contracts above R750 million within its delegated authority. The committee also acts as the oversight authority in the formulation of the strategy and ongoing performance monitoring.

## Considered the 2015 integrated report, and confirmed that the report accurately reflected the social, ethics, financial and sustainability results for the year ended 31 March 2015, and was presented in accordance with the International <IR> Framework

- Endorsed the nuclear safety oversight reporting strategy and interrogated the outcome of and management responses to the corporate peer review, to align with international standards. Members engaged WANO and were exposed to other nuclear entities in the US
- Monitored the stakeholder engagement strategy and implementation; supplier development and localisation; health and HIV status in Eskom; industrial relations around the build projects; and
- safety and environmental compliance and liability
   Operational and environmental sustainability risks were escalated to the Board for consideration, with recommendations for these to be captured in the Corporate Plan and risk registers
- Conducted site visits to Eskom's research, training and development site in Rosherville, Koeberg Nuclear Power Station and WANO in Atlanta, USA
- Approved the implementation of a commodity strategy for maintenance and outage repair services for boiler pressure parts and/or maintenance and outage repair services for high pressure pipe work for 15 coal-fired power stations
  - Approved the mandate to conclude negotiations with Optimum Coal Mine for coal supply to Hendrina Power Station
  - Approved the award of a contract to Areva NP, France (Areva) and Westinghouse Electric Company, Sweden (Westinghouse) for the supply of three firm and three optional reloads for Koeberg's nuclear reactor unit
  - Approved the implementation of the contracting and procurement strategy for the provision of nuclear support services to the Koeberg Operating Unit
  - Approved the mandate to negotiate and conclude coal supply and offtake agreements for the supply and delivery of coal to Arnot Power Station
  - Approved the contracting and procurement strategy for the supply of coal shortfall for road and rail deliveries to various Eskom power stations
  - Approved the revised overall contracting and procurement strategy for the national electrification contract

# **Leadership** activities

continued

## **Executive Management Committee (Exco)**

Exco is established by the Group Chief Executive and assists him in guiding the overall direction of the business and exercising executive control of day-to-day operations.

Numerous changes to the Exco structure took place over the last financial year, as detailed in the integrated report. The composition of Exco at 31 March 2016 is depicted below.



Mr Brian Molefe (49) Group Chief Executive Years in Eskom: I Appointed to Exco in

April 2015 Oualifications B Comm (Unisa) MBL (Unisa) Post Graduate Diploma in Economics (London University) PhD Engineering Honoris Causa (University of Glasgow)

Significant directorships Industrial Development Corporation

P&G RBP SES



Mr Anoj Singh (42) Group Chief Financial Officer

Years in Eskom: I Appointed to Exco in August 2015

Qualifications B Comm Accounting (University of Durban-Westville) Post Graduate Diploma in Accounting (University of

Durban-Westville) Chartered Accountant (SA) Significant directorships Escap SOC Ltd Eskom Enterprises SOC Ltd Eskom Finance Company

SOC Ltd

RBP

Mr Thava Govender (48)

Years in Eskom: 25 Appointed to Exco in September 2010

Qualifications BSc Chemistry and Biochemistry (University of Durban-Westville) B Sc Honours Energy Studies – Nuclear & Fossil (RAU) Management Development

Group Executive:

Transmission and

Sustainability

Programme (Unisa ) Significant directorships Electric Power Research Institute (EPRI) Eskom Enterprises SOC Ltd Eskom Rotek Industries SOC Ltd



Mr Matshela Koko (47) Group Executive: Generation and Technology Years in Eskom: 19 Appointed to Exco in

December 2014 Qualifications B Sc Chemical Engineering (University of Cape Town)

Significant directorships Eskom Rotek Industries SOC Ltd



Group Executive:

Group Capital

October 2015

Qualifications

National Diploma in

Triangle Technikon)

Eskom Developmen

Foundation NPC

Mechanical Engineering

National Higher Diploma

Years in Eskom: 19

Appointed to Exco in

#### Mr Abram Masango (47) Ms Avanda Noah (49) Group Executive: Customer Services

Years in Eskom: 24 Appointed to Exco in June 2007

Qualifications Pr. Eng. (ECSA) BSc Electrical Engineering (University of Cape Town) Mechanical Engineering (Vaal MBA (International Management Centres) Executive Development Significant directorships Programme (University of

Witwatersrand) Significant directorships Council for Scientific and Industrial Research Eskom Enterprises SOC Ltd Eskom Rotek Industries SOC Ltd



#### Mr Mongezi Ntsokolo (55) Ms Elsie Pule (48) Group Executive:

Human Resources (acting) Years in Eskom: 18

Appointed to Exco in November 2014

Qualifications BA Social Work (University of the North) BA (Hons) Psychology (University of Pretoria) MSc Business Engineering (Warwick University)

Significant directorships None

New York) Significant directorships ACWA Energy Eskom Enterprises SOC Ltd Eskom Rotek Industries SOC Ltd

Group Executive:

Years in Eskom: 25

Appointed to Exco in

B Sc Electrical Engineering

BBA Hons (University of

Executive Development

Programme (City University of

(University of Witwatersrand)

Distribution

October 2003

Stellenbosch)

Stellenbosch)

MBA (University of

Qualifications

P&G People and Governance Committee

RBP Board Recovery and Build Programme Committee

SES Social, Ethics and Sustainability Committee

Ages are shown at 31 March 2016. Ms Elsie Pule was appointed as Group Executive: Human Resources in May 2016.

# Leadership activities

## Attendance at Exco meetings

		Number of meetings
Executive	Divisional responsibility	attended
Total number of meetings		
Mr B Molefe	Group Chief Executive (acting from 20 April 2015, appointed from 25 September 2015)	13/17
Mr ZW Khoza	Interim Chief Executive (until 20 April 2015)	1/1
Mr T Govender	Group Executive: Transmission and Sustainability	14/18
Mr M Koko	Group Executive: Generation and Technology (from 15 July 2015)	12/14
Mr E Mabelane	Acting Group Executive: Group Technology and Commercial	4/4
Mr A Masango	Group Executive: Group Capital	17/18
Ms A Noah	Group Executive: Customer Services	15/18
Mr MM Ntsokolo	Group Executive: Distribution	16/18
Ms E Pule	Acting Group Executive: Human Resources	14/18
Mr A Singh	Group Chief Financial Officer (acting from 1 August 2015, appointed from 25 September 2015)	14/14
Ms N Veleti	Acting Chief Financial Officer (until 31 July 2015)	4/4

## Notes

# Contact details

Telephone numbers		Websites and email addresses		
Eskom head office	+27    800 8	Eskom website	www.eskom.co.za Contact@eskom.co.za	
Eskom Media Desk	+27    800 3304 +27    800 3309 +27    800 3343 +27    800 3378 +27 82 805 7278	Eskom Media Desk	MediaDesk@eskom.co.za	
Investor Relations	+27 11 800 2775	Investor Relations	InvestorRelations@eskom.co.za	
Eskom Corporate Affairs	+27 11 800 2323	Eskom integrated results	www.eskom.co.za/IR2016	
Toll-free Crime Line	0800 112 722	Feedback on our report	IRfeedback@eskom.co.za	
Eskom Development Foundation	+27    800 6 28	Eskom Development Foundation	www.eskom.co.za/csi CSI@eskom.co.za	
Ethics Office Advisory Service	+27    800 279  +27    800 3 87 +27    800 3 89	Ethics Office Advisory Service	Ethics@eskom.co.za	
National Sharecall number	08600 ESKOM or 08600 37566	Promotion of Access to Information Act	PAIA@eskom.co.za	
Customer SMS line	35328	Integrated demand management and energy advice	AdvisoryService@eskom.co.za	
CS (customer service) mobile	Dial *120*6937566# or *120*myeskom#	Customer Service	CSOnline@eskom.co.za	
MyEskom mobi-site	www.myeskom.co.za	MyEskom app	App Store	
Facebook	EskomSouthAfrica	Twitter	Eskom_SA	

Physical address	Postal address	
Eskom Megawatt Park 2 Maxwell Drive Sunninghill Sandton 2157	PO Box 1091 Johannesburg 2000	
Company Secretary	Company registration number	
Ms Suzanne Daniels Eskom Holdings Secretariat PO Box 1091 Johannesburg 2000	Eskom Holdings SOC Ltd 2002/015527/30	¢



1113