Eskom



Enabling economic growth

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132 Our suite of reports







Navigation icons

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



Request for feedback

We want to ensure that our report continues to provide relevant information. We welcome your feedback on ways in which we could improve our report. Please send your suggestions to **IRfeedback@eskom.co.za**



Throughout this integrated report, performance against target is indicated as follows:

- 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

Reporting boundary and frameworks

This integrated report reviews our operational, environmental, social and financial performance for

the year from I April 2016 to 31 March 2017, and

follows our 2016 integrated report. Material events

up to the date of approval have been included. For a

comprehensive overview of our financial performance,

the integrated report should be read in conjunction

with our full set of group annual financial statements.

The report examines our performance and

considers the impact of stakeholders on our ability

to create value, as well as our impact on them. Unless

otherwise indicated, the information presented is

comparable to that of prior years, with no significant

restatements. 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 business model on pages 8 and 9 provides more detail on our

Our integrated report is based on the principles

contained in the International Integrated Reporting

Framework (the International <IR> Framework)

published by the International Integrated Reporting Council (IIRC). The report seeks to provide a balanced

and transparent assessment of how we create value,

considering both qualitative and quantitative matters

that are material to our operations and strategic

objectives, which may influence our stakeholders'

Although this is our primary report to stakeholders,

aimed at providers of financial capital, it provides

information of interest to all stakeholders. We aim

The determination of material matters is set out on page 27

Our group annual financial statements are available online at

The Board is accountable for the integrity and completeness of the integrated report and any supplementary information, and is 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. In considering the completeness of the material items dealt with and the reliability of information presented, based on the combined assurance process followed, the Board approved the 2017 integrated report, annual financial statements and supplementary information on 15 June 2017.



Interim Chairman

www.eskom.co.za/IR2017

unless otherwise stated.

Basis of preparation

value creation process

decision-making.



Ms Chwavita Mabude Interim Chairman: Audit and Risk Committee



Dr Pathmanathan Naidoo Chairman: Social, Ethics and Sustainability Committee

to address mainly material matters, both positive and negative, in this integrated report.

The content is further guided by legal and regulatory requirements, such as the Companies Act, 2008 and the King Code on Corporate Governance in South Africa (King III), as well as global best practice. We are assessing the impact and preparing to apply the recently issued King IV[™] in the coming year. The report also contains some GRI G4 disclosures.

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

Assurance approach

Our combined assurance model relies on three lines of defence. 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.

Our strategic risks are discussed on page 29



The combined assurance of our suite of reports is set out on page 33

The independent sustainability assurance report is included on pages 122 to 125

The consolidated annual financial statements have been audited by the group's independent auditors, SizweNtsalubaGobodo Inc. who issued a qualified opinion relating to compliance with PFMA and completeness of irregular expenditure. The consolidated annual financial statements are fairly presented, except for the qualification.

Refer to the annual financial statements for the audit opinion







Ingula added I 332мw



Export sales growth of 2.1%



Performance highlights for the year







Synchronised Medupi Unit 5 and Kusile Unit 1





increase limited to



Borrowing requirement reduced by approximately **RIObn**





Chairman's statement



Our strategy

Eskom's key roles remain assisting in lowering the cost of doing business in South Africa, enabling economic growth and providing a stable electricity supply in an efficient and sustainable manner. We also contribute to job creation, skills development, transformation and broad-based black economic empowerment (B-BBEE), in support of the National Development Plan (NDP) and other country initiatives.

Last year, we launched a comprehensive turnaround strategy, which included the Design-to-Cost (DTC) strategy, aimed at leading Eskom and South Africa into an era of reliable power supply and excess capacity, while supporting economic growth through moderate tariff increases over the medium to long term. Despite the challenges over the past few years, DTC has delivered significant efficiencies, supporting the turnaround of the business. We can now move from stabilisation to growth.

We are proud of the major progress the strategy delivered in its first year of implementation, as Eskom achieved the required stability to deliver on a number of important objectives for South Africa and the SADC region, including:

- Ensuring reliable electricity supply through improved generation asset performance
- Delivering additional new build capacity
- Supporting moderate electricity price increases through cost efficiencies across the business, particularly in primary energy
- Increasing universal access to electricity by connecting more than 200 000 households to the grid
- Enabling growth in the region by supplying more electricity to our neighbouring countries facing harsh drought conditions
- Successfully executing our funding plan

We have further refined the strategy, to catalyse economic growth in South Africa and the region through moderate tariff increases over time, by creating sustainability in our existing business, while laying the foundation for the Eskom of tomorrow. Our overall objective over the medium term is to achieve a standalone investment-grade credit rating to reduce the burden on the fiscus, while ensuring reliable and competitively priced electricity for the country.

The strategy is based on aggressive sales volume growth by stimulating industrial activity, coupled with efficiency improvements across the business, to ensure a tariff path that supports the economy. We aim to achieve our objectives by driving seven strategic initiatives, by focusing on five critical targets. Our strategy will enable us to manage the impact of the 2.2% price increase for one year. Refer to "Strategy and outlook" on pages 15 to 19 for more information

Governance

To ensure transparency and objectivity, the Board has embarked on a comprehensive independent review of various reports pertaining to perceived governance issues – the State of Capture report issued by the Office of the Public Protector, draft reports issued by National Treasury following a review of contracts, and the Dentons report, amongst others. Areas of concern broadly relate to procurement, contract management and governance. This review follows internal reviews to ensure that all perceived gaps are covered.

The Board is confident that significant progress has been made in addressing findings and recommendations. The Audit and Risk Committee will provide oversight of management's continued efforts to implement the action plan to improve the control environment in a sustainable manner.

Outlook and conclusion

The execution of our strategy is dependent on three key enablers, namely governance that drives accountability, successful stakeholder management and effective risk mitigation strategies, particularly to respond to lower than budgeted tariffs.

We remain committed to connecting independent power producers (IPPs) up to bid window 4.5, as long as they are economical at a price of 77c/kWh or lower, given our surplus capacity. Any further IPPs will need to be assessed against a holistic framework of security of supply, electricity price, environmental benefits and socio-economic factors, to ensure that the programme is rolled out at a cost and pace that is optimal for both South Africa and Eskom.

We extend our condolences to the friends and family of those who lost their lives serving Eskom.

I thank our current directors, as well as those who stepped down over the past year – Ms Nazia Carrim, Ms Viroshini Naidoo, Mr Mark Pamensky, Ms Venete Klein and Dr Baldwin Ngubane. Also to the Honourable Minister Lynne Brown, our shareholder representative, and her team for their continued guidance.

I congratulate the members of Exco for their supreme efforts in proving that we can deliver against an ambitious plan, with the notable improvement in operational and financial performance this past year.

These successes have strengthened the Board's confidence that the organisation can deliver on a strategy that will see Eskom once again take centre stage as a catalyst for economic growth in South Africa and the region.



Zethembe Khoza Interim Chairman

Our business model

Our mandate, vision and mission

Eskom Holdings SOC Ltd is South Africa's primary electricity supplier and generates approximately 90% of the electricity used in South Africa, and approximately 40% of the electricity used on the African continent.

We are a state-owned company (SOC) as defined in the Companies Act, 2008, and are wholly Government owned, through the Department of Public Enterprises (DPE). As such, we are subject to the Public Finance Management Act (PFMA), 1999, and the provisions of our Memorandum of Incorporation (MOI).

Mandate

The Minister of Public Enterprises (the Minister) sets the overall strategic direction in the Strategic Intent Statement, which forms our mandate. Our key roles are assisting in lowering the cost of doing business in South Africa, enabling economic growth, and providing a stable electricity supply in an efficient and sustainable manner. Through our activities, we also contribute to job creation, skills development, transformation and broad-based black economic empowerment.

To implement this mandate, our annual Corporate Plan sets out our strategic and operational direction. It gives effect to our medium- to long-term strategic objectives, while the annual shareholder compact set by DPE outlines the annual key performance indicators (KPIs) in support of our mandate and strategic objectives.

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Performance against the 2016/17 shareholder compact is set out in the directors' report in the annual financial statements, available online

The Minister receives the Corporate Plan and approves the shareholder compact before the start of each financial year. The latest Board-approved plan spans the five-year period from I April 2017 to 31 March 2022.

Shareholder compact KPIs are noted throughout the report using <sup>sc</sup>. These KPIs are also included in the statistical tables, available as a fact sheet at the back of this report

Vision and mission

In support of our vision statement of "Sustainable power for a better future", our mission remains to provide sustainable electricity solutions to foster economic growth and social prosperity.

# Our business model and the value we create

Eskom creates value for itself, its shareholder and stakeholders, by transforming inputs in the form of primary energy – namely coal, nuclear and liquid fuels, while using significant amounts of water – into a more convenient form of energy, being electricity, which is supplied to customers who use it to power their homes and businesses, thereby contributing to economic growth and prosperity. In so doing, we produce waste in the form of ash and nuclear waste, as well as gaseous and particulate emissions. As part of the process, we balance supply and demand in real time.

Our value chain consists of core operations, backed by support functions in the form of finance, human resources, procurement, information technology, stakeholder management and communications. Our core operations include the generation, transmission, distribution and sale of electricity, as well as the construction of new power stations and network infrastructure. Safety underpins our operations – we remain committed to maintaining a safe, healthy working environment for all employees and contractors.

#### The electricity supply industry

South Africa's electricity supply industry comprises the generation, transmission, distribution and sale of electricity, including the import and export thereof. Eskom operates most of the base-load and peaking capacity, although the role played by IPPs is expanding.

For more information on the capacity added and energy supplied by IPPs, refer to pages 49 to 51

NERSA, as South Africa's energy regulator, regulates the electricity industry as mandated chiefly by the Electricity Regulation Act, 2006 and the National Energy Regulatory Act, 2004, by providing licences, regulatory rules, guidelines and codes.

NERSA determines our revenue requirement based on multi-year price determination (MYPD) applications we submit, considering the requirements of the Electricity Pricing Policy. The third revenue application, MYPD 3, is currently in effect and covers the five-year period from I April 2013 to 31 March 2018.

The National Nuclear Regulator (NNR) regulates Koeberg, our nuclear power station, by ensuring that individuals, society and the environment are adequately protected against radiological hazards associated with the use of nuclear technology, and that Koeberg complies with nuclear safety standards.

## Nature of our business and customer base

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 connected through an integrated grid, and comprises South Africa, Botswana, Lesotho, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe.

Eskom's business follows the South African economy's boom (surplus) and bust (deficit) cycles. The long lead times needed to build new power stations or transmission networks can lead to misalignment between power supply and economic cycles.



to either Eskom or metros and municipalities. We also

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.

Our capacity expansion programme, which commenced in 2005 and is expected to be completed by 2022, is adding capacity through new power stations, high-voltage power lines and substation capacity, to assist in meeting South Africa's growing energy demand and strengthen our grid.

# Our business model

continued



#### Eskom's energy wheel

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

| Electricity available for distribution | GWh     | Electricity demand         | GWh     |
|----------------------------------------|---------|----------------------------|---------|
| Generation                             | 220 166 | Local sales                | 199 028 |
| Less: Pumping                          | (4 808) | International sales        | 15 093  |
| Generated by Eskom                     | 215 358 | Total sales                | 214 121 |
| IPP purchases                          | 11 529  | Technical and other losses | 21 399  |
| International purchases                | 7 418   | Internal use               | 460     |
| Wheeling                               | 2 910   | Wheeling                   | 2 910   |
| -                                      |         | Unaccounted                | (1 675) |
| Available for distribution             | 237 215 | Total demand               | 237 215 |

1. Wheeling refers to the movement of electricity between international customers through our network, without the power being available to customers on the South African grid.

E)

The detailed energy flow diagram, with comparatives, is available as a fact sheet at the back of the report

During 2016/17, we supplied energy output of 220 166GWh from the following primary energy sources:

| Source                          | GW      |
|---------------------------------|---------|
| Coal-fired stations             | 200 893 |
| Nuclear power                   | 15 026  |
| Pumped storage stations         | 3 294   |
| Hydro stations                  | 579     |
| Wind                            | 345     |
| Open-cycle gas turbines (OCGTs) | 29      |
| Total                           | 220 166 |

After accounting for energy losses, we sold 214 121GWh of electricity to a total of 5 976 557 customers.

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

#### Our impact on the capitals

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

We use natural capital in the form of coal, liquid fuels, uranium and a significant amount of water as primary energy sources to generate electricity in our various power stations.

Electricity generation results in waste, such as gaseous and particulate emissions, ash and nuclear waste, thereby negatively impacting natural capital. In order to reduce our impact on natural capital, we are gradually transitioning to a cleaner energy mix, including nuclear energy, clean coal technologies and renewable energy, the latter provided mainly by IPPs.

Our power stations, together with our transmission and distribution networks, make up our manufactured capital. This is eroded through the process of using our plant to generate, transmit and distribute electricity, while it is restored to some extent through planned and unplanned maintenance, and refurbishment. Depreciation is a financial approach to account for the erosion of manufactured capital.





# Our business model

As part of the process of generating and supplying electricity to customers, we employ human capital, in the form of our employees' competencies, capabilities and experience. Our human capital is enhanced by training, whether theoretical or practical, as well as the development of learners as part of our skills pipeline. We aim to recruit, develop and retain a highly skilled, committed, engaged and accountable staff base. We have set targets to achieve the optimal headcount and skills mix to capture efficiencies and employee-related cost savings across the business, while striving for racial and gender transformation.

For further information on our workforce and employment equity, refer to "Building sustainable skills" on pages 66 to 68 and "Transformation and social sustainability – Improving internal transformation" on page 72

Our intellectual capital consists of technology, organisational knowledge, systems, policies and procedures. Technology is a key enabler of our business and includes telecommunications, information technology, research and innovation. An example is our Tetris planning tool, which assists in the optimal scheduling of maintenance. 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. Our research also focuses on future technologies such as battery storage capabilities.

We require financial capital to fund our business, which is either increased or diminished by our financial performance and the progress on our funding plan. Our financial capital consists of equity in the form of equity invested by the shareholder, retained earnings and debt funding, which is supported by Government guarantees of our borrowings where required by lenders. Our credit rating is affected by our own financial position as well as the credit rating of the Sovereign; both credit ratings have deteriorated over the past year.

At 31 March 2017, our equity totalled R175.9 billion, of which R83 billion is attributable to share capital and the rest to retained earnings, while lenders and investors (bond holders) had provided funding of R355.3 billion in the form of debt securities and borrowings. As all funds generated are reinvested in the business, we generally do not pay dividends to our shareholder, although lenders and investors earn a return in the form of interest paid, coupled with the repayment of debt.

Through the provision of electricity, we have a positive impact on social and relationship capital, as we not only enable economic growth, but contribute to job creation, skills development, transformation and broad-based black economic empowerment. We contribute further to building social and relationship capital through our corporate social investment (CSI) activities, which are administered by the Eskom Development Foundation (the Foundation).

Since the commencement of our electrification programme in 1991, we have electrified more than 5 million households within our licensed areas of supply.

We depend on a licence to operate from NERSA, but also on community support, in those communities directly impacted by our operations. We rely on strong stakeholder relationships, to support us in our value creation process.

The impact of stakeholder support in practice A recent example of the influence of stakeholders and the impact on Eskom is the revenue determination for the 2017/18 financial year. Eskom submitted the Regulatory Clearing Account (RCA) application for 2013/14 (year one of MYPD 3) of R22.8 billion to NERSA in November 2015. NERSA undertook a public consultation process, affording various stakeholders an opportunity to comment on our submission. This included written comments from the public as well as public hearings in six provinces, during January and February 2016. The public raised concerns on various aspects of the application. NERSA allowed a balance of R11.2 billion to be recovered, resulting in an average price increase of 9.4% for the 2016/17 financial year, compared to 8% originally awarded under MYPD 3.

In the Borbet case, the Port Elizabeth Chamber of Commerce and others requested the North Gauteng High Court to review NERSA's decision regarding the 2013/14 RCA application. On 16 August 2016, the High Court set aside NERSA's decision and remitted it back to NERSA.

An appeal against the decision by NERSA and Eskom was heard in the Supreme Court of Appeal (SCA) on 4 May 2017; the judgment on 6 June 2017 upheld the appeal in favour of NERSA and Eskom.

Due to the judicial process, NERSA has decided not to consider further RCA applications. This means we will now only be allowed 2.2% for the 2017/18 financial year, which is well below inflation of approximately 6%, although we had budgeted for an average increase of 13%. This creates a revenue shortfall and cash flow deficit of approximately R21 billion for the year, which will result in a weakening of all our financial ratios, which may further impact our credit ratings.

Furthermore, an increase of 3% was required for IPPs, which implies a "negative" increase for Eskom, which can only be supplemented by significant cost cutting in order to earn a reasonable return. We will attempt to reduce the revenue shortfall through increased efficiencies and further trade-offs across the business.

#### Legal structure

 The Eskom group consists of the Eskom business and a number of operating subsidiaries. Our head office is based in Johannesburg, although we have operations across South Africa, with administrative offices in most major centres.

The map on page 113 shows the geographic location of our power stations and transmission lines

Eskom Enterprises SOC Ltd (EE) has a subsidiary in Uganda. Under a 20-year concession arrangement, now in its fourteenth year, Eskom Uganda Limited is responsible for the operation and maintenance of two hydroelectric power stations at Nalubaale and Kiira.

The office we had in London, primarily for quality control of equipment being manufactured for the capacity expansion programme, was closed down on 30 June 2016.That function is now managed locally.

Our group structure (only major operating subsidiaries are shown)



There have been no changes to the structure of the group, although the following should be noted:

- A number of EE's dormant subsidiaries are in the process of being wound down
- Eskom Finance Company SOC Ltd (EFC) has not been disposed of as anticipated, but is still treated as heldfor-sale. We are engaging with the market to find an appropriate disposal solution, as requested by our shareholder
- The Foundation will be absorbed into Eskom from 1 April 2017

We provided information on our major operating subsidiaries on page 28 of our 2016 integrated report. Details of subsidiaries at 31 March 2017 are available in note 12 of our annual financial statements

#### Contribution to financial performance

Each of the companies in the group contributes to the financial performance and position as follows. The Eskom business remains by far the most significant.

| R million                        | Eskom<br>company | EE<br>group | Escap | EFC   | Foun-<br>dation | Elimi-<br>nations<br>& other | Eskom<br>group |
|----------------------------------|------------------|-------------|-------|-------|-----------------|------------------------------|----------------|
| Revenue                          | 177 136          | 9 799       | 3 158 | 880   | -               | (13 837)                     | 177 136        |
| EBITDA                           | 35 989           | 837         | 2 352 | 155   | 3               | (1 804)                      | 37 532         |
| Net (loss)/profit after tax      | (870)            | 469         | 2  4  | 120   | -               | (972)                        | 888            |
| Total assets                     | 701 550          | 8 174       | 9 805 | 8 806 | 172             | (18 498)                     | 710 009        |
| Total liabilities                | 535 586          | 3 339       | 4 694 | 7 874 | 172             | (17 598)                     | 534 067        |
| Capital expenditure <sup>2</sup> | 65 942           | 09          | -     | -     | -               | (455)                        | 66 578         |

I. EBITDA excludes fair value adjustments on financial instruments and embedded derivatives.

2. The company and group figures include DoE funded capital expenditure of R3.3 billion.

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

Government's National Development Plan remains the guiding document for economic growth, but without sustainable and sufficient electricity capacity, further economic growth will be hampered. As the base-load supplier in the market, we are directly responsible for enabling GDP growth. This requires increased capacity to support expected future demand. We are building capacity to ensure that South Africa's future energy needs are met. We expect sustained surplus capacity in South Africa over the next five years, as our plant performance continues to improve and additional capacity is commissioned, from both IPPs and our new build programme.

It is important to recognise the macroeconomic climate and utility sector context in which we operate, as these directly influence our strategy. This context poses a number of risks to which we need to respond. However, it also presents a number of exciting opportunities that we can capitalise on to strengthen the organisation and plant the seeds for the Eskom of tomorrow.

#### Macroeconomic climate

# A challenging macroeconomic landscape with pockets of real opportunity

Global economic growth has slowed to approximately 2.6% a year; the outlook for the next five years is for continued low growth of 3.4% a year. South Africa's GDP growth slowed to less than 1% in 2016. This has had a significant impact on Eskom's key customers and their ability to increase, or even maintain, their electricity consumption. In 2017, GDP is expected to grow at just 1.2% with no immediate signs of recovery. In the SADC region, economic growth has also been affected by regional challenges such as drought. Despite these challenges, the opportunities in the local and regional macroeconomic landscape suggest that there is large latent and unserved electricity demand in the region which Eskom can meet.

# Signs of improvement in commodity markets although volatility continues

Most major commodities have experienced a significant decline in price over the past decade. In addition, commodity price volatility has increased significantly, adding to the risks involved in capital and growth decisions for metals and mining players. As a result South African metals and mining companies have reduced production in a number of sectors, such as gold, platinum and ferrochrome, with energy-intensive consumers having slowed their production and consumption by 1.7% a year over the past five to 10 years. With a few commodities experiencing improved prices over the last year, Eskom has a real opportunity to collaborate with the mining and heavy industrial sectors to capitalise on the current upcycle.

#### Impact of credit ratings downgrades

South Africa recently experienced a ratings downgrade, which could have a significant impact on the economy and its growth outlook. Eskom's long-term corporate credit rating has also been downgraded twice in the past year on Standard and Poor's (S&P) index. In addition, the global macroeconomic outlook indicates a potential risk of increasing yields in emerging market bonds. An effective funding strategy is necessary to manage pressure on the sources and cost of funding.

#### **Consumer inflation and interest rates**

Headline consumer price inflation has breached the upper limit of the inflation target range since September 2016 and accelerated to 6.8% in December 2016, before moderating marginally in January 2017. Although average inflation is expected to decline going forward, interest rates are not expected to reduce in the near future.

#### **Demand outlook**

Demand in global developed economies has declined by 1.4% a year since 2010. Because of regulatory pressure and investment in efficiency programmes and increase in self-generation, demand for electricity in the European Union (EU) has declined by 1.5% a year since 2010. Similarly in the USA, demand has been stagnant since 2010. In the long term it is anticipated that the EU 2050 strategy to reduce carbon emissions by 80–95% will have further implications for technology choices.

Electricity consumption in sub-Saharan Africa is expected to quadruple by 2040, driven primarily by a five-fold increase in GDP, through doubling of the population and growing urbanisation. Currently, the average access to electricity in sub-Saharan Africa is 20%; only seven countries (Cameroon, Côte d'Ivoire, Gabon, Ghana, Namibia, Senegal and South Africa) have electricity access rates exceeding 50%. This is much lower than in North Africa, where electrification rates are over 98%. To meet growing demand, electrification rates in sub-Saharan Africa are expected to reach 70% by 2040.

In South Africa, power consumption has declined by 0.5% a year on average since 2006. The decline was highest in large power users, declining by approximately 1.7% a year over the last five to 10 years, due to a wide range of factors, including economic slowdown, commodity market volatility, increasing electricity costs and a lack of security of electricity supply. However, Eskom is now in a position to meet the demands of the country with surplus capacity and take an active role in catalysing industrial growth.

#### **Power sector trends**

Globally, the last five years have been challenging for traditional power utilities, which have suffered significant declines in market share and profitability. A number of market and demand trends have reshaped the global energy sector landscape dramatically. Although the implications for South Africa and Eskom are still uncertain, what is clear is that we will need to prepare to operate in a world in which traditional utilities' business models will come under pressure, and in which we will need to adapt our business model and take innovative steps to meet customer needs. Rapidly changing dynamics in the global power sector

The increased competitiveness of renewables and growth in their market share have created a challenging situation for traditional fossil fuel-based utilities, forcing them to adapt their operating models. In Europe, power sector profits declined significantly as cheaper renewables gained market share.

In response, European utilities sought to shift their business models to a growing share of large-scale renewables and small-scale distributed generation. In South Africa, the RE-IPP (renewable independent power producer) Programme has successfully driven growth in renewables capacity over the last five years. The country will need to seriously consider the electricity supply-demand balance when considering further IPP capacity beyond bid window 4.5, as it impacts the plant mix required to ensure security of supply as well as the operating reserve margin.

# Discontinuities in technology create both opportunities and threats

Multiple new technologies will disrupt the electricity value chain. The cost of energy storage is expected to decline by approximately 20% over the next four years as investment in this technology grows rapidly. When it becomes viable, energy storage has the potential to increase the competitiveness of renewables even more and change customers' consumption behaviour. Our continued growth will be further enhanced by creating new business opportunities in the storage sector.

In South Africa, the penetration of small-scale generation has already increased considerably as the cost of rooftop solar photovoltaic (PV) panels continues to decline. The potential to increase distributed generation is close to a tipping point, creating new opportunities for Eskom to play a role in the shifting energy landscape. However, this also brings with it challenges associated with net metering and safety of technicians working on networks which could be live.

# Customer experience and satisfaction are moving to centre stage

With increased competition from renewables, greater customer choice, and new technology changing consumption patterns, utilities increasingly need to better understand the customer journey and preferences.

# Digital enablement, process automation and big data-driven decisions

Data and analytics are a new source of value creation and competitive advantage. Globally, leading companies are building deep capabilities in data science and analytics to achieve the next efficiency horizon and create new business models. There are already multiple use-cases in predictive maintenance and field force effectiveness. **Regionalisation and greater local collaboration** Regionalisation and greater local collaboration is expected to play a bigger role. Regional power pools are well developed in the EU, where they contribute to base-load capacity requirements, increase the security of supply and provide cost efficiencies.

A regional development focus, strong policy support and accommodating regulatory trading environments are required to develop power pools. As the sole transmission licensee in South Africa, Eskom is responsible for developing and maintaining the country's transmission and our distribution infrastructure, and South Africa's interconnectors within the region. We play a key role in the Southern African Power Pool and expect to collaborate further with our regional partners.

#### Updated Integrated Resource Plan (IRP)

The IRP sets out South Africa's long-term energy needs and discusses the generating capacity, technologies, timing and costs associated with meeting that need. The existing nuclear programme scope is aligned to the current IRP 2010 which calls for 9 600MW of nuclear power capacity. The draft IRP 2016, recently issued by the Department of Energy (DoE), calls for 20 385MW of nuclear power by 2050. Sufficient time is required to properly plan and implement new baseload power stations; implementation decisions need to be made long before commercial operation.



Our new build programme has expanded transmission lines by 6 747km and substation capacity by 34 390MVA since inception

# Operating environment

The draft IRP 2016 is based on electricity demand growth rates of about 2% a year, compared to 3% per year in the IRP 2010. Our latest Corporate Plan pursues average sales growth of 2.3% per year, across local and cross-border sales.

The draft revised IRP has important implications for Eskom, particularly around the shift towards lower carbon-emitting energy sources, to meet agreements made at the United Nations' COP 21 climate change conference in Paris, December 2015. The IRP will also affect our generation plant life extension decisions, with Generation set to complete a full review of its asset base and life extension and/or possible plant decommissioning strategy. The IRP provides guidance on the opportunities for greater regional development and electricity imports outlined in the NDP.

Eskom's Integrated Strategic Electricity Plan (ISEP), which was completed in March 2017, provides a longterm view of the future generation expansion needs of the country, comprising an optimal mix of generation technologies until 2050 to meet customer demand and environmental requirements.

ISEP shows a need for new base-load plant by 2028; a total of 23 700MW is required by 2050, to be provided from coal-fired and nuclear plant. No more than 15 300MW can be coal-fired due to the  $CO_2$  limitation. For nuclear plant, the total overnight cost should be between R72 000/kWe and R100 000/kWe for the first unit, with further units reducing in cost.

Various renewable generation scenarios were considered. The final ISEP calls for additional renewable generation by 2050, with solar PV of 23 000MW and wind of 42 000MW.

ISEP shows a significant requirement for gas-fired generation to provide a flexible generation option to the system, although the gas supply arrangements were not considered.

#### Outlook and implications for Eskom

The challenging operating environment is expected to continue to put pressure on our ability to deliver strong financial and operational performance.

#### Market demand

The continuing slowdown in the economy and the availability of alternative energy sources are driving the stagnation and/or decline in electricity demand.

#### Regulation

Eskom's current revenue determination cycle in terms of MYPD 3 concludes at the end of the 2017/18 financial year. Due to legislative and consultation requirements, we have submitted a one-year application for 2018/19 to NERSA.

The judgment by the North Gauteng High Court in the Borbet case created further ambiguity in the tariff path and placed our liquidity under additional pressure, although the SCA judgment should have a positive impact.

Refer to the information block on page 88 under "Financial sustainability" for more on the effect of the regulatory environment on our credit ratings

#### Independent power producers

Electricity supplied by IPPs is increasing at a rate above demand growth, which is negatively impacting primary energy costs and displacing Eskomgenerated power, as the IPP cost is much higher than the short-run marginal cost of our coal fleet. This is, however, only true when surplus capacity is available. Nevertheless, we accept that a mix of plant is needed to ensure security of supply and compliance with environmental regulations.

Refer to the information block on page 46 under "Operational sustainability – Generation performance" for more information on the different types of generating plant

#### New power stations

Although increasing capacity, the commissioning of the new power stations, Medupi, Kusile and Ingula, will increase the cost base as these stations need to be staffed, insured and maintained. The depreciation charge will also increase substantially.

#### Managing surplus capacity

Due to the surplus capacity and the age of some of our coal-fired stations, some stations may have to be decommissioned earlier than originally anticipated. Although provision for decommissioning of stations is made, earlier decommissioning would result in an immediate acceleration of depreciation to comply with International Financial Reporting Standards (IFRS). Effectively, the remaining life of affected stations will be reduced to zero. However, operating costs will also reduce as activities are ramped down during the decommissioning period. Staff will assist with the decommissioning and thereafter be absorbed in other areas of the business. The dismantling of plant and rehabilitation of coal mines will have a significant cash flow impact.

No decision on the possible decommissioning of stations has yet been made. Feasibility studies are being undertaken to reassess the lifespan of our power stations, to inform the available options, such as cold reserve, lean preservation, mothballing or decommissioning of stations.

Refer to page 47 for further information on the various options available to manage surplus capacity

#### Sovereign credit rating

Uncertainty regarding the stability of South Africa, demonstrated by the recent downgrade of the Sovereign to sub-investment grade, reduces our ability to raise adequate funding at historic interest rates, given our dependency on Government guarantees to access certain sources of funding.

## Strategy and outlook

In the previous year, we set out to re-establish Eskom as a catalyst for economic growth in South Africa by improving electricity availability. The Board approved the Design-to-Cost (DTC) strategy as part of our comprehensive turnaround strategy to deliver reliable power supply and excess capacity, while enabling economic growth through moderate tariff increases over the medium to long term.

In its first year of implementation, our strategy drove the business to achieve these objectives by enhancing the reliability of supply and creating excess capacity, enabling us to support the SADC region; adding new capacity to the grid under the new build programme; improving efficiencies across the business in support of moderate electricity price increases; and connecting more than 200 000 new households to the grid.

Going forward, we aim to build on this strong start to ensure that we support South Africa's economic recovery and enable industrial growth across Southern Africa. In response to concerns raised by stakeholders and the change in economic circumstances, we have refined our strategy, to catalyse South Africa's development through moderate tariff increases over time, while achieving a standalone investment-grade credit rating. This strategy is based on the strategic objectives from DPE's Strategic Intent Statement and is defined across seven pillars.

#### Our strategic context

As a state-owned entity, Eskom must implement Government policy and strategy. Alignment between our strategy and the shareholder's expectations is critical to ensure that we fulfil our mandate and deliver on Government's expectations.

Our overall strategic direction remains aligned to DPE's Strategic Intent Statement, which has set a number of strategic objectives:

- Provide reliable and predictable electricity in line with regulatory methodology, while striving for cost containment and improved operational efficiencies
- Ensure and maintain a financially viable and sustainable company
- Reduce Eskom's impact on the environment through identifying, implementing or supporting options for low carbon-emitting generation and transportation opportunities
- Consolidate our socio-economic contribution to ensure alignment to national transformation imperatives to unlock growth, drive industrialisation, create employment and support skills development

As discussed earlier, we have to operate in a challenging macroeconomic landscape with continued volatility in commodities, despite some signs of improvement. Although pockets of real opportunity for growth remain, so does pressure on sources and cost of funding.

We have the benefit of hindsight in understanding the potential implications of the power sector trends as they start to affect the South African electricity market. They offer exciting opportunities but, if we fail to act on them, we will be under even greater financial and operational pressure.

#### **Our strategy**

The DTC strategy was adopted last year to extract further efficiencies from the business, through reductions in primary energy, operating and capital expenditure (opex and capex), to support moderate price increases.

We also said we would launch a set of strategic programmes, in order to:

- Ensure long-term revenue certainty
- Increase our generation availability and capacity, and avoid load shedding
- Optimise our capital portfolio through prioritisation based on our core business
- Drive cost efficiencies to support a long-term electricity price path
- Deliver a funding plan that leverages the full Eskom balance sheet

In order to catalyse growth, increase electricity demand, and accelerate industrial projects that were cancelled or deferred during periods of load shedding, we realised we need a more focused strategy, which remains aligned to the objectives we set last year – these are still contained in the strategic initiatives we will be targeting. We haven't changed direction; our strategy has merely evolved in response to our changing environment and stakeholder concerns, aiming to capitalise on the opportunities discussed earlier.

#### Our strategic objectives

The strategy, approved by the Board, is based on aggressive sales volume growth by stimulating industrial activity, and efficiency improvements across the business to ensure a tariff path that supports the economy. It is expected to transform the business across multiple fronts, including capacity, cost and manpower.

# Strategy and outlook

continued



The strategy is built on seven strategic pillars that will help us achieve sustainability in our current business and set up the Eskom of the future, while ensuring that the funding strategy supports both objectives with financial prudence



#### Our strategic initiatives: the "seven pillars"

- I. Become a customer-centric organisation that stimulates demand
- Partner with customers to lead South Africa's economic recovery while ensuring local sales growth of 2.1% a year
- Focus demand stimulation on sectors that are critical to the economy and aligned with the NDP
- Increase export sales by 8% over the next five years
- 2. Ensure the reliability and availability of power capacity to support South Africa's economic growth
- Continue to drive operational excellence and reliability efforts across our generation fleet and network through a combination of effective maintenance, performance improvements, and application of new technologies, such as advanced analytics
- Achieve EAF of 80% by 2019/20 through continued application of the Tetris maintenance planning tool
- Complete Medupi and Kusile on time and within budget
- Drive growth by adding 8.7GW generation capacity, establishing 2 095km new transmission lines, purchasing approximately 14 500GWh per year from IPPs
- Increase access to electricity by achieving one million new customer connections
- 3. Continue capturing efficiencies in operating and capital costs to achieve a sustainable tariff path for the economy
- Reduce coal spend by a further R43 billion compared to the previous Corporate Plan
- Further reduce headcount and employee benefit costs, supported by a comprehensive independent review of our operating model
- Optimise capex by a further R25 billion, although our capital portfolio has already been reduced from R334 billion previously to R315 billion for the current five-year planning cycle, in support of our intent to deliver investment-grade ratios
- Consider decommissioning some power stations due to the expected surplus capacity, in a way that optimises coal, people and capital costs across our fleet
- Target a sustainable tariff path, with average increases of 8–10% per year over the longer term, although higher increases may be required initially
- Improve recovery of revenue from non-paying customers

#### 4. Decarbonisation of the economy

- Connect all renewables as part of the RE-IPP Programme up to bid window 4.5 at prices of 77c/kWh or lower, in support of COP 2I targets to reduce carbon emissions
- Prepare for the nuclear build programme

- 5. Innovation and transformation to create new revenue sources
- Develop both regulated and non-regulated growth opportunities and drive growth in new businesses, like rooftop solar PV panels, through our subsidiary, EE
- Partner with players in battery storage technology
- Enable transformation in the coal mining industry, by recapitalising cost-plus mines, optimising logistics and coal-contract mix, and supporting black-owned suppliers
- Ensure universal access to electricity
- 6. Drive value through new capabilities and advanced analytics
- Initiate advanced analytics and digitisation initiatives across the business, through smart grids, field force effectiveness tools, detection of non-technical losses and predictive maintenance. We have already delivered improvements using advanced analytics at the Majuba coal mills
- Strengthen our capabilities to improve EBITDA by R6 billion over the next five years
- 7. Deliver a funding plan that ensures successful delivery of the strategy
- Deliver a R337 billion funding plan that reduces our exposure to Government guaranteed debt, to achieve an investment-grade credit rating
- Release R105 billion in Government guarantees to reduce pressure on the fiscus
- Ensure that we are able to meet our capital obligations and maintain sufficient liquidity

We will drive the seven pillars while maintaining our support of the country's RE-IPP Programme, which aims to increase renewables capacity while ensuring that South Africa begins the journey to meet its COP 21 carbon emission targets.

The IPPs we have connected to the grid have supplied over 11GWh this year alone. In the medium term, the dynamics and assumptions underlying the original RE-IPP Programme have shifted, particularly with slower growth in electricity demand and declining costs of renewables technology. With expected surplus capacity of approximately 3 000MW by 2020/21, there is limited opportunity to connect new IPPs to the grid unless they are economical at a price of 77c/kWh or lower.

In the long term, as the costs of renewables decline further and the South African economy shows strong growth, we fully support growth in renewables in order to lead the country in reducing its carbon emissions while delivering electricity at the most competitive price possible. We will be investing in energy storage technology over the next five years in support of this long-term commitment to renewables. Once South Africa's position on COP 21 and emissions targets have been clarified, our strategy will be updated.

## Strategy and outlook

continued

#### **Executing the strategy**

Initiatives translated into targets

To support us in regaining an investment-grade credit rating, the business will focus on five critical targets over the next five years: 3 0 5  $\sim$ Sales growth Release Government Primary energy Optimising Analytics to 2. |% p.a. local improve EBITDA guarantees spend reduction capex spend 8% exports R105bn R25bn R6bn R43bn Stimulating industrial Transforming the Optimising planned Establishing world-Reducing the production in South South African coal capex spend class capabilities in burden on the Africa and SADC sector, through digital and advanced fiscus by releasing over the next greater efficiencies five years, while analytics Government and industry meeting regulatory guarantees, while restructuring to maintaining a and licensing ensure sustainability requirements moderate price path of the sector over time

In achieving these targets, we will manage headcount to an optimal level without compromising operational performance, introduce new skills and capabilities into the organisation, and improve organisational health in a way that makes Eskom an employer of choice once again.

#### Tracking our progress

We have proven that we can be successful when great plans are supported by hands-on leadership, strong execution and dynamic monitoring, supported by timely risk identification and mitigation.

In order to provide adequate oversight and support execution, each of the strategic initiatives has been mapped into delivery streams, each of which will provide a monthly report to the DTC Steering Committee as well as the relevant Executive Management Committee (Exco) subcommittee.

Furthermore, Exco has established a Results Management Office (RMO) to coordinate, monitor and drive the execution of strategic initiatives across the business. The RMO uses a multi-divisional senior management committee to track performance of the identified initiatives. The committee serves as a platform to highlight key performance issues across the business, identify interventions and follow up on corrective action. Initiatives will be prioritised so that those with the highest impact receive optimal attention.

The RMO provides feedback to Exco on performance of delivery streams and progress made against strategic initiatives. The implementation plans will also form the basis upon which group executives (GEs) are compacted for performance management purposes. GEs will identify initiative owners, and ensure that delivery of strategic initiatives is cascaded into their performance compacts. This will drive a stronger link between strategic objectives and individual performance and reward.

Short-term annual cash incentives will reward the achievement of annual operational excellence, while long-term incentives will reward long-term sustainability. A balanced approach will be put in place to ensure that both short- and long-term targets are appropriately incentivised.

#### Outlook

In pursuing our strategy, we may encounter a number of challenges, among which:

#### Revenue determination uncertainty

The 2.2% tariff increase for 2017/18 is much lower than expected and well below inflation. To recover efficient costs and earn a reasonable return during the next revenue cycle, a reasonable step-up in price, in line with the regulatory framework, will be necessary. On 9 June 2017, we submitted a revenue application requesting a 19.9% increase for 2018/19 to improve revenue certainty, essential to attract the necessary funding. We will engage key stakeholders on our application. Revenue certainty is key to regaining an investment-grade credit rating.

#### Assumptions not materialising

A shortfall in sales volumes, with expected growth not materialising, an increase in opex or capex costs, or additional revenue not materialising, could all affect the execution of our strategy.

#### **Municipal debt repayments**

We have a strategy to reduce the arrear municipal debt and limit bad debt in the future. This will require strong support from all relevant stakeholders.

#### Further ratings downgrades

Deterioration in ratings of either Eskom or the Sovereign will affect our ability to execute our funding plan with limited Government support, as well as our aim to release Government guarantees. The availability and cost of funding will also be affected.

# Generation and grid asset uncertainty, surplus capacity and compliance

We will optimise delivery of N–I compliance by effectively sequencing project delivery and ensuring financial prudency. Given the current surplus capacity, we may have to decommission some coalfired power stations earlier than anticipated to ensure an optimal generation cost. We will however work with communities and affected mines to limit the socio-economic impact of the decommissioning.

As always, our strategy will require trade-offs between competing priorities, such as the need to do maintenance, manage financial challenges, reduce our environmental impact and ensure our overall sustainability in the longer term. Governance that drives accountability has been identified as a key enabler for the successful execution of our strategy. Eskom's Board of Directors is responsible for providing strategic direction, while Exco is responsible for implementing the strategy. There is a clear distinction of roles and responsibilities between the Board and Exco.

The Board is responsible for:

**Our leadership** 

- Setting our strategic direction, aligned with DPE's Strategic Intent Statement, and accepting that strategy, risk, performance and sustainability are inseparable
- Providing oversight through an effective compliance framework and processes; ensuring that risks are recognised and managed through the establishment of effective internal controls; internal audit is risk-based; and by promoting integrity in financial reporting
- Ensuring Eskom is a responsible corporate citizen (ethically, socially and environmentally) and promoting an ethical culture

The shareholder expects the Board to implement sound governance practices to ensure transparency, equality and fairness. Being the focal point for corporate governance, the Board is responsible to the shareholder and other stakeholders for performance and meeting their legitimate expectations, and to the company for survival and prosperity. The challenging operating environment requires a strong implementation plan and clear governance structures to ensure success.

The Board also ensures that Eskom and its subsidiaries comply with the requirements of the Companies Act, 2008, PFMA, 1999 and section 29 of the National Treasury regulations, as well as any other relevant legislation, regulations and guidelines.

Detail information on the activities of our Board and Exco is set out in "Our governance" on pages 94 to 97. Our values, which underpin our governance, are noted on page 94



Our head office at Megawatt Park in Johannesburg, built in the 1970s, houses our corporate functions

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#### **Board of Directors** at 31 March 2017







Audit and Risk Committee People and Governance Committee Board Tender Committee







Denotes chairmanship of a committee

#### **Board of Directors: Gender and racial equity**



Ages are shown at 31 March 2017. Ms Venete Klein resigned as a director on 12 May 2017. Dr Baldwin Ngubane resigned on 12 June 2017.

#### Dr Baldwin Ngubane (75) Chairman

Independent non-executive director

#### Qualifications

MB ChB (University of Natal) Diploma in Tropical Medicine (University of Witwatersrand) Master of Family Medicine and Primary Health (University of Natal) Postgraduate Diploma in Economic Principles (University of London)

#### Directorships

AD and E Property Investment (Pty) Ltd Blue Horizon Investments 39 (Pty) Ltd Blue Horizon Investments 41 (Pty) Ltd Gade Holdings (Pty) Ltd Gade Investments (Pty) Ltd Gade Mineral Investments (Pty) Ltd Gade Oil and Gas (Pty) Ltd Global Collieries Fuel Distribution (South Africa) Hanis Investments (Pty) Ltd Huntrex 305 (Pty) Ltd Natal Sand Supplies (Pty) Ltd Toyota South Africa (Ptv) Ltd Zululand Quarries (Pty) Ltd

## Mr Anoj Singh (43)

Chief Financial Officer Executive director

#### Oualifications

B Comm Accounting (University of Durban-Westville) Post Graduate Diploma in Accounting (University of Durban-Westville) Chartered Accountant (SA)

#### Directorships Classic Number Trading 120 (Pty) Ltd Escap SOC Ltd Eskom Enterprises SOC Ltd

Eskom Finance Company SOC Ltd Even Grand Trading 173 CC Spring Green Trading 199 CC

#### Mr Zethembe Khoza (58)

Independent non-executive director

Qualifications National Technical Diploma Enterprise Leadership for Executives (University of North West)

Directorships Zet Kay Funeral Directors Zet Kay Investments (Pty) Ltd

#### Ms Venete Klein (58) Independent non-executive director

# Banker's Exams (Institute of South African

Bankers) Senior Executive Programme (Wits Business School) Executive Development Programme (INSEAD) Corporate Strategy (Massachusetts Institute of Technology)

#### Directorships

Oualifications

Calgro M3 Holdings Centuria (Pty) Ltd D B Schenker (Pty) Ltd Institute of Directors in Southern Africa (Chair) Kleininc Management Consultants (Pty) Ltd Klein Family Trust PG Group Ltd SANDF Trust South African Reserve Bank

#### Mr Giovanni Leonardi (56)

Independent non-executive director

#### Oualifications

Dipl. El. Ing. ETH Management and Electrical Engineering (Swiss Federal Institute) Programme Executive Management (IMD) Stanford Executive Programme (Stanford University)

#### Directorships

AET – Azienda Elettrica Ticinese, Switzerland Eduard Steiner AG, Switzerland Immobiliare San Rocco SA, Switzerland Inter-Care Holding SA, Switzerland Lebag France SAS, France Lebag Leitungs-und Elektrobau AG, Switzerland Leonardi Energy & Management SA, Switzerland LineItel SA, Switzerland Patria Genossenschaft, Switzerland Pini Swiss Engineers, Switzerland PKB Privatbank SA, Switzerland SACAC-Holding AG, Switzerland

Tenconi SA, Switzerland

Villa Santa Maria SA, Switzerland

Ms Chwavita Mabude (47) Independent non-executive director

Oualifications B Compt (Unisa)

#### Directorships

Add Value Property CC Airports Company South Africa SOC Ltd Buchule Communities NGO Bolokeng Insurance Dhanush Info Tech (Pty) Ltd Easy Wave Investment CC Gauteng Women in Transport Innova Management Services Isethembiso Suppliers CC Kusini Drinks CC Mollo Holdings Ltd OR Tambo Municipality (Audit Committee member) PBMR SOC Ltd Sinokanyo Supplies CC

#### Oualifications

B Eng Electrical Engineering (University of Durban-Westville) M Sc Electrical Engineering (University of KwaZulu-Natal) Ph D in Technology Management and Innovation (Da Vinci Institute for Technology Management) MBA (Samford University)

#### Directorships

Pat Naidoo Consulting Engineers CC Professor of Research (University of |ohannesburg) City of Johannesburg Research Chair in Green Economy and Innovation South African Institute of Electrical Engineers (Member of Council) IEEE South Africa Section (Chair)

# Dr Pathmanathan Naidoo (56) Independent non-executive director

#### **Executive Management Committee** at 31 March 2017









#### **Executive Management Committee: Gender and racial equity**



Ages are shown at 31 March 2017.

# Mr Matshela Koko (48)

Interim Group Chief Executive

Years in Eskom: 20 Appointed to Exco in December 2014

Qualifications B Sc Chemical Engineering (University of

Directorships Eskom Rotek Industries SOC Ltd

## Mr Anoj Singh (43)

Cape Town)

Chief Financial Officer Years in Eskom: 2 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)

Directorships Classic Number Trading 120 (Pty) Ltd Escap SOC Ltd Eskom Enterprises SOC Ltd Eskom Finance Company SOC Ltd Even Grand Trading 173 CC Spring Green Trading 199 CC

Mr Prish Govender (43) Acting Group Executive: Group Capital

Years in Eskom: 18 Appointed to Exco in March 2017

Oualifications B Sc Mechanical Engineering (University of Witwatersrand)

Directorships None

#### Mr Thava Govender (49)

Group Executive: Transmission and Sustainability

Years in Eskom: 26 Appointed to Exco in September 2010

Qualifications B Sc Chemistry and Biochemistry (University of Durban-Westville) B Sc Hons Energy Studies – Nuclear & Fossil (Rand Afrikaans University) Management Development Programme (Unisa) Advanced Management Program (Harvard Business School)

Directorships Electric Power Research Institute (EPRI) Eskom Enterprises SOC Ltd Eskom Rotek Industries SOC Ltd

# Mr Willy Maiola (51)

Appointed to Exco in January 2017

B Sc Engineering (University of

Motraco Private Company

Group Executive: Information

Appointed to Exco in June 2016

B Com (Rand Afrikaans University)

Diploma in Datametrix (Unisa)

Certified open group architect

Certified SAP specialist

Mr Abram Masango (48)

Group Executive: Office of the Chief

Appointed to Exco in October 2015

National Higher Diploma Mechanical

Engineering (Vaal Triangle Technikon)

Eskom Development Foundation NPC

Group Executive: Customer Services

M Sc (Cum laude) (Da Vinci Institute for

National Diploma in Mechanical

Technology Management)

Ms Ayanda Noah (50)

Years in Eskom: 25

Technology and Chief Information

Mr Sean Maritz (50)

Years in Eskom: 28

Qualifications

Directorships

None

Executive

Years in Eskom: 20

Oualifications

Directorships

Engineering

Years in Eskom: 23

Qualifications

Witwatersrand)

Directorships

Officer

Mr Mongezi Ntsokolo (56) Group Executive: Distribution

> Years in Eskom: 26 Appointed to Exco in October 2003

Qualifications B Sc Electrical Engineering (University of Witwatersrand) BBA Hons (University of Stellenbosch) MBA (University of Stellenbosch) Executive Development Programme (City University of New York)

Directorships ACWA Energy Eskom Enterprises SOC Ltd Eskom Rotek Industries SOC Ltd



Group Executive: Human Resources

Years in Eskom: 19 Appointed to Exco in November 2014

Oualifications BA Social Work (University of the North) BA Hons Psychology (University of Pretoria) M Sc Business Engineering (Warwick University)

Directorships Eskom Finance Company SOC Ltd



Years in Eskom: 11 Appointed as Group Company Secretary in October 2015

Qualifications BA (University of Cape Town) LLB (University of Cape Town) Postgraduate Diploma in Law (University of Cape Town)

Directorships None

Appointed to Exco in June 2007 Qualifications B Sc Electrical Engineering (University of

Cape Town) MBA (International Management Centres) Executive Development Programme (University of Witwatersrand) Advanced Management Program (Harvard Business School)

Directorships Council for Scientific and Industrial Research Eskom Rotek Industries SOC Ltd South African National Energy Association (SANEA)



## Stakeholder engagement and material matters

The Board has delegated the management of stakeholder relationships to Exco, with oversight by the Social, Ethics and Sustainability Committee (SESC). To enable the successful execution of our strategy, and thereby our ability to create value, we require effective stakeholder management to ensure the right level of advocacy and clear communication with major stakeholders.

To that end, we engage with stakeholders to determine their legitimate needs, interests and concerns, as well as to ensure alignment and a collaborative approach on key strategic initiatives. We commit to the principles of accountability, inclusivity, materiality, responsiveness and completeness.

Our strategy has been adapted in recent years in response to concerns raised by stakeholders – an example would be the realisation that the country cannot afford the transition to cost-reflective tariffs in the short term. As a result, we now aim for moderate electricity price increases over time while right-sizing Eskom's cost base, to support economic growth.

#### Our interaction with stakeholders Stakeholder groups

Stakeholder groups

Our stakeholders cover a broad spectrum. They include groups that affect, and/or are affected by, our activities, whether directly or indirectly, and whether positively or negatively.

As a state-owned company, we are accountable to our shareholder ministry, DPE, and also work closely with our policy ministry, DoE. We interact with a number of other governent departments, such as National Treasury, Department of Environmental Affairs (DEA), Department of Water and Sanitation (DWS), Cooperative Government and Traditional Affairs (COGTA), and many others. We interact regularly with Parliament and its various committees providing oversight of our operations. NERSA and the NNR regulate our business, as previously explained. Our customers comprise large industrial customers, metros and municipalities, commercial, agricultural and residential customers, whether supplied by Eskom or municipalities, as well as a number of crossborder customers and utilities. Business and industry provide representation on behalf of various customer groups. We could not deliver on our mandate without our suppliers and contractors or our employees, represented by a number of trade unions.

As the execution of our strategy relies heavily on funding, we are dependent on lenders and investors, supported by credit ratings agencies and other financial agencies, such as the South African Reserve Bank (SARB) and the International Monetary Fund (IMF). We are further held to account by civil society, the communities in which we operate, and the media at large.

#### **Quality of relationships**

We strive for value-adding relationships with our stakeholders, to create an environment that enables collaborative conversations on key strategic topics of mutual concern. Over the years, Government in particular has demonstrated unwavering support and commitment to enable us to deliver on our mandate to promote GDP growth and ensure energy security for the country.

The quality of our relationships with stakeholders is constantly monitored and enhanced. One way of assessing our relationships is to consider our RepTrak<sup>TM</sup> score, which signifies the strength of our brand and reputation. Currently, our score falls into the weak/vulnerable range. Our aim is to improve that to at least moderate over the medium term.

A recent stakeholder relationship assessment conducted with North West Province and national stakeholders indicated a reasonably strong relationship with our stakeholders, with an average score of 65%. There is, however, room for improvement.



We use our  $\mathsf{GigRig}$  to educate the public about the dangers of unsafe electricity use

We are still investigating the formation of a stakeholder advisory council, to provide an external perspective on material matters to inform corporate decision-making. We will continue assessing stakeholder relationships, to better understand stakeholders' insights and expectations.

#### Stakeholder engagements and topics covered

Engagements with stakeholders occur on a regular basis through various platforms, in many instances monthly or at least quarterly. Engagements are carefully planned by the Stakeholder Relations Department within the Corporate Affairs Division, in terms of scope and engagement approach, as well as the intended outcome. Some of the engagements are noted below:

| Stakeholder group                                           | Type of engagement                                                                                                                                                                                                               | Topics covered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Government<br>departments and<br>Parliament                 | One-on-one meetings<br>Presentations to Parliamentary<br>portfolio committees<br>Committee meetings<br>Annual general meeting<br>Site visits                                                                                     | Strategy, governance and leadership<br>Government support package conditions<br>Electricity price path, RCA submisions and revenue application<br>Financial and operational performance<br>Management of municipal and arrear debt<br>Status of coal contracts<br>Progress on the new build programme<br>Environmental sustainability<br>Energy supply, surplus capacity, energy mix and allocations,<br>including renewables and nuclear energy, and carbon budgets<br>Impact of the RE-IPP Programme and possible stranded assets<br>Supplier development and localisation, job creation<br>Legal and regulatory compliance<br>Disaster management protocols |
| Regulators                                                  | Submissions in terms of legislation,<br>regulatory methodology and rules<br>Public hearings                                                                                                                                      | Financial and operational performance<br>Electricity price path, RCA submissions and revenue application<br>Eskom tariff structures and pricing policies<br>Energy supply, surplus capacity, energy mix and allocations,<br>including renewables and nuclear energy<br>Energy market regulation<br>Legal and regulatory compliance                                                                                                                                                                                                                                                                                                                             |
| Key customers                                               | Customer forums and liaison<br>meetings<br>Breakfast sessions and meetings<br>with senior management<br>Site visits<br>Industry associations and forums<br>Quarterly briefings                                                   | Power system status and emergency protocols<br>Eskom tariff structures and pricing policies<br>Impact of electricity price uncertainty on customer operations<br>and planning<br>Progress on the new build programme<br>Security of supply, plant maintenance, ageing fleet and future<br>coal supply<br>Nuclear build programme – affordability and risk of stranded ass                                                                                                                                                                                                                                                                                      |
| Lenders, investors<br>and credit ratings<br>agencies        | Roadshows<br>One-on-one meetings<br>Results presentations and<br>webcasts<br>Site visits<br>Panel discussions, investor<br>conferences and networking<br>opportunities                                                           | Strategy, governance and leadership<br>Financial performance and liquidity management<br>Funding plan, utilisation of Government guarantees and continue<br>Government support<br>Credit ratings and impact on funding<br>Electricity price path and impact of High Court decision in the<br>Borbet case<br>Power system status and operational performance<br>Dealing with surplus capacity, including possible decommissioning<br>of power stations<br>Progress on the new build programme<br>Energy strategy, renewables and nuclear energy                                                                                                                 |
| Employees and trade<br>unions, suppliers and<br>contractors | Provincial employee engagements<br>Collective bargaining practices<br>Development programmes<br>Wellness campaigns, HIV and Aids<br>awareness<br>Open dialogues, conferences and<br>forums<br>Regular staff communiqués<br>Expos | Strategy, governance and leadership<br>Financial and operational performance<br>Dealing with surplus capacity<br>Employee benefits<br>Health and safety<br>Skills development programmes<br>Supplier development and localisation, job creation<br>Progress on the new build programme and workforce<br>demobilisation                                                                                                                                                                                                                                                                                                                                         |

## Stakeholder engagement and material matters

continued

| Stakeholder group                                                                              | Type of engagement                                                                                                      | Topics covered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business and<br>industry, civil<br>society and non-<br>governmental<br>organisations<br>(NGOs) | Industry associations and task<br>teams<br>Community, stakeholder and NGO<br>forums<br>Roadshows<br>Quarterly briefings | Strategy, governance and leadership<br>Financial and operational performance<br>Impact of electricity price path<br>Eskom tariff structures and pricing policies<br>Management of municipal and arrear debt<br>Energy losses and energy protection initiatives<br>Progress on the new build programme<br>Energy supply, surplus capacity, energy mix and allocations,<br>including renewables and nuclear energy<br>Environmental performance<br>Research and innovation programmes<br>Supplier development and localisation<br>Legal and regulatory compliance |
| Industry experts,<br>analysts, academics<br>and media                                          | Industry associations and task<br>teams<br>Forums and committees<br>Roadshows<br>Quarterly briefings                    | Strategy, governance and leadership<br>Financial and operational performance<br>Power system economics<br>Power system status<br>Eskom tariff structures and pricing policies<br>Management of municipal and arrear debt<br>Progress on the new build programme<br>Energy supply, surplus capacity, energy mix and allocations,<br>including renewables and nuclear energy<br>Research and innovation programmes<br>Skills development programmes                                                                                                               |

No engagements were conducted specifically as part of the process of preparing the integrated report.

#### **Engaging with key customers**

The Top Customer Department within the Customer Service Division manages Eskom's full service provision to 143 key industrial customers (KICs), to meet their expected service requirements. KICs are direct customers within the industrial and mining sectors who individually consume more than 100GWh of electricity per year.

KICs comprise approximately 38% of local sales and 33% of local revenue. In view of the decline in local sales and the availability of surplus capacity, KICs are engaged to identify areas to increase sales or to accelerate current expansion projects already in the pipeline.

The Top Customer Department strives to hear the voice of our key industrial customers and ensure that we clearly understand their needs and expectations. We endeavour to interact with these customers on a proactive basis, to allow for their meaningful influence on important issues which could impact them in future but can be dealt with proactively. The sharing of information is continuous and is done in a transparent and open manner.

Enabling execution of our strategy

- There are critical areas on which we need to align with key stakeholders, in particular:
- Support energy-intensive users and the Government in driving new projects and increasing consumption of existing projects, and developing sector-specific strategies for high-growth sectors aligned to the NDP
- Partner with municipalities to drive growth from low-debt, high-growth industrial areas, improve collections and roll out smart meters to residential customers
- Collaborate with government entities for support across a number of areas, including financial sustainability, environmental compliance, decisions on energy mix and sustainable asset creation for future provision of electricity, to support economic growth
- Cooperate with research institutions to develop sustainable and renewable energy solutions for customers in South Africa and Africa
- Involve employees and affected communities if required, to minimise the anticipated negative environmental and socio-economic impacts of the possible decommissioning of power stations
- We require the understanding and support of stakeholders to meet business objectives, such as the drive towards cost savings and increased productivity, particularly in manpower, primary energy procurement, capital project execution and customer service
- Future tariff escalations granted by NERSA need to take into account both the needs of South African citizens and Eskom's financial sustainability, with any trade-offs made explicitly and transparently

#### Material stakeholder matters

Material matters are those that are both of importance to stakeholders and 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.

#### Materiality determination process

The first step in the materiality determination process is to identify relevant matters based on their ability to affect our value creation process. We perform the process annually. Our starting point is those matters reported in the prior year, which we then update based on a review of changes during the current year.

As part of that review, we consider topics discussed at Board level, the outcome of the risk management process, as well as issues raised through various stakeholder platforms – lenders and investors, key customers, customer surveys, matters raised in Parliament and by the media, and more generally via the Stakeholder Relations Department.

The following have been identified as material matters in this report:

We then evaluate the impact of the matters identified on the execution of our strategy, future performance and value creation by considering the effect of the matter, taking account of both the likelihood of the matter occurring, as well as the magnitude of its impact.

Matters are then prioritised based on their relative importance. Although we consider all matters raised by stakeholders, only those deemed to be material matters are covered in detail in our report. Other concerns are addressed through various other platforms.

The process is overseen by Exco and ratified by the Board.

#### **Current year material matters**

The majority of the material matters described in our 2016 integrated report remain relevant, even though the level of importance to stakeholders or the impact on our value creation may have changed. Some new issues have been raised, or increased in importance.

|                 | Material matter                                                                                                                                                                                                                                     | Current impact<br>on value creation   | Timeframe of<br>impact      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------|
|                 | Regulatory environment and uncertainty of the electricity price path, including the treatment of RCAs                                                                                                                                               | Negative                              | Short, medium and long term |
| 2               | The impact of stagnant or declining sales on Eskom, combined with the impact<br>of increased electricity prices on the economy                                                                                                                      | Negative                              | Short to medium term        |
|                 | Financial performance, cost management and liquidity                                                                                                                                                                                                | Positive                              | Short to medium term        |
|                 | Funding plan and the impact of credit ratings downgrades, together with Government support                                                                                                                                                          | Both positive and<br>negative         | Short, medium and long term |
|                 | Arrear customer debt – mainly municipalities and residential customers – and the impact of disconnections on customers                                                                                                                              | Negative                              | Short to medium<br>term     |
| ି (<br>()<br>() | Surplus capacity, which is due to improved plant performance, new capacity<br>being brought online by the new build programme and connecting IPPs, coupled<br>with stagnant sales, which may require the decommissioning of older power<br>stations | Both positive and negative            | Medium to long terr         |
| Ø               | Environmental performance, including emissions, water use and environmental<br>contraventions, which may affect our capacity and compromise our licence to<br>operate                                                                               | Negative                              | Short to medium<br>term     |
| Ø               | Energy mix and carbon footprint of our fleet, including renewables and nuclear<br>energy, coupled with concerns around water scarcity and climate change                                                                                            | May be either<br>positive or negative | Medium to long tern         |
| M 👍             | Skills and transformation of our workforce                                                                                                                                                                                                          | Positive                              | Medium to long term         |
| Ø               | Governance and procurement practices                                                                                                                                                                                                                | Perceived as<br>negative              | Short, medium and long term |

Our strategic risks, which are largely aligned to the material matters, are set out on page 29 with their associated risk rating and treatment strategy

ness and strategy

## Risks and opportunities, assurance and controls

Whereas risk in general speaks to the effect of uncertainty on achieving objectives, strategic risks are those which are most significant to our ability to achieve our strategic objectives, thereby impacting value creation and sustainability. Effective risk mitigation strategies have been identified as a key enabler to the successful execution of our strategy, particularly mitigating the risk of lower than budgeted tariffs. Enterprise risk management process

Our Board, through the Audit and Risk Committee (ARC), manages our risk and resilience in order to provide greater security for our employees, our customers and other stakeholders. They assess the risk landscape to determine the strategic and business risk profiles of the organisation. This occurs through both a top-down process for strategic risks, and a bottom-up process for business or operational risks.

#### Our strategy development process integrates risk management, as shown below:



#### Strategic risks

Strategic risks are identified through risk and resilience workshops with Exco and Board, supported by a bottom-up review by divisions and the involvement of key subject matter experts in the business. These interventions are supported by regular environmental scanning that monitors changes in our broader operating environment.

Strategic risks are often very integrated in nature, having holistic implications and consequences.

#### **Business risks**

The identification of business risks is driven by line management, focusing on the key risks that may affect the achievement of divisional business plans. Business risks fall into four different priority levels, with Priority I risks at the highest level, and Priority IV risks at the lowest level. The levels are determined through the use of a combination of consequence criteria – that range from financial to reputational, safety and environmental outcomes or impacts – and likelihood criteria.

The accountability and responsibility to treat business risks rests with line management, although Priority I risks are reported to Exco and ARC for oversight. As a Level 2 assurance provider, the Enterprise Risk Management function develops guidance around Eskom's risk management policy, and ensures that such guidance is adhered to.

The business risks faced by our subsidiary in Uganda are not markedly different from those facing our South African operations.

#### **Disaster risks**

Disaster risks are those inherent to our operations that would have a significant consequence should they materialise. Generally, those are not listed as Priority I risks on the risk register because of their perceived low likelihood, coupled with the perceived adequacy of the controls. They are generally managed through our resilience initiatives.

The disaster risks have remained relatively unchanged over the past year. They are:

- National blackout
- Severe power system constraint
- Nuclear incident

Cyber-attack or catastrophic IT failure
National drought

Although South Africa experienced a severe drought over the past year, as a strategic water user, we were less severely affected.

#### **Our strategic risks**

The following table details the strategic risks and provides the associated risk rating on the Eskom Risk Matrix, the impact on value creation and the associated timeframe, as well as the treatment strategy.

|     | S  | trategic risk/opportunity                                                                                                                                                                                             | Rating | Impact<br>on value<br>creation      | Timeframe<br>of impact            | Treatment strategy                                                                    |
|-----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------|
| ిం  | Ι. | Impact of energy policy and IRP allocations with unclear<br>industry structure, impacting or altering our energy mix<br>and flexibility to balance the system                                                         | 6D     | Could be<br>positive or<br>negative | Short,<br>medium and<br>long term | Regulatory strategy<br>Stakeholder engagement                                         |
| 3   | 2. | Energy policy and price path misalignment, which could<br>result in delays in migrating to prices reflecting prudent and<br>efficient costs, thereby impacting financial sustainability,<br>energy mix and emissions  | 6D     | Negative                            | Short,<br>medium and<br>long term | Regulatory strategy<br>Stakeholder engagement                                         |
|     | 3. | Declining long-term profitability, requiring higher tariffs, cost cutting or increased borrowings to fund the shortfall                                                                                               | 6E     | Negative                            | Medium to<br>long term            | Financial strategy<br>Optimisation of opex and<br>capex                               |
|     | 4. | Impact of the following on the ability to borrow: credit<br>ratings downgrades; loss or exhaustion of Government<br>guarantees; country-level fiscal crisis; inadequate electricity<br>prices; regulatory uncertainty | 5D     | Negative                            | Medium to<br>long term            | Funding strategy                                                                      |
|     | 5. | Escalating municipal debt and revenue shortfalls, leading to financial and liquidity constraints                                                                                                                      | 5E     | Negative                            | Short to<br>medium term           | Debt management strategy<br>Installation of split, smart<br>and prepaid meters        |
| °0  | 6. | With decreasing local sales volumes coupled with surplus<br>capacity, the inability to sell surplus capacity into the region<br>may lead to stranded assets                                                           | 5D     | Negative                            | Medium to<br>long term            | Sales growth strategy<br>Asset management strategy                                    |
| °C  | 7. | Changing load profile and impact of adding IPP capacity,<br>leading to base-load plant being operated as mid-merit, with<br>the knock-on effect on plant health                                                       | 5D     | Mainly<br>negative                  | Short,<br>medium and<br>long term | Generation Sustainability<br>Strategy<br>Asset management strategy                    |
| °   | 8. | Inability to build transmission lines fast enough to connect<br>IPPs and the region                                                                                                                                   | 4D     | Negative                            | Medium to<br>long term            | Integrated project<br>management                                                      |
| I   | 9. | Inability to meet climate change mitigation targets (e.g.<br>carbon budgets) and failure to implement climate change<br>adaptation measures                                                                           | 6E     | Negative                            | Medium to<br>long term            | Climate change strategy                                                               |
| *** | 10 | ). Lack of adequate, available and affordable skills                                                                                                                                                                  | 4D     | Negative                            | Medium to<br>long term            | Human resources strategy<br>Succession planning<br>Skills development and<br>training |

These risks relate to our ability to sustain our operations and financial performance over the medium to long term.

# **Risks and opportunities, assurance and controls**

The diagram below sets out the risk ratings of the strategic risks identified on the Eskom Risk Matrix.

Strategic risks at 31 March 2017



Identifying and prioritising opportunities

Globally, the electricity landscape is changing rapidly. Eskom is not immune to this change and we are facing threats on multiple fronts: within the South African electricity market, and within the broader global energy context. With a wave of change in customer, supplier and competitor behaviour, we are facing a constrained electricity sales path.

Potential sources of revenue growth range from those that are close to our current capabilities to those that are entirely new. By exploiting both regulated and unregulated opportunities, we have an opportunity to deliver significant revenue impact.

We will do this by unlocking opportunities, focusing on local demand stimulation, cross-border sales and unregulated opportunities. A clear distinction exists between the business of today and the Eskom of tomorrow, necessitating a focused and structured approach, which will ensure the right level of focus and drive for each identified opportunity.

We apply a structured stage-gate process to identify, develop and prioritise opportunities through to commercial application. Opportunities are sourced from within Eskom and externally. These ideas are then assessed and filtered through an opportunity funnel.



Noteworthy emerging opportunities include:

- Investigating opportunities associated with storage options in both diversifying the business and retaining
  customers in the medium term. Storage technologies have matured enough to enable large-scale implementation
  within reasonable risk parameters. We are identifying areas where battery storage can be deployed, with a view
  to applying these technologies at scale across the grid in the next three years
- Leveraging clean fossil fuel and transmission-based opportunities in the region through our integrated Africa strategy
- Exploring water usage and potential partnerships as a revenue-generating business

#### Assurance and controls

Systems, policies and procedures

Systems underpin every aspect of our operations, from the efficiency of our power stations to the experience of our customers to the safety of our workforce. Standardised processes, policies and procedures have been developed for all aspects of the business; these are updated regularly to ensure good governance and efficiency improvements. We track a number of KPIs to measure business performance, most notably those determined by the shareholder in our annual shareholder compact.

We have achieved ISO 9001:2008 certification. Furthermore, we have implemented ISO 14001:2004, OHSAS 18001:2007, ISO 31000:2009 and AA 1000 in specific divisions or business units, to regulate environmental management, occupational health and safety, risk management and stakeholder engagement respectively.

#### **Risk management and internal controls**

The Board, through ARC, ensures that an effective risk management process is in place and that internal controls are effective and adequately assessed 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 treat those risks.

The Assurance and Forensic Department (A&F) performs quarterly assessments on the design, implementation and effectiveness of the risk management process, as well as internal financial, IT and operational 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:

| Ń                                                                                                                                                                                                                                                                    | +<br>×+                                                                                                                                                                                                                                                             |                                                                                                                           | <u>e</u>                                                                                                                                                                                                                             | 20                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Risk management<br>process<br>A risk management<br>system for<br>identifying,<br>managing, and<br>reporting on risk<br>is in place and<br>adequate<br>There has been<br>notable progress<br>with regard to<br>the operational<br>effectiveness of risk<br>management | Internal<br>financial controls<br>Nothing significant<br>has come to the<br>attention of A&F<br>causing it to believe<br>that the internal<br>financial controls<br>do not form a<br>reasonable basis<br>for the preparation<br>of reliable financial<br>statements | IT governance<br>Group IT has<br>maintained<br>substantial<br>alignment to the<br>IT governance<br>principles in King III | <b>IT controls</b><br>Nothing significant<br>has come to the<br>attention of A&F<br>causing it to believe<br>that the IT controls<br>do not form a<br>reasonable basis<br>for the preparation<br>of reliable financial<br>statements | Operational<br>controls<br>are considered<br>partially effective,<br>as there are<br>underlying<br>weaknesses in<br>certain areas of<br>operations<br>Certain control<br>deficiencies<br>were identified,<br>with a moderate<br>likelihood of<br>affecting the<br>achievement of<br>control objectives |

Interventions designed to address and improve the control environment are continuing and benefits are expected to be realised in the medium to long term. Improvements have been seen in most areas where these have been implemented.

#### IT governance

The Board has delegated its IT governance oversight and responsibility to ARC and Exco respectively.

A&F includes reports on IT audits in its quarterly submissions to Exco and ARC which provide assurance on Group IT's compliance with relevant legal and regulatory requirements. Governance, risk and compliance reports which include IT performance are also submitted to ARC on a quarterly basis. Group IT performs self-assessments to review compliance with standards in line with best practice and legislation. Areas of non-compliance identified are remediated and monitored accordingly. Group IT is confident that adequate compensating controls are in place where needed.

Group IT remains ISO 9001:2008 certified, and maintains substantial alignment to the IT governance principles in King III; any outstanding principles will continue to be addressed and covered through a King IV gap analysis which is currently under way.

# Risks and opportunities, assurance and controls

#### Combined assurance

Combined assurance assists management in identifying duplication or potential shortfalls in assurance work, and developing improvement plans where necessary. The model further guides assurance providers to reach consensus on the key risks faced by the company, their significance and effectiveness of treatment strategies, thereby reducing the likelihood that significant risks remain unidentified.

The combined assurance model assists Board and ARC in forming their view of the adequacy of risk management and internal controls in the organisation. The model recognises three lines of defence:



ARC is ultimately accountable for providing oversight of the combined assurance activities in terms of the combined assurance framework. Operational responsibility for combined assurance has been delegated to A&F, which performs our internal audit function, facilitates and coordinates the execution of 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.

Refer to the report of the Audit and Risk Committee in the annual financial statements for the full assessment of the internal control environment

The combined assurance approach to our reports is set out below:

| Report                         | Framework(s)<br>applied                                     | Internal<br>assurance                                                                                                                                                                | External<br>assurance                                                                               | Outcome                                                                                                                                                                                                                   |
|--------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrated report              | International <ir><br/>Framework<br/>GRI G4 guidelines</ir> | Reviewed by line management,<br>group executives and CFO<br>Reviewed and recommended<br>for approval by Exco, ARC<br>and SESC<br>Approved by Board<br>A&F verified the entire report | Sustainability KPIs<br>contained in the<br>shareholder compact<br>were externally assured<br>by SNG | Reasonable assurance<br>provided by A&F on<br>figures and associated<br>text<br>Reasonable assurance<br>provided by SNG on all<br>but four KPIs                                                                           |
| Annual financial<br>statements | IFRS<br>Companies Act<br>PFMA                               | Reviewed by line management<br>and CFO<br>Reviewed and recommended<br>for approval by Exco and ARC<br>Approved by Board                                                              | Audited by SNG, our<br>independent external<br>auditors                                             | Qualified audit opinion<br>relating to compliance<br>with PFMA and<br>completeness of<br>irregular expenditure<br>The consolidated annua<br>financial statements are<br>fairly presented, except<br>for the qualification |

ARC has concluded, based on the information and explanations given by management and A&F, as well as through discussions with the external auditors, that the system and processes 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.



Our high-voltage transmission network links power stations and IPPs to our distribution network, which relays electricity to customers

## **Operating performance**

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## **Executive overview**

#### **Our strategy**

Eskom is ideally positioned to support the economic recovery of South Africa and enable industrial growth across Southern Africa. We have refined our strategy launched last year – which is aligned with Government's NDP objectives to drive economic recovery and GDP targets - to ensure that Eskom drives the reindustrialisation of the economy.

We will build on the momentum of our performance and efficiency improvements over recent years and become a more customer-centric organisation that partners with key sectors to increase industrial activity, electricity consumption and job creation. We will respond to the changes in our environment, such as technology and policy shifts, to ensure our longer term sustainability.

Our strategy is built around seven strategic pillars, namely customer centricity; reliability and increase in capacity; cost efficiencies to ensure a sustainable electricity price path; decarbonisation of the economy; innovation and transformation; new capabilities and advanced analytics; and funding. These will support us in achieving sustainability in our current business, and lay the foundation for the Eskom of the future, while ensuring that our funding strategy supports both objectives with financial prudence. Exco will be fully accountable for efficient implementation of the initiatives.

Our strategy targets a number of key improvements over the medium term:

- Encouraging electricity demand to support economic growth, by achieving average annual growth of 2.1% in local demand and 8% in export sales
- · Reducing primary energy spend by R43 billion through greater efficiencies and influencing coal sector restructuring
- Optimising planned capex spend by R25 billion and incorporating a private sector partnership strategy • Driving efficiencies through advanced analytics, to
- deliver a R6 billion EBITDA improvement
- Releasing R105 billion in Government guarantees, while maintaining a moderate electricity price path over the medium to long term

We also plan to optimise our workforce through a fit-for-purpose operating model, retaining and redeploying skilled and talented people, and creating a high performance leadership culture.

Refer to "Strategy and outlook" on pages 15 to 19 for more information

#### **Operating performance**

We set out with the aim of stabilising and reenergising our business for longer term sustainability and growth, by setting aggressive goals for progress. We intended continuing with a rigorous programme of planned maintenance without implementing load shedding and minimising the use of OCGTs. We are already reaping the rewards.

All four units at Ingula, with total installed capacity of 1 332MW, are now in commercial operation. Medupi Unit 5 was synchronised on 8 September 2016. The unit, with installed capacity of 794MW, achieved commercial operation on 3 April 2017, after completing performance, reliability and compliance tests. After the synchronisation of Kusile Unit I on 26 December 2016, the unit achieved full load during March 2017, while testing continues. The project is working towards commercial operation of the unit. Medupi Unit 4 was also synchronised on 31 May 2017.

A total of 585.4km transmission lines were constructed during the year. We also commissioned 2 300MVA transmission transformer capacity, both exceeding the year-end target. The 765kV network to the Western Cape was completed, signifying a significant milestone towards improving grid stability.

The Board provisionally approved discontinuing the Kiwano concentrated solar power (CSP) project. However, the lenders require an equally transformational renewable project that addresses the CSP project's objectives and the existing funding conditions. We are in the process of exploring alternative options that will satisfy the lenders' requirements.

Plant availability (EAF) improved significantly to 77.30% for the year (March 2016: 71.07%). The improvement in EAF, coupled with a reduction in unplanned maintenance (UCLF), is indicative of the turnaround of Generation performance. As a result, OCGT usage was negligible at 29GWh at a cost of R340 million (March 2016: R8.7 billion spent producing 3 936GWh).

Eskom purchased 11 529GWh from IPPs at a cost of R21.7 billion during the year (March 2016: 9033GWh at RI5.4 billion), at an average cost of 188c/kWh (March 2016: 171c/kWh). At 31 March 2017, total IPP capacity of 5 027MW was available to the system (March 2016: 3 392MW).

By improving the performance of the existing generation fleet, delivering on the new build programme and connecting IPPs to the grid, we are now in a position where we have surplus capacity available to meet future demand and stimulate economic growth.

Notwithstanding the negative impact of a few relatively large incidents involving plant failures in the first half of the year, the Transmission system minutes <1 performance target was attained, with no major incidents during the year. Distribution network performance in terms of average interruption frequency and duration is better than target, with interruption frequency showing an improvement on last year.

# Executive overview

Particulate emissions performance at 0.30kg/MWhSO met target and showed an improvement on last year (March 2016: 0.36kg/MWhSO). Water usage related to power station operations for the year was slightly better at 1.42ℓ/kWhSO (March 2016: 1.44ℓ/kWhSO), although not meeting target.

Group earnings before interest, tax, depreciation, amortisation and fair value adjustments on financial instruments and embedded derivatives (EBITDA) increased to R37.5 billion (March 2016: R32.8 billion, restated), driven by the 9.4% electricity price increase, improved export sales volumes and primary energy costs being contained.

The Chief Financial Officer's report on pages 74 and 75 further discusses our financial performance

We are still experiencing a number of challenges, such as declining or stagnant sales volumes in key segments. Demand from key industrial customers remains lower than in previous years, largely due to a reduction in output by key customers or the closure of customer plants due to the difficult economic environment.

Total municipal arrear debt continued to escalate to R9.4 billion at year end (March 2016: R6 billion) and remains unacceptably high, despite numerous interventions. During January and February 2017, supply was interrupted to four municipalities in the North West Province, two in the Northern Cape and two in Mpumalanga.

Safety performance has deteriorated slightly yearon-year, although we experienced fewer fatalities. Meeting the procurement and employment equity targets set by the shareholder remains a challenge, although there has been some improvement over the past year. Through our social development programmes, we continue to impact the lives of hundreds of thousands of South Africans. We also connected 207 189 households to our network in terms of the DoE funded electrification programme.

#### Outlook

Eskom will continue to stimulate economic growth in support of the NDP while striving to regain an investment-grade credit rating. However, we face a number of challenges in delivering on our strategy, such as doubt around tariff determination and RCAs, the ability to drive increases in sales volumes, municipal debt payments and arrear debt, further credit ratings downgrades, uncertainty around generation and grid assets, combined with the challenges, and also opportunities, of managing surplus capacity. To ensure optimal generation costs we will continue to apply the least-cost merit order dispatch of power stations. The combination of slower demand growth, improved plant performance and an increase in IPP and our own capacity, has resulted in surplus generation capacity in South Africa. In order to ensure an optimal generation cost, we may need to consider decommissioning some coal-fired power stations, but in a way that optimises coal, people and capital costs across our fleet. In the meantime, three stations will be placed in lean preservation, to minimise surplus capacity.

We will continue to engage with Government, collaborating closely with DoE and NERSA in particular, to manage the risks of the IPP programme and mitigate any unintended negative operational and financial impacts on Eskom. In the medium term, we will connect IPPs for all procured rounds at prices of 77c/kWh or lower.

Our capital expansion programme, the largest in Africa, includes completion of Medupi and Kusile on schedule, in such a way that we continue to create jobs, build skills and alleviate poverty. We aim to strengthen the transmission network towards attaining N-1 compliance, and to expand the network into the SADC region to unlock regional constraints to growth.

We will continue to implement technologies to prevent tampering using split metering units, facilitate the conversion of customers to prepaid, and roll out smart metering in Sandton, Midrand and Soweto, with a target of 366 500 over the next five years. We further aim to ensure universal access through one million electrification connections over the medium term. Areas where battery storage can be deployed are being investigated, with a view to applying these technologies at scale across the grid in the next three years.

Realising our aspirations will require a singleminded focus on delivery. We need further alignment between Eskom's strategic direction and the expectations of the shareholder and key stakeholders. Exco will ensure that the identified strategic initiatives are embedded in the business. We are committed to deliver on our strategy and to renew Eskom to enable economic growth in South Africa and the region.

#### **Operating performance**

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 Eskom KeyCare and CustomerCare scores have improved significantly over the year
 Installation of smart meters in Sandton exceeded target, with conversion to prepaid

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- Transmission energy losses performance has improved, mainly due to the addition of IPPs in the coastal regions
- Conversion of customers to prepaid meters in Soweto achieved target, despite delays earlier in the year

# CHALLENGES

- Of the 60 active municipal payment agreements in place, only 31 are being fully honoured
- Soweto small power user arrear debt continues to escalate, with payment levels declining
- Vandalism of equipment in an attempt to bypass meters installed in Soweto continues

# E LOWLIGHTS

- Municipal arrear debt has escalated 57% year-on-year to R9.4 billion, with 62% of municipal debt being in arrears
- Distribution energy losses have shown a significant deterioration

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# Revenue and customer sustainability

We strive to become a customer-centric organisation that delivers world-class customer service across all segments. We focus on customer service performance using a number of metrics, as well as revenue and debtor management, primarily through measuring arrear debt as a percentage of revenue and the average number of debtors days across various customer categories.

#### Looking back on 2016

We continue to focus on timely customer query resolution through primary touch points such as Top Customer account executives, contact centres, customer service hubs, the MyEskom app and email service. The results are reflected in our improved customer perception scores. While revenue recovery from large power users (LPUs) has improved, the management of municipal and residential arrear debt, especially Soweto, remains a significant challenge. The rollout of split and/or smart meters and subsequent conversion to prepaid meters continues, in an effort to improve residential revenue recovery.

Management of energy protection and revenue losses remains ongoing.

#### **Customer service performance**

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

| Measure and unit            | Target  | Target  | Target  | Actual  | Actual  | Actual  | Target |
|-----------------------------|---------|---------|---------|---------|---------|---------|--------|
|                             | 2021/22 | 2017/18 | 2016/17 | 2016/17 | 2015/16 | 2014/15 | met?   |
| Eskom KeyCare, index        | 102.0   | 102.0   | 104.0   | 107.0   | 104.3   | 108.7   | •      |
| Top Customer KeyCare, index | 104.0   | 104.0   | 104.0   | 108.1   | 107.2   | 110.5   |        |
| Enhanced MaxiCare, index    | 93.7    | 93.7    | 93.7    | 95.8    | 96.5    | 99.8    | •      |
| CustomerCare, index         | 8.2     | 8.2     | 8.2     | 9.8     | 8.4     | 8.0     |        |

Eskom KeyCare and Top Customer KeyCare, which measure the satisfaction of our large industrial customers, both improved over the year. However, priority areas identified by the surveys are our reliability and quality of supply, as inadequate electricity supply impacts customer production and expansion initiatives, and the price of electricity, which customers consider uncompetitive.

Key account executives continue to engage actively with large customers to maintain relationships, share important information and identify service-related issues.

The Enhanced MaxiCare perception survey score among residential, small and medium-sized customers declined marginally year-on-year. The most common complaints remain not being adequately informed about planned electricity interruptions, and how well we keep to notified dates and times. Nevertheless, CustomerCare, which measures customer satisfaction on a transactional basis based on recent interactions and resolution of queries, improved significantly over the past year, with satisfaction levels with our contact centres improving steadily.

#### **Revenue and debtor management**

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Customers are increasingly experiencing adverse market conditions, negatively impacting revenue and debtors days. Demand from key industrial customers remains lower than in previous years, largely due to the reduction in output by key customers or the closure of customer plants due to the difficult economic environment. In an effort to increase local demand, customer executives and regional managers are engaging with key customers to ascertain their potential to increase demand, as well as their ability to expedite projects and take supply earlier than planned. Just over 60% of key customers have been engaged.

During the year, we piloted a winter short-term incentive sales scheme which resulted in additional sales of 182GWh. Customers participating in the scheme were selected based on their ability to respond strongly to the winter peak price signal. We identified operators of electric arc furnaces as ideal targets for the pilot. The scheme encouraged participants to run additional furnaces from June to August 2016, outside of peak periods, or to run already-scheduled furnaces for longer periods.

#### Managing arrear debt

Despite our efforts to ensure that customers pay their accounts on time and entering into reasonable payment arrangements where necessary, we still experience a significant challenge with arrear debt across all customer segments, with municipalities and Soweto small power users (SPUs) being the largest defaulters. Approximately 61% of our total electricity debtors are considered overdue (March 2016: 57%).

#### Key debt management indicators at 31 March 2017

| Measure and unit                                                                                      | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|-------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Arrear debt as % of revenue, %                                                                        | 1.12              | 1.29              | 1.22              | 2.43              | 1.14              | 2.17              |                |
| Debtors days – municipalities, average<br>debtors days <sup>sc</sup>                                  | 71.10             | 67.70             | 60.99             | 53.25             | 42.93             | 47.58             | •              |
| Debtors days – large power top<br>customers excluding disputes, average<br>debtors days <sup>sc</sup> | 15.30             | 15.40             | 15.32             | 15.34             | 15.51             | 16.84             | <b></b>        |
| Other large power user debtors days<br>(<100GWh p.a.), average debtors days <sup>sc</sup>             | 16.00             | 16.30             | 16.55             | 16.78             | 16.24             | 17.02             | <b></b>        |
| Debtors days – small power users excluding Soweto, average debtors days <sup>sc</sup>                 | 48.60             | 48.20             | 47.70             | 48.75             | 48.24             | 49.06             |                |

1. Debtors days are based on amounts processed on our billing system, and shown before accounting adjustments relating to IAS 18.

Total municipal arrear debt (including interest) at 31 March 2017 has increased to R9.4 billion (March 2016: R6 billion). The top 20 defaulting municipalities contributed R7.4 billion to municipal arrear debt (March 2016:R4.8 billion), or approximately 79% of the total arrears. Furthermore, 80% of the municipal arrear debt is concentrated in the Free State, Mpumalanga and North West municipalities, contributing 49%, 22% and 9% respectively. At year end, 18 of the top 20 defaulting municipalities had individual overdue debt greater than R100 million each (March 2016: 11).

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



# Municipal arrear debt and arrear debt percentage at 31 March 2017, R billion

Current amounts
Municipal arrear debt (>15 days)

At year end, we had concluded 66 payment agreements with defaulting municipalities, with adherence being closely monitored. Only six payment arrangements have been fulfilled. Of the 60 remaining agreements, 31 are being fully honoured and 20 partially honoured, with nine payment arrangements not being honoured. However, only seven of the top 20 defaulting municipalities are honouring their payment agreements.

The top three Free State municipalities account for almost R3.7 billion of the total outstanding debt (March 2016: R2.3 billion). The process of litigation with two of those municipalities continues, while customers in the third are being earmarked for conversion to prepaid meters. Five of the Free State municipalities are however honouring their payment arrangements, compared to none a year ago.

#### Municipal disconnections

We initiated the PAJA process to disconnect nonpaying municipalities in November 2016 to encourage defaulting municipalities to pay outstanding overdue debt. In a case brought by Afriforum, the High Court ruled in our favour in January 2017, concluding that Eskom may disconnect non-paying municipalities. However, the Minister of Public Enterprises requested that we put the interruptions on hold until 31 January 2017, to afford municipalities more time to conclude payment agreements or settle their debt.

During January and February 2017, we intermittently interrupted supply to four municipalities in the North West Province, two in the Northern Cape and two in Mpumalanga. Interventions between the then Eskom Interim Group Chief Executive and the Premiers of North West Province, Free State and Mpumalanga took place during January and February 2017 to address the outstanding debt.

After we threatened to introduce planned supply interruptions in Lekwa Local Municipality due to its failure to pay its arrear debt, poultry producer Astral Foods took Eskom to court, as the interruptions would have had devastating consequences for Astral's activities. Eskom and Astral Foods came to an agreement, which was made an order of court. In terms of this, Astral Foods will now pay its municipal electricity account directly to Eskom, and will have an uninterrupted power supply. The court ordered the municipality to pay a portion of its equitable share to Eskom.

# Revenue and customer sustainability



The CustomerCare index improved significantly, reflecting high levels of satisfaction with our contact centres

Disconnection of supply remains the last resort, as we realise that paying customers of the relevant municipalities are severely affected. Nonetheless, where municipalities renege on payment, we will initiate disconnection of supply in line with the PAJA process, until the debt is paid in full.

In response to concerns raised by municipalities and SALGA, we have tabled a number of proposals to various Parliamentary committees. These include rationalising the number of municipal tariffs, reducing the rate of interest charged on overdue accounts and changing the payment period on municipal accounts. The proposals are being considered by our Board, and if approved, external approvals will be obtained where required.

We are involving municipalities to implement a pilot project in two provinces to install prepaid electricity meters for their customers. The project aims to improve revenue collection on behalf of these municipalities and enable settlement of municipal electricity bills.

We continue to engage with all municipalities, as well as local and national government stakeholders, to find amicable business solutions for the electricity payment defaults.

#### **Residential revenue management**

We continue with initiatives to improve revenue recovery from residential customers, such as:

- Removing illegal connections, conducting meter audits, repairing faulty or tampered meters and limiting ghost vending of prepaid electricity
- Installing split smart and/or prepaid meters within protective enclosures to prevent tampering
- Converting customers from post-paid to prepaid
   Stepping up disconnection of customers not honouring their current accounts

Soweto and Kagiso split prepaid metering rollout Last year we indicated that we plan to convert all Soweto SPU customers to split prepaid meters by 2019/20.

The programme had to be suspended during the local government elections, but has since resumed. During the year, a total of 15 494 split meters were installed in Soweto and Kagiso, while 13 255 meters were converted to prepaid.



# Soweto SPU arrear debt and payment level percentage at 31 March 2017, R billion

Current amounts

• Soweto SPU arrear debt (>30 days, excluding interest)

# Smart prepaid metering rollout in Sandton and Midrand

We continue with our decision to convert our post-paid residential customers to prepaid, starting with Sandton and Midrand. There has been little resistance from customers to the project, with 14 105 smart prepaid meters being installed during the year. However, the conversion to prepaid is behind target, with only 273 meters having been converted to date. This is partly due to earlier delays in the online vending system dependency project, and the need to accelerate change management on the conversion. Uptake is expected to improve in future.



#### **Energy losses**

During the year, total energy losses were 8.85% (March 2016: 8.59%). Transmission energy losses performed better than target, at 2.22% (March 2016: 2.61%), although distribution losses deteriorated quite significantly to 7.55% (March 2016: 6.43%). Losses performance is within international norms.

In excess of 600 000 meter audits were completed during the year, covering large and small power users and prepaid customers. This resulted in R215 million being billed to recover revenue due to meter tampers, faulty or vandalised metering installations or customers not correctly loaded on the system. Tamper fines of R24 million were also raised.

#### **Future focus areas**

- Stimulate demand in LPUs in priority growth industries through a key account management approach
- Increase sales in low-debt, high-growth municipalities
- Improve debt collection by participating in collection processes on an agency basis in municipal areas, reinforcing credit control across all customer segments and by converting customers to prepaid
- Reduce non-technical losses by implementing an early warning system, regular and targeted meter audits through automating analysis, and by converting residential customers in Soweto, Midrand and Sandton to split meters

## Our impact on the capitals

Social and relationship capital is enhanced by the supply of electricity to customers, which enables them to power their homes and businesses. However, we realise that disconnection of supply to customers has a detrimental impact on social and relationship capital.

Our financial capital is enhanced through revenue and subsequent collection of amounts due, although arrear debt has a negative impact on financial capital.

## **Operating performance**



#### Q HIGHLIGHTS

- Coal quality-related load losses reduced by
- Both Koeberg units set new performance
- Permanent coal handling plant at Majuba was
- during the ve

#### ~7 PROGRESS

- stringent measures implemented to monitor coal quality
- Some capital allocated to fund much needed
- Water security risk mitigated through increased dam levels
- Despite challenges early in the year, the system minutes <1 target was achieved</li>
- A total of 62 demand side management projects installed, enabling savings of 237MW

#### Ð CHALLENGES

- Coal production affected by increased community unrest, as well as labour and at collieries
- exceeded mid-life, requiring extensive refurbishment
- Managing network performance with increasing unplanned outages due to overloading from illegal connections, high levels of vandalism and equipment theft
- customer growth due to new connections
- No new IPP power purchase agreements signed since September 2016 given the

Operational sustainability focuses on security of supply. as well as balancing the electricity supply and demand. Whereas security of supply was the key concern a year ago, the focus has now shifted to managing surplus capacity. We remain focused on improving the generation plant health, and meeting our customers' expectations while containing costs and complying with environmental and regulatory requirements.

#### Looking back on 2016

We continue to collaborate with cost-plus mines to increase coal volumes through capital expansion. Coal purchase contracts are continually reviewed to achieve the optimal balance between price, quality and flexibility.

Water-supply plans are developed to ensure an adequate water supply, together with improved conservation and management of water resources, although heavy summer rains have alleviated the short-term water supply risk.

Generation plant performance made excellent progress during the year, allowing additional maintenance to be performed. 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 capacity, including IPPs.

In view of the improved power system status and surplus capacity, the focus of our IDM function is shifting to creating space for future sales growth initiatives

#### **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.

#### Securing our coal requirements Coal supply strategy

The decline in the global coal price over recent years has resulted in reduced private investment in the coal mining industry and fewer suppliers in the market. We continue to support the emerging miner strategy by procuring from black-owned suppliers wherever possible.

Board approved the coal supply strategy, which targets the following:

- Optimising the coal-contract mix by creating a total cost of ownership model for each coal-fired power station, also covering coal-quality specifications
- · Negotiating new coal-purchase contracts in line with the NERSA cost-of-coal determination, and ensuring an optimal balance between volumes, flexibility, quality and lowest price
- · Enhancing logistics to drive cost efficiency while delivering the road-to-rail migration programme and securing coal delivery

• Attaining a reduction in the delivered cost of coal Ensuring the optimal dispatch of coal-fired power stations, with the more cost-efficient power stations available (i.e. those with cheaper coal) used to generate power first

Of the forecast coal requirement for 2017/18 to 2021/22, 89% has been secured.

#### Investment in cost-plus mines

Almost all the cost-plus mines require significant investment or recapitalisation in order to increase production and/or maintain existing production. Until the collieries can be recapitalised, lower production is expected from these mines. Earlier financial constraints have hampered our ability to fund this capital expenditure in the past, requiring us to purchase and transport more expensive coal.

During the past year, we focused on improvements at cost-plus mines that were possible without any capital investment. These improvements, although effective, are limited; further capital will be required. We target to spend R9.4 billion on financing overdue expansion over the next five years.

Recapitalisation will be assessed based on a business case for each mine where long-term benefits can be demonstrated. Increased volumes of acceptable quality coal will reduce the overall coal bill by limiting the short- and medium-term coal required. Furthermore, we will consider financing overdue expansion at cost-plus mines to access remaining contracted reserves, thereby increasing production and enabling contract extensions.

#### Coal quality issues

The Board approved significant enhancements in contract negotiations and management of coal supply agreements to transfer the risk of coal quality to the supplier. New agreements have more rigorous quality clauses which provide us with more recourse for the supply of poor quality coal. We are evaluating the feasibility of a multitude of cost-effective technologies to improve coal quality, such as de-stoning, washing and screening of coal.

Our long-term goal is to determine coal quality at the point of delivery. We are advancing the design of real-time processes and systems to sample and analyse every coal consignment upon arrival at the power stations, prior to offloading, by using coal DNA characterisation.

#### Kusile coal and limestone contracting status

To ensure the boiler guarantees remain in effect, more stringent coal specifications have been instituted for the commissioning period at Kusile Power Station. A request for proposal for the coal procurement was issued in April 2017, covering both the commissioning period and the life of the station. We have signed a long-term contract for the supply of limestone for Kusile's flue gas desulphurisation (FGD) plant, which will reduce sulphur dioxide emissions.

# **Operational sustainability**

continued

#### Technical performance

| Measure and unit                                                                  | Target  | Target  | Target  | Actual  | Actual  | Actual  | Target |
|-----------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|--------|
|                                                                                   | 2021/22 | 2017/18 | 2016/17 | 2016/17 | 2015/16 | 2014/15 | met?   |
| Coal burnt, Mt                                                                    | n/a     | n/a     | 110.12  | 113.74  | 4.8     | 119.18  |        |
| Coal purchased, Mt                                                                | n/a     | n/a     | 117.65  | 120.25  | 8.70    | 121.67  |        |
| Coal stock days                                                                   | 37      | 37      | 37      | 74      | 58      | 51      |        |
| Road-to-rail migration (additional tonnage transported on rail), Mt <sup>sc</sup> | 58.1    | 15.1    | 14.6    | 13.2    | 13.6    | 12.6    |        |

1. Future targets are dependent on system requirements.

2. The 2016/17 figure excludes 623kt coal burnt during the commissioning of Medupi Unit 5.

3. The 2021/22 road-to-rail target is the cumulative target over the next four years, until 2020/21. No target has been set for 2021/22.

Coal stock days were significantly higher than target largely due to more coal than required being delivered to Lethabo and Medupi Power Stations. Excluding these, the normalised coal stock days were 38, in line with the target.

Lethabo is supplied by a cost-plus mine, where there is no financial benefit in reducing coal production. Due to the delays in commissioning units at Medupi, current coal requirements are lower than originally anticipated, although we continue to take coal in terms of the take-or-pay coal supply contract. To cater for the extra coal, the stockpile height has been increased; work to increase the area of the stockpile will commence during the coming year.

Poor quality coal production at two cost-plus mines accounted for 90% of the total coal quality-related load losses for the financial year. We have initiated measures at these collieries to reduce the extent of stone contaminating the coal. Overall, coal qualityrelated load losses for the year have reduced by 43% compared to the prior year.

The average cost per ton of coal purchased has increased only 3.5% year-on-year, and was 5.6% below target.

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

The haulage of coal by rail did not meet the annual target due to a number of Transnet Freight Rail infrastructure failures, as well as reduced mine production following heavy rains in the last quarter of the financial year.

Six coal transport companies contracted to Eskom unlawfully introduced additional trucks onto the road transportation system. This severely prejudiced other transporters as it deprived them of a fair and equitable distribution of coal transportation to various power stations. We terminated the six contracts with effect from 3 February 2017.

The strategy to reduce fatalities associated with the transportation of coal by road continues to deliver results, with no Eskom contractor fatalities recorded during the financial year (March 2016: one).

#### Securing our water requirements

Our short-term water security risk has improved due to the increase in dam levels in the Vaal River System. The commissioning by DWS of the acid mine drainage project by 2023 and the Lesotho Highlands Water Project Phase 2 by 2024 will contribute to longer term water security for Eskom.

The Vaal River Eastern Sub-system Memorandum of Agreement with DWS was extended to 31 March 2019. A new water supply agreement for the bulk of our water requirements will be concluded once DWS gazettes the revised National Water Pricing Strategy.

However, the deteriorating quality of raw water requires collective action by DWS and water users, including Eskom, to protect water resources and deal with polluters. We are implementing treatment plans to manage this risk.

To assist with water security in Gauteng, we have committed to use the Drakensberg Pumped Storage Scheme to pump at least 285 million cubic metres of water per year over the next three years from the Thukela River into the Sterkfontein Dam, which feeds into the Vaal River System.

#### Mokolo Crocodile Water Augmentation Project (MCWAP) Phase 2

The MCWAP Phase 2 comprises a pipeline with a capacity of 75 million cubic metres per annum from the Crocodile River at Thabazimbi to Lephalale in the Waterberg region. It will provide the necessary water capacity for coal mines in the region, thereby supporting our coal supply strategy. It will also supply Medupi's last three units with the water required for FGD technology retrofits. Water for the FGDs for the first three units will be sourced from the existing Mokolo Dam supply.

The project delivery date is now expected to be June 2023, while water is required by the Medupi FGD plant by February 2024, leaving only an eight-month lead time. The water delivery date is however contingent upon the necessary environmental authorisations and approval of funding by National Treasury.

#### 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.

For detail of our water usage performance, refer to "Environmental and climate change sustainability – Reducing water consumption" on page 61 for more information

#### 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 100% of Koeberg's demand until the end of 2017 and for about 40% of demand until the end of 2020.

Future contracts for the supply of nuclear fuel to Koeberg will follow the normal commercial process. The contracting and pricing strategy will depend on the market and prevailing policies.

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

While we remain interested in pursuing hydro, gas and transmission projects in Mozambique, further direction is awaited from Mozambique's Ministry of Mineral Resources and Energy about which projects it wishes to pursue and what role is envisaged for South Africa, and Eskom in particular.

#### 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, and have completed and submitted studies on a 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 29 base-load, peaking and renewable power stations with a total nominal capacity of 44 I34MW, including the recently commissioned Ingula Pumped Storage Scheme with a total nominal capacity of I 324MW.

#### Generation Sustainability Strategy

We are committed to accomplishing the overarching goal of meeting the country's electricity demand at minimum cost. We will continue to improve the availability and performance of our generation assets and optimise our production plan based on the leastcost merit order dispatch approach, thereby reducing the usage of the more expensive coal-fired power stations.

Our 80:10:10 strategy strives for 80% plant availability by 2019/20, requiring unplanned maintenance to be limited to 10% on average, while performing an average of 10% planned maintenance. Additional capacity coming online through the new build programme and purchases from IPPs creates space for more planned maintenance and mid-life refurbishments.



Koeberg Nuclear Power Station continues to be operated safely, well within licensing limits and better than recommended international standards, as demonstrated by long periods of continuous operation (*Photo: Bjorn Rudner*)

# **Operational sustainability**

continued

#### The mix of generating plant types

Demand for electricity fluctuates throughout the day. It is the function of a system operator to balance the supply and demand by adding additional capacity to the grid when demand increases and reducing capacity as demand decreases.



During a typical day there is a minimum demand, maximum demand and in-between or intermediate demand. A system operator can make use of three broad types of plant to balance the system: base-load, mid-merit (or intermediate) and peaking plant.

A power system should ideally consist of a mix of base-load, mid-merit and peaking plant. In order to minimise costs, the most economical configuration should be applied.

Base-load power stations can consistently and continuously generate electricity over an extended period of time. These are typically large power stations and use a fuel source such as coal or uranium. Base-load plant cannot be stopped or started quickly and is therefore used to provide the minimum base-load demand required. This plant is also the most economical plant to run over an extended period. Although hydro power stations can provide base-load power and run continuously over an extended period, this capability is limited in South Africa by the availability of water.

Peaking plant can stop and start quickly and is normally used during short periods of peak demand. Peaking plant includes pumped storage, diesel generators or OCGTs and gas-fired plant. Intermediate, or mid-merit plant, is usually available only during a specific time of day. Solar PV is a good example, as it is only available during hours of daylight, and the load profile is fairly predictable (refer to the following graph).



Coal-fired plant can be used as mid-merit plant by running units in spinning reserve mode (essentially idling) when demand is low. Wind is generally not as predictable as solar PV or base-load plant, as it depends on the strength and consistency of the wind.

The system operator requires a reserve margin to mitigate against plant unpredictability. The reserve margin is a measure of the available surplus capacity over a peak demand period. Regulators typically require a reserve margin of between 10% to 20% of normal capacity, as insurance against plant breakdowns or a sudden increase in demand. While base-load plant is required to provide at least the minimum demand, units can also be used to supplement the required reserve by operating in spinning reserve.

It is important that South Africa has an appropriate mix of generation plant in future, to ensure a stable electricity supply. The mix should take into account climate change, environmental and socio-economic requirements. We recognise that there is no single technology option which will meet sustainable development goals. In reality these goals are often conflicting and trade-offs become necessary.

It is difficult to compare plant costs on a like-for-like basis. Two internationally accepted methodologies have been developed to achieve this, namely overnight cost of construction and levelised cost of electricity (LCOE).

Refer to the information block on page 55 for information on the overnight cost of construction of different types of generation plant and page 86 for the levelised cost of electricity

#### Managing surplus capacity

In 2015 we changed the life of some of our generating plant from 50 to 60 years. In April 2016, the Board moved away from an age-based decommissioning strategy to a fleet renewal strategy based on the economic viability of fleet renewal.

Due to surplus capacity, it is not necessary to run all our existing plant to meet demand. We prioritise which stations to run based on the least-cost merit order dispatch approach. We have identified Hendrina, Grootvlei and Komati as the stations with the biggest cash impact and they will be ramped down to zero production and placed in lean preservation to minimise surplus capacity and optimally manage generation costs: Hendrina in 2018/19, Grootvlei in 2019/20 and Komati in 2020/21. Should demand growth be higher than current assumptions, these stations could be fully recalled to meet demand. The timing of the new build after Medupi and Kusile will be determined by DoE's updated Integrated Resource Plan. Any decision on possible decommissioning of stations will depend on approval of the latest IRP, achieving new build dates as promulgated by the IRP, certainty on demand growth and production from IPPs, as well as the completion of socio-economic studies.

#### Technical performance

Generation's technical performance is assessed in terms of the energy availability factor (EAF) which measures plant availability and takes account of:

- Planned capability loss factor (PCLF), which measures energy losses because of planned shutdowns
- Unplanned capability loss factor (UCLF), which measures unplanned energy losses resulting from equipment failures and other plant conditions
- Other capability loss factor (OCLF) which measures unplanned energy losses not under the control of plant management

| Measure and unit                                       | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual 2015/16 | Actual<br>2014/15 | Target<br>met? |
|--------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|----------------|-------------------|----------------|
| Energy availability factor (EAF), % <sup>SC</sup>      | 80.00             | 78.00             | 72.00             | 77.30             | 71.07          | 73.73             | ٠              |
| Planned capability loss factor (PCLF), % <sup>sc</sup> | 10.00             | 10.00             | 10.00             | 12.14             | 12.99          | 9.91              | •              |
| Unplanned capability loss factor<br>(UCLF), %          | 8.90              | 10.90             | 16.90             | 9.90              | 14.91          | 15.22             | ٠              |
| Other capability loss factor (OCLF), %                 | 1.10              | 1.10              | 1.10              | 0.66              | 1.03           | 1.14              | ٠              |

1. In accordance with our policy, the performance of Medupi Unit 6 has only been taken into account from September 2016 onwards, being one year after commissioning.

EAF has improved significantly year-on-year, reflecting improved plant performance and availability, as well as the improved UCLF. This reflects the impact of the optimised maintenance strategy and reduced coal quality-related load losses. The commissioning of Ingula, the synchronising to the grid of Medupi Unit 5 and Kusile Unit I and the increased purchases from IPPs during the year, have all contributed to increased capacity, providing more space to perform maintenance.

Unplanned breakdowns (UCLF) improved due to the following:

- Boiler tube leak improvements: Unplanned outages due to tube leaks have decreased by 32%, from 9 313GWh in the previous year to 6 321GWh in the current year. This was achieved by reducing unplanned outage duration and decreasing the number of tube leaks due to more proactive inspections. The improved coal quality (partly through lower stone contamination) is a major contributor
- Partial load losses: Energy lost due to unplanned outages resulting from partial load losses has decreased by 37% compared to last year

Plant utilisation (EUF) for the year was 74.95% for all stations (March 2016: 82.69%). The utilisation of coal-fired power stations was 83.18% (March 2016: 92.66%); Koeberg Nuclear Power Station was 99.80% (March 2016: 99.19%) and the peaking stations 7.86% (March 2016: 20.26%). Eskom's EUF remains above the international norm, indicating the high levels at which we are operating our plant, to maintain security of supply.

#### Koeberg performance

Koeberg Unit I had been online for 474 days and Unit 2 for 476 days, both exceeding previous records, when the units went on their respective refuelling outages in September 2016 and April 2017.

#### Steam Generator Replacement Project

The replacement project for the ageing steam generators forms part of the plant life extension programme. Rework required on the forgings has added almost three years to the delivery date of the steam generators for the first unit, now being expected in 2021. The manufacturing and assembly activities are on track in terms of the revised timeline.

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

# Update on Duvha Unit 3 over-pressurisation incident

The over-pressurisation incident in the boiler of Unit 3 at Duvha Power Station on 30 March 2014, taking the 575MW unit out of service, continues to have a material impact on UCLF, contributing 1.24% to the system total.

#### **Operational sustainability** continued

Following the insurance settlement, we have awarded contracts for structural repairs, demolition of the damaged boiler and construction of the new boiler. Demolition is expected to be completed early during the 2018/19 financial year, and the unit is estimated to return to commercial operation by the end of the 2022/23 financial year.

#### Maintenance plan

In line with industry trends, our maintenance approach has moved away from prescriptive timebased maintenance, to condition- and risk-based maintenance. This has allowed maintenance to be shifted from time-based intervals in terms of the Occupation Health and Safety Act. 1993. We now assess the health and condition of each plant item. together with the consequence of failure, which determines the risk.

Outages will be executed first on high-risk plant items, even if it is earlier than the prescribed timebased interval, while outages for low-risk plant will be deferred. Using the Tetris planning tool and advanced

analytics, we optimised the maintenance plan, as it allows for more informed decision-making regarding the prioritisation of maintenance and rescheduling outages.

We planned to execute 89 outages during the year. Of those, 51 have been executed (including 21 deferred from last year), while 27 have been deferred and II cancelled. An additional 37 unplanned, mainly short-term outages were also executed during the year.

We plan to execute 75 outages during the coming financial year, with a total of 463 outages planned for the next five years.

#### 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<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|---------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Number of system minutes lost <1<br>minute, minutes <sup>SC</sup>               | 3.53              | 3.53              | 3.80              | 3.80              | 2.41              | 2.85              | ٠              |
| Number of major incidents >I minute,<br>number                                  | 2                 | 2                 | 2                 | -                 | I                 | 2                 | •              |
| System average interruption frequency index (SAIFI), events <sup>sc</sup>       | 20.0              | 20.0              | 20.0              | 18.9              | 20.5              | 19.7              | ٠              |
| System average interruption duration index (SAIDI), hours <sup>sc</sup>         | 39.0              | 39.0              | 39.0              | 38.9              | 38.6              | 36.2              | •              |
| Distribution capex for strengthening and refurbishment, R million <sup>sc</sup> | n/a               | n/a               | 3 477             | 2 911             | 2 499             | n/a               | •              |

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

No major incidents occurred on the Transmission system during the year. The system minutes lost <1target was attained in spite of the negative impact of a few relatively large incidents involving plant failures in the first half of the year. The improvement during the remainder of the year was the result of successfully implementing a turnaround plan which focused on improved risk management and restoration response. We are developing advanced analytics to monitor the health of our transmission assets. However, performance risks still remain, with ageing assets and vulnerabilities due to network unfirmness, which should be addressed as we move towards N-I compliance.

SAIFI and SAIDI performed better than target following step-change interventions introduced to manage the distribution network performance. We remain focused on sustainability through refurbishment, reliability improvements and addressing maintenance

backlogs. Nevertheless, the sustained performance of the distribution network remains at risk given prevailing resource constraints; this could lead to an inability to maintain network performance within regulatory norms.

#### Equipment theft

The theft of steel members from transmission lattice towers, as well as cable theft and vandalism of transmission and distribution network equipment remain 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.

Equipment theft is more fully discussed under "Safety and security" on page 65

#### Managing supply and demand **Role of the System Operator**

The System Operator performs an integrative function for the operation and risk management of the interconnected power system by balancing supply and demand in real time, enabling us to supply electricity to our customers in accordance with our mandate. Protecting the stability of our power system is of great importance to the System Operator. The various defence systems in place are frequently tested to ensure their effective response capability to prevent a major system event.

There was a sustained improvement of our operating reserve margin over the year, due to capacity added by the Ingula Pumped Storage Scheme and IPPs, as well as improved performance of our generating plant. Intermittent production during commissioning tests carried out after synchronisation

of Medupi Unit 5 and Kusile Unit I also contributed to available capacity. The complete 765kV network to the Western Cape was commissioned, enabling security of supply to the region in the event of the loss of both units at Koeberg and contributing to grid stability.

To manage surplus capacity, the System Operator required a number of coal-fired units to be placed in cold reserve. This is when a generator is taken offline but is available to be called into service at short notice (typically 12 to 16 hours). The number of units in cold reserve varies from four to six units during weekdays, and up to 14 units over weekends. Units at Grootylei and Komati Power Stations have been placed in extended cold reserve with a callback time of five days.

#### Use of open-cycle gas turbines

| Measure and unit                          | Target  | Target  | Target  | Actual  | Actual  | Actual  | Target |
|-------------------------------------------|---------|---------|---------|---------|---------|---------|--------|
|                                           | 2021/22 | 2017/18 | 2016/17 | 2016/17 | 2015/16 | 2014/15 | met?   |
| OCGT production, GWh                      | 1 056   | 211     | I 266   | 29      | 3 936   | 3 709   | •      |
| OCGT diesel usage, R million <sup>1</sup> | 4 016   | 690     | 3 403   | 340     | 8 690   | 9 546   |        |

1. The current year's cost includes diesel storage and demurrage costs of R280 million, incurred as a result of not running the OCGTs.

2. The 2021/22 target is the cumulative target over the next five years.

#### **Energy supplied by IPPs**

DoE's RE-IPP Programme called for 3 725MW of renewable energy to be in commercial operation by the end of 2018.

Although we acknowledge the role that IPPs play in the South African electricity market and remain committed to facilitating their entry, we have not signed any PPAs since September 2016, given the shift in our generation capacity and demand outlook since the start of the RE-IPP Programme.

Slowing electricity demand, coupled with the combination of commissioning of new capacity and a noteworthy improvement in our operational performance, have resulted in significant surplus capacity, making the future outlook for Eskom operationally and financially unsustainable, given the continued entry of IPPs.

We remain committed to connecting IPPs up to bid window 4.5, as long as they are economical at a price of 77c/kWh or lower, given our surplus capacity. The IPP programme must be rolled out at a cost and pace that does not negatively impact the country or Eskom. We are engaging with the relevant government departments to reach agreement on the way forward.

#### IPPs contracted and connected

|                                          |                     | 2015/16                            |                      |                      |
|------------------------------------------|---------------------|------------------------------------|----------------------|----------------------|
| MW                                       | Total<br>contracted | Contracted<br>not yet<br>connected | Connected<br>to date | Connected<br>to date |
| RE-IPP Programme<br>DoE Peaker Programme | 4 000<br>I 005      | 890<br>-                           | 3 110<br>1 005       | 2 145<br>335         |
| Long-term IPPs<br>Short-term IPPs        | 5 005<br>912        | 890<br>-                           | 4 115<br>912         | 2 480<br>912         |
| Total at 31 March                        | 5 917               | 890                                | 5 027                | 3 392                |

# Operational sustainability continued

During the year, we commissioned 965MW of RE-IPP capacity, slightly less than the expected I 030MW, and the 670MW Avon gas peaker, adding IPP capacity of I 635MW. Projects with signed PPAs are in various stages of construction.

We expect 617MW from bid window 3 of the RE-IPP Programme to be commissioned during the coming year, made up of 511MW wind, 100MW concentrated solar and 6MW of landfill gas.

|                               | $\odot$    | $\otimes$   |
|-------------------------------|------------|-------------|
| MW                            | Contracted | Operational |
| Wind                          | 994        | 4 9         |
| Solar PV                      | I 479      | I 474       |
| Gas turbines 🔥                | I 258      | I 258       |
| Concentrated 🐞<br>solar power | 500        | 200         |
| Coal Coal                     | 455        | 455         |
| Biomass 📕                     | 51         | 41          |
| Hydro 🌢                       | 23         | 23          |
| Other                         | 157        | 157         |
| Total                         | 5917       | 5 027       |

**Considerations around additional IPP capacity** The dynamics and assumptions underlying the original RE-IPP Programme have shifted. Slowing electricity demand, adding new build capacity and a significant improvement in our operational performance have resulted in surplus capacity. Further largescale renewables capacity will lead to significant overcapacity on the system, an acceleration of tariff increases for the consumer and stranded assets for Eskom.

Current prices for RE-IPPs range from 77.5c/kWh to 380c/kWh. Prices in earlier rounds were significantly higher, thereby pushing up the average price for the year to 209c/kWh, against revenue of 83.6c/kWh, which includes transmission and distribution costs. In contrast, our short-run marginal cost is about 40c/kWh. To be cost competitive, IPPs have to reach more economical levels of 77c/kWh or lower. In the long term, declining costs of renewables are expected to support an electricity price path that supports economic growth.

IPP costs are currently a full pass-through to the consumer, negatively impacting electricity prices and ultimately, economic growth. The judgment in the Borbet case found that the efficiency and prudency test must also be applied to IPP costs, therefore full cost recovery of IPP costs in future is uncertain.

Lower revenues will impact our ability to generate adequate cash flows to meet existing debt commitments. We could be placed in a position where we may have to utilise the Government guarantees provided to lenders. This would put the Sovereign balance sheet at risk.

Our capacity being displaced could have many interrelated impacts. A reduced requirement for coal will directly affect the coal industry, impacting the livelihood of communities and mines in areas surrounding affected power stations. The full impact has not been quantified but could have a significant impact on an already distressed economy.

Any additional IPPs must be assessed against the holistic benefits of security of supply, minimising the electricity price, environmental benefits and socioeconomic factors. Without that, there are significant risks to introducing additional capacity to the system. We believe that DoE's assumptions around IPPs should be reviewed.

Traditional integrated utilities around the world are experiencing financial distress as a result of the largescale introduction of IPPs. We can learn from their experience to avoid a similar adverse impact.

#### 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 2017.

| Measure and unit                                                                                             | Target<br>2021/22              | Target<br>2017/18           | Target<br>2016/17     | Actual<br>2016/17           | Actual<br>2015/16         | Actual<br>2014/15   | Target<br>met? |
|--------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------|-----------------------|-----------------------------|---------------------------|---------------------|----------------|
| Total capacity, MW                                                                                           | 6 001                          | 5 521                       | 4 930                 | 5 027                       | 3 392                     | 2 606               | ٠              |
| Total energy purchases, GWh                                                                                  | 72 639                         | 2 7                         | 12 866                | 11 529                      | 9 033                     | 6 022               |                |
| Total spent on energy, R million<br>IFRIC 4 accounting adjustment, R million<br>Total expenditure, R million | 163 316<br>(10 234)<br>153 082 | 23 391<br>(1 999)<br>21 392 | 23 051<br>_<br>23 051 | 21 721<br>(1 964)<br>19 757 | 15 446<br>(340)<br>15 106 | 9 454<br>_<br>9 454 |                |
| Weighted average cost, c/kWh                                                                                 | 225                            | 209                         | 179                   | 188                         | 171                       | 157                 |                |

1. The 2021/22 target is the cumulative target over the next five years.

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

Renewable IPPs achieved an average load factor of 30.7% during the year (March 2016: 30.7%), while the weighted average cost amounted to 209c/kWh (March 2016: 223c/kWh).

We entered into PPAs with the Avon and Dedisa IPP gas peakers. For accounting purposes, the capacity charges are treated as arrangements that contain a lease in terms of IFRIC 4. These leases have been assessed as finance leases and are accounted for under property, plant and equipment at a value of R9.8 billion (March 2016: R3.5 billion). The IPP cost for the gas peakers under primary energy was reduced by RI 964 million (March 2016: R340 million), while depreciation of R638 million and interest of RI 840 million were charged to the income statement (March 2016: R135 million depreciation and R302 million interest).

Deemed energy expenditure of R477 million was incurred during the year (March 2016: R24 million), due to delays in grid connection of a number of projects, as well as system curtailment events.

**Cross-border sales and purchases of electricity** Non-availability of electricity has been a significant impediment to regional growth and development for a number of years; this has been exacerbated by the drought affecting most of the SADC region. The Southern African Power Pool (SAPP) aims to provide

International sales and purchases

reliable and economical electricity supply to each of its members.

Access to electricity in all SAPP member states (excluding South Africa) is below 45%, and as low as 10% in one instance. Electricity consumption per capita in the region lags both South African and global norms. Our surplus capacity provided an opportunity for additional electricity sales to the region during the year.

#### Export growth strategy

Our export growth strategy approved by the Board received PFMA approval by the Minister in February 2017. The strategy is to maximise exports through the existing transmission infrastructure, while also building additional transmission lines to further enable exports. There is considerable demand that cannot currently be met due to a lack of investment in transmission infrastructure. We are looking to invest with our regional partners to add much needed transmission infrastructure.

In line with the mandate received, we have concluded a number of firm power supply agreements at 31 March 2017, all for a period of five years until 31 March 2022, for total supply of 450MW. All agreements provide for the supply of additional non-firm energy when required. Work to conclude additional agreements is ongoing.

Target Target Actual Actual Actual Target Target GWh 2021/22 2017/18 2016/17 2016/17 2015/16 2014/15 met? International sales 86 375 15 029 11 918 15 093 13 465 12 000 . International purchases 47 203 9 670 10 712 7 418 9 703 10 731 • 39 172 1 206 7 675 5 3 5 9 3 762 1 269 Net sales

1. The 2021/22 target is the cumulative target over the next five years.

International sales have increased 12% year-on-year. The volume of cross-border purchases was, however, lower than target, primarily because Hidroelèctrica de Cahora Bassa (HCB) reduced its supply as a result of low dam levels due to the drought.

# **Operational sustainability**

continued

#### Integrated demand management

Integrated demand management (IDM) plays a key role in assisting us to balance power supply and demand during periods of constraint, as it encourages customers to use electricity more efficiently.

#### Demand management costs

| R million                                      | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Total energy efficiency demand side management | n/a               | n/a               | 926.9             | 375.8             | 413.0             | 656.0             |                |
| Demand response                                | n/a               | n/a               | 398.0             | 193.9             | 248.4             | 308.6             |                |
| Total (excluding transfer pricing)             | n/a               | n/a               | 1 324.9           | 569.7             | 661.4             | 964.6             |                |

1. Future targets are dependent on system requirements.

Verified demand side management and internal energy efficiency savings

| Measure and unit                  | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Demand savings (evening peak), MW | n/a               | 110.0             | 196.0             | 236.9             | 214.9             | 171.5             | •              |
| Internal energy efficiency, GWh   | n/a               | n/a               | 1.2               | 6.0               | 1.7               | 10.4              | •              |

In view of the improved power system status and outlook, the focus of the IDM function is shifting from balancing electricity demand, to creating space for future sales growth initiatives by shifting demand from peak to off-peak periods.

In line with international best practice for power system operation, 32 large industrial customers participated in our demand response programme, which provides the System Operator the flexibility to manage short-term fluctuations on the grid as and when they occur. The programme achieved average certified capacity of I 267MW during the year (March 2016: 1 466MW).

A total of 2 705 699 compact fluorescent lamps (CFLs) were installed in KwaZulu-Natal, Eastern Cape, Free State, North West and Gauteng during the year. The Eastern Cape and Free State have concluded their rollouts. Since inception of the current rollout in 2015, a total of 4 765 921 CFLs have been installed.

#### **Future focus areas**

- · Effectively implement the coal business strategy, improve management of coal quality from all suppliers and maintain the required coal stock levels at all stations
- Implement drought contingency plans to mitigate the medium-term water supply risk, until Lesotho Highlands Phase 2 is commissioned
- · Continue to improve the availability of our generation assets and optimise our production plan based on the least-cost merit order dispatch approach
- · Optimise maintenance planning using advanced analytics
- · Continue to evaluate fleet-renewal or preservation options

- Strengthen the transmission backbone towards attainment of N-I compliance, and strengthen distribution networks to accommodate customer growth in support of universal access
- · Monitor transmission asset health by developing advanced analytics and optimising maintenance
- Execute the Distribution refurbishment plan to improve the integrity and reliability of the lowvoltage network infrastructure, and transition from time-based to condition-based maintenance across priority distribution asset classes
- · Roll out mobility and real-time dispatching tools to improve scheduling, response times and outage resolution to Distribution customers
- · Continue to reposition the IDM function to support sales growth initiatives

#### Our impact on the capitals

Social and relationship capital is positively impacted by our support of the coal industry, as well as the assistance we provide to the region. However, natural capital is negatively affected by our use of primary energy sources, most notably coal and water.

Our manufactured capital is diminished through use мс of the plant, but is restored to some extent through maintenance. We apply our intellectual capital in the IC running of our operations, such as through the use of the Tetris maintenance planning tool. Furthermore, we could not operate an integrated power system without the use of advanced systems and technology.

Financial capital is depleted through the costs of FC running our operations, but enhanced through revenue earned.

#### **Operating performance**



#### Õ HIGHLIGHTS

- All four Ingula units were commission adding installed capacity of I 332MW
- Medupi Unit 5 synchronised in September
   2016 and achieved commercial operation shortly after year end, adding 794MW installed capacity
- Kusile Unit I synchronised to the grid on 26 December 2016, ahead of schedule
- Medupi Unit 4 synchronised on 31 May 2017, also ahead of schedule
   Transmission lines constructed and substation capacity commissioned exceeded

#### ~7 PROGRESS

spent on N–I and environmental compliance respectively, exceeding the target

#### ( )CHALLENGES

- Completion of boiler cladding and insulation remains a concern at Medupi
- Contractor productivity remains an issue at Medupi and Kusile, requiring continual supervisory attention to ensure progress

# LOWLIGHTS

· An unfortunate incident occurred during commissioning and optimisation of Ingul Unit 3, thereby delaying commissioning Contractor fatality at Medupi

# Sustainable asset creation

We are executing the largest capital expansion programme in Africa. We also execute projects to ensure environmental compliance, transmission strengthening, customer connections and refurbishing of existing assets. Our aim is to deliver on time, within budget and to the desired quality.

#### Looking back on 2016

The biggest commitments we made last year were in respect of the commissioning of generation plant, which we exceeded. We also exceeded the targets for construction of transmission lines and commissioning transformer capacity. The dual-fuel conversion of four OCGT units at Ankerlig and two units at Gourikwa has also been completed.

#### Delivering capacity expansion

The capacity expansion programme, to build new power stations and increase high-voltage transmission power lines and transformer capacity, started in 2005 and is expected to be completed by 2022. The programme will increase installed generation capacity by 17 384MW, transmission lines by 9 756km and substation capacity by 42 470MVA.

Since inception to 31 March 2017, we have increased installed generation capacity by 8 363MW, mainly through the return-to-service programme, OCGTs, Sere Wind Farm, Medupi Unit 6 and most recently, all four units of Ingula. Transmission lines were expanded by 6 747km and substation capacity by 34 390MVA. The programme has cost R335.7 billion to date (excluding capitalised borrowing costs).

| Measure and unit                                                                              | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual 2015/16 | Actual<br>2014/15 | Target<br>met? |
|-----------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|----------------|-------------------|----------------|
| Generation capacity installed and<br>commissioned (commercial operation),<br>MW <sup>sc</sup> | 8 696             | I 460             | 666               | I 332             | 794            | 100               | ٠              |
| Transmission lines installed, km <sup>sc</sup>                                                | 2 095.0           | 677.0             | 525.0             | 585.4             | 345.8          | 318.6             | •              |
| Transmission transformer capacity installed and commissioned, MVA <sup>sc</sup>               | 10 775            | 2 010             | 1 800             | 2 300             | 2 435          | 2 090             | ٠              |
| N–I compliance - new build, R million <sup>sc</sup>                                           | n/a               | n/a               | 2 024             | 3 917             | n/a            | n/a               | •              |
| Environmental compliance, R million <sup>sc</sup>                                             | n/a               | n/a               | 95                | 328               | n/a            | na                | •              |

1. The 2021/22 target is the cumulative capacity to be commissioned and/or installed over the next five years.

2. Medupi Unit 5, with an installed capacity of 794MW, attained commercial operation after year end on 3 April 2017, and is therefore not reflected in capacity installed above.

The target for spend on N–I compliance was exceeded, partly due to execution of activities carried over from the previous financial year. The target on the Generation coal environmental projects was also exceeded, due to work on the Camden burners and the Grootvlei and Tutuka fabric filter plant.

Performance on Generation and Transmission capacity installed and commissioned is discussed below.

Capital expenditure (excluding capitalised borrowing costs) per division

| Division, R million                                       | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 |
|-----------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
| Group Capital                                             | 37 017            | 35 458            | 33 799            | 31 691            |
| Generation                                                | 13 587            | 14 376            | 11 440            | 10 555            |
| Transmission                                              | I 205             | 940               | 998               | 2                 |
| Distribution                                              | 6 338             | 5 220             | 5 490             | 6 073             |
| Subtotal                                                  | 58 147            | 55 994            | 51 727            | 49 440            |
| Future fuel                                               | I 090             | 114               | 2 114             | 65                |
| Eskom Enterprises                                         | I 560             | 1 107             | 373               | 439               |
| Other areas including intergroup eliminations             | 3 884             | 2 817             | 3 138             | I 547             |
| Total Eskom group funded capital expenditure <sup>1</sup> | 64 681            | 60 032            | 57 352            | 53 077            |

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

#### Overnight cost of construction

Compa<sup>-</sup>ing the cost of constructing different power plants is challenging, due to difference in size, construction time, inflation, technology, location, etc. Overnight cost is an internationally accepted method used to compare the construction cost of different power plants on a common basis.

Overnight cost of construction typically includes costs associated with civils and construction, mechanical equipment, electrical work, control and instrumentation, project management and development. Interest capitalised to the project is excluded, while all costs are expressed in a base year by allowing for inflation and other adjustments such as exchange rates.

The cost is usually expressed as a cost per unit of output and converted to the same base year, thereby enabling like-for-like comparison. In order to ensure like-for-like comparison, international benchmarks are adjusted to a common base. A number of organisations provide these benchmarks.

| USD/kWe (2017 values)                    | Minimum              | Maximum              |
|------------------------------------------|----------------------|----------------------|
| Lazard                                   | 2 520                | 6 854                |
| Electric Power Research Institute (EPRI) | Excluding FGD, 2 400 | Including FGD, 2 990 |
| International Energy Agency              | 1 618                | 3 064                |
| Medupi (excluding FGD)                   | 2 769                | 2 900                |
| Kusile (including FGD)                   | 2 906                | 2 974                |

#### Medupi Power Station

Sadly a fatality was recorded on 5 July 2016, when a worker on Unit 3 fell from the 63m level to the ground. The investigation into the incident was concluded, and lessons learnt incorporated into operations on site. The loss of one life is one too many. We conveyed our condolences to friends and family.

Unit 5 was successfully synchronised to the national grid on 8 September 2016, ahead of schedule, and reached full load on 17 December 2016. After completing performance, reliability and compliance tests, the unit, with an installed capacity of 794MVV, attained commercial operation on 3 April 2017, also ahead of schedule, adding 717MW nominal capacity to the grid.

With Units 6 and 5 successfully handed over for commercial operation, attention is being focused on maintaining momentum of construction progress on Units 4 to 1.

Construction progress on Unit 4 is highly satisfactory. The unit achieved the boiler hydro-test in June 2016, turbine-on-barring was successfully performed in October 2016, boiler chemical clean was completed in December 2016, and the draught group test in February 2017. First oil and coal fires were achieved in March 2017, after which boiler blow through commenced. The unit was synchronised on 31 May 2017 and remains on track for commercial operation within six to nine months.

The Unit 3 pressure parts work was completed, culminating in a satisfactory boiler hydro-test in April 2017. Commercial operation is planned for the first half of 2019, based on the schedule.

Labour stability on site remains satisfactory, with the site-specific agreement with formal labour bodies under the Eskom Partnership Agreement producing the intended stability. The principal challenge remains the completion of the boiler cladding and insulation, without which the units cannot be operated safely. The boiler initiative agreement, which previously proved successful in improving contractor productivity, is being extended to include Units 3 to 1. Challenges related to project quality issues, the completion of documentation and technical specifications, as well as improving overall contractor productivity, continue to receive close management attention. Additional safety, quality inspection and supervision resources have been deployed to site.

The cumulative cost incurred on the project is R101.3 billion (March 2016: R93.9 billion) against the revised budget of R145 billion. All amounts exclude capitalised borrowing costs.

#### Kusile Power Station

Since the synchronisation of Unit I on 26 December 2016, the unit achieved full load of 800MW on 10 March 2017. The focus is on optimising the unit to achieve commercial operation, which is expected within six to nine months after synchronisation.

The project completed hydro-testing of the Unit 2 boiler in October 2016. After achieving boiler registration ahead of schedule in March 2017, Unit 2 is focused on insulation and cladding, mechanical construction, cabling as well as control and instrumentation (C&I) installation.

During March 2017, the distributed control system was powered on for the air condensate cooling system, the condensate polishing plant and the flue gas desulphurisation (FGD) system, supporting the internal site integration testing. Furthermore, the project has mechanically completed and commissioned the first wet FGD on the African continent.

# Sustainable asset creation

The project continues to closely manage contractor productivity. Performance is improving, most notably through milestones being achieved ahead of the business case dates. The new C&I contractor, mobilised in 2015, has delivered the engineering and manufacturing of equipment within tight schedules, to ensure integration with other packages.

A comprehensive exit and outreach strategy, which plans to gradually upskill and release local labour to the job market, was formalised in partnership with key stakeholders. This allows project stability in the face of the gradual demobilisation of workers once milestones are achieved. It will further enable the project to mitigate the risk of local community disruptions. Initiatives include retraining and using projects to keep resources gainfully employed, including the transfer of skills relevant to local industry demands.

The cumulative cost incurred on the project is R112.4 billion (March 2016: R95.1 billion) against the revised budget of R161.4 billion. All amounts exclude capitalised borrowing costs.

#### Ingula Pumped Storage Scheme

Units 4 and 3 were synchronised during March 2016. Units 2 and 1 were synchronised on 21 May and 16 June 2016 respectively. Thereafter, Units 4, 2 and 1 were successfully commissioned on 10 June, 22 August and 30 August 2016 respectively, all ahead of schedule, adding an additional 999MW of installed peaking capacity to the national grid.

The final generating unit of 333MW installed capacity became operational on 30 January 2017, when Unit 3, which had been damaged during testing in April 2016, was brought into commercial operation.

All four units of Ingula are now in commercial operation and produce a total of I 324MW nominal capacity of peaking power, against total installed capacity of I 332MW.

The project won two prestigious awards during the annual South African Institute of Civil Engineering (SAICE) and South African Forum of Civil Engineering Contractors (SAFCEC) awards, for most outstanding civil engineering and technical excellence achievements.

The upper site at Ingula, expected to be officially proclaimed as a nature reserve during the coming financial year, consists of approximately 8 000 hectares, several hundred of which are wetland. The Ingula Partnership, a 15-year old partnership between Eskom, BirdLife South Africa and Middelpunt Wetland Trust, plays an important role in the environmental success story at Ingula.

The cumulative cost incurred on the project is R29.3 billion (March 2016: R26.8 billion) against a revised budget of R29.8 billion, approved by the Board during the year. All amounts exclude capitalised borrowing costs.

#### Power lines and substation capacity

During the year, we installed 585.4km of high-voltage transmission lines and commissioned substation capacity of 2 300MVA under the new build programme.

Since April 2013, a total of 40 schemes has been completed, including 13 IPP projects. A scheme refers to a group of related or similar projects managed in a coordinated way to realise synergies, e.g. completion of the Foskor Acornhoek Transformation Upgrade Scheme.

#### Other projects

The Duvha Unit 3 boiler structural repairs were completed in February 2017, followed by predemolition activities in March 2017. The contract for the procurement and fitment of the boiler was awarded in March 2017.

The full permanent solution of the Majuba Silo Project, including the rebuilding of Silo 20, the reinforcement of Silos 10 and 30, as well as the lift shaft, two piers and the coal conveyor system, was returned to service ahead of schedule in December 2016.



The Ingula escarpment forms part of the upper site at Ingula, expected to be proclaimed as a nature reserve of approximately 8 000 hectares

# Investing in the future

Following the section 34 determination by DoE in December 2016, a request for information (RFI) for the nuclear new build programme was issued in December 2016, and closed on 28 April 2017.

Subsequent to year end, the Western Cape High Court set aside the determination which formed the basis for nuclear procurement. All current procurement processes have therefore been suspended. This is expected to significantly delay the nuclear new build programme.

#### The business case for nuclear power

The need for nuclear power arises from a number of factors, such as climate change, the existing power generation fleet approaching the end of its useful life, the need for future security of supply, and maintaining strategic relevance in South Africa and Africa.

As close to 85% of our installed generation capacity is from coal-fired power generation, we need to diversify our electricity generation mix over time to achieve climate change goals. The average age across our coal fleet is approximately 37 years. Capacity will decline once existing stations retire; that capacity will not be replaced at the rate new build is currently being introduced, as it takes a long time to develop base-load options.

Approximately 10GW of our existing fleet will have to be retired by 2030, based on a 50-year lifespan. Capacity will greatly decline after that; by 2040 approximately 30GW will have to be decommissioned. No large base-load station beyond Kusile has been allocated to Eskom under the IRP 2010, with IPPs contributing only 900MW in base-load.

Although life extension of existing power stations can postpone the requirement for large new baseload plant, it is not a long-term solution, and will be further limited by environmental laws and cost of compliance. Given the highly regulated nature of a nuclear programme in any country, Eskom is the best state-owned vehicle to implement nuclear power in South Africa. This will further secure our position in the electricity market for many years to come.

A likely date for first unit commercial operation is approximately 10 years after the procurement process is finalised. Our preferred strategy is to pursue a nuclear programme framework agreement with a vendor, which will enable us to commit to two nuclear power units at a time – a phased commitment approach.

The nuclear new build programme will be regulated by the National Nuclear Regulatory Act, 1999, the National Radioactive Waste Disposal Institute Act, 2008, and the Nuclear Energy Act, 1999. This legislation ensures that any nuclear installation is safe for humans and the environment.

Nuclear costs vary greatly across different countries. Overnight costs range from USD2 021/kWe to USD6 215/kWe, while the levelised cost of electricity ranges from USD40/MWh to USD136/MWh. The cost of nuclear is competitive compared to other base-load technologies. The levelised cost of nuclear power is less sensitive to fuel cost than coal and gas, ensuring a more stable operational cost. The greatest hurdles to overcome are the significant capital outlay, coupled with continuous investment required to keep pace with improvements in safety standards. The cost of nuclear waste management and decommissioning is also significant.

A nuclear programme promotes long-term security of supply and environmental sustainability. It can be part of a future electricity generation mix where these objectives are met in the most affordable way over time.

#### Gas strategy

Four open-cycle gas turbine units at Ankerlig and two units at Gourikwa have now been converted to dual-fuel capability. The remaining eight units are expected to be converted by the end of the 2017/18 financial year.

#### Investing in appropriate technologies

We spent R441 million on Board-approved research projects, testing and development work during the year (March 2016: R396 million).

The main project this year was the high-voltage direct current (HVDC) test facility, which will provide us with knowledge and expertise for HVDC use in future transmission expansion projects. Other projects include coal DNA characterisation, offgrid technologies and control systems, as well as refurbishment of the flow laboratory.

Some examples of future projects are:

- Collaborating with electric vehicle (EV) manufacturers and Government to lower the capital cost of entry for new EVs, increase sales of EVs in the local market, and develop innovative pricing models that will help Eskom increase demand and shift energy use to more optimal periods
- Advancing innovative business models for the deployment of commercial and industrial rooftop solar PV systems as a product offering to customers wishing to install their own systems, giving them the option of procuring directly from Eskom
- Developing bulk and beyond-the-meter energy storage value propositions that will allow us to deploy energy storage technologies at scale, to increase revenue and operational benefits. The business case for large-scale storage plus PV solutions, as well as off-grid and grid strengthening options, will be developed during the coming financial year

## Sustainable asset creation

continued

#### More on research and development opportunities

#### eMobility

The aim is to stimulate the uptake of electric vehicles or eMobility, through the deployment of charging and other infrastructure, in conjunction with other market players. The environment will benefit and the local economy be stimulated. Furthermore, the dependency on energy imports (oil for fuel) is reduced.

While Eskom can increase electricity sales, improve asset utilisation and sustain our business into the future, the customer receives increased value from electricity through convenient facilities and services.

Although an electrical vehicle is more economical than a fossil-fuel driven vehicle based on running costs, the initial capital outlay and limited distances such vehicles can cover make them less practical, except over shorter distances.

#### Smart energy

This option implements "smart" electricity supply, through enhanced monitoring, better information and advanced control, such as by automatically detecting and reporting outages, giving customers more options to manage demand, consumption and cost of usage.

The result will be a more inclusive, adaptive and efficient energy market. Eskom will improve asset utilisation and grid stability, also lowering costs, reducing theft and managing debt. The customer benefits from flexibility and choice in balancing cost and value of usage, together with more convenience, information and better service levels.

#### Customer generation and storage

This considers implementing options for customers to generate and store solar power for their own use, while still having access to the grid when required.

While the environment benefits and the local economy is stimulated, Eskom transforms sustainably, adapting to the evolving energy market and the needs of our customers, and starts laying the foundation for the future electricity grid. Customers have access to more cost-effective energy options, and an improved ability to manage their energy usage.



We spent R2.9 billion during the year on strengthening and refurbishing our distribution network  $% \left( {{{\rm{A}}_{\rm{B}}} \right)$ 

#### **Future focus areas**

- Commercial operation of Medupi Unit 4 and Kusile Unit 1
- Construction of 677km transmission and other lines, as well as commissioning of 2 010MVA transmission transformer capacity for N-I compliance, grid strengthening and expansion
- Execution of environmental compliance projects which include nitrogen oxide, sulphur dioxide and fabric filter plants
- Finalising the dual-fuel conversion of OCGTs at Ankerlig and Gourikwa
- Completion of demolition works at Duvha Power Station in preparation for reconstruction of Unit 3
- Identification of areas where battery storage can be deployed at scale across the grid

#### Our impact on the capitals

Our manufactured capital is increased through the building of new power stations and extending our grid capacity, although the funding thereof simultaneously depletes financial capital.

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Social and relationship capital is generally enhanced in the communities surrounding our new build sites, as we contribute to job creation and economic growth in the surrounding areas.

Although our activities negatively impact the environment and natural capital, the declaration of the Ingula wetlands as a nature reserve will contribute towards maintaining natural capital in that region.

Our research and development work adds to our intellectual capital.

#### **Operating performance**

Environmental and climate change sustainability



#### 

 Particulate emissions performance of 0.30kg/MWhSO for the year, substantially better than target and prior year

# PROGRESS

 Air quality offset programme approved by DEA and municipal licensing authorities; good progress made on pilot project and baseline studies

## CHALLENGES

Reducing water usage at coal-fired station
 Environmental legal contraventions significantly worse than target

> Increasing red data bird mortalities of power lines

Despite operating under complex and evolving environmental requirements, we remain committed to our principle of Zero Harm to the environment. Environmental compliance impacts operational sustainability and is critical to maintaining our licence to operate, and supporting security of supply.

#### Looking back on 2016

Our aim to reduce particulate (ash) emissions was achieved, with performance better than target and prior year. However, water usage related to power station operations did not meet target but was better than last year's performance.

An air quality offset plan was approved by DEA and relevant authorities. Work on implementation of the plan continues.

#### Reducing our environmental footprint

We assess our environmental performance in various ways, such as relative particulate emissions, specific water consumption – namely 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

#### Reducing particulate and gaseous emissions

The particulate (ash) emissions performance for the year is substantially better than target and last year's performance. Although particulate emissions had been increasing over the past five years, there has been a turnaround this year with significantly lower emissions. Increased opportunities for emission-related maintenance and repairs done at stations during outages, together with a continued focus on managing emissions performance at individual stations, have contributed to the reduction in emissions.

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

# Environmental and climate change sustainability

| Measure and unit                                                                                           | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Relative particulate emissions, kg/MWh<br>sent out <sup>SC, I</sup>                                        | 0.21              | 0.34              | 0.35              | 0.30              | 0.36              | 0.37              | •              |
| Specific water consumption, $\ell/kWh$ sent out <sup>SC, 2</sup>                                           | 1.30              | 1.37              | 1.38              | 1.42              | 1.44              | 1.38              | <b></b>        |
| Net raw water consumption, M $\ell$                                                                        | n/a               | n/a               | n/a               | 307 269           | 314 685           | 313 078           |                |
| Environmental legal contraventions<br>in terms of the Operational Health<br>Dashboard, number <sup>3</sup> | I                 | I                 | I                 | -                 | I                 | I                 | •              |

1. In accordance with our policy, the performance of Medupi Unit 6 has only been taken into account from September 2016 onwards, being one year after commissioning.

2. Water consumption figures still exclude Medupi Unit 6, as unit specific meters are not yet available at Medupi Power Station. An approach is being developed to allow the inclusion of performance without unitised meters.

3. 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.

4. Future targets are dependent on system requirements.

#### Atmospheric emission licences (AELs)

We continue with the implementation of our Boardapproved emission reduction plan in order to meet air quality standards by 2025 and comply with commitments made to environmental authorities. Changes to the plan have been communicated to DEA.

A further fabric filter plant retrofit at Grootvlei Power Station was completed, resulting in significantly lower relative particulate emissions. The final unit's retrofit commenced in April 2017. Work at Tutuka and Kriel is in progress.

Planning for the installation of high frequency transformers to reduce particulates is progressing at Matla and Duvha Power Stations, while Lethabo, Kendal and Matimba are on track for construction from 2021 to 2025. Development work continues for low NO<sub>2</sub> burner retrofits or replacement at Tutuka,

Majuba and Matla, as well as the FGD plant retrofit at Medupi Power Station.

A condition of DEA's approval of our application for postponement of the Minimum Emission Standards compliance timelines was the development and implementation of an air quality offset programme, to improve ambient air quality (especially particulate matter levels) in communities close to Eskom's power stations.

An Eskom air quality offset plan for communities adjacent to our coal-fired power stations, with a nominal cost in excess of R4 billion over the next nine years, was approved by DEA and the relevant licensing authorities in the affected district municipalities in September 2016. The pilot project in KwaZamokuhle was concluded during the year.



Beneficiation of ash resulted in ash utilisation of 8.46% (or 2 760kt) for the year, in line with our Board-approved ash strategy

Approvals for the implementation stage in KwaZamokuhle, Ezamokuhle and Sharpeville have been obtained and contracts are being placed. The baseline establishment has almost been concluded, which will inform the design of the offset interventions. The first phase of interventions in KwaZamokuhle is planned for late 2017. The rollout of interventions in Ezamokuhle is expected to start early in 2018. Work to identify sources of ambient air pollution in Sharpeville has commenced. This work will help in the design of the offset interventions for Lethabo Power Station.

#### NEMA section 30 performance

The atmospheric emission licences issued to power stations require the reporting of unexpectedly high atmospheric emissions in terms of section 30 of the National Environmental Management Act, 1998 (NEMA). A total of 48 of these incidents occurred during the year, an improvement from 59 reported in the previous year. Power stations have operated under conditions where section 30 is triggered for 2.24% of the time during the year (March 2016: 6.6%).

AEL sulphur dioxide  $(SO_2)$  emission limits for Medupi and Matimba are being exceeded due to the high sulphur content of coal used by these stations. An application to increase the  $SO_2$  limit in the AEL will be submitted to DEA in the coming year.

#### Ashing facilities and ash utilisation

Our exemption applications to allow for a period of four to six years after authorisation to install linings at the Majuba, Kendal, Tutuka and Matimba dry-ashing facilities have all been approved.

Work around the beneficiation of ash and the execution of the ash strategy approved by the Board continued this year, focusing on increasing our ash sales. This has resulted in a slight improvement in our ash utilisation to 8.46% (or 2 760kt) for the year (March 2016: 8.32% or 2 712kt). We are liaising with DEA to obtain waste management exemptions for businesses wishing to make use of our ash for brick and block making. This will create jobs and new skills while continuing to ensure responsible environmental management.

#### Reducing water consumption Our strategy

The Board has approved a comprehensive water strategy for all coal-fired power stations based on our strategic user status being maintained and applicable water legislation complied with. The strategy supports overall financial, environmental and operational sustainability by working with relevant stakeholders in addressing both the country's and our particular water challenges.

All power stations have developed water strategy implementation plans, focusing on actions to reduce water use and ensure compliance. Progress against the plans is being monitored and reported, and initial actions have been closed out.

#### Water usage

Water usage related to power station operations for the year was slightly worse than target but better than last year's performance. Hot, dry conditions for much of the year contributed to high water usage. Inefficiencies at power stations, including excessive system leaks and poor water management practices, remain an area of concern and focus.

**Collieries decanting mine-affected water** The Kilbarchan Colliery continues to decant mineaffected water, although the pilot water treatment plant is operational on site. We are working on a request by DWS to expand the treatment plant.

## Reducing environmental legal contraventions

There were no Operational Health Dashboard contraventions (as defined earlier) reported during the year. There were, however, 28 legal contravention incidents identified (March 2016: 20), worse than the target of 24. There were 17 waterrelated incidents, six related to emission licences, three biodiversity-related and one each to waste and conservation.

# Provisions for environmental restoration and rehabilitation

We continue to 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 have been raised for environmental rehabilitation and restoration:

| R million                                                           | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 |
|---------------------------------------------------------------------|-------------------|-------------------|-------------------|
| Power station-related environmental restoration – nuclear plant     | 17 650            | 12 677            | 10 982            |
| Power station-related environmental restoration – other power plant | 12 643            | 8 339             | 7 705             |
| Mine-related closure, pollution control and rehabilitation          | 11 706            | 8 580             | 5 465             |
| Total environmental provisions                                      | 41 999            | 29 596            | 24 152            |

Refer to note 29 in the annual financial statements for more information on these provisions

# Environmental and climate change sustainability

#### **Biodiversity**

The Board approved the declaration agreement and management plan for Ingula as a nature reserve, which were submitted to the MECs of KwaZulu-Natal and the Free State for final approval. We expect that the nature reserve will be declared during the coming year.

A total of 502 red data bird mortalities were recorded on our transmission and distribution infrastructure this year (March 2016: 391). We initiated a proactive strategy last year, aimed at prioritising which lines would be most vulnerable to bird collisions. It is expected that it will take some time before the strategy bears fruit.

#### Investing in renewable energy

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

For capacity provided by renewable IPPs, refer to pages 49 and 50

Sere Wind Farm contributed 345GWh to the national grid during the year (March 2016: 311GWh), with a load factor of 37.63% and an availability factor of 99.65% (March 2016: 34.10% and 97.67% respectively). The small hydro plants in the Eastern Cape recorded total energy sent out of 20GWh during the financial year (March 2016: 71GWh).

There are eight rooftop and ground-mounted PV sites in operation at our power stations and administration buildings, which produced total energy sent out of 4.19GWh during the year. The Mkondeni rooftop project was transferred into commercial operation on 31 March 2017.

#### **Climate change**

South Africa's pledge at COP 21

South Africa's pledge at COP 21 requires the country's  $CO_2$  emissions to stabilise by 2025, and then to decline from 2035. Electricity historically accounts for around 44% of national CO<sub>2</sub> emissions. To achieve this, the country will need to invest in lower or zero-emitting technologies, as the current coal-fired electricity generation fleet reaches the end of its life.

A concerted effort is therefore required to focus on technologies such as nuclear, cleaner coal technologies, renewables, gas and large hydro imports. The tradeoffs between technologies must be discussed and rationalised to arrive at an appropriate electricity mix. This will be informed by the updated Integrated Resource Plan 2016 once it is finalised by DoE.

#### **Carbon budgeting**

DEA requested projected emissions for 2016 to 2020 in order to determine carbon budgets. DEA has granted us a favourable carbon budget for the period, and we achieved the 2016 carbon budget by a comfortable margin. However, until such time as we are allocated additional lower carbon-emitting technologies through the IRP process, the ability to reduce our liability relating to the pending carbon tax is a concern.

We shared the impact of the carbon tax on electricity tariffs up to 2023/24 with National Treasury, NERSA and the DoE's IPP Office. National Treasury indicated that a revised Carbon Tax Bill should be available for public comment during 2017.

#### **Future focus areas**

- Continued implementation of the emissions reduction and air quality offset plans, coupled with increasing ash utilisation
- Reduce water use and ensure compliance with water licence conditions through power station water strategy plans
- Maintain the focus on reducing red data bird mortalities

#### Our impact on the capitals

Although both our emissions and water usage deplete natural capital, the introduction of carbon budgets and the air quality offset programme attempt to limit the impact, as does the declaration of the Ingula Nature Reserve. Emissions in particular negatively affect the communities surrounding our coal-fired power stations, thereby diminishing social and relationship capital.

Costs incurred in managing our environmental (performance deplete our financial capital.

#### **Operating performance**

#### Safety and security



## PROGRESS

 Large-scale public safety awareness campaigns to educate the public about the dangers of unsafe electricity use continue
 Security partnership was established between Eskom and a number of mines in the Gauteng mining corridor to detect and prevent crime

# CHALLENGES

- LTIR deteriorated despite safety improvement initiatives and leadership engagement sessions
- Our OHS performance remains a priority due to the lost-time injuries and fatalities recorded
- Compliance with the Construction Regulations 2014 across the organisation remains a concern
- Public demonstrations and picketing actions at our facilities remain a threat for the foreseeable future

## 🕞 LOWLIGHTS

• The number of fatalities, although less than 2016, remains a concern

We remain committed to the principle of Zero Harm, which 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 requires a work environment which supports the health and safety of everyone, by building strong relationships with our employees, contractors, suppliers and the community.

We pledge to care for and protect all people exposed to our operations, through the belief that any workplace injury or disease is preventable.

#### Looking back on 2016

Over the past year, safety-related initiatives have brought about improvement in many areas, especially regarding workforce safety and contractor safety management. Our database of OHS-compliant suppliers has increased significantly through ongoing supplier safety evaluations. Comprehensive analysis of all contractor safety incidents is conducted on a monthly basis, and shared with safety managers within the respective divisions.

#### Focus on safety

#### In memoriam

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

#### Employees

Makhosonke Martin Mbele Dumisani Israel Mlaba Bongimpilo Terrence Mnguni Melusi Edwin Nkosi

Contractors Adam Grgic Olwethu Mkosane Loyiso Ncwadi Daniel Simango Lohatlin van Niekerk André Williams

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.

# Safety and security

continued

| Measure and unit                                                       | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Fatalities (employees and contractors), number                         | -                 | -                 | -                 | 10                | 17                | 10                |                |
| Fatalities (public), number <sup>1</sup>                               | -                 | -                 | -                 | 20                | 27                | 27                |                |
| Lost-time injury rate, index (including occupational diseases) – group | 0.31              | 0.31              | 0.31              | 0.39              | 0.30              | 0.33              |                |
| Lost-time injury rate, index (excluding occupational diseases) – group | 0.30              | 0.30              | 0.30              | 0.28              | 0.27              | 0.28              | ٠              |

1. The number of public fatalities reported in March 2016 increased from 25 to 27 due to reclassification of incidents after internal audit and reviews.

The number of contractor and public fatalities reduced compared to the prior year. Unfortunately, despite our intense commitment to safety, we suffered four employee fatalities (March 2016: four) and six contractor fatalities (March 2016: 13). The causes of fatalities are shown below:



#### Causes of employee and contractor fatalities

| Vehicle accidents                      | • Contact with heat |
|----------------------------------------|---------------------|
| Electrical contact                     | Drowning            |
| <ul> <li>Falls from heights</li> </ul> |                     |



#### **Causes of employee and contractor fatalities**

| <ul> <li>Vehicle accidents</li> </ul>               | <ul> <li>Falls from heights</li> </ul> |
|-----------------------------------------------------|----------------------------------------|
| <ul> <li>Electrical contact</li> </ul>              | Assault/gunshot                        |
| <ul> <li>Caught between or under objects</li> </ul> | Contact with heat                      |
| <ul> <li>Struck by or against an object</li> </ul>  |                                        |

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A total of 270 lost-time injuries (LTIs) including occupational diseases was reported during the year (March 2016: 202). Excluding occupational diseases, 191 LTIs were reported (March 2016: 188). A concerted effort was made to ensure that all occupational disease incidents are duly reported and investigated. As a result, the index including occupational diseases has increased significantly yearon-year.

#### Safety programmes

We are continuing with various programmes and initiatives aimed at improving our safety performance. These programmes are regularly revised to ensure that safety is prioritised, maintained and, where practical, continually improved.

Safety leadership conversations were implemented across Eskom, focusing on safety performance specific to divisions. We have a comprehensive OHS training and development programme including a supervisory safety leadership course.

As motor vehicle accidents remain one of the main contributors to both LTI incidents and fatalities, a comprehensive vehicle safety programme is in place. A recent initiative is Drivecam, a video monitoring device used in conjunction with existing vehicle monitoring devices to identify at-risk behaviour, in order to improve driver behaviour. We focus on specialist driver training and vehicle safety reviews.

#### **Contractor management**

Due to the vital role that contractors play in our operations, contractor safety management remains a priority. Contractor safety initiatives have been communicated throughout the organisation. Line divisions host contractor safety forums to share expectations and lessons learnt; line divisions are responsible for monitoring compliance.

Through stakeholder engagement, OHS has been formally integrated into our commercial process. All potential suppliers undergo OHS evaluations prior to being registered on the Eskom vendor database. Contractors who commit a serious safety nonconformity are investigated and sanctioned.

We continue to engage with the Department of Labour and South African Council for the Construction and Project Management Professions to ensure that adequate measures are in place for the professional registration of construction health and safety personnel.

#### **Public safety education**

Our public safety programme aims to educate the public on the dangers of electricity and encourage the safe use thereof, while also inspiring employees to be public safety ambassadors. We have assisted the Department of Basic Education with the development of new Life Orientation textbooks for Grades I to 9 that will cover electricity safety.

National Electricity Safety Week is hosted annually to educate communities about the basics of safe electricity usage and the risks of electricity theft, including meter tampering or bypassing, and illegal connections. We continue to conduct large-scale public safety educational awareness campaigns which include school and community visits, radio interviews, agricultural and construction forums, as well as engagements that cover commercial and large power users, counsellors, clinics, hospices, radio interviews and municipalities. These public safety campaigns have yielded positive safety improvement performance between the two years.

#### Nuclear safety

The Koeberg Nuclear Power Station plant design and resultant assessment of risk to the public remain well within licensing limits and better than the recommended international standards. Operational practices at Koeberg are not challenging the design boundaries or assumptions; there is no current unacceptable nuclear risk due to the design or operation of Koeberg. The interaction between relevant oversight organisations and line management is continually monitored by the related governance and nuclear oversight bodies; 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 experiencing economic crime in general, we also find ourselves the target of organised crime syndicates. We also lose a significant amount of revenue due to illegal connections and ghost vending.

Losses due to conductor theft, cabling and related equipment totalled R70 million for the year (March 2016: R85 million), involving 5 734 incidents (March 2016: 5 161 incidents). Actions to combat these losses are managed by the Eskom Network Equipment Crime Committee in collaboration with affected state-owned enterprises and the South African Police Service. The combined effort resulted in 235 arrests (March 2016: 229) and R5 million worth of stolen material was recovered (March 2016: R5 million). Progress was made in the arrest of a number of syndicates targeting network infrastructure components of state-owned enterprises, including Eskom. We are implementing a number of initiatives to combat equipment theft:

- Copper conductor is being replaced with aluminium conductor, with unique markings
- Normal bolts on pylons will be replaced with antitheft bolts, and support lattices on steel pylons are marked with Eskom's name
- Alarms are installed on the overhead lines. If the line is cut or tampered with, an alarm is triggered and a reaction unit is despatched to the location
- Air surveillance of hot spots is conducted at night

We are implementing a security modernisation strategy based on a technology-centric approach to ensure higher operational effectiveness and improved security conditions across Eskom, including our National Key Point sites.

Due to the evolving cyber-threats facing organisations today, we are establishing a cyber-security solutions centre, to implement and maintain protective mechanisms and take action where required. ating perto

#### Future focus areas

- Cascade leadership safety conversations to all levels of the organisation
- Focus on incident prevention and sharing key learnings in safety communications
- Continue to drive OHS compliance amongst suppliers
- Target high-incidence areas and focus on educating children about unsafe electricity usage in public safety programmes
- Reduce incidences of cable theft

#### Our impact on the capitals

The impact of fatalities and LTIs on human capital, for employees and contractors, and social and relationship capital for public incidents, is significantly negative. Safety programmes aimed at reducing incidents attempt to diminish the impact.

Financial capital is also affected by these incidents, due to days lost and the impact on morale and productivity in the wake of an incident. Incidents of theft also diminish financial capital.

Educating people on safer ways of working, and coming up with innovative ways to improve safety performance, positively influences intellectual capital.

## **Operating performance**

# Building sustainable skills





• Exceeded shareholder targets for all categories of learners

# PROGRESS

- Training spend amounts to 4.89% of gross employee benefits costs, just below target
- Continued the Eskom Employee Engagement Programme to rebuild the relationship with employees
- Income differentials exercise, to identify discrepancies based on gender and race, was concluded

# CHALLENGES

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

#### Looking back on 2016

We continue to recruit learners and facilitate training for our employees to address identified competency gaps. The targets for closing competency gaps and leadership behavioural change were achieved during the past year. Nevertheless, this remains a high priority, with targets set for the next five years.

#### **Building strong skills**

Our learner pipeline is one of our critical development areas, not only sustaining our supply of skills, but also supporting the country's socio-economic upliftment. Overall, 12.5% of the total Eskom company staff complement consists of learners, against a target of 8%, a level which is more than sufficient to meet the future demand for core, critical and scarce skills, as well as the organisation's needs due to normal attrition.

Furthermore, we supported 3 048 learners this year (March 2016: 1 370), far exceeding target. In addition, RI.54 billion was spent on training and development (March 2016: RI.25 billion).

We have been at the forefront of learner pipeline management for many years; this has been acknowledged by a number of accolades received including EWSETA and our state-owned counterparts. We pride ourselves on our ability to build a strong learner pipeline to satisfy the requirements of our future needs based on our workforce plan.

This pipeline has proven to be imperative for both internal and external deployment in support of the National Skills Accord. We continue to support the National Development Plan and the National Skills Accord by ensuring that South Africa has a strong skills base to satisfy future requirements.

We continue to upskill and provide qualificationdriven training and development to young South Africans. All trained learners will be equipped with a recognised qualification which will enhance their ability to enter the business environment, whether at Eskom or elsewhere.

| Measure and unit                                                     | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|----------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Engineering learners                                                 | I 602             | 391               | 456               | I 480             | 895               | 3 5               | ٠              |
| Technician learners                                                  | 2 670             | 652               | 760               | I 209             | 415               | 826               | •              |
| Artisan learners                                                     | 5 873             | I 434             | I 673             | 2 155             | I 955             | I 752             | •              |
| Learner intake <sup>sc</sup>                                         | 2 500             | 500               | 685               | 3 048             | I 370             | n/a               | •              |
| Training spend as % of gross employee<br>benefit costs <sup>sc</sup> | 5.00              | 5.00              | 5.00              | 4.89              | 4.45              | 6.18              |                |

1. The 2021/22 target is the cumulative target over the next five years.

2. Learner intake is a new measure with effect from 1 April 2016. It refers to new learner appointments and learners with new contracts.

The Tertiary Education Support Programme (TESP) supported universities and universities of technology to deliver engineering learning interventions. Some examples of these include the real-time digital simulator at Durban University of Technology, the SMART grid centre at the University of KwaZulu-Natal, the High-Voltage Cable Centre at Vaal University of Technology, high-voltage interventions at Wits University and Stellenbosch University, renewable energy at the University of Cape Town and asset management at the University of Pretoria.

#### Training

The Eskom Academy of Learning (EAL) has been training 100 learner recruits in the one-year warehouse skills programme. The objective of the programme is to mitigate the attrition of employees within supply chain operations in Group Commercial in the next five years. A total of 60 positions were reserved to be filled by the successful learners.

A five-year agreement for the Eskom Power Plant Engineering Institute (EPPEI) Programme Phase II was concluded at the 2016 PowerGen Africa Conference. It follows Phase I of the programme, which ended in December 2016.

The SANEA (South African National Energy Association) Awards 2016 took place in Johannesburg in September 2016. The Eskom Academy of Learning EPPEI initiative received a highly commended recognition, in the category for SANEA Energy Education Award.

#### Headcount

The Eskom group headcount at year end was 47 658 (March 2016: 47 978), including permanent staff and fixed-term contractors, and consisting of 41 940 Eskom employees and 5 718 Eskom Rotek Industries employees (March 2016: 42 767 and 5 211 respectively). Of these, approximately 84% are covered by collective bargaining agreements.

The reconciliation of our headcount is shown below. Staff turnover during the past year was approximately 4%.

| Num   | ber of employees              | 2016/17 |
|-------|-------------------------------|---------|
| Heado | ount at 1 April 2016          | 47 978  |
| Add:  | Appointments                  | 1 505   |
| Less: | Resignations                  | (849)   |
|       | Retirements                   | (649)   |
|       | Deaths in service             | (191)   |
|       | Dismissals                    | (132)   |
|       | Separation packages and other | (4)     |
| Heado | ount at 31 March 2017         | 47 658  |

The breakdown of our workforce at 31 March 2017 based on age is shown below.

| Age distribution of workforce | Number | %      |
|-------------------------------|--------|--------|
| 18 to 19                      | -      | -      |
| 20 to 29                      | 6 272  | 13.16  |
| 30 to 39                      | 19 720 | 41.38  |
| 40 to 49                      | 10 148 | 21.29  |
| 50 to 59                      | 8 579  | 18.00  |
| 60 and over                   | 2 939  | 6.17   |
| Total                         | 47 658 | 100.00 |

For information on the racial and gender breakdown of our workforce, refer to "Transformation and social sustainability – Improving internal transformation" on page 72

In terms of our strategic initiative aimed at cost reduction, we are targeting a reduction in the Eskom company workforce to 36 746 by 2021/22. We have reviewed the workforce plan, focusing on retention of core, critical and scarce skills across the business, while reducing non-essential positions.

#### **Remuneration and benefits**

Our approach to remuneration and benefits is designed to attract and retain skilled, highperforming executives and employees. We aim to remain competitive by providing market-related remuneration structures, benefits and conditions of service. Employees are remunerated in accordance with their job grade, at least at the minimum of the applicable salary scale. We guarantee internal equity through reasonable differentials in remuneration and benefits, and resolve unjustifiable race- and genderbased income differentials if they arise.

# Building sustainable skills

#### **Remuneration structure**

Our remuneration structure for bargaining unit and managerial level employees is set out below.

#### 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 negotiated through the 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.

#### Incentive scheme

Our short-term incentive scheme aims to align individual performance with strategic organisational initiatives, by setting targets for KPIs that contribute to these initiatives. Key performance areas focus on financial sustainability, improved operations, safety, compliance and the achievement of new build milestones. All permanent employees participate in the scheme.

The size of the bonus pool is determined by Eskom's overall performance. The bonus pool is further influenced by four factors: qualifiers (for managerial level) or a primary bonus driver (for bargaining unit employees), operational modifiers, gatekeepers as well as a qualitative rating.

The bonus paid to an individual is derived by taking into consideration the available pool amount, the respective group or division's achievement, team performance 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.

#### Income differentials

An independent exercise was conducted to determine whether employees at the same level are equally remunerated, despite gender, race and disability. A number of discrepancies were discovered, for which a provision of R475 million was raised at year end. The required adjustments still have to follow our internal governance process.

#### **Employee relations**

The overall Industrial Relations Index has improved in terms of grievances resolved, disciplinary actions with sanction and disputes referred to external institutions which are ruled in our favour. The Eskom Employee Engagement Programme We established the Eskom Employee Engagement Programme in 2015. It uses various platforms to ensure that we rebuild relationships with our employees, to increase employee engagement levels and create a harmonious workplace. The programme is aimed at enabling and empowering employees to feel a sense of connection to the business and one another, thereby driving a culture of performance.

The programme has received positive feedback and realised many successes. Highlights during the year include the 2016 Eskom Chairman's Awards, where the focus was on harnessing internal talent; the release of the 100<sup>th</sup> Eskom Employee Engagement Bulletin to the business; an unprecedented response rate of 42.6% to the annual Eskom Employee Engagement Survey; the Group Chief Executive's country-wide employee engagement roadshows; the inaugural 2016 Eskom Women's Conference; and the Eskom Heritage Month Good Food and Beverage Show.

The overarching theme of employee engagement is summed up in the Ryunosuke Satoro quote, "Individually, we are one drop; together, we are an ocean", which emphasises the impact of leadership, vision alignment and synergy to drive optimal performance at all levels of the organisation.

#### Future focus areas

 Focus on four areas in support of our objectives, namely workforce optimisation, increasing employee engagement, and reducing both manpower costs and headcount

#### Our impact on the capitals

Human capital is largely improved through training, while employees personally benefit through the remuneration and benefits they receive, although this diminishes financial capital.

FC



Our gender equalisation plan strives to equalise the gender gap by 2020

#### **Operating performance**

# Transformation and social sustainability



#### 

- Our CSI programmes benefited 841 845 beneficiaries (March 2016: 302 736)
- A total of 55 555 learners and teachers benefited from our maths and science programmes
- Eskom Contractor Academy produced 150 graduates
- Achieved 207 189 electrification connections (target: 199 714), partly enabled by the use of live-line techniques

# ROGRESS

 Significant progress was made in improving gender equity at senior management level
 Procurement spend with black-owned and black women-owned suppliers exceeded target

# CHALLENGES

- Underrepresentation of women at professional and middle management level
- Achieving racial equity at senior management, as well as professional and middle management levels, still poses a
- People living with disabilities continue to be underrepresented at supervisory, professional and managerial levels

####
# Transformation and social sustainability continued

We play a critical role in skills development and economic empowerment, as mandated by our shareholder. We aim to transform society through our supplier development and localisation drive, as well as corporate social investment in community education, health and developmental projects. Our most direct contribution to transformation remains through the rollout of Government's electrification programme.

## Looking back on 2016

We continued to drive supplier development and localisation. Although not yet meeting target, the spend with black youth-owned enterprises, those owned by black people with disabilities, qualifying small enterprises and exempted micro enterprises all showed an improvement compared to the prior year.

While gender equity has improved year-on-year, with gender equity in senior management improving significantly, much work remains to be done.

## Maximising our socio-economic contribution

| Measure and unit                                     | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Corporate social investment committed,<br>R million  | 924.6             | 192.0             | 225.3             | 225.3             | 103.6             | 115.5             | ٠              |
| Corporate social investment, number of beneficiaries | 1 750 000         | 350 000           | 400 000           | 841 845           | 302 736           | 323 882           | •              |
| Total electrification connections, number            | 729 914           | 201 200           | 199 714           | 207 189           | 158 016           | 159 853           | ٠              |

1. The 2021/22 target is the cumulative target 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 247 farm worker connections were also completed during the year, resulting in a total of 207 436 connections being achieved.

#### **Corporate social investment**

During the year, our CSI activities impacted 841 845 beneficiaries with a committed spend of R225.3 million (March 2016: 302 736 beneficiaries and committed spend of R103.6 million). The number of beneficiaries increased due to a number of interventions with a national footprint.

# Eskom competition winner achieves international recognition

Tshibvumo Sikhwivhilu, CEO and co-owner of Lamo Solar, was nominated by the Wits Business School for the International Entrepreneurial Venture Award held by the Association of MBAs in London, after he completed his Master of Business Administration (MBA) degree at the institution. He researched the role of distributed generation of renewable energy as a tool to fast-track energy access in rural parts of South Africa, and the capabilities required to lead such innovation.

In late 2016, his company won first prize in the engineering and construction category of Eskom's Business Investment Competition. This achievement helped open more doors for this budding and highly ambitious entrepreneur.

Tshibvumo and his partner, Elmond Khoza, established Lamo Solar in 2012. Based in Randburg, the company provides renewable energy solutions, specialising in solar PV installations. The duo, who are passionate about the energy sector, started their company to help address the energy challenge facing South Africa and the sub-Saharan African region. They have seen their venture grow to make life easier for many South Africans by bringing them electricity.



Winning the Business Investment Competition opened many doors for Tshibvumo Sikhwivhilu, CEO of Lamo Solar

The Foundation approved funding of over half a million Rand for intercommunication systems for four schools in the George area of the Western Cape. The main benefits of such a system are the security it offers, and the improvement of communication to learners and educators. The beneficiaries are Imizamo Yethu Secondary School, Tembalethu Secondary School, George High School and Parkdene Secondary School.

In March 2017, we participated in the 2030 NDP Career Expo hosted by DPE. Minister Lynne Brown commented that CSI programmes help shape the competitive business environment in which we operate.

# Contractor Academy helps upskill Cape Town entrepreneur

Glynn Mashonga, the owner of GlobesScope Security Solutions, successfully completed the Eskom Contractor Academy accredited course. She heard about the academy when her company competed and became a finalist in the Business Investment Competition in 2015.

GlobesScope Security Solutions was established in 2012 and is based in Cape Town. Glynn started the company after working for a security company and deciding to venture out on her own. The company installs sophisticated electronic security systems in tertiary institutions, corporates and homes in the Western Cape. Products include alarms, access control, CCTV systems, electric fences, gate automation, etc. As a qualified technician, Glynn does most of the product installations herself.

The Contractor Academy is the Foundation's programme to equip small business owners and entrepreneurs with the necessary skills required to build sustainable businesses, as part of our support of Government's initiatives of job creation, skills development and poverty alleviation. It is offered to contractors and suppliers wishing to improve their skills in project and financial management, entrepreneurship, legislation and technical acumen to sustain and grow their businesses. Between 2010 and 2015, contracts totalling R2.3 billion were awarded to contractors who graduated from the Academy.

The programme was awarded two international Global Best Awards by the International Partnership Network in Oslo, Norway, in September 2016, namely the Africa Gold Winner: Entrepreneurship and Enterprise Skills, as well as the Overall Global Thematic Winner: Entrepreneurship and Enterprise Skills. The programme also won the local Trialogue Strategic CSI Award in December 2016.

For more information on our CSI initiatives, please refer to the Foundation's report for the 2016/17 year, which is available online

## Electrification

The DoE funded electrification programme 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, on difficult terrain and therefore more expensive.

The implementation of the Distribution Performance Centre has enabled the excellent connection performance this year, with eight of the provinces exceeding their annual electrification target, with only the Eastern Cape not meeting target. Furthermore, the average cost per connection has decreased to R14 271 (March 2016: R18 236). The results are a clear indication that we have changed gear to deliver on the aim of universal access to electricity.

## Electrification of grid schools and clinics

After the schools contract with the Department of Basic Education (DBE) was signed in October 2016, we resumed electrification of schools. However, some schools were found to be vandalised and some either closed or in the process of being closed. These have been reported to DBE through regular engagements.

# Our contribution to supplier development

Our procurement and supply chain management is led by the Chief Procurement Officer. The policy framework and strategic sourcing is guided centrally, whilst execution is managed at various sites. Project Sourcing provides specialised support to 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 to transform the supplier base, whilst industrialising key supply sectors.

During the year, we placed a total of 5 388 contracts with 2 937 suppliers (March 2016: 2 892 contracts with 1 656 suppliers). Our total procurement spend (including primary energy) amounted to R178.1 billion for the year (March 2016: R169.8 billion).

### Procurement equity performance

Our group and company procurement equity performance is set out in the non-technical statistical tables at the back of the report

We created 39 277 jobs at 31 March 2017 through the capacity expansion programme at the Medupi, Kusile and Ingula new build sites and Power Delivery Projects (March 2016: 23 169). The expected demobilisation at these sites has not yet materialised due to delays at these projects.

The annual targets for procurement spend with B-BBEE compliant suppliers, black-owned and black women-owned companies were met. The performance can be attributed to the implementation of the new B-BBEE measurement spend directive,

## Transformation and social sustainability continued

which excludes spend with renewable IPPs as it does not qualify as discretionary spend. The collection and maintenance of valid B-BBEE certificates further reduced the procurement spend with noncompliant suppliers.

The attributable spend with black youth-owned enterprises, those owned by black people with disabilities, qualifying small enterprises and exempted micro enterprises performed below target, although performance has improved compared to the previous year. Due to the implementation of the new B-BBEE Codes of Good Practice, certain elements can no longer be considered when calculating total measured procurement spend.

#### Technology transfer

We have acquired intellectual property (IP) worth R31 million (March 2016: R54 million) and undertook

## Employment equity performance for the group

| Measure and unit                                                            | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|-----------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Racial equity in senior management, % of<br>black employees                 | 83.06             | 71.39             | 72.00             | 65.80             | 61.06             | 61.70             |                |
| Racial equity in professionals and middle management, % of black employees  | 85.34             | 78.22             | 78.00             | 73.50             | 71.68             | 71.77             | •              |
| Gender equity in senior management, % of female employees                   | 42.35             | 35.64             | 36.00             | 36.58             | 28.13             | 29.82             | •              |
| Gender equity in professionals and middle management, % of female employees | 43.66             | 39.59             | 40.00             | 35.98             | 35.11             | 35.29             | •              |
| Eskom group disability, %                                                   | 2.50              | 2.50              | 2.50              | 2.93              | 2.73              | 2.89              | ٠              |

levels.

We have made significant progress in improving gender equity in senior management during the current year. Measures are in place to support women in their new roles as part of the broader retention strategy. Racial equity in senior management has also shown good progress over the past year. However, the underrepresentation of women at professional and middle management level remains a concern. The slow progress is a result of limited recruitment opportunities due to our cost-reduction initiatives.

Our total workforce comprises 68% male and 32% female employees at all occupational levels, unchanged from the prior year.

We have developed an ambitious and rigorous gender equalisation plan, which strives to equalise the gender gap by 2020 through the Eskom Women Advancement Programme (EWAP). It is envisaged that opportunities which arise due to attrition will be targeted and reserved for women.

To support the drive towards transformation, employment equity and gender awareness training is being rolled out across the business to sensitise employees on the requirements of the Employment Equity Act, 1998.

The overall picture regarding people with disabilities remains a concern, as they are represented mainly at lower occupational levels. To ensure that the business is disability-friendly, managers will be encouraged to recruit and promote more employees with disabilities, including exposing all managers and employees to disability awareness training. Ensuring that facilities are accessible and allowing for reasonable accommodation in the workplace remains a challenge due to our national footprint.

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. An on-the-job training

approach for overall boiler design is being executed

to ensure that skills development is effectively executed over time. A total of 54 people benefited

from skills development initiatives, while 69 jobs were created (March 2016: 29 and 54 respectively).

Employment equity remains one of the key processes

through which meaningful transformation can be

realised. Our Employment Equity Plan aims to transform our workforce profile at all occupational

Improving internal transformation

#### **Future focus areas**

- Implement CSI initiatives in large Eskom infrastructure development sites to improve the sustainability of projects
- · Prioritise electrification, with one million households to be connected over five years, with universal access targeted by 2019/20
- Advance transformation of the supplier landscape through the Eskom spend, increasing the capability and capacity of black suppliers
- · Strive to equalise the gender gap by 2020 by reserving vacancies arising through attrition for women

### Our impact on the capitals

Human capital is enhanced by our efforts to improve racial and gender equity in our workforce. Similarly, social and relationship capital is enhanced through our procurement equity efforts, CSI initiatives and electrification of households.

However, all of these deplete financial capital.

# **Financial review**

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# **Chief Financial Officer's report**



# Our strategy – financial sustainability and funding

We launched the DTC strategy last year as an extension of our turnaround plan, to extract further efficiencies from the business, through a reduction in primary energy costs, restricting other operating costs to inflationary increases, and rephasing and optimising capex. In its first year of implementation, DTC has already delivered significant success as we achieved the stability required to navigate changing industry dynamics.

As discussed earlier, our strategy focuses on five critical targets over the medium term, namely:

- Achieving average annual growth of 2.1% in local demand and 8% in export sales
- Reducing primary energy spend by R43 billion
- Optimising planned capex spend by R25 billion
   Delivering a R6 billion EBITDA improvement
- through advanced analytics
  Releasing R105 billion in Government guarantees,
- Releasing RIUS billion in Government guarantees, while maintaining a moderate electricity price path over the medium to long term

Regulatory certainty remains a key driver of our financial sustainability. Whilst we remain committed to providing an affordable and sustainable electricity price path to support the economy, we also require longer term revenue certainty. The High Court decision in the Borbet case has resulted in NERSA granting us an average increase of only 2.2% for 2017/18, expected to result in a cash flow deficit of approximately R21 billion over the coming year. On 4 May 2017, we appealed the High Court decision. The SCA judgment on 6 June 2017 upheld the appeal in favour of NERSA and Eskom. The RCAs for 2014/15 and 2015/16 of R19.2 billion and R23.6 billion respectively were on hold pending the outcome of the appeal. We await feedback from NERSA on the way forward.

NERSA has allowed us to make a one-year application for 2018/19; this will require an affordable tariff to sustainably provide for both the RE-IPP Programme and our own costs. During the 2013/14 RCA process, we were criticised for our inability to forecast sales volumes and for getting operational and cost performance fundamentally wrong. We will ensure that key assumptions for the next revenue application cycle are more realistic.

#### Financial results for the year

The business has achieved above-target financial performance over the past year, despite a challenging operating environment and a price increase of 9.4% being awarded for 2016/17, against a budget of 13%. The performance reflects a concerted effort by the business to improve efficiencies, resulting in cost reduction and increasing cross-border sales supported by improved plant performance.

For the year ended 31 March 2017, the group achieved a net profit after tax of R0.9 billion (March 2016: R5.2 billion, restated). Group EBITDA (earnings before interest, tax, depreciation, amortisation and fair value adjustments on financial instruments and embedded derivatives) of R37.5 billion shows a substantial increase (March 2016: R32.8 billion, restated). The electricity EBITDA margin has further improved to 21.44% (March 2016: 20.29%, restated). This is largely due to the 9.4% average electricity price increase, growth in export sales volumes, and containing primary energy costs.

Group revenue amounted to R177.1 billion (March 2016: R164.2 billion, restated). Although overall sales volumes have decreased by 0.2% against the prior year, export sales volumes have increased by 12.1%. Primary energy costs of R82.8 billion are slightly lower than the prior year (March 2016: R84.7 billion). The increase in total coal costs (including environmental levy) was contained to 5.4%, while spending on OCGTs reduced drastically, leading to an 8.5% reduction in own generation costs. IPP expenditure has increased even further due to higher volumes being produced, although the average cost per unit has also increased by about 10%.

The increase in operating expenditure to R58.4 billion (March 2016: R49.1 billion) is driven largely by an increase in employee benefit costs and other operating expenses. Depreciation has increased to R20.3 billion (March 2016: R16.6 billion, restated) due to new plant being commissioned. BPP savings of R20.2 billion (March 2016: R17.5 billion) were achieved against a target of R17 billion; inception-todate savings amount to R48.7 billion against a target of R43 billion. Group capital expenditure (excluding DoE funded capex) amounted to R60 billion for the year (March 2016: R57.4 billion).

The group's liquidity position remains healthy, with liquid assets – comprising cash and cash equivalents plus investment in securities – of R32.5 billion at year end (March 2016: R38.7 billion), due to higher capex spend, offset by increased cash generated from operations.

Given the improvement in operational performance, most key financial metrics show an improvement against the prior year. However, of concern is the fact that although EBITDA has improved substantially, net profit after tax has declined due to increased depreciation and net finance cost. Our funding requirement for the year under review was reduced from an original amount of R68.8 billion due to savings in the business. We therefore only borrowed R57.4 billion for the year. For the 2017/18 financial year, funding sources of R71.7 billion have been identified, of which R38.3 billion (including committed bank facilities), or 53%, had already been secured at 31 March 2017.

Our credit ratings were downgraded further during the financial year, and again since year end, largely driven by uncertainty around Government's ability to provide timely support should Eskom require it. National Treasury has extended the current Government guarantee framework agreement to 31 March 2023.

## Outlook

Key to enhancing Eskom's financial health is improving the EBITDA margin to at least 35% over the medium to long term, through a combination of driving local and export sales, delivering on cost efficiencies by limiting price escalations in key inputs such as coal costs, and ultimately migrating to a cost-reflective electricity price.

However, the successful execution of our strategy will be at risk should any of the interventions not materialise as planned.

Given the pressure on NERSA not to increase the electricity tariff significantly, coupled with our sizeable debt service commitments, our only options are to focus on internal cost efficiencies and sales growth programmes to offset our significant fixed-cost base. Even with aggressive cost cutting, a substantial price increase of approximately 20% is required, whether once-off or phased in over time.

However, low economic growth, customer concerns about affordability, as well as uncertainties in the electricity industry will see NERSA encountering resistance to significant price increases in 2018/19 and beyond. As a result, the price of electricity will still not reflect its cost; this will have an even greater negative impact on our financial health. Although no further credit enhancement mechanisms are expected from Government, further shareholder support may have to be considered should our revenue not improve significantly, as the only other option is additional borrowings, which would further weaken our key financial ratios.

We currently have surplus generating capacity available, which may necessitate decisions about the decommissioning of power stations, which would negatively impact our cash flow. Our short-run marginal cost – which is relevant in times of surplus capacity – is far below the price we pay for IPP production, negatively affecting our financial position. It makes sense to decelerate the RE-IPP Programme until such time as the surplus capacity has been reduced. Liquidity management is critical to ensure our status as a going concern. We will continue to engage key customers, specifically municipalities, to recover arrear debt. Operational cash flow is expected to show strong growth over the next five years.

The impact of the latest downgrades of Eskom's credit rating, directly or as a result of the recent downgrade of the Sovereign to sub-investment grade, could also have a negative impact on the sourcing of funding, as access to investment-grade mandates utilising Government guarantees may drastically reduce. However, we have maintained a very conservative debt portfolio that has not yet been severely impacted by previous ratings downgrades. Although current market conditions remain supportive, the cost of funding is also likely to be adversely impacted by the downgrades.

We have to repay interest of R213 billion over the next five years, with debt repayments of R200 billion, with a peak of R63 billion in 2020/21. Cash interest cover and debt service cover ratios will both come under pressure as debt servicing increases over the medium term. Nevertheless, cash flow from operations is expected to be sufficient to cover debt and interest payments.

Although debt funding of R338 billion is required over the next five years to finance expansion, strengthening of networks, environmental requirements and servicing debt, we remain confident that our funding target will be achieved.

The group has access to adequate resources and facilities to continue as a going concern for the foreseeable future.

Our financial position has improved over the past few years and is expected to improve further, given successful implementation of our strategy. The main focus over the medium term will be to increase sales volumes and reduce costs, in order to improve profitability. The biggest challenge will be to moderate the electricity price increase while strengthening our financial position. The ultimate goal is to achieve a standalone investment-grade credit rating, which will allow us to release R105 billion in Government guarantees.

Anoj Singh Chief Financial Officer

## Value added statement

for the year ended 31 March 2017

|                                                                  | 2017<br>Rm | 2016<br>Rm |
|------------------------------------------------------------------|------------|------------|
| Revenue                                                          | 177 136    | 164 239    |
| Other income                                                     | I 608      | 2 433      |
| Less: Primary energy and other operating expenses                | (109 529)  | (104 917   |
| Value added                                                      | 69 215     | 61 755     |
| Finance income                                                   | 5 212      | 3 447      |
| Wealth created                                                   | 74 427     | 65 202     |
| Value distributed                                                | 75 947     | 63 956     |
| Benefits to employees                                            | 36 833     | 32 523     |
| Social spending to communities                                   | 201        | 99         |
| Finance costs to lenders                                         | 37 822     | 30 792     |
| Taxation to Government                                           | I 091      | 542        |
| Value reinvested in the group to maintain and develop operations | (1 520)    | I 246      |
| Depreciation and amortisation                                    | 20 300     | 16 633     |
| Borrowing costs capitalised                                      | (18 233)   | (19 426    |
| Employee costs capitalised                                       | (3 655)    | (3 266     |
| Deferred tax                                                     | (820)      | 2 154      |
| Net profit                                                       | 888        | 5  5       |
| Wealth created                                                   | 74 427     | 65 202     |
| Value created, R million                                         |            |            |
| Revenue per employee                                             | 3.72       | 3.42       |
| Value added per employee                                         | 1.45       | 1.29       |
| Wealth created per employee                                      | 1.56       | 1.36       |
| Value added per GWh generated                                    | 0.31       | 0.28       |
| Number of employees and fixed-term contractors                   | 47 658     | 47 978     |
| GWh generated                                                    | 220 166    | 219 979    |



## **R** million

| <ul> <li>Revenue per employee</li> </ul>     | <ul> <li>Wealth created per employ</li> </ul> |
|----------------------------------------------|-----------------------------------------------|
| <ul> <li>Value added per employee</li> </ul> | Value added per GWh gene                      |

# Condensed annual financial statements

for the year ended 31 March 2017

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 2017, 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 Chief Financial Officer, Mr Anoj Singh CA(SA), and were duly approved by the Board of Directors on 15 June 2017.

The consolidated annual financial statements have been audited by the group's independent auditors, SizweNtsalubaGobodo Inc. in accordance with the Public Audit Act of South Africa, 2008, the *General Notice* issued in terms thereof and International Standards on Auditing; they issued a qualified opinion relating to compliance with PFMA and completeness of irregular expenditure. The consolidated annual financial statements are fairly presented, except for the qualification.

The consolidated annual financial statements, which detail the financial performance of the group and company, 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.

## **Condensed income statements**

for the year ended 31 March 2017

|                                                                                      | Group      |                        | Company    |                        |
|--------------------------------------------------------------------------------------|------------|------------------------|------------|------------------------|
|                                                                                      | 2017<br>Rm | Restated<br>2016<br>Rm | 2017<br>Rm | Restated<br>2016<br>Rm |
| Continuing operations                                                                |            | ·                      |            |                        |
| Revenue                                                                              | 177 136    | 164 239                | 177 136    | 164 239                |
| Other income                                                                         | 1 573      | 2 390                  | 2 094      | 2 471                  |
| Primary energy                                                                       | (82 760)   | (84 728)               | (82 760)   | (84 728)               |
| Employee benefit expense                                                             | (33 178)   | (29 257)               | (27 902)   | (24 721)               |
| Net impairment loss                                                                  | (1 669)    | (1 170)                | (1 629)    | (1 159)                |
| Other expenses                                                                       | (23 570)   | (18 663)               | (30 950)   | (25 170)               |
| Profit before depreciation and amortisation expense and net fair value loss (EBITDA) | 37 532     | 32 811                 | 35 989     | 30 932                 |
| Depreciation and amortisation expense                                                | (20 300)   | (16 633)               | (20 277)   | (16 619)               |
| Net fair value loss on financial instruments, excluding embedded derivatives         | (3 342)    | (1 452)                | (3 203)    | (1 492)                |
| Net fair value gain on embedded derivatives                                          | 1 611      | 997                    | 6          | 996                    |
| Profit before net finance cost                                                       | 15 501     | 15 723                 | 14 120     | 13 817                 |
| Net finance cost                                                                     | (14 377)   | (7 919)                | (15 389)   | (8 776)                |
| Finance income                                                                       | 5 212      | 3 447                  | 4 290      | 2 667                  |
| Finance cost                                                                         | (19 589)   | (11 366)               | (19 679)   | (11 443)               |
| Share of profit of equity-accounted investees after tax                              | 35         | 43                     | -          | -                      |
| Profit/(loss) before tax                                                             | 1 159      | 7 847                  | (1 269)    | 5 041                  |
| Income tax                                                                           | (271)      | (2 696)                | 399        | (1 905)                |
| Profit/(loss) for the year <sup>1</sup>                                              | 888        | 5  5                   | (870)      | 3 136                  |

1. A nominal amount is attributable to the non-controlling interest in the group. The remainder is attributable to the owner of the company.

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 comprehensive income**

for the year ended 31 March 2017

|                                                                   | Group      |                        | Company    |                        |
|-------------------------------------------------------------------|------------|------------------------|------------|------------------------|
|                                                                   | 2017<br>Rm | Restated<br>2016<br>Rm | 2017<br>Rm | Restated<br>2016<br>Rm |
| Profit/(loss) for the year <sup>1</sup>                           | 888        | 5 151                  | (870)      | 3 136                  |
| Other comprehensive (loss)/income                                 | (7 298)    | 6 508                  | (7 269)    | 6 481                  |
| Items that may be reclassified subsequently to profit or loss     | (7 464)    | 5 903                  | (7 426)    | 5 884                  |
| Available-for-sale financial assets – net change in fair value    | 60         | (57)                   | 50         | (54)                   |
| Cash flow hedges – effective portion of changes in fair value     | (9 225)    | 8 829                  | (9 225)    | 8 829                  |
| Net amount transferred to initial carrying amount of hedged items | (1 140)    | (603)                  | (1 140)    | (603)                  |
| Foreign currency translation differences on foreign operations    | (45)       | 21                     | -          | -                      |
| Income tax thereon                                                | 2 886      | (2 287)                | 2 889      | (2 288)                |
| Items that may not be reclassified subsequently to profit or loss | 166        | 605                    | 157        | 597                    |
| Remeasurement of post-employment medical benefits                 | 231        | 840                    | 218        | 830                    |
| Income tax thereon                                                | (65)       | (235)                  | (61)       | (233)                  |
| Total comprehensive (loss)/income for the year                    | (6 410)    | 11 659                 | (8 139)    | 9 617                  |

I. A nominal amount is attributable to the non-controlling interest in the group. The remainder is attributable to the owner of the company.

## Condensed statements of changes in equity

for the year ended 31 March 2017

|                                                       | Gro        | up                     | Company    |                        |
|-------------------------------------------------------|------------|------------------------|------------|------------------------|
|                                                       | 2017<br>Rm | Restated<br>2016<br>Rm | 2017<br>Rm | Restated<br>2016<br>Rm |
| Restated balance at the beginning of the year         | 182 352    | 118 419                | 174 103    | 112 212                |
| Previously reported                                   | 180 563    | 117 164                | 172 314    | 110 957                |
| Prior year restatements, net of tax                   | I 789      | I 255                  | I 789      | I 255                  |
| Profit for the year                                   | 888        | 5  5                   | (870)      | 3 136                  |
| Other comprehensive (loss)/income, net of tax         | (7 298)    | 6 508                  | (7 269)    | 6 481                  |
| Share capital issued                                  | -          | 23 000                 | -          | 23 000                 |
| Converison of subordinated shareholder loan to equity | -          | 29 274                 | -          | 29 274                 |
| Balance at the end of the year                        | 175 942    | 182 352                | 165 964    | 174 103                |
| Comprising:                                           |            |                        |            |                        |
| Share capital                                         | 83 000     | 83 000                 | 83 000     | 83 000                 |
| Cash flow hedge reserve                               | 4 160      | 11 622                 | 4 160      | 11 622                 |
| Available-for-sale reserve                            | 6          | (37)                   | 2          | (34)                   |
| Unrealised fair value reserve                         | (11 873)   | (16 712)               | (11 873)   | (16 712)               |
| Foreign currency translation reserve                  | (6)        | 39                     | -          | -                      |
| Accumulated profit                                    | 100 655    | 104 440                | 90 675     | 96 227                 |
| Total equity                                          | 175 942    | 182 352                | 165 964    | 174 103                |

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 2017

|                                                            | Gro        | oup                    | Company    |                      |
|------------------------------------------------------------|------------|------------------------|------------|----------------------|
|                                                            | 2017<br>Rm | Restated<br>2016<br>Rm | 2017<br>Rm | Restate<br>201<br>Rn |
| Assets                                                     |            |                        |            |                      |
| Non-current assets                                         | 622 331    | 567 960                | 622 683    | 568 87               |
| Property, plant and equipment and intangible assets        | 592 848    | 523 659                | 593 296    | 524 71               |
| Future fuel supplies                                       | 8 190      | 10 502                 | 8 190      | 10 50                |
| Investment in equity-accounted investees and subsidiaries  | 364        | 360                    | 479        | 47                   |
| Derivatives held for risk management                       | 16 868     | 27 600                 | 16 868     | 27 60                |
| Investment in securities                                   | 1 537      | 2 485                  | 1 537      | 2 48                 |
| Other assets                                               | 2 524      | 3 354                  | 2 313      | 3 09                 |
| Current assets                                             | 78 879     | 86 268                 | 78 797     | 87 64                |
| Inventories                                                | 22 359     | 17 821                 | 22 156     | 17 64                |
| Loans receivable                                           | 14         | 10                     | 6 187      | 6 35                 |
| Derivatives held for risk management                       | 1 000      | 2 582                  | 1 000      | 2 58                 |
| Trade and other receivables                                | 19 379     | 21 810                 | 20 609     | 24 45                |
| Investment in securities                                   | 10 541     | 7 741                  | 5 167      | 2.06                 |
| Financial trading assets                                   | 2 9 1 9    | 3 844                  | 1 730      | 2 65                 |
| Other assets                                               | 2 242      | 4 006                  | 1 984      | 3 75                 |
| Cash and cash equivalents                                  | 20 425     | 28 454                 | 19 964     | 28 13                |
| Non-current assets held-for-sale                           | 8 799      | 8 942                  | 70         | 4                    |
| Total assets                                               | 710 009    | 663 170                | 701 550    | 656 66               |
| Liabilities<br>Non-current liabilities                     | 453 777    | 405 039                | 453 275    | 404 26               |
| Debt securities and borrowings                             | 336 770    | 306 970                | 336 690    | 306 90               |
| Embedded derivatives                                       | 4 032      | 5 410                  | 4 032      | 5 4                  |
| Derivatives held for risk management                       | 6 767      | 2 862                  | 6 767      | 2.86                 |
| Deferred tax                                               | 18 067     | 21 696                 | 18 090     | 213                  |
| Employee benefit obligations                               | 13 790     | 12 405                 | 13 458     | 12 09                |
| Provisions                                                 | 44 021     | 32 841                 | 43 908     | 32 82                |
| Finance lease payables                                     | 9 8 1 9    | 3 838                  | 9 8 1 9    | 3 83                 |
| Deferred income                                            | 17 700     | 15 516                 | 17 700     | 15 5                 |
| Other liabilities                                          | 2 811      | 3 501                  | 2 811      | 3 50                 |
| Current liabilities                                        | 78 607     | 73 971                 | 82 311     | 78 29                |
| Debt securities and borrowings                             | 18 530     | 15 688                 | 22 017     | 19 05                |
| Embedded derivatives                                       | I 382      | 1 615                  | I 382      | 16                   |
| Derivatives held for risk management                       | 3 826      | 2 011                  | 3 838      | 2 02                 |
| Employee benefit obligations                               | 7 348      | 5 190                  | 6 848      | 4 99                 |
| Provisions                                                 | 9 057      | 11 415                 | 8 573      | 11 19                |
| Trade and other payables                                   | 31 782     | 32 319                 | 33 059     | 33 73                |
| Financial trading liabilities                              | I 620      | 1 250                  | I 620      | 1 25                 |
| Other liabilities                                          | 5 062      | 4 483                  | 4 974      | 4 4                  |
|                                                            | I 683      | 1 808                  | -          |                      |
| Non-current liabilities held-for-sale                      |            | 100.010                | 535 586    | 482 56               |
| Non-current liabilities held-for-sale<br>Total liabilities | 534 067    | 480 818                | 222 280    | 402 30               |

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

# Condensed annual financial statements

# Key accounting policies, significant judgements and estimates

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

for the year ended 31 March 2017

|                                                                                              | Gro        | oup                    | Company    |                        |
|----------------------------------------------------------------------------------------------|------------|------------------------|------------|------------------------|
|                                                                                              | 2017<br>Rm | Restated<br>2016<br>Rm | 2017<br>Rm | Restated<br>2016<br>Rm |
| Cash flows from operating activities                                                         |            |                        |            |                        |
| Profit/(loss) before tax                                                                     | 1 159      | 7 847                  | (1 269)    | 5 041                  |
| Adjustment for non-cash items                                                                | 47 932     | 29 162                 | 47 985     | 29 980                 |
| Changes in working capital                                                                   | (1 730)    | (2 201)                | (276)      | (2 305                 |
| Cash generated from operations                                                               | 47 361     | 34 808                 | 46 440     | 32 716                 |
| Net cash flows (used in)/from derivatives held for risk management                           | (1 787)    | 643                    | (1 700)    | 622                    |
| Interest received                                                                            | 1 342      | 2 322                  | 1 342      | 2 322                  |
| Interest paid                                                                                | (22)       | (11)                   | (22)       | (11                    |
| Income taxes paid                                                                            | (1 053)    | (520)                  | -          | -                      |
| Net cash from operating activities                                                           | 45 841     | 37 242                 | 46 060     | 35 649                 |
| Cash flows from investing activities                                                         |            |                        |            |                        |
| Proceeds from disposal of property, plant and equipment                                      | 398        | 360                    | 388        | 302                    |
| Acquisitions of property, plant and equipment and intangibles                                | (57 259)   | (54 175)               | (56 572)   | (54 164                |
| Expenditure on future fuel supplies                                                          | (639)      | (1 754)                | (639)      | (1 754                 |
| ncrease in payments made in advance                                                          | (99)       | (274)                  | (99)       | (274                   |
| Expenditure incurred on provisions                                                           | (6 890)    | (3 054)                | (6 890)    | (3 054                 |
| Net cash flows from derivatives held for risk management                                     | 389        | 771                    | 389        | 77                     |
| Decrease/(increase) in investment in securities and financial<br>crading assets              | 496        | (1 886)                | -          | -                      |
| nterest received                                                                             | 1 221      | I 202                  | 546        | 559                    |
| Other cash flows from investing activities                                                   | 97         | 220                    | 235        | 336                    |
| Net cash used in investing activities                                                        | (62 286)   | (58 590)               | (62 642)   | (57 278                |
| Cash flows from financing activities                                                         |            |                        |            |                        |
| Debt securities and borrowings raised                                                        | 50 994     | 41 052                 | 51 073     | 41 840                 |
| Payments made in advance to secure debt raised                                               | (1 096)    | (555)                  | (1 096)    | (555                   |
| Debt securities and borrowings repaid                                                        | (7 034)    | (11 123)               | (7 072)    | (11 013                |
| Share capital issued                                                                         | -          | 23 000                 | -          | 23 000                 |
| Net cash flows (used in)/from derivatives held for risk management                           | (7 738)    | 11 847                 | (7 738)    | 11 847                 |
| Net cash flows used in investment in securities and financial trading assets and liabilities | (660)      | (1 621)                | (660)      | (1 62)                 |
| nterest received                                                                             | 2 365      | I 275                  | 2 328      | 1 250                  |
| nterest paid                                                                                 | (28 788)   | (22 791)               | (28 888)   | (22 944                |
| Other cash flows from financing activities                                                   | (188)      | (157)                  | (188)      | (99                    |
| Net cash from financing activities                                                           | 7 855      | 40 927                 | 7 759      | 41 705                 |
| Net (decrease)/increase in cash and cash equivalents                                         | (8 590)    | 19 579                 | (8 823)    | 20 076                 |
| Cash and cash equivalents at the beginning of the year                                       | 28 454     | 8 863                  | 28 136     | 7 986                  |
| Foreign currency translation                                                                 | (45)       | 21                     | -          | -                      |
| Effect of movements in exchange rates on cash held                                           | 647        | 75                     | 651        | 74                     |
| Cash and cash equivalents transferred to non-current assets neld-for-sale                    | (41)       | (84)                   | -          | -                      |
| Cash and cash equivalents at the end of the year                                             | 20 425     | 28 454                 | 19 964     | 28 136                 |

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

#### 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 2017, 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 way we account for distribution assets developed by third parties.

We did not correctly account for certain distribution assets that were developed by third parties and transferred to Eskom in prior years. This error was corrected in the 2017 annual financial statements as a prior period restatement. We accounted for the assets transferred to Eskom in terms of the requirements of IFRIC 18: Transfers of assets from customers. The distribution assets were recognised as property, plant and equipment at fair value in terms of IAS 16: Property, plant and equipment, while revenue was recognised in terms of IAS 18: Revenue, as other income.

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 or part thereof 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 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, held-for-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-for-trading 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 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 differentials, 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 in-service 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

- Further improved EBITDA to R37.5 billion
  Achieved BPP savings of R20.2 billion
- Secured our funding requirement for the year despite a challenging environment

#### ~ PROGRESS

- Expenditure on OCGTs reduced drastically due to improved system capacity, leading to an 8.5% decline in own generation costs
- Appeal against the Borbet case judgment was upheld in favour of NERSA and Eskom

#### $\bigcirc$ CHALLENGES

- Sales volumes in key customer segments
- IPP expenditure makes up 24% of primary energy costs, although IPPs contribute only 5% of electricity generated
- Credit ratings downgrades could negatively
  impact sources and cost of funding
- Strengthening Eskom's balance sheet given the growing debt service cost, coupled with an electricity price which is not costwith an ele

#### LOWLIGHTS

- Arrear municipal debt escalated significantly over the past year
  As a result of the judgment in the Borbet case, NERSA granted a price increase of only 2.2% for 2017/18

#### Looking back on 2016

Our financial performance improved further over the past year, with most key financial metrics showing improvement. We also exceeded our cost savings target under the BPP Programme.

Despite a challenging funding environment, impacted by credit ratings downgrades, we managed to maintain our liquidity buffer and successfully executed our borrowing programme. We continue to engage with ratings agencies to address their concerns around our highly leveraged financial profile, regulatory uncertainty, an inadequate electricity price path, cost containment efforts and our funding plan.

#### **Financial results of operations**

The group achieved a net profit after tax of R0.9 billion for the year (March 2016: R5.2 billion, restated), and EBITDA of R37.5 billion (March 2016: R32.8 billion, restated). The electricity EBITDA margin has improved to 21.44% (March 2016: 20.29%, restated), due to the 9.4% average electricity price increase, growth in export sales volumes, and containing primary energy costs.

Refer to the consolidated annual financial statements available online,

which detail the financial performance of the group and company



## Return on assets (ROA), %

- Normalised ROA historical valuation method
- Normalised ROA replacement valuation method
- Nominal WACC (pre-tax) Real WACC (pre-tax)

continued

| Measure and unit                                                            | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met? |
|-----------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| Company                                                                     |                   |                   |                   |                   |                   |                   |                |
| Electricity revenue per kWh, c/kWh                                          | 128.00            | 84.76             | 85.94             | 83.60             | 76.24             | 67.91             |                |
| Electricity operating costs, R/MWh                                          | 838.77            | 710.75            | 725.71            | 677.91            | 635.01            | 603.33            | •              |
| Operating cost per employee, R million per full-time employee <sup>sc</sup> | 5.40              | 3.70              | 3.64              | 3.49              | 3.21              | 3.16              | ٠              |
| BPP savings, R million <sup>sc</sup>                                        | n/a               | 18 929            | 16 992            | 20 206            | 17 450            | 8 696             | •              |
| Group                                                                       |                   |                   |                   |                   |                   |                   |                |
| EBITDA, R million                                                           | 107 167           | 30 942            | 30 359            | 37 532            | 32 811            | 24 186            | •              |
| Electricity EBITDA margin, %                                                | 35.84             | 17.22             | 16.92             | 21.44             | 20.29             | 16.54             | •              |
| Working capital, ratio                                                      | 0.93              | 0.95              | 0.65              | 0.85              | 0.83              | 0.81              | •              |
| Free funds from operations (FFO),<br>R million²                             | 116 671           | 38 493            | 37 979            | 47 571            | 39 443            | 36 179            | ٠              |
| FFO after interest paid, R million                                          | 69 794            | 8 292             | 10 487            | 21 151            | 17 928            | 20 564            | •              |

1. Prior year figures have been restated for the impact of the prior year error.

2. Free funds from operations are calculated before accounting for interest paid for shareholder compact ratios.



### Analysis of profitability

| <ul> <li>Free funds from operations, R billion</li> </ul> | Electricity EBITDA margin, S |
|-----------------------------------------------------------|------------------------------|
| <ul> <li>EBITDA, R billion</li> </ul>                     | Net profit after tax margin, |

#### Sales and revenue Electricity revenue increased by 8.3%

Revenue for the group was R177.1 billion (March 2016: R164.2 billion, restated). Electricity revenue of R175.1 billion (March 2016: R161.7 billion) increased by R13.4 billion year-on-year, which translates to an overall increase of 8.3% against the prior year, lower than the 9.4% standard tariff increase granted, due to lower volumes than anticipated in the MYPD 3 application. However, when considering the revenue per kWh sold of 83.60c/kWh, the year-on-year increase is 9.7%, with export sales at a higher rate than anticipated.

The application of the IAS 18 principle of not recognising revenue if it is not deemed collectible at the date of sale resulted in external revenue and debtors of R3.2 billion not being recognised during the year, and R5.3 billion cumulatively (March 2016: R1.5 billion and R2.1 billion respectively).

Electricity sales of 214 121GWh for the year (March 2016: 214 487GWh) were 0.2% lower than last year. Industrial customers recorded a decline of 3.7%, which was offset by an increase of 12.1% in export sales. This was driven by higher demand due to the drought in the SADC region, and was enabled by the surplus capacity available.

We have initiated a strategy to address the decline in sales volumes, focusing on both retention of sales to existing customers, as well as the stimulation of sales growth, while aligning to an electricity price path that supports economic growth. It addresses cross-border sales, local demand stimulation, corporate development and unregulated revenues.



## **Operating expenses, R billion**

| • | Primary energy costs     | • | Depreciation and amortisation |
|---|--------------------------|---|-------------------------------|
| • | Employee benefit expense | • | Other operating expenses      |

## Primary energy

Primary energy cost (including coal, water and liquid fuels) decreased marginally to R82.8 billion (March 2016: R84.7 billion). Our own generation costs (including the environmental levy) declined by 8.5% to R60.1 billion (March 2016: R65.7 billion), largely due to significantly lower OCGT usage.

Total coal costs (including environmental levy) showed a 5.4% increase to R58.5 billion (March 2016: R55.5 billion), with production from coal-fired stations remaining relatively stable. We have applied the leastcost merit order dispatch of stations, with increased burn at cheaper stations such as Lethabo and Duvha.

Due to the improved availability of the coal fleet, evidenced by the improvement of EAF, coupled with more energy being supplied by IPPs, usage of OCGTs was kept to a minimum, with only 29GWh being generated during the year at a cost of R340 million (March 2016: R8.7 billion spent producing 3 936GWh). The current year cost includes diesel storage and demurrage charges of R280 million, required due to the low utilisation of the OCGT units.

Expenditure on IPPs amounted to R19.8 billion for the year, adding an additional II 529GWh to the energy mix (March 2016: R15.1 billion and 9 033GWh). An amount of R2 billion has been deducted from IPP expenditure, relating to the IFRIC 4 charge on the Avon and Dedisa gas peakers, which are treated as arrangements containing a lease (March 2016: R340 million). The average cost (before the IFRIC 4 adjustment) increased to 188c/kWh (March 2016: I71c/kWh), as more energy proportionately was procured from RE-IPPs at a higher average cost than other IPPs. The capacity charge paid for the gas peakers also increases the average cost.

A comparison of the primary energy unit cost of the various generation categories is shown below:

| Unit cost, R/MWh        | 2016/17 | 2015/16 |
|-------------------------|---------|---------|
| Coal                    | 293     | 279     |
| Nuclear                 | 85      | 112     |
| OCGTs                   | 2 072   | 2 243   |
| IPPs                    | 1 714   | I 672   |
| International purchases | 361     | 377     |



Our Treasury Department has its own dealing room

ncial review

continued

### Levelised cost of electricity (LCOE)

Different types of power plants have different characteristics – like the costs relating to initial construction. fuel, operating and maintenance, environmental matters, financing and decommissioning, as well as expected useful life and annual electricity production – making cost comparison between technologies difficult.

Levelised cost is an internationally acceptable methodology which expresses the total cost of building and operating a generating plant over its estimated useful life, as a cost per kWh of production. It is calculated as the total life-cycle cost based on assumed utilisation (discounted to present value) divided by total assumed lifecycle production, and represents a break-even price per unit of production that an electricity supplier would require in order to justify an investment in a particular energy project.

LCOE equates to the total real cost per unit of production, making it possible to compare different technologies. In theory, the long-run marginal cost (LRMC) of a specific technology is represented by the LCOE of an incremental unit of generating capacity that is needed to meet the next unit of incremental electricity demand, whereas short-run marginal cost (SRMC) applies when surplus capacity is available, and only variable costs are required to increase production.

The estimated life-cycle production takes into account the type of plant, capacity, availability, technical characteristics (e.g. dispatchability and flexibility), variable cost (which largely determines its position in the system merit order), system load profile, etc. All of these combine to result in an expected load factor and thus an expected annual production volume. Life-cycle costs and revenues are discounted at a specific rate. depending on cost of capital and the risk profile of the specific technology.

In order to ensure like-for-like comparison, international benchmarks are adjusted to a common base. The benchmarks are compared to the Eskom LCOE below.

| USD/MWh (2017 values)                    | Pulverised coal without FGD | Pulverised coal with FGD |
|------------------------------------------|-----------------------------|--------------------------|
| Lazard                                   | 65 – 150                    | 65 – 150                 |
| Electric Power Research Institute (EPRI) | 71 – 78                     | 86 – 95                  |
| International Energy Agency              | 76 – 107                    | 76 – 107                 |
| Medupi (excluding FGD)                   | 53 – 55                     | n/a                      |
| Kusile (including FGD)                   | n/a                         | 76 – 77                  |

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



# (1%) 8 | 2 | 15 106 (4%) 2015/16 47 985 (84%) 3 660 (4%) 8 6 9 0 (2%) 918 Primary energy cost breakdown, R million

## Primary energy cost breakdown, R million (% of energy mix)

| Coal                                    | IPPs                      |
|-----------------------------------------|---------------------------|
| Nuclear fuel                            | Environmental levy        |
| OGCTs                                   | <ul> <li>Other</li> </ul> |
| <ul> <li>Electricity imports</li> </ul> |                           |

| Coal                                    | IPPs                                   |
|-----------------------------------------|----------------------------------------|
| <ul> <li>Nuclear fuel</li> </ul>        | <ul> <li>Environmental levy</li> </ul> |
| OGCTs                                   | Other                                  |
| <ul> <li>Electricity imports</li> </ul> |                                        |

(% of energy mix)

### Other operating costs

The number of employees in the group (including fixed-term contractors) decreased to 47 658 (March 2016: 47 978). Net employee benefit costs for the year amounted to R33.2 billion (March 2016: R29.3 billion), due to higher overtime and wage increases. Furthermore, we raised a provision of R0.5 billion to levelise income differentials.

Net impairments recognised amounted to R1.7 billion (March 2016: R1.2 billion), largely due to the uncertainty of collecting amounts due from debtors, as well as impairment of the Maiuba underground coal gasification plant. The cumulative impairment provision raised at year end for arrear customer debt (excluding interest) was R8.7 billion for all electricity debtors (March 2016: R7.8 billion).

Maintenance expenditure remains a large contributor to operating expenditure. The group's net repairs and maintenance for the year (after capitalisation, but before group eliminations) amounted to R14.1 billion (March 2016: R13.2 billion). Planned maintenance exceeded target, while unplanned maintenance has decreased due to fewer breakdowns. More shortterm maintenance was also performed.

Other operating expenses, including maintenance, amounted to R23.6 billion (March 2016: R18.7 billion). The increase is largely due to a change in the discount rate applied to the decommissioning provisions.

Depreciation and amortisation increased to R20.3 billion (March 2016: R16.6 billion, restated). due to more capital projects being transferred to commercial operation, such as the four units at Ingula.

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

BPP was introduced to close the revenue gap created by the MYPD 3 revenue determination. Although DTC was launched as a continuation of BPP to identify additional cost savings, compliance with the BPP targets is one of the conditions of the Government support package, and will remain in effect until 31 March 2018.

For the year under review, savings of R20.2 billion were achieved (March 2016: R17.5 billion), exceeding the target of RI7 billion, primarily as a result of lower coal prices and efficiencies in maintenance.

Inception-to-date savings amount to R48.7 billion against a target of R43 billion.

## 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 R3.3 billion (March 2016: R1.5 billion), and arose from exchange rate movements and fair value adjustments. as well as premium and volume variances on forward exchange contracts due to the ongoing hedging of interest and capital repayments on foreign borrowings.

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.6 billion (March 2016: RI billion), as a result of exchange rate movements, changes in aluminium prices and the unwinding of volumes and interest.

## Net finance cost

Gross finance income for the year was R5.2 billion for the group (March 2016: R3.4 billion). Gross finance cost for the group was R37.8 billion (March 2016: R30.8 billion). Borrowing costs capitalised to property, plant and equipment amounted to R18.2 billion (March 2016: R19.4 billion), and the unwinding of interest included in gross finance cost amounted to R5.6 billion (March 2016: R4 billion). Net finance cost for the group amounted to RI4.4 billion (March 2016: R7.9 billion).

#### Taxation

The effective tax rate for the year was 23% (March 2016: 34%, restated), due to an increase in non-taxable income

## **Applications submitted to NERSA**

Refer to the information block on page 10 under "Our impact on the capitals" for a discussion of the reasons behind the price increase of only 2.2% for the 2017/18 financial year

We submitted the 2014/15 and 2015/16 RCA applications of R19.2 billion and R23.6 billion respectively during May and July 2016. As both RCA submissions exceeded the 10% threshold of allowed revenue in their respective years. NERSA is required to consult on both RCAs before making a decision.

NERSA and Eskom were granted permission to appeal the High Court decision, which was heard by the Supreme Court of Appeal (SCA) on 4 May 2017. The SCA judgment upheld the appeal in favour of NERSA and Eskom. We await feedback from NERSA on the way forward with the RCAs for 2014/15 and 2015/16. In all likelihood, any RCAs granted would only benefit us from the 2019/20 financial year, due to the consultation process required.

Given the current uncertainty, NERSA supported our request to submit a one-year application for 2018/19. This was submitted for consultation to National Treasury and SALGA on 19 April 2017. The formal application for a 19.9% increase was submitted to NERSA on 9 June 2017, with the announcement of the final approved tariff for 2018/19 envisaged by December 2017.

continued

#### Electricity regulation in South Africa and its impact on financial sustainability

NERSA determines our revenues through the MYPD regulatory methodology and broad stakeholder consultation. The MYPD 3 methodology contains a risk-management mechanism – the RCA – that allows for an annual revenue adjustment based on actual revenue received and costs incurred by Eskom, as well as other assumptions. The mechanism includes thresholds – if the RCA balance is greater than 10% of the allowed revenue, public consultation is required. NERSA is responsible for considering the needs of the consumer, while also ensuring Eskom's financial sustainability.

Due to the entrance of IPPs in recent years, investors are putting more pressure on utilities to uphold the consistency, stability and application of regulatory frameworks to create stability, credibility and confidence in the overall regulatory regime. Credit rating agencies also place great importance on the regulatory framework within which we operate.

For example, 50% of Moody's credit rating assessment is weighted towards an assessment of the regulatory framework and environment. Part of the credit risk assessment considers the South African regulatory system, the soundness and predictability of the framework and whether we can reasonably expect to recover our prudent and efficient costs and earn a reasonable risk-adjusted return on capital through NERSA-approved revenues.

The downgrade by Standard & Poor's (S&P) in December 2016 reflected the "assessment of a weak regulatory framework [which] has been subject to negative intervention aimed at protecting consumers, which has hurt Eskom's credit quality", and their view that "the company's credit metrics will remain weak over the medium term [as] a result of continued delays in implementing tariffs that reflect costs". Furthermore, S&P noted that we are facing increased financial pressures as a result of the court case against NERSA, which overturned the 2013/14 RCA award.

They are concerned that our capital structure and free cash flow will remain at unsustainable levels, even if our liquidity position and operating performance improve over the short term. Our dependence on Government guarantees was also cited as a reason for the downgrade in light of our standalone credit profile, which reflects a greater-than-50% probability of default on our debt.

## Liquidity

Eskom deems it prudent to maintain a liquidity buffer covering an average of three months' organisational cash flow requirements, which we have exceeded, at around 135 days at year end.

Cash and cash equivalents decreased to R20.4 billion at year end (March 2016: R28.5 billion), largely due to increased capex spending coupled with increased interest payments. Liquid assets, which include investment in securities, decreased to R32.5 billion (March 2016: R38.7 billion).

The group's net cash inflow from operating activities for the year was R45.8 billion (March 2016: R37.2 billion). The working capital ratio remained stable at 0.85 (March 2016: 0.83, restated), and the cash interest cover ratio at 1.82 (March 2016: 1.83).

Cash flows used in investing activities were R62.3 billion for the year (March 2016: R58.6 billion) for the group. 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 R57.9 billion (March 2016: R55.9 billion), mainly due to expenditure on the new build programme and Generation outages.

# For detail of capital expenditure incurred, refer to the table on page 54

Net cash inflows from financing activities for the year were R7.9 billion (March 2016: R40.9 billion) for the group. The prior year amount included the equity injection of R23 billion. Debt securities and borrowings raised, excluding commercial paper, amounted to R51 billion (March 2016: R41.1 billion), while interest paid amounted to R28.8 billion (March 2016: R22.8 billion). We repaid debt of R7 billion, excluding commercial paper (March 2016: R11.1 billion).

## Credit ratings and solvency

Solvency ratios

| Measure and unit                                    | Target<br>2021/22 | Target<br>2017/18 | Target<br>2016/17 | Actual<br>2016/17 | Actual<br>2015/16 | Actual<br>2014/15 | Target<br>met |
|-----------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------|
| Group                                               |                   |                   |                   |                   |                   |                   |               |
| Free funds from operations as % of<br>gross debt, % | 19.35             | 8.08              | 8.48              | 11.69             | 10.98             | 11.00             | ٠             |
| Free funds from operations as % of total capex, %   | 205.58            | 61.87             | 55.86             | 75.11             | 66.23             | 65.66             | •             |
| Cash interest cover, ratio                          | 2.57              | 1.16              | 1.47              | 1.82              | 1.83              | 1.88              | •             |
| Debt service cover, ratio                           | 1.12              | 0.64              | 0.90              | 1.37              | 1.14              | 0.91              | •             |
| Gross debt/EBITDA, ratio                            | 5.63              | 15.39             | 14.75             | 10.84             | 10.95             | 13.60             | •             |
| Debt/equity (including long-term provisions), ratio | 2.91              | 2.48              | 2.30              | 2.11              | 1.65              | 2.50              | ٠             |
| Gearing, %                                          | 74                | 71                | 70                | 68                | 62                | 71                | •             |

1. Prior year figures have been restated for the impact of the prior year error.

2. Cash interest cover is calculated as net cash from operating activities divided by net interest paid. It provides a view of our ability to satisfy the interest burden on our borrowings by utilising cash generated from operating activities.

Most of the key ratios have performed better than

target and prior year due to our improved financial

performance and strong cash flows from operations,

with the exception of the debt/equity ratio, which

deteriorated due to additional funding obtained.

However, credit ratings remain below the level

During the year, S&P downgraded our foreign currency credit rating from BB+ to BB, with a negative outlook following potential risks to

Government support. Their rating action on South

Africa in December 2016 also led to a downgrade of

our long-term local currency credit rating from BB

to BB- with a negative outlook. S&P believed that the

downgrade of the Sovereign signalled a weakening of

Government's ability to provide support to Eskom

Fitch revised its outlook on Eskom from stable to

negative and affirmed its long-term local-currency

issuer default rating at BBB-. Moody's confirmed

Eskom's Bal senior unsecured and Bal senior

unsecured medium-term notes' ratings, reflecting

our ongoing access to funding supported by

Government's guarantee framework agreement, and

the stabilisation of our operational performance.

required to achieve investment-grade status.



## Solvency ratios

FFO as % of gross debt
 Gross debt/EBITDA
 Debt service cover

Summary of Eskom's credit ratings at 31 March 2017

| Rating         Standard & Poor's           Foreign currency         BB-           Local currency         BB-           Standalone         ccc+ |          | Moody's         | Fitch: local currency<br>n/a<br>BBB-<br>B- |  |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|--------------------------------------------|--|
|                                                                                                                                                |          | Bal             |                                            |  |
|                                                                                                                                                |          | Bal             |                                            |  |
|                                                                                                                                                |          | b3              |                                            |  |
| Outlook                                                                                                                                        | Negative | Negative        | Negative                                   |  |
| Last rating action Downgrade                                                                                                                   |          | Affirmed        | Affirmed                                   |  |
| Last action date 8 December 2016 5 December 2016                                                                                               |          | 8 December 2016 |                                            |  |

if needed.

continued

Since year end, S&P and Fitch downgraded our long-term foreign and local currency ratings to B+ and BB+ respectively, following the Sovereign downgrades, and citing political and institutional uncertainty. Moody's also downgraded our credit ratings with a negative outlook, following similar action on the Sovereign. The underlying reasons provided for the ratings actions on Eskom is that the support from Government may not be timeously provided, given the Sovereign's weakened credit position, underpinned by our strategic importance as the country's dominant electricity supplier.

After the recent changes in credit ratings the summary is as follows:

| Rating             | Standard & Poor's | Moody's      | Fitch: local currency |
|--------------------|-------------------|--------------|-----------------------|
| Foreign currency   | B+                | Ba2          | n/a                   |
| Local currency     | B+                | Ba2          | BB+                   |
| Standalone         | ccc+              | b3           | В-                    |
| Outlook Negative   |                   | Negative     | Stable                |
| Last rating action | Downgrade         | Downgrade    | Downgrade             |
| Last action date   | 6 April 2017      | 13 June 2017 | II April 2017         |

Government support remains critical to stabilise credit ratings. The recent downgrades may limit sources of funding, or lead to requests for guarantees on previously unsecured debt. The cost of funding is also likely to increase.

### **Funding activities**

Eskom faces rising funding challenges in the context of an adverse regulatory framework and evolving political environment. These challenges arise at a time when there are early signs that institutional investors could display increased risk aversion in funding state-owned entities. Whilst there has been no evidence so far of Eskom being impacted, investor sentiment is key given our need to access debt markets to fund our negative free cash flows and refinance debt maturities.

We continue to maintain a conservative debt portfolio that was not severely impacted by previous ratings downgrades. Apart from marginal pricing adjustments on two facilities and potential provision of Government guarantees, we have not experienced any prepayment requirements. Funding costs have gradually increased and include a blend of fixed and floating rates. Given that fixed finance costs provide better hedging of interest rate exposures, 76% of finance costs are currently fixed.

Progress at 31 March 2017 on the execution of the 2016/17 and 2017/18 borrowing programmes

|                                       |        | 2016/17                           | 2017/18                           |        |                      |
|---------------------------------------|--------|-----------------------------------|-----------------------------------|--------|----------------------|
| Potential sources, R billion          | Source | Committed<br>to date <sup>1</sup> | Drawdowns<br>to date <sup>2</sup> | Source | Committed<br>to date |
| New domestic bond private placement   | 10.2   | 10.2                              | 10.2                              | -      | -                    |
| Domestic bonds                        | 1.4    | 1.7                               | 1.7                               | 8.0    | -                    |
| International bonds and loans         | -      | -                                 | -                                 | 7.0    |                      |
| Commercial paper and short-term notes | 6.0    | 7.0                               | 7.0                               | 7.5    |                      |
| Existing and new DFIs                 | 30.3   | 30.0                              | 30.0                              | 39.5   | 27.4                 |
| Existing and new ECAs                 | 8.4    | 5.2                               | 5.2                               | 7.2    | 2.1                  |
| Swap restructuring                    | 1.8    | 3.3                               | 3.2                               | 2.5    | 2.5                  |
| Total                                 | 58.1   | 57.4                              | 57.3                              | 71.7   | 32.0                 |

1. Funding raised or signed facilities with milestone drawdowns.

2. Period | April 2016 to 31 March 2017.

We reduced our funding requirement for the year under review from an original target of R68.8 billion to R58.1 billion due to savings realised by the business. Of this, we secured R57.4 billion, of which R57.3 billion had been drawn down at year end.

For the coming financial year, we have already secured funding of R32 billion against a target of R71.7 billion. We also had access to committed bank facilities of R6.25 billion at year end. We remain confident of securing the balance during the coming year. In order to transact in international markets, we are required to remain within a prescribed foreign borrowing limit set by National Treasury, which amounted to R282 billion for the year under review. We maintained foreign borrowings well under that limit.

The Government guarantee framework agreement has been extended from 31 March 2017 to 31 March 2023. At year end, we have utilised R254 billion in Government guarantees, with a further R84 billion awaiting approval or having been earmarked for funding under negotiation. The Board has approved a borrowing programme of R338 billion for the period I April 2017 to 31 March 2022, which relates to the funding of Eskom Holdings SOC Ltd and excludes our subsidiaries. Our future borrowing programme prioritises unguaranteed funding, in order to enable us to release R105 billion in Government guarantees.

| Annual funding requirement | R billion |
|----------------------------|-----------|
| 2017/18                    | 71.7      |
| 2018/19                    | 69.8      |
| 2019/20                    | 69.3      |
| 2020/21                    | 64.2      |
| 2021/22                    | 62.7      |
| Total                      | 337.7     |

We are confident that we will successfully execute our funding plan over the next five years, supported by the available Government guarantees. A substantial amount of funding is available to us through various sources, thus enabling us to adequately mitigate liquidity risk.

Our debt repayment profile is relatively pressured over both the short and long term, as maturities extend from 2017 to 2043, with interest payments of approximately R213 billion and debt repayments of R200 billion over the next five years alone. Debt repayment peaks in 2020/21 with the redemption of the outstanding USD1.75 billion international issuance. Our funding strategy will prioritise longer term funding to support short-term debt maturities and alleviate repayment risk.

The anticipated outflows of capital and interest payments on our debt book are shown below.



Anticipated capital and interest cashflows (including swaps) of the strategic and trading portfolio at 31 March 2017, R billion

Capital
 Interest

## **Future focus areas**

- The drive to contain operating costs will be accelerated, with the emphasis on primary energy costs, employee benefit costs, maintenance and third-party spend. This will be done without negatively affecting operating performance
- Digital and advanced analytics opportunities will be explored to drive cost savings
- Bad debt will be reduced by working with indebted municipalities to improve collection
- Capital optimisation and scrubbing will drive a reduction in the debt requirement
- Raise funding to match the organisation's annual capex spend

## Our impact on the capitals

Our financial capital is both positively and negatively affected by operations. Revenue and income increase financial capital, while it is decreased by expenditure, whether opex or capex. Furthermore, debt funding increases financial capital, but debt service charges, both capital and interest, decrease financial capital.

The impact on the other capitals has been discussed under each of the preceding sections.





#### **Governance and ethics**

Ethical leadership forms the foundation of effective corporate governance. Integrating sustainability concerns with decision-making in an effective manner is of utmost importance to Eskom.

#### **Governance framework**

As a state-owned company, our purpose is to deliver on the strategic intent as set out by our shareholder. We adhere to the statutory responsibilities set out in the Companies Act, 2008 and the Public Finance Management Act, 1999.

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 group's strategic direction set out in our Corporate Plan, and monitors Exco's progress in executing the strategy.

One of the essential components of our governance framework is the clarity of roles between the shareholder, the Board and the management of Eskom, as set out in the Strategic Intent Statement and our shareholder compact with DPE. Our Memorandum of Incorporation regulates the company and our relationship with our shareholder.

The following diagram depicts the elements which contribute towards our governance framework.



The materiality framework sets out the requirements for those matters which require approval in terms of the PFMA and, together with our Delegation of Authority Framework, guides the referral of matters from executive-level committees to Board and also to DPE and National Treasury, where applicable.

#### Legislation and regulations

We are subject to numerous laws and regulations which govern 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. 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, the 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 as a fact sheet on page 130. Comprehensive disclosure in the integrated report is restricted by the nature, volume and complexity of PAIA requests, together with the percentage of refusals

#### King IV application

We welcome the King IV<sup>™</sup> Report of Corporate Governance for South Africa, 2016 (King IV) with its enhanced principles for good corporate governance. Prior to its launch in November 2016, we focused on the application of King III. While this will enable us to transition smoothly to King IV, the process of reviewing our application of the current principles and practices is ongoing and will be refined in the year ahead. During this transitional period, we have completed a concluding report on King III and an initial report on King IV.

The full reports on Eskom's application of King III and King IV are available on request

We utilise the web-based Governance Assessment Instrument of the Institute of Directors of Southern Africa to assess our governance profile.

## 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 anti-corruption behaviour, as well as to the World Economic Forum's Partnership Against Corruption initiative, we strive to embed these ethical principles in our everyday activities.

## **Our governance** continued

### Values

Our values underpin our vision, and guide how we do



## **Code of Ethics**

- () Our approach to achieving an ethical culture is set out in our Code of Ethics, titled "The Way", which provides guidance on the behaviour expected of each and every director and employee. Policies governing the declaration of interests and managing any conflicts of interest assist directors and employees to avoid situations where they have, or may be perceived to have, a direct or indirect interest that conflicts with the company's interests.
- All conflicts of interest declared by directors and members of Exco are raised in meetings and minuted for the record. Employees are required to perform an annual declaration of interest, or as soon as circumstances change.

The Board, through the People and Governance Committee, ensures that the Ethics Management Programme is effectively implemented. We maintain a zero tolerance approach to fraud, corruption and other forms of economic crime or dishonest activity.

To encourage whistle-blowing we have a fraud and corruption hotline on 0800 112 722. The number of reported incidents has reduced significantly over the last five years, showing that preventative actions such as fraud awareness training are starting to deliver results. We also maintain an Ethics Helpline to assist employees with queries around ethical conduct.

## Governance reviews

The Board has embarked on a comprehensive review of the various reports and matters pertaining to perceived governance issues, including the State of Capture report by the Public Protector, the PwC report, the Dentons report as well as issues raised by National Treasury and the Auditor-General's office. Concerns broadly relate to procurement, contract management and governance. In the interest of good governance, management has and will continue to implement remedial measures to improve the control environment, under the oversight of ARC.

Management recently initiated a project to assess the status of implementation of identified weaknesses and to establish, where necessary, additional measures to improve the relevant controls in a sustainable manner.

More information on the governance matters is available in the annual financial statements. Refer to the directors' report and note 52 on information required in terms of the PEMA

## **Board of Directors and committees**

Governance of the group and the responsibility for driving good corporate citizenship is vested in a unitary board, supported by several Board committees and the Group Company Secretary. The Board provides strategic direction, while the Group Chief Executive, assisted by Exco and its subcommittees, is accountable for implementing our strategy.

**Board constitution and appointments** In accordance with our Memorandum of Incorporation, the Board must consist of a minimum of three and a maximum of 15 directors, the majority of which must be non-executive directors. At the date of approval, there are four non-executive directors, including the interim Chairman, and one executive director.

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.

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.

Refer to pages 20 and 21 for the profiles and committee memberships of the Board, including qualifications and active directorships

#### **Changes in Board composition**

There were no new appointments to the Board in 2016/17.

Mr Brian Molefe resigned as an executive director effective 31 December 2016.

The following non-executive Board members resigned during the year:

- Mr Romeo Khumalo, effective 12 April 2016
- Ms Marriam Cassim, effective 14 April 2016
- Ms Nazia Carrim, effective 30 lune 2016
- Ms Viroshini Naidoo, effective 30 June 2016
- Mr Mark Pamensky, effective 25 November 2016

Subsequent to year end, Ms Venete Klein resigned as a director on 12 May 2017. Dr Baldwin Ngubane resigned on 12 June 2017, after which Mr Zethembe Khoza was appointed as interim Chairman.

## **Group Company Secretary**

The Group Company Secretary is an officer with a central role in the governance and administration of the organisation's affairs and is key to the efficiency and effectiveness of the Board, providing advice and support to directors.

Ms Suzanne Daniels was appointed by the Board on 1 October 2015. With over 20 years' experience in the legal industry, she is suitably gualified to serve the Board and its committees in this role.

### Director induction and training

A director onboarding plan is in place, comprising a formal induction and site visits for all directors.

To ensure that all directors remain informed about pertinent matters, continuous training and updates are provided on a regular basis. Time is set aside at each scheduled Board meeting to address the training needs of the Board or individual directors, and to brief directors on any new legislation or regulations.

#### **Board** evaluation

A formal Board evaluation was conducted by an A external service provider in May 2016. Feedback on

the outcome of that assessment was submitted to the shareholder. An independent Board evaluation. which covers the 2016/17 financial year, is under way.

#### **Board committees**

The effectiveness of the Board is enhanced by subcommittees to which it delegates authority without diluting its own accountability. The Board Recovery and Build Programme Committee was dissolved on 30 June 2016. The Board appoints members to the various committees, with due consideration of the necessary skills and experience required.

Appointments to the Audit and Risk Committee are made by the shareholder in terms of our Memorandum of Incorporation.

The Audit and Risk Committee and Social. Ethics and Sustainability Committee are statutory committees as prescribed by the Companies Act, 2008.

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 Policy, 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.

| Audit and Risk Committee            | 5 meetings held during the year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Purpose                             | Oversight of financial reporting and disclosure, risk management and internal control systems, as well as internal and external audit functions                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
| Members (at year end)               | Ms C Mabude (interim chairman), Ms VJ Klein, Mr G Leonardi, Dr P Naidoo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Key activities                      | <ul> <li>Recommended the Board approve the 2016 year end and interim group financial statements<br/>and integrated reports</li> <li>Oversight of close-out of the Dentons report recommendations</li> <li>Accepted the KPMG controls and governance framework review report and approved the<br/>implementation plan</li> <li>Monitored financial performance and liquidity; IT governance, risk, security and compliance;<br/>ethics; nuclear assurance; enterprise risk and resilience; litigation and new legislation;<br/>compliance management</li> </ul> |  |  |
| Investment and Finance<br>Committee | 9 meetings held during the year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
| Purpose                             | Investment and financial decision-making                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Members (at year end)               | Ms C Mabude (chairman), Mr ZW Khoza, Ms VJ Klein, Dr P Naidoo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |
| Key activities                      | <ul> <li>Monitored progress on municipality and Soweto payments, and approved the write-off of bad debt</li> <li>Approved mandates to secure funding, and various capital and refurbishment projects</li> <li>Concluded firm power sales agreements with a number of SADC countries</li> <li>Approved the dissolution of Eskom Development Foundation NPC, with the activities being absorbed into Eskom with effect from 1 April 2017</li> </ul>                                                                                                              |  |  |

## **Our governance**

continued

| )       | People and Governance<br>Committee             | 7 meetings held during the year                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Purpose                                        | Nomination and remuneration of directors and senior executives; human resources strategies<br>and policies; custodian of corporate governance                                                                                                                                                                                                                                                                                                                                  |
|         | Members (at year end)                          | Ms VJ Klein (chairman), Mr ZW Khoza, Mr G Leonardi, Ms C Mabude, Dr BS Ngubane                                                                                                                                                                                                                                                                                                                                                                                                 |
|         | Key activities                                 | <ul> <li>Approved Eskom's response to the Public Protector's reports</li> <li>Approved the pay-out of the 2015/16 executive short-term incentive bonus</li> <li>Noted the performance management objectives</li> <li>Reviewed the report on income differentials</li> <li>Noted and reviewed reports on industrial relations, employment equity, ethics, and employee engagement survey feedback</li> </ul>                                                                    |
| )       | Social, Ethics and<br>Sustainability Committee | 4 meetings held during the year                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Purpose |                                                | Oversight of Eskom's social and economic development role, good corporate citizenship, as well<br>as environment, health and public safety programmes                                                                                                                                                                                                                                                                                                                          |
|         | Members (at year end)                          | Dr P Naidoo (chairman), Mr ZW Khoza, Ms VJ Klein, Mr G Leonardi, Ms C Mabude                                                                                                                                                                                                                                                                                                                                                                                                   |
|         | Key activities                                 | <ul> <li>Reviewed Eskom's socio-economic development strategy</li> <li>Approved the revised water management policy, and the air quality improvement plan</li> <li>Noted and reviewed a number of reports, including occupational health and safety; nuclear oversight; nuclear new build; industrial and employee relations; skills development; stakeholder engagement; environmental management; climate change; operational sustainability; and electrification</li> </ul> |
|         | Board Tender Committee                         | 13 meetings held during the year                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|         | Purpose                                        | Ensure that the procurement system is equitable, transparent, competitive and cost effective to support commercial decision-making. The committee evaluates tenders over R750 million                                                                                                                                                                                                                                                                                          |
|         | Members (at year end)                          | Mr ZW Khoza (chairman), Ms C Mabude, Dr P Naidoo                                                                                                                                                                                                                                                                                                                                                                                                                               |
|         | Key activities                                 | <ul> <li>Tenders approved include short-term coal supply agreements; power purchase agreements<br/>with IPPs and municipal generators; various capital and refurbishment projects; and supply of<br/>petrol, diesel and fuel oil to the coal-fired power stations</li> <li>Approved the procurement strategy for spent fuel storage at Koeberg</li> </ul>                                                                                                                      |

## Meeting attendance

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 17 scheduled and breakaway meetings during the year.

Attendance of Board and subcommittee meetings is available in the fact sheet on page 120

#### **Executive Management Committee**

Exco, which is established by the Group Chief Executive, assists him in executing the strategy set by the Board and exercising executive control in managing day-to-day operations.

The shareholder appoints the Group Chief Executive (GCE). The shareholder may request the Board to identify, nominate and evaluate potential candidates. However, the shareholder's appointment of the GCE binds the company to the exclusion of the Board of Directors.

The Chief Financial Officer is appointed by the Board, subject to approval by the shareholder. Group executives are recommended by the Group Chief Executive and appointed by the People and Governance Committee; they are full-time employees of Eskom, subject to our conditions of service. Changes in Exco in 2016/17

and directorships, if any

Ms Elsie Pule was appointed Group Executive: Human Resources, and Mr Sean Maritz was appointed Group Executive: Information Technology, both with effect from I June 2016.

Refer to pages 22 and 23 for the profiles and areas of responsibility

of Exco members, including their appointment dates, qualifications

Attendance of Exco meetings is shown in the fact sheet on page 121

Exco held nine meetings during the year.

Mr Brian Molefe went on early retirement as Group Chief Executive effective 31 December 2016, after which Mr Matshela Koko, previously Group Executive: Generation, was appointed as Interim Group Chief Executive with effect from I December 2016. This was followed by the appointment of Mr Willy Majola as acting Group Executive: Generation with effect from I January 2017.

Mr Abram Masango, previously Group Executive: Group Capital, was appointed as Group Executive in the Office of the Chief Executive. Mr Prish Govender was appointed as acting Group Executive: Group Capital in his stead, both with effect from 22 March 2017. On 2 May 2017, the Board rescinded their decision approving Mr Molefe's early retirement and he returned as Group Chief Executive on 15 May 2017. However, on 2 June 2017, the Board rescinded the subsequent decision and Mr Molefe was asked to step down as Group Chief Executive. Mr Molefe approach the Labour Court on the basis that overturning his reappointment was unlawful; the case has been postponed. On 6 June 2017, the High Court ruled that Mr Molefe may not return to work until such time as the Labour Court has ruled.

## **Operating structure**

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



## Exco subcommittees

The following subcommittees assist Exco in the execution of their duties:

| Subcommittee                                  | Purpose/key activities                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capital Committee                             | <ul> <li>Investment decisions to support Eskom's strategy</li> <li>Decisions about the commercial process</li> <li>Consider impact of decisions on the funding plan, equity, key financial and investment ratios</li> </ul>                                                                                |
| Exco Procurement Committee                    | Ensure that the procurement system is equitable, transparent, competitive and cost effective                                                                                                                                                                                                               |
| Finance Committee                             | <ul> <li>Decisions on financial strategy and budgets</li> <li>Integration of Treasury and business activities</li> <li>Monitor funding pipeline, cash flow position and financial risk management</li> </ul>                                                                                               |
| Nuclear Management Committee                  | <ul> <li>Management of Eskom's nuclear objectives (both existing and new build)</li> <li>Interface with regulatory bodies and deal with licensing matters</li> <li>Risk management for nuclear operations</li> </ul>                                                                                       |
| Operating Committee                           | <ul> <li>Key operational decisions in Generation, Transmission, Distribution and new build</li> <li>Risk evaluation and mitigation approach to technical and operational health<br/>performance</li> </ul>                                                                                                 |
| People Committee                              | <ul> <li>Human resources decisions, issues, processes and procedures</li> <li>Talent management and staffing</li> <li>Strategic workforce planning</li> </ul>                                                                                                                                              |
| Regulation, Policy and Economics<br>Committee | <ul> <li>Review impact of regulatory and economic policies, as well as long-term energy policy</li> <li>Development of regulatory response strategy and tariff outlook</li> <li>Oversight of Eskom's regulated licences</li> <li>Approach to environmental policies and Eskom's economic impact</li> </ul> |
| Risk and Sustainability Committee             | <ul> <li>Consolidation and monitoring of overall business risks and processes</li> <li>Monitor operational risk within compliance guidelines</li> <li>Consider safety, health and environmental compliance</li> <li>Reputational risk management</li> </ul>                                                |

# Our governance

#### continued

#### **Executive remuneration and benefits**

Our approach to remuneration

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 in order to retain key leadership skills. Our 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**

Our remuneration structure for non-executive directors and executives is set out below.

#### 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, unless otherwise agreed. 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 group executives, in accordance with the shareholder-approved framework.

Executive remuneration consists of a guaranteed package augmented by short- and long-term incentives, and is based on organisational as well as individual performance, and takes account of executives' 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 set by the Group Chief Executive, which are linked to the shareholder compact. 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.

A number of performance shares (award performance shares) were awarded to Exco members on I April 2014, 2015 and 2016. The long-term incentive vesting rate for shares awarded on I April 2014 and vesting on 31 March 2017 was 49.42% (March 2016: 44.48%). The People and Governance Committee exercised its discretion and reduced the vesting rate to 44.42% (March 2016: 34.48%). The cash value of the shares is payable in June 2017 at R1.25 per share, based on the money market rate (March 2016: R1.23). Shares awarded on I April 2013 were redeemed during the year.

#### Remuneration of directors and group executives

| Category, R 000         | 2016/17 | 2015/16 |
|-------------------------|---------|---------|
| Non-executive directors | 6 439   | 6 656   |
| Executive directors     | 16 109  | 29 042  |
| Other Exco members      | 38 966  | 39 628  |
| Total remuneration      | 61 514  | 75 326  |

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



# Abbreviations

| ARC      | Audit and Risk Committee                                                                  | M٤     |
|----------|-------------------------------------------------------------------------------------------|--------|
| B-BBEE   | Broad-based black economic empowerment                                                    | mSv    |
| COGTA    | Department of Cooperative Governance and<br>Traditional Affairs                           | Mt     |
| CSI      | Corporate social investment                                                               | MVA    |
| CSP      | Concentrated solar power                                                                  | MW     |
| DEA      |                                                                                           | MWh    |
|          | Department of Environmental Affairs                                                       | MYPD   |
| DoE      | Department of Energy                                                                      | NDP    |
| DPE      | Department of Public Enterprises                                                          | NERSA  |
| DTC      | Design-to-Cost strategy                                                                   | NNR    |
| DWS      | Department of Water and Sanitation                                                        | OCGT   |
| EAF      | Energy availability factor (see glossary)                                                 | OCLF   |
| EBITDA   | Earnings before interest, taxation, depreciation, amortisation and fair value adjustments | OHS    |
| EU       | European Union                                                                            | PCLF   |
| EUF      | Energy utilisation factor (see glossary)                                                  | PAIA   |
| Ехсо     | Executive Management Committee                                                            | PAJA   |
| FGD      | Flue gas desulphurisation                                                                 | PFMA   |
| GDP      | Gross domestic product                                                                    | PPA    |
| GE       | Group executive                                                                           | PV     |
| GRI      | Global Reporting Initiative                                                               | RCA    |
| GW       | Gigawatt = 1 000 megawatts                                                                | RE-IPP |
| GWh      | Gigawatt-hour = 1 000MWh                                                                  | SADC   |
| IPP      | Independent power producer (see glossary)                                                 | SAIDI  |
| King III | King Report of Corporate Governance for South                                             | SAIFI  |
|          | Africa 2009                                                                               | SALGA  |
| King IV  | King IV <sup>™</sup> Report of Corporate Governance for<br>South Africa 2016              | SAPP   |
| КРІ      | Key performance indicator                                                                 | SESC   |
| kt       | Kiloton = 1 000 tons                                                                      | TMPS   |
| kV       | Kilovolt                                                                                  | UAGS   |
| kWh      | Kilowatt-hour = 1 000 watt-hours (see glossary)                                           | UCLF   |
| kWhSO    | Kilowatt-hour sent out                                                                    | USA    |
| LTIR     | Lost-time injury rate (see glossary)                                                      |        |

| 18    | Megalitre = 1 million litres                    |
|-------|-------------------------------------------------|
| ıSv   | Millisievert                                    |
| 1t    | Million tons                                    |
| 1VA   | Megavolt-ampere                                 |
| 1W    | Megawatt = I million watts                      |
| 1Wh   | Megawatt-hour = 1 000kWh                        |
| 1YPD  | Multi-year price determination                  |
| IDP   | National Development Plan                       |
| IERSA | National Energy Regulator of South Africa       |
| INR   | National Nuclear Regulator                      |
| CGT   | Open-cycle gas turbine (see glossary)           |
| OCLF  | Other capability loss factor                    |
| DHS   | Occupational health and safety                  |
| CLF   | Planned capability loss factor                  |
| AIA   | Promotion of Access to Information Act, 2000    |
| AJA   | Promotion of Administrative Justice Act, 2000   |
| FMA   | Public Finance Management Act, 1999             |
| PA    | Power purchase agreement                        |
| V     | (Solar) photovoltaic                            |
| CA    | Regulatory Clearing Account                     |
| E-IPP | Renewable independent power producer            |
| ADC   | Southern African Development Community          |
| AIDI  | System average interruption duration index      |
| AIFI  | System average interruption frequency index     |
| ALGA  | South African Local Government Association      |
| APP   | Southern African Power Pool                     |
| ESC   | Social, Ethics and Sustainability Committee     |
| MPS   | Total measured procurement spend                |
| IAGS  | Unplanned automatic grid separations            |
| ICLF  | Unplanned capability loss factor (see glossary) |
| ISA   | United States of America                        |
|       |                                                 |

# **Glossary of terms**

| Base-load plant                              | Largely coal-fired and nuclear power stations, designed to operate continuously                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cash interest cover                          | Provides a view of the company's ability to satisfy the interest burden on its borrowings by<br>utilising cash generated from operating activities. It is calculated as net cash from operating<br>activities divided by (interest paid on financing activities less interest received from<br>investing and financing activities)                                                                                                                                                                                 |
| 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 I 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-<br>current provisions divided by total equity                                                                                                                                                                                                                                                                                                                                                                        |
| Debt service cover ratio                     | Net cash from operating activities divided by (net interest paid from financing activities plu 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 electricit<br>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<br>and amortisation plus impairment loss and other operating expenses) divided by total<br>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<br>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 contro<br>of plant management and internal non-engineering constraints                                                                                                                                                                                                                                                                                                                                                        |
| Energy efficiency                            | Programmes to reduce energy used by specific end-use devices and systems, typically<br>without affecting services provided                                                                                                                                                                                                                                                                                                                                                                                         |
| Energy utilisation factor (EUF)              | Ratio of actual electrical energy produced during a period of time divided by the total<br>available energy capacity. It is a measure of the degree to which the available energy<br>capacity of an electricity supply network is utilised. Available energy capacity refers to<br>the capacity after all unavailable energy (planned and unplanned energy losses) has been<br>taken into account, and represents the net energy capacity made available to the System<br>Operator or national grid                |
| Forced outage                                | Shutdown of a generating unit, transmission line or other facility for emergency reasons<br>or a condition in which generating equipment is unavailable for load due to unanticipated<br>breakdown                                                                                                                                                                                                                                                                                                                 |
| Free basic electricity                       | Amount of electricity deemed sufficient to provide basic electricity services to a poor household (50kWh 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, amortisation and fair value adjustments                                                                                                                                                                                                                                                                                                                                                                                                    |
| Independent non-executive director           | <ul> <li>A director who:</li> <li>Is not a full-time salaried employee of the company or its subsidiary</li> <li>Is 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>Is not a professional advisor to the company</li> <li>Is 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<br>independent power generation facilities                                                                                                                                                                                                                                                                                                                                                                                   |

# **Glossary of terms**

continued

| Kilowatt-hour (kWh)                     | Basic unit of electric energy equal to one kilowatt of power supplied to or taken from an<br>electric circuit steadily for one hour                                                                                                                                                                                                         |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load                                    | Amount of electric power delivered or required on a system at any specific point                                                                                                                                                                                                                                                            |
| Load curtailment                        | Typically larger industrial customers reduce their demand by a specified percentage for<br>the duration of a power system emergency. Due to the nature of their business, these<br>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<br>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<br>when demand is greater than supply in order to avoid blackouts. Distribution or municipal<br>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<br>seasonal loads                                                                                                                                                                                                                                      |
| Peak-Ioad 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.<br>During off-peak periods the reversible pumps/turbines use electricity to pump water from<br>the lower to the upper reservoir. During periods of peak demand, water runs back into the<br>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<br>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<br>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<br>receivables and taxation assets) divided by (the current portion of trade and other<br>payables, payments received in advance, provisions, employee benefit obligations and                                                                             |

# Eskom's energy flow diagram

The energy wheel shows the volume of electricity that flowed from local and international power stations and independent power producers (IPPs) to Eskom's distribution and export points during the past two years, including the losses incurred in reaching those customers.

All figures in GWh, unless otherwise indicated.



1. Wheeling refers to the movement of electricity between international customers through our network, without the power being available to customers on the South African grid.

2. International sales includes exports by Distribution International to Lesotho. The actual volumes were 87GWh for 2016/17 and 89GWh for 2015/16.

# Ten-year technical statistics

| $ \begin{array}{                                    $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Measure and unit                                                                 | 2016/17            | 2015/16           | 2014/15             | 2013/ | 14                | 2012/13             | 2011/12             | 2010/11            | 2009/10            | 2008/9  | 2007/8  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------|-------------------|---------------------|-------|-------------------|---------------------|---------------------|--------------------|--------------------|---------|---------|
| Descent quarter starting of the starti                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Customer statistics                                                              |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Balan depuise of union of advalage of a set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Arrear debt as % of revenue, %                                                   | 2.43               | 1.14              | 2.17                | Ι.    | .10               | 0.82                | 0.53                | 0.75               | 0.83               | 1.54    | -       |
| alars n/nin Zin Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Debtors days – municipalities, average debtors days                              | 53.3RA             | 42.9              | 47.6                | 32    | 2.7               | 22.4                | -                   | -                  | -                  | -       | -       |
| Balance scalar         Balanc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  | 15.3 <sup>RA</sup> | 15.5              | 16.8                | 14    | 4.5               | 12.3                | 14.4                | 15.5               | 15.4               | 16.5    | -       |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Debtors days – other large power users (<100 GWh p.a.), average                  | 16.8 <sup>RA</sup> | 16.2              | 17.0                | 14    | 6.9               | 18.3                | -                   | -                  | -                  | -       | _       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Debtors days – small power users (excluding Soweto), average                     | 48.8 <sup>RA</sup> | 48.2              | 49.1                | 50    | 0.2               | 48.2                | 42.9                | 45.1               | 40.5               | 47.5    | _       |
| Top Company AppLementation         1001         1002         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003         1003 <t< td=""><td>,</td><td>107.0</td><td>104.284</td><td>100 7</td><td></td><td></td><td>105.0</td><td>105.0</td><td>101.0</td><td>00.1</td><td>101.0</td><td></td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ,                                                                                | 107.0              | 104.284           | 100 7               |       |                   | 105.0               | 105.0               | 101.0              | 00.1               | 101.0   |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  |                    |                   |                     |       |                   |                     |                     | 101.2              | 98.1               | 101.2   | -       |
| Catalor Cartine And Park         9.8         9.8         9.0         9.8         9.1         9.2         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1         9.1 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                  |                    |                   |                     |       |                   |                     |                     | -                  | -                  | -       | -       |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Tal also, OWh<br>(deciso)growth SW also, SW<br>(deciso)growth SW also, SW<br>(deciso)growth SW also, SW<br>(deciso)growth SW also, SW214 (bit)<br>(deciso)growth SW also, SW<br>(deciso)growth SW also, SW also                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CustomerCare, index                                                              | 9.8                | 8.4               | 8.0                 | ٤     | 3.3               | 8.4                 | 8.2                 | 8.1                | 8.2                | 8.3     | 8.3     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sales and revenue                                                                |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| $ \begin{array}{c} \mbod length le$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Total sales, GWh <sup>i</sup>                                                    | 214 121            | 214 487           | 216 274             | 217 9 | 03                | 216 561             | 224 785             | 224 446            | 218 591            | 214 850 | 224 366 |
| Growther waves, 's1.31.56.96.17.17.07.07.07.07.07.07.0Description station, CVM (nd)220 1/4220 1/47.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (Reduction)/growth in GWh sales, %                                               | (0.2)              | (0.8)             | (0.7)               | (     | 0.6               | (3.7)               | 0.2                 | 2.7                | 1.7                | (4.2)   | 2.9     |
| Growther waves, 's1.31.56.96.17.17.07.07.07.07.07.07.0Description station, CVM (nd)220 1/4220 1/47.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.07.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                  | 175 004            | 1/1 /00           | 144.040             |       | ×0                | 124 442             | 112.000             | 00.375             | (0.024             | F2 00/  | 42 521  |
| $ \frac{1}{122} 1$ |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Developed constraint optic blow matrixed, CVM (ex)222 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104212 104211 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 104111 10411                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Growth in revenue, %                                                             | 8.3                | 10.5              | 6.7                 | 8     | D. I              | 12.1                | 25.0                | 29.4               | 31.8               | 21.8    | 10.5    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  | 220 166            | 219 979           | 226 300             | 231 1 | 29                | 232 749             | 237 289             | 237 430            | 232 812            | 228 944 | 239 109 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  | 200.002            | 100.000           | 204.020             | 200.4 | 0.2               | 214.007             | 210.210             | 222.210            | 215 0 40           | 211.041 | 222.000 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Case burdle station, CWA (ref)         19         3 93         3 10         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <th1< th="">         1         1</th1<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Vince arge, CVN (nei)       136       311       1         Vince arge, CVN (nei)       15024       12237       1374         IIP parkase, CVA       3471       354       4107       1331 $ -$ Vince power station, CVM (nei)       2910       3300       5623       3271       354       4107       1331 $ -$ Vince power station, CVM (nei)       2910       3300       5623       3671       354       4107       1331 $  -$ Vince power station, CVM (nei)       2010       3930       5623       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665       2665 <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Nackar power station, GVM (with)         15 024         12 227         13 774           PW parchase, GVM         15 024         12 237         13 774           PW parchase, GVM         3 673         3 643         3 079         3 633         3 175         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                  |                    |                   | 3 709               |       |                   | 1 904               |                     |                    | 49                 |         | 1 153   |
| IP parchases, GWh       11 527       9 033       6 022         Stepsy inports from 3ADC councies, GWh3       11 527       9 033       6 022         Total lectricity satisfies from 3ADC councies, GWh3       11 527       9 033       6 022         Total lectricity satisfies from 3ADC councies, GWh3       22 46 49       3 097       3 233       2 24 49       3 097       3 423       3 175       7 68       9 399       10 100       10 579       12 189       11 50         Total lectricity satisfies from 3ADC councies, GWh3       428       7 688       9 399       10 100       10 579       12 189       11 50       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115       44 115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>o</b> , ( )                                                                   |                    |                   | I                   |       |                   | 1                   |                     |                    | I                  |         | I       |
| Wheeling, CWh <sup>1</sup> 2 910       3 930       3 623       3 133       2 948       3 099       3 423       3 175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Nuclear power station, GWh (net)                                                 | 15 026             | 12 237            | 13 794              | 14 1  | 06                | 11 954              | 13 502              | 12 099             | 12 806             | 13 004  | 11 317  |
| Integra month from SADC countries, GWh <sup>1</sup> $7.416$ $9.703$ $10.71$ $9.425$ $7.98$ $9.939$ $10.190$ $10.579$ $12.169$ $11.50$ Total electricity sullable (generated by Eskom GWh <sup>1</sup> $242.021$ $224.245$ $226.66$ $247.578$ $246.911$ $224.434$ $225.276$ $246.956$ $21.9758$ $246.911$ $224.434$ $225.276$ $246.956$ $21.9758$ $224.9716$ $224.267$ $226.952$ $248.914$ $222.276$ $224.9716$ $224.2671$ $223.959$ $221.9716$ $224.2671$ $223.956$ $246.911$ $244.912$ $223.976$ $246.912$ $222.976$ $248.914$ $224.2671$ $223.9766$ $242.971$ $223.9766$ $248.914$ $242.971$ $23.932$ $246.488$ Construction construction capacity-installed, MW $46.407$ $44.913$ $420.90$ $44.975$ $44.195$ $44.192$ $44.975$ $44.193$ $43.03.07$ $75.55$ $36.705$ $36.970$ $35.959$ $36.513$ $76.963$ $36.970$ $35.912$ $36.925$ $36.925$ $36.925$ $36.925$ $36.970$ $35.912$ $36.926$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | IPP purchases, GWh                                                               | 11 529             | 9 033             | 6 022               | 3 6   | 571               | 3 516               | 4 107               | I 833              | -                  | -       | -       |
| Total electricity available (generated by Eskon, GWh)       242 023 $242 045$ $246 676$ $247 578$ $246 911$ $254 434$ $252 876$ $246 566$ $241 133$ $250 619$ Total consumed by Eskon, GWh! $3 623$ $4 037$ $3 982$ $3 962$ $3 962$ $3 655$ $3 816$ $4 135$ Total available for distribution, GWh $3 623$ $4 037$ $3 982$ $3 962$ $3 663$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 4 195$ $4 2 2 2 7 1 3 7 15$ $2 2 2 7 7 3 17 2 2 2 3 5 2 5 3 5 2 5 3 6 2 1 2 3 6 6 2 3 5 8 5 9 3 5 5 5 9 3 6 5 1 3 5 5 5 5 3 5 2 5 3 6 2 1 2 3 6 6 4 3 5 8 5 0 3 5 5 5 9 3 6 5 1 3 5 5 5 5 5 3 5 2 5 2 3 6 2 1 2 3 6 6 4 3 5 8 5 0 3 5 5 5 9 5 3 6 5 1 3 3 5 5 9 5 9 3 6 5 1 3 3 5 5 9 5 9 3 6 5 1 3 3 5 5 9 5 9 3 6 5 1 3 3 5 5 9 7 3 3 1 5 3 5 5 9 5 9 3 6 5 1 3 $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Wheeling, GWh <sup>2</sup>                                                       | 2 910              | 3 930             | 3 623               | 3 3   | 53                | 2 948               | 3 099               | 3 423              | 3 175              | -       | -       |
| Total consume by Eskon, GWh <sup>1</sup> $\frac{4808}{277215}$ $\frac{4066}{233599}$ $\frac{4114}{24252}$ Supplementation, GWh $\frac{3862}{243716}$ $\frac{4007}{25042}$ $\frac{3962}{248914}$ $\frac{3962}{242871}$ $\frac{3962}{248914}$ $\frac{3962}{242871}$ $\frac{3962}{242871}$ $\frac{3962}{242871}$ $\frac{3962}{242871}$ $\frac{3962}{242871}$ $\frac{3962}{242871}$ $\frac{3962}{248914}$ $\frac{3962}{242871}$ $\frac{3962}{248914}$ $\frac{3962}{242871}$ $\frac{242871}{223327}$ $\frac{242871}{2428874}$ $\frac{242871}{224871}$ $\frac{242871}{2233377}$ $\frac{24688}{24688}$ Supplementation capacity - nominal, NW $\frac{44134}{4134}$ $\frac{4200}{2000}$ $\frac{4198}{41977}$ $\frac{4196}{4194}$ $\frac{44175}{4193}$ $\frac{44193}{40307}$ $\frac{4007}{1352}$ $\frac{248}{24087}$ $\frac{4197}{4194}$ $\frac{4197}{4197}$ $\frac{4197}{4194}$ $\frac{4197}{4197}$ $\frac{4197}{4194}$ $\frac{4197}{4197}$ $\frac{4197}{4198}$ $\frac{4197}{4197}$ $\frac{4198}{4197}$ $\frac{4197}{4197}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Energy imports from SADC countries, GWh <sup>2</sup>                             | 7 418              | 9 703             | 10 731              | 9 4   | 25                | 7 698               | 9 939               | 10 190             | 10 579             | 12 189  | 11 510  |
| Total stability for distribution, GWh         237 215         238 599         242 562         243 716         242 874         250 452         248 914         242 871         237 317         246 483           Supply and demand         Total Eskom power station capacity - nominal, MW         46 160 7         44 189         44 189         44 189         44 185         44 115         44 195         44 115         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195         44 195                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Total electricity available (generated by Eskom and purchased), GWh <sup>I</sup> | 242 023            | 242 645           | 246 676             | 247 5 | 78                | 246 911             | 254 434             | 252 876            | 246 566            | 241 133 | 250 619 |
| Total valuable for distribution, GWh         237 215         238 599         242 562         243 716         242 874         250 452         248 914         242 871         237 317         246 483           Supply and demand         Total Eskom power station capacity - nominal, MW         46 107         44 189         44 189         44 189         44 189         44 189         44 185         44 115         44 187         44 189         40 506         38 747           Total Eskom power station capacity - nominal, MW         44 134         42 810         42 090         16 77         1135         10 08         903         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Total consumed by Eskom, GWh <sup>3</sup>                                        | 4 808              | 4 046             | 4     4             | 3.8   | 62                | 4 037               | 3 982               | 3 962              | 3 695              | 3 816   | 4 136   |
| Total Eskom power station capacity – nanizalled, MW       44 64 07       45 075       44 281       44 281       44 189       44 189       44 184       44 115       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 195       44 03 07       70 51       1008       80 3       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         | 246 483 |
| Total Estom power station capacity - nominal, MW       44 134       42 00       41 995       41 995       41 997       41 647       41 994       40 870       40 506       33 870       33 870         Total IPP power station capacity - nominal, MW       5 027       3 3 92       2 606       1 677       1 135       1 008       803       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - </td <td>Supply and demand</td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Supply and demand                                                                |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Total IP power station capacity - nominal, MW       44 14 4       42 090       41 995       41 995       41 647       41 194       40 870       40 506       33 37         Total IP power station capacity - nominal, MW       36 122       33 345       34 768       34 977       35 525       36 212       36 664       35 850       35 959       36 513         Peak demand on integrated Eskom system, including load reductions and no integrated Eskom system, including load reductions and stedding       No       Yes       Yes       No       36 002       36 345       37 065       36 970       35 912       36 227       37 158         National rotational load stedding       No       Yes       Yes       Yes       No       No       Yes       A $04 96^{160}$ $55 05^{106}$ 36 50 <sup>10</sup> 35 1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Total Eskom power station capacity – installed, MW                               | 46 407             | 45 075            | 44 281              | 44    | 89                | 44 206              | 44 115              | 44 145             | 44 175             | 44 193  | 43 037  |
| Peak demand on integrated Eskon system, MW       34 122       33 345       34 768       34 977       35 525       36 212       36 664       35 850       35 959       36 513         Peak demand on integrated Eskon system, including load reductions and system, including load reductions and system, including load reductions and on integrated Eskon system, including load reductions and system, including load reductions and system, including load reducting load reductions and reductions and system, includi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Total Eskom power station capacity – nominal, MW                                 | 44 134             | 42 810            | 42 090              | 41 9  | 95                | 41 919              | 41 647              | 41 194             | 40 870             | 40 506  | 38 747  |
| Pack demand on integrated Eskom system, including load reductions and number of the stress of th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                  | 5 027              | 3 392             | 2 606               | ۱ 6   | 77                | 1 135               | 1 008               | 803                | -                  | -       | -       |
| non-fishom generation, MV       1       34 913       34 491       36 1/0       36 0/2       36 9/3       37 0/65       36 9/0       35 912       36 227       37 1/25         National lod shedding       No       Yes       Yes <td>Peak demand on integrated Eskom system, MW</td> <td>34 122</td> <td>33 345</td> <td>34 768</td> <td>34 9</td> <td>77</td> <td>35 525</td> <td>36 212</td> <td>36 664</td> <td>35 850</td> <td>35 959</td> <td>36 513</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Peak demand on integrated Eskom system, MW                                       | 34 122             | 33 345            | 34 768              | 34 9  | 77                | 35 525              | 36 212              | 36 664             | 35 850             | 35 959  | 36 513  |
| National rotational load shedding         No         Yes         Yes         Yes         No <sup>KA</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  | 34 913             | 34 481            | 36 170              | 36 0  | 02                | 36 345              | 37 065              | 36 970             | 35 912             | 36 227  | 37 158  |
| Demand savings, MW       2       226.9       214.9       171.5%       409.6%       595.0%       365.0%       354.1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                  | No                 | Yes               | Yes                 | Y     | esRA              | No <sup>ra</sup>    | No <sup>ra</sup>    | No <sup>ra</sup>   | No <sup>ra</sup>   | Yes     | _       |
| Asset creation         Generation capacity installed: first synchronisation, units       2 $2^{14}$ $1^{18A}$ $                                                                                              -$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Demand savings, MW                                                               | 236.9              | 214.9             | 171.5 <sup>RA</sup> | 409   | 9.6 <sup>RA</sup> | 595.0 <sup>RA</sup> | 365.0 <sup>RA</sup> | 354.1              | _                  | -       | _       |
| Asset creation           Generation capacity installed: first synchronisation, units         2 $2^{4A}$ $1^{4A}$ Generation capacity installed and commissioned, MW         1 332 <sup>4A</sup> 794 <sup>4A</sup> 100 <sup>4A</sup> 120 <sup>8A</sup> 261 <sup>8A</sup> 533 <sup>8A</sup> 315 <sup>8A</sup> 452 <sup>8A</sup> 1 770         1 043           Transmission lines installed, km         585.4 <sup>RA</sup> 345.8 <sup>RA</sup> 318.8 <sup>AA</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           Substation capacity installed and commissioned, MVA         2 300 <sup>RA</sup> 2 43 <sup>STA</sup> 2 090 <sup>RA</sup> 3 790 <sup>RA</sup> 3 580 <sup>RA</sup> 2 52 <sup>SEA</sup> 5 940 <sup>RA</sup> 1 375         1 355           Total capital expenditure – group (excluding capitalised borrowing costs), R billion         60.0         57.4         53.1 <sup>RA</sup> 59.8 <sup>RA</sup> 0.1         58.8         47.9         48.7         43.7         24.0           Safety           Employee lost-time injury rate (LTIR) – company, index <sup>4.5</sup> 0.43         0.29         0.36         0.31 <sup>RA</sup> 0.41 <sup>RA</sup> 0.45 <sup>RA</sup> 0.50         0.46           Employee lost-time injury rate (LTIR) – company, index <sup>4.5</sup> 0.39         0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Internal energy efficiency, GWh                                                  | 6.0                | 1.7 <sup>RA</sup> | 10.4 <sup>RA</sup>  | 19    | 9.4 <sup>RA</sup> | 28.9 <sup>RA</sup>  | 45.0 <sup>RA</sup>  | 26.2 <sup>RA</sup> | -                  | -       | -       |
| Generation capacity installed: first synchronisation, units2 $2^{\mu_A}$ $1^{\mu_A}$ $1^{\mu_A}$ $                                                                                                                                                             -$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Generation capacity installed and commissioned, MWI3328^A7948.A1008A1008A1208A2618A5358A315AA4528AI170I1043Transmission lines installed, km585.4RA345.8RA345.8RA318.6AA810.9RA787.1RA631.3RA443.4BA600.3RA418.3480.0Substation capacity installed and commissioned, MVA2.300RA2.435RA2.090RA2.909RA3.790RA3.580RA2.525RA5.940RA1.630RA1.3751.355Total capital expenditure – group (excluding capitalised borrowing<br>costs), R billion60.057.453.1RA59.8RA60.158.847.948.743.724.0SafetyEmployee lost-time injury rate (LTIR) – company, index <sup>4.5</sup> 0.430.290.360.330.32Employee lost-time injury rate (LTIR) – group, index <sup>4.5</sup> 0.390.300.330.32 <td< td=""><td></td><td>2</td><td><b>DRA</b></td><td>I R A</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  | 2                  | <b>DRA</b>        | I R A               |       |                   |                     |                     |                    |                    |         |         |
| Transmission lines installed, km585.4RA<br>2 300 RA345.8RA<br>2 435 RA318.6RA<br>2 00 PA810.9RA<br>2 00 PA787.1RA<br>3 580 RA631.3RA<br>2 525 RA443.4RA<br>600.3RA600.3RA<br>1 600 RA418.3<br>1 635 RA480.0<br>1 635 RASubstation capacity installed and commissioned, MVA2 300 RA2 435 RA<br>2 435 RA2 09 PA3 790 RA3 580 RA2 525 RA5 940 RA1 630 RA1 3751 355Tota capital expenditure - group (excluding capitalised borrowing<br>costs), R billion $60.0$ $57.4$ $53.1^{RA}$ $59.8^{RA}$ $60.1$ $58.8$ $47.9$ $48.7$ $43.7$ $24.0^{RA}$ SafetyEmployee lost-time injury rate (LTIR) - company, index <sup>4.5</sup> $0.43$ $0.29$ $0.36$ $0.31^{RA}$ $0.40^{RA}$ $0.41^{RA}$ $0.47^{RA}$ $0.54^{RA}$ $0.50^{RA}$ $0.46^{RA}$ Employee lost-time injury rate (LTIR) - group, index <sup>4.5</sup> $0.43$ $0.29$ $0.36$ $0.32$ $     -$ Employee fast-like (employees and contractors), number10 $17$ 10 $28^{RA}$ $3^{RA}$ $13^{RA}$ $13^{RA}$ $7^{RA}$ $25^{RA}$ $17^{RA}$ $27^{RA}$ $2^{RA}$ <td< td=""><td></td><td></td><td></td><td></td><td></td><td>-<br/>2084</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                  |                    |                   |                     |       | -<br>2084         |                     |                     |                    |                    |         |         |
| Substation capacity installed and commissioned, MVA2 300 RA2 435 RA2 090 RA3 790 RA3 790 RA2 525 RA5 940 RA1 630 RA1 3751 355Total capital expenditure – group (excluding capitalised borrowing<br>costs), R billion $60.0$ $57.4$ $53.1$ RA $59.8$ RA $60.1$ $58.8$ $47.9$ $48.7$ $43.7$ $24.0$ SafetyEmployee lost-time injury rate (LTIR) – company, index <sup>4.5</sup> $0.43$ $0.29$ $0.36$ $0.31$ RA $0.41$ RA $0.47$ RA $0.54$ RA $0.54$ RA $0.54$ RA $0.66$ Employee lost-time injury rate (LTIR) – group, index <sup>4.5</sup> $0.39$ $0.30$ $0.33$ $0.29$ $                                                                                              -$ <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Total capital expenditure – group (excluding capitalised borrowing costs), R billion       60.0       57.4       53.1 <sup>RA</sup> 59.8 <sup>RA</sup> 60.1       58.8       47.9       48.7       43.7       24.0         Safety         Employee lost-time injury rate (LTIR) – company, index <sup>4.5</sup> 0.43       0.29       0.36       0.31 <sup>RA</sup> 0.40 <sup>RA</sup> 0.41 <sup>RA</sup> 0.47 <sup>RA</sup> 0.54 <sup>RA</sup> 0.50       0.46         Employee lost-time injury rate (LTIR) – group, index <sup>4.5</sup> 0.39       0.30       0.33       0.22       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                  |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| costs), R billion     59,8 <sup>ch</sup> 60,1     58,8     47,9     48,7     45,7     24,0       Safety     Employee lost-time injury rate (LTIR) – company, index <sup>4,5</sup> 0.43     0.29     0.36     0.31 <sup>RA</sup> 0.40 <sup>RA</sup> 0.41 <sup>RA</sup> 0.47 <sup>RA</sup> 0.54 <sup>RA</sup> 0.50     0.46       Employee lost-time injury rate (LTIR) – group, index <sup>4,5</sup> 0.39     0.30     0.33     0.32     -     -     -     -     -     -       Fatalities (employees and contractors), number     10     17     10     23 <sup>RA</sup> 19 <sup>RA</sup> 24 <sup>RA</sup> 25 <sup>RA</sup> 17 <sup>RA</sup> 27     29       Employee fatalities, number     4     4     3     5 <sup>RA</sup> 3 <sup>RA</sup> 13 <sup>RA</sup> 7 <sup>RA</sup> 2 <sup>RA</sup> 6     17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                  | 2 300              | Z 435             |                     |       |                   | 3 580.00            | 2 525               | 5 940              | 1 630              | 1 3/5   | 1 3 5 5 |
| Employee lost-time injury rate (LTIR) - company, index <sup>4,5</sup> 0.43       0.29       0.36       0.31 <sup>RA</sup> 0.40 <sup>RA</sup> 0.41 <sup>RA</sup> 0.47 <sup>RA</sup> 0.54 <sup>RA</sup> 0.50       0.46         Employee lost-time injury rate (LTIR) - group, index <sup>4,5</sup> 0.39       0.30       0.33       0.32       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  | 60.0               | 57.4              | 53.1 <sup>RA</sup>  | 59    | 9.8 <sup>ra</sup> | 60.1                | 58.8                | 47.9               | 48.7               | 43.7    | 24.0    |
| Employee lost-time injury rate (LTIR) - group, index <sup>4,5</sup> 0.39         0.30         0.33         0.32         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Safety                                                                           |                    |                   |                     |       |                   |                     |                     |                    |                    |         |         |
| Fatalities (employees and contractors), number         10         17         10         23 <sup>RA</sup> 19 <sup>RA</sup> 24 <sup>RA</sup> 25 <sup>RA</sup> 17 <sup>RA</sup> 27         29           Employee fatalities, number         4         4         3         5 <sup>RA</sup> 3 <sup>RA</sup> 13 <sup>RA</sup> 7 <sup>RA</sup> 2 <sup>RA</sup> 6         17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Employee lost-time injury rate (LTIR) – company, index <sup>4, 5</sup>           | 0.43               |                   |                     | 0.    | .31 <sup>RA</sup> | 0.40 <sup>RA</sup>  | 0.41 <sup>RA</sup>  | 0.47 <sup>RA</sup> | 0.54 <sup>RA</sup> | 0.50    | 0.46    |
| Employee fatalities, number 4 4 3 5 <sup>RA</sup> 3 <sup>RA</sup> 13 <sup>RA</sup> 7 <sup>RA</sup> 2 <sup>RA</sup> 6 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Employee lost-time injury rate (LTIR) – group, index <sup>4, 5</sup>             | 0.39               | 0.30              | 0.33                | 0.    | 32                | -                   | -                   | -                  | -                  | -       | -       |
| Employee fatalities, number 4 4 3 5 <sup>RA</sup> 3 <sup>RA</sup> 13 <sup>RA</sup> 7 <sup>RA</sup> 2 <sup>RA</sup> 6 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fatalities (employees and contractors), number                                   | 10                 | 17                | 10                  |       | 23 <sup>RA</sup>  | 19 <sup>RA</sup>    | 24 <sup>RA</sup>    | 25 <sup>ra</sup>   | 17 <sup>RA</sup>   | 27      | 29      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  | 4                  | 4                 | 3                   |       | 5 <sup>ra</sup>   | 3 <sup>RA</sup>     | 13 <sup>RA</sup>    | 7 <sup>RA</sup>    | 2 <sup>RA</sup>    | 6       | 17      |
| Contractor tatalities, number 6 13 / 18 <sup>n</sup> 16 <sup>n</sup> 11 <sup>n</sup> 18 <sup>n</sup> 5 <sup>n</sup> 21 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Contractor fatalities, number                                                    | 6                  | 13                | 7                   |       | 18 <sup>RA</sup>  | 16 <sup>RA</sup>    | 11 <sup>RA</sup>    | 18 <sup>RA</sup>   | 15 <sup>ra</sup>   | 21      | 12      |

Difference between electricity available for distribution and electricity sold is due to energy losses.
 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.
 The employee LTIR includes occupational diseases.
 Prior to 2013/14, only company numbers were reported.
 RA Reasonable assurance provided by the independent assurance provider. Refer to pages 122 to 125 of the integrated report.

Supplementary infor

# Ten-year technical statistics

continued

| Measure and unit                                                                                              | 2016/17             | 2015/16             | 2014/15             | 2013/14               | 2012/13             | 2011/12             | 2010/11             | 2009/10             | 2008/9  | 2007/8  |
|---------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| Primary energy                                                                                                |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Coal stock, days                                                                                              | 74                  | 58                  | 51                  | 44 <sup>R</sup>       |                     |                     | 41 <sup>RA</sup>    | 37 <sup>RA</sup>    | 41      | 13      |
| Road-to-rail migration (additional tonnage transported on rail), Mt                                           | 13.2 <sup>Q</sup>   | 13.6 <sup>RA</sup>  | 12.6 <sup>RA</sup>  | 11.6 <sup>R/</sup>    |                     |                     | 7.1                 | 5.1                 | 4.3     | 4.4     |
| Coal purchased, Mt                                                                                            | 120.3               | 118.7               | 121.7               | 122.0                 | 126.4               | 124.3               | 126.2               | 121.8               | 132.7   | 119.6   |
| Coal burnt, Mt                                                                                                | 113.7               | 114.8               | 119.2               | 122.4                 | 123.0               | 125.2               | 124.7               | 122.7               | 121.2   | 125.3   |
| Average calorific value, MJ/kg                                                                                | 20.05               | 19.57               | 19.68               | 19.77                 | 19.76               | 19.61               | 19.45               | 19.22               | 19.10   | 18.51   |
| Average ash content, %                                                                                        | 28.62               | 28.19               | 27.63               | 28.56                 | 28.69               | 28.88               | 29.03               | 29.56               | 29.70   | 29.09   |
| Average sulphur content, %                                                                                    | 0.84                | 1.07                | 0.80                | 0.87                  | 0.88                | 0.79                | 0.78                | 0.81                | 0.83    | 0.87    |
| Overall thermal efficiency, %                                                                                 | 31.2                | 31.1                | 31.4                | 31.3                  | 32.0                | 31.4                | 32.6                | 33.1                | 33.4    | 33.4    |
| Diesel and kerosene usage for OCGTs, Ml                                                                       | 10.0                | 1 247.8             | 178.6               | I 148.5 <sup>RJ</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   |
| Plant performance                                                                                             |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Unplanned capability loss factor (UCLF), %                                                                    | 9.90                | 14.91 <sup>RA</sup> | 15.22 <sup>RA</sup> | 12.61 <sup>R/</sup>   |                     |                     | 6.14 <sup>RA</sup>  | 5.10 <sup>RA</sup>  | 4.38    | 5.13    |
| Planned capability loss factor (PCLF), %                                                                      | 12.14 <sup>RA</sup> | 12.99               | 9.91 <sup>RA</sup>  | 10.50 <sup>R/</sup>   |                     | 9.07                | 7.98                | 9.04                | 9.54    | -       |
| Energy availability factor (EAF), %                                                                           | 77.30 <sup>RA</sup> | 71.07 <sup>RA</sup> | 73.73 <sup>RA</sup> | 75.13 <sup>R/</sup>   |                     |                     | 84.59 <sup>RA</sup> | 85.21               | 85.32   | 84.85   |
| Unit capability factor (UCF), %                                                                               | 78.00               | 72.10               | 74.87               | 76.90 <sup>R/</sup>   |                     |                     | 85.90 <sup>RA</sup> | 85.90               | 86.10   | 86.20   |
| Generation load factor, %                                                                                     | 57.9                | 58.8                | 61.5                | 62.8                  | 63.6                | 65.1                | 66.4                | 66.2                | 67.0    | 72.3    |
| OCGT load factor trend                                                                                        | 0.1                 | 18.6                | 17.6                | 19.3 <sup>R/</sup>    |                     |                     | 1.1                 | 0.3                 | -       | -       |
| Integrated Eskom system load factor (EUF), %                                                                  | 75.0                | 82.7                | 83.4                | 83.6                  | 81.9                | 79.4                | 78.5                | 77.7                | 78.6    | 85.2    |
| Network performance                                                                                           |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Total system minutes lost for events <1 minute, minutes                                                       | 3.80 <sup>RA</sup>  | 2.41 <sup>RA</sup>  | 2.85 <sup>RA</sup>  | 3.05 <sup>R/</sup>    |                     |                     | 2.63 <sup>RA</sup>  | 4.09 <sup>RA</sup>  | 4.21    | 3.56    |
| Major incidents, number                                                                                       | 0                   | I                   | 2                   | 0 <sup>R,</sup>       | -                   |                     | 0 <sup>RA</sup>     | RA                  | 3       | 5       |
| System average interruption frequency index (SAIFI), events                                                   | 18.9 <sup>RA</sup>  | 20.5 <sup>RA</sup>  | 19.7 <sup>RA</sup>  | 20.2 <sup>R/</sup>    |                     |                     | 25.3 <sup>RA</sup>  | 24.7 <sup>RA</sup>  | 24.2    | 33.7    |
| System average interruption duration index (SAIDI), hours                                                     | 38.9 <sup>RA</sup>  | 38.6 <sup>RA</sup>  | 36.2 <sup>RA</sup>  | 37.0 <sup>RJ</sup>    |                     |                     | 52.6 <sup>RA</sup>  | 54.4 <sup>RA</sup>  | 51.5    | 73.7    |
| Total energy losses, %                                                                                        | 8.9                 | 8.6                 | 8.8                 | 8.9                   | 9.1                 | 8.7                 | 8.3                 | 8.5                 | 7.9     | 8.0     |
| Transmission energy losses, %                                                                                 | 2.2                 | 2.6                 | 2.5                 | 2.3 <sup>RJ</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, %                                                                                 | 7.6 <sup>RA</sup>   | 6.4                 | 6.8                 | 7.1 <sup>R/</sup>     | 7.1 <sup>RA</sup>   | 6.3 <sup>RA</sup>   | 5.7 <sup>RA</sup>   | 5.9                 | 5.5     | 5.5     |
| Environmental statistics                                                                                      |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Emissions                                                                                                     |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Relative particulate emissions, kg/MWh sent out <sup>1</sup>                                                  | 0.30RA              | 0.36 <sup>RA</sup>  | 0.37 <sup>RA</sup>  | 0.35 <sup>RJ</sup>    |                     |                     | 0.33 <sup>RA</sup>  | 0.39 <sup>RA</sup>  | 0.27    | 0.21    |
| Carbon dioxide (CO <sub>2</sub> ), Mt <sup>i</sup>                                                            | 211.1 <sup>RA</sup> | 215.6 <sup>RA</sup> | 223.4               | 233.3 <sup>RJ</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   |
| Sulphur dioxide (SO,), kt <sup>i</sup>                                                                        | 1 766               | I 699               | 1 834               | I 975™                | 1 843 <sup>RA</sup> | I 849 <sup>RA</sup> | 1 810 <sup>RA</sup> | 1 856 <sup>RA</sup> | I 874   | 1 950   |
| Nitrous oxide $(N_2O)$ , t <sup>1</sup>                                                                       | 2 782               | 2 757               | 2 919               | 2 969                 | 2 980               | 2 967               | 2 906               | 2 825               | 2 801   | 2 872   |
| Nitrogen oxide (NO_) as NO <sub>2</sub> , kt <sup>2</sup>                                                     | 885                 | 893                 | 937                 | 954™                  | 965 <sup>RA</sup>   | 977 <sup>RA</sup>   | 977 <sup>RA</sup>   | 959 <sup>RA</sup>   | 957     | 984     |
| Particulate emissions, kt                                                                                     | 65.13               | 78.37               | 82.34               | 78.92 <sup>RJ</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   |
| Water                                                                                                         |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Specific water consumption, ℓ/kWh sent out <sup>3</sup>                                                       | 1.42 <sup>RA</sup>  | 1.44 <sup>RA</sup>  | 1.38 <sup>RA</sup>  | I.35 <sup>R/</sup>    |                     | 1.34 <sup>RA</sup>  | 1.35 <sup>RA</sup>  | 1.34 <sup>RA</sup>  | 1.35    | 1.32    |
| Net raw water consumption, Mℓ                                                                                 | 307 269             | 314 685             | 313 078             | 317 052               | 334 275             | 319 772             | 327 252             | 316 202             | 323 190 | 322 666 |
| Waste                                                                                                         |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Ash produced, Mt                                                                                              | 32.61               | 32.59               | 34.41               | 34.97 <sup>R/</sup>   |                     |                     | 36.22 <sup>RA</sup> | 36.01 <sup>RA</sup> | 36.66   | 36.04   |
| Ash sold, Mt                                                                                                  | 2.8                 | 2.7                 | 2.5                 | 2.4                   | 2.4                 | 2.3                 | 2.0                 | 2.0                 | 2.1     | 2.4     |
| Ash recycled, %                                                                                               | 8.5                 | 8.3                 | 7.3                 | 7.0 <sup>RA</sup>     |                     |                     | 5.5 <sup>RA</sup>   | 5.6                 | 5.7     | 6.7     |
| Asbestos disposed, tons                                                                                       | 383.0               | 274.5               | 991.0               | 458.0                 | 374.6               | 448.1               | 611.5               | 321.4               | 3 590.8 | 321.0   |
| Material containing polychlorinated biphenyls thermally destroyed, tons                                       | 61.9                | 59.8                | 0.0                 | 10.2                  | 0.9                 | 14.3                | 422.9               | 19.1                | 505.6   | 17.0    |
| Nuclear                                                                                                       |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Public individual radiation exposure due to effluents, mSv <sup>4</sup>                                       | 0.0005              | 0.0006              | 0.0010              | 0.0012                | 0.0019              | 0.0024              | 0.0043              | 0.0040              | 0.0045  | 0.0047  |
| Low-level radioactive waste generated, cubic metres                                                           | 162.9               | 176.1               | 164.1               | 180.7 <sup>R/</sup>   |                     |                     | 165.3 <sup>RA</sup> | 137.8               | 140.8   | 180.3   |
| Low-level radioactive waste disposed of, cubic metres                                                         | 108.0               | 213.1               | 377.6               | 324.0 <sup>R/</sup>   |                     |                     | 81.0 <sup>RA</sup>  | 216.0               | 189.0   | 270.0   |
| Intermediate-level radioactive waste generated, cubic metres                                                  | 11.4                | 33.4                | 27.6                | 28.7 <sup>R/</sup>    |                     |                     | 39.3 <sup>RA</sup>  | 47.1                | 23.9    | 16.5    |
| Intermediate-level radioactive waste disposed of, cubic metres                                                | 0                   | 0                   | 138                 | 178 <sup>RJ</sup>     |                     |                     | 0 <sup>RA</sup>     | 266                 | 474     | 418     |
| Used nuclear fuel, number of elements discharged <sup>5</sup>                                                 | 60                  | 56                  | 112                 | 48                    | 56                  | 60                  | 112                 | 56                  | 56      | 112     |
| Used nuclear fuel, number of elements discharged, cumulative figure                                           | 2 289               | 2 229               | 2 173               | 2 061                 | 2 013               | 1 957               | 1 897               | 1 785               | I 729   | I 673   |
| Legal contraventions                                                                                          |                     |                     |                     |                       |                     |                     |                     |                     |         |         |
| Environmental legal contraventions                                                                            | 28                  | 20                  | 20                  | 34 <sup>R/</sup>      | 48                  | 50                  | 63                  | 55                  | 114     | 46      |
| Environmental legal contraventions reported in terms of the Operational Health Dashboard, number <sup>6</sup> | 0                   | I                   | I                   | 2 <sup>RJ</sup>       | 2                   | 5                   | 4                   | 0                   | 12      | 6       |

 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.

Includes the underground coal gasification pilot plant.
NO<sub>x</sub> reported as NO<sub>x</sub> is calculated using average station-specific emission factors (which are measured intermittently) and tonnages of coal burnt.
Volume of water consumed per unit of generated power sent out by commissioned power stations.
The limit set by the National Nuclear Regulator is ≤0.25mSv.
The gross mass of a nuclear fuel element is approximately 670kg, with UO<sub>2</sub> mass, typically between 462kg and 464kg.
Reported in terms of the 2002 definition of the Operational Health Dashboard. From 2008, repeat legal contraventions are included.
RA Reasonable assurance provided by the independent assurance provider. Refer to pages 122 to 125 of the integrated report.

Q Qualified by the independent assurance provider.

# Five-year non-technical statistics

|                                                                                                  |                      |                       | Company             |                          |                     | Group   |         |         |                       |                         |  |
|--------------------------------------------------------------------------------------------------|----------------------|-----------------------|---------------------|--------------------------|---------------------|---------|---------|---------|-----------------------|-------------------------|--|
| Measure and unit                                                                                 | 2016/17              | 2015/16               | 2014/15             | 2013/14                  | 2012/13             | 2016/17 | 2015/16 | 2014/15 | 2013/14               | 2012/13                 |  |
| Finance                                                                                          |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Electricity revenue per kWh (including environmental levy), c/kWh                                | 83.60                | 76.24                 | 67.91               | 62.82                    | 58.49               |         |         |         |                       |                         |  |
| Electricity operating costs, R/MWh                                                               | 677.91               | 635.01                | 603.33              | 535.08                   | 487.92              | 666.91  | 624.02  | 590.59  | 526.50                | 491.84                  |  |
| Electricity EBITDA margin, %                                                                     | 20.55                | 19.13                 | 16.28               | 16.15                    | 17.48               | 21.44   | 20.29   | 16.54   | 17.23                 | 16.46                   |  |
| EBITDA, R million                                                                                | 35 989               | 30 932                | 23 811              | 22 101                   | 22 147              | 37 532  | 32 811  | 24 186  | 23 586                | 20 849                  |  |
| Cash interest cover, ratio                                                                       | 1.77 <sup>RA</sup>   | 1.69                  | 1.67                | 2.22                     | 3.97                | 1.82    | 1.83    | 1.88    | 2.35                  | 4.13                    |  |
| Debt service cover, ratio                                                                        | 1.37                 | 1.09                  | 0.82                | 1.28                     | 1.98                | 1.37    | 1.14    | 0.91    | 1.24                  | 1.13                    |  |
| Working capital, ratio                                                                           |                      | 0.86                  | 0.82                | 0.70                     |                     | 0.85    | 0.83    | 0.81    |                       | 0.68                    |  |
|                                                                                                  | 0.86                 |                       |                     |                          | 0.67                |         |         |         | 0.71                  |                         |  |
| Gross debt/EBITDA, ratio                                                                         | 11.39                | 11.71                 | 13.84               | 12.59                    | 10.09               | 10.84   | 10.95   | 13.60   | 11.77                 | 10.81                   |  |
| Debt/equity (including long-term provisions), ratio                                              | 2.22 <sup>RA</sup>   | 1.71                  | 2.67                | 2.12                     | 1.96 <sup>RA</sup>  | 2.11    | 1.65    | 2.50    | 2.00                  | 1.84                    |  |
| Gearing, %                                                                                       | 69                   | 63                    | 73                  | 68                       | 66                  | 68      | 62      | 71      | 67                    | 65                      |  |
| Free funds from operations, R million                                                            | 46 336               | 37 954                | 36 032              | 29 528                   | 26 124              | 47 571  | 39 443  | 36 179  | 31 158                | 24 615                  |  |
| Free funds from operations after interest paid, R million                                        | 19 776               | 16 260                | 20 343              | 18 455                   | 19 090              | 21 151  | 17 928  | 20 564  | 20 139                | 18 074                  |  |
| Free funds from operations as % of gross debt, %                                                 | 11.30 <sup>RA</sup>  | 10.48 <sup>RA</sup>   | 10.93               | 10.61                    | 11.69               | 11.69   | 10.98   | 11.00   | 11.22                 | 10.92                   |  |
| Free funds from operations as % of total capex, %                                                | 74.55 <sup>RA</sup>  | 64.13                 | 63.83               | 48.98                    | 43.28               | 75.11   | 66.23   | 65.66   | 52.10                 | 40.93                   |  |
| BPP savings, R billion                                                                           | 20.21RA              | 17.45 <sup>RA</sup>   | 8.70                | 2.30                     | -                   |         |         |         |                       |                         |  |
| Building skills                                                                                  |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Headcount (including fixed-term contractors)                                                     | 41 940               | 42 767                | 41 787              | 42 923                   | 43 402              | 47 658  | 47 978  | 46 490  | 46 919                | 47 295                  |  |
| Training spend as % of gross employee benefit costs                                              | 4.89 <sup>RA</sup>   | 4.45                  | 6.18 <sup>RA</sup>  | 7.87 <sup>RA</sup>       | _                   |         |         |         |                       |                         |  |
| Total engineering learners in the system, number                                                 | 1 480                | 895                   | 1 315               | I 962 <sup>RA</sup>      | 2 144 <sup>RA</sup> |         |         |         |                       |                         |  |
| Total technician learners in the system, number                                                  | 1 209                | 415                   | 826                 | 815 <sup>RA</sup>        | 835 <sup>RA</sup>   |         |         |         |                       |                         |  |
| Total artisan learners in the system, number                                                     | 2 155                | 1 955                 | 1 752               | 2 383 <sup>RA</sup>      | 2 847 <sup>RA</sup> |         |         |         |                       |                         |  |
| Learner intake                                                                                   | 2 133<br>3 048°      | 1 370                 | -                   |                          | 2 047               |         |         |         |                       |                         |  |
|                                                                                                  | 3 048 *              | 1 370                 | -                   |                          | -                   |         |         |         |                       |                         |  |
| Transformation                                                                                   |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Socio-economic contribution                                                                      |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Corporate social investment committed, R million                                                 |                      |                       |                     |                          |                     | 225.3   | 103.6   | 115.5   | 132.9 <sup>RA</sup>   | 194.3 <sup>F</sup>      |  |
| Corporate social investment, number of beneficiaries                                             |                      |                       |                     |                          |                     | 841 845 | 302 736 | 323 882 | 357 443 <sup>RA</sup> | 652 347 <sup>F</sup>    |  |
| Job creation, number                                                                             | 39 277               | 23 169                | 25 875              | 25 181 <sup>RA</sup>     | 35 759              |         |         |         |                       |                         |  |
| Total number of electrification connections, number                                              | 207 189RA            | 158 016 <sup>RA</sup> | 159 853LA           | 201 788 <sup>ra</sup>    | 139 881             |         |         |         |                       |                         |  |
| Procurement equity                                                                               |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Local content contracted (Eskom-wide), %                                                         | 73.37º               | 75.22 <sup>Q</sup>    | 25.13               | 40.80                    | -                   |         |         |         |                       |                         |  |
| Local content contracted (new build), %                                                          | 85.78 <sup>Q</sup>   | 84.04 <sup>RA</sup>   | 33.62 <sup>LA</sup> | 54.60 <sup>RA</sup>      | 80.20               |         |         |         |                       |                         |  |
| B-BBEE attributable expenditure, R billion                                                       | 137.3                | 132.0                 | 120.8               | 125.4 <sup>RA</sup>      | 103.4 <sup>RA</sup> | 127.7   | 125.0   | 116.0   | 119.4 <sup>RA</sup>   | 96.0 <sup>F</sup>       |  |
| Black-owned expenditure, R billion                                                               | 50.4                 | 51.0                  | 47.5                | 43.6 <sup>RA</sup>       | 26.47 <sup>RA</sup> | 53.9    | 52.9    | 49.4    | 45.8 <sup>RA</sup>    | _                       |  |
| Black women-owned expenditure, R billion                                                         | 17.3                 | 30.2                  | 8.9                 | <b>9.6</b> <sup>RA</sup> | 5.7 <sup>RA</sup>   | 19.4    | 30.8    | 9.3     | 9.8 <sup>RA</sup>     | 6.0                     |  |
| Black youth-owned expenditure, R billion                                                         | 1.7                  | 1.3                   | 0.9                 | 1.3 <sup>RA</sup>        | 1.20 <sup>RA</sup>  | 2.0     | 1.4     | 0.9     | 1.3 <sup>RA</sup>     | -                       |  |
|                                                                                                  | 100.75 <sup>RA</sup> | 83.08 <sup>RA</sup>   | 88.89 <sup>RA</sup> | 93.90 <sup>RA</sup>      | 86.30 <sup>RA</sup> | 98.25   | 81.65   | 89.39   | 91.80 <sup>ra</sup>   | -<br>82.10 <sup>r</sup> |  |
| Procurement from B-BBEE compliant suppliers, %                                                   |                      |                       |                     |                          |                     |         |         |         |                       | 82.10                   |  |
| Procurement from black-owned (BO) suppliers, %                                                   | 36.98RA              | 30.98 <sup>RA</sup>   | 34.91               | 32.70 <sup>RA</sup>      | 22.10               | 41.49   | 33.61   | 34.41   | 35.30 <sup>RA</sup>   | -                       |  |
| Procurement from black women-owned (BWO) suppliers, %                                            | 12.67RA              | 17.72 <sup>RA</sup>   | 6.61                | 7.20 <sup>RA</sup>       | 4.70 <sup>RA</sup>  | 14.92   | 19.30   | 6.49    | 7.50 <sup>RA</sup>    | 5.10                    |  |
| Procurement from black youth-owned (BYO) suppliers, %                                            | 1.25 <sup>RA</sup>   | 0.82 <sup>RA</sup>    | 0.64 <sup>LA</sup>  | 1.00 <sup>RA</sup>       | 1.00                | 1.52    | 0.94    | 0.63    | 1.00 <sup>RA</sup>    | -                       |  |
| Procurement spend with suppliers owned by black people living with disability (BPLwD), % of TMPS | 0.02 <sup>RA</sup>   | 0.01 <sup>RA</sup>    | 0                   | 0                        | -                   | 0.02    | 0.01    | 0       | 0                     | -                       |  |
| Procurement spend with qualifying small enterprises (QSE), % of TMPS                             | 7.67RA               | 4.03 <sup>RA</sup>    | 6.74                | 11.90                    | _                   | 8.91    | 4.62    | 6.75    | 15.09                 | -                       |  |
| Procurement spend with exempted micro enterprises (EME), % of TMPS                               | 10.15 <sup>RA</sup>  | 4.81 <sup>RA</sup>    | 5.12                | -                        | -                   | 11.24   | 5.89    | 5.78    | -                     | -                       |  |
| Technology transfer                                                                              |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Acquisition of intellectual capital, R million                                                   | 31 <sup>RA</sup>     | 54 <sup>RA</sup>      | _                   | -                        | _                   |         |         |         |                       |                         |  |
| Skills development, number of people                                                             | 54 <sup>RA</sup>     | 29 <sup>RA</sup>      | _                   | _                        | _                   |         |         |         |                       |                         |  |
| ob creation, number of people                                                                    | 69 <sup>RA</sup>     | 54 <sup>RA</sup>      | -                   | -                        | -                   |         |         |         |                       |                         |  |
| Employment equity                                                                                |                      |                       |                     |                          |                     |         |         |         |                       |                         |  |
| Disabilities, number of employees                                                                | 1 263                | 27                    | 1 294               | I 283 <sup>RA</sup>      | 1 126 <sup>RA</sup> | 1 396   | 3       | 1 325   | 1 305 <sup>ra</sup>   | 37 <sup>r</sup>         |  |
| Employment equity – disability, %                                                                | 3.01RA               | 2.97                  | 3.12 <sup>RA</sup>  | 2.99 <sup>RA</sup>       | 2.59 <sup>RA</sup>  |         | 2.73    | 2.89    | 2.77 <sup>RA</sup>    | 2.43                    |  |
|                                                                                                  |                      |                       |                     |                          |                     | 2.93    |         |         |                       |                         |  |
| Racial equity in senior management, % black employees                                            | 65.77RA              | 60.90                 | 61.58 <sup>RA</sup> | 59.50 <sup>RA</sup>      | 58.30 <sup>RA</sup> | 65.80   | 61.06   | 61.70   | 59.30 <sup>RA</sup>   | 58.40                   |  |
| Racial equity in professionals and middle management, % black employees                          | 73.60RA              | 71.98                 | 72.28 <sup>RA</sup> | 71.20 <sup>RA</sup>      | 69.60               | 73.50   | 71.68   | 71.77   | 70.60 <sup>RA</sup>   | 69.00                   |  |
| Gender equity in senior management, % female employees                                           | 36.69RA              | 28.07                 | 29.83 <sup>RA</sup> | 28.90 <sup>RA</sup>      | 28.20 <sup>RA</sup> | 36.58   | 28.13   | 29.82   | 28.80 <sup>RA</sup>   | 28.50                   |  |
| Gender equity in professionals and middle management, % female employees                         | 36.65RA              | 36.01                 | 36.10 <sup>RA</sup> | 35.80 <sup>RA</sup>      | 34.60               | 35.98   | 35.11   | 35.29   | 34.90                 | 34.00                   |  |

I. Ratios impacted by the restatements in the annual financial statements were restated where possible.

RA Reasonable assurance provided by the independent assurance provider. Refer to pages 122 to 125 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 2017

| Category                                            | 2016/17       | 2015/16   | 2014/15   | 2013/14   | 2012/13   |
|-----------------------------------------------------|---------------|-----------|-----------|-----------|-----------|
| Number of Eskom custome                             | ers           |           |           |           |           |
| Local                                               | 5 976 546     | 5 688 629 | 5 477 591 | 5 232 904 | 5 013 435 |
| Distributors                                        | 802           | 801       | 804       | 801       | 795       |
| Residential <sup>1</sup>                            | 5 838 754     | 5 550 307 | 5 338 723 | 5 093 847 | 4 874 004 |
| Commercial                                          | 50 956        | 50 816    | 50 613    | 50 425    | 50 399    |
| Industrial                                          | 2 706         | 2 733     | 2 773     | 2 781     | 2 789     |
| Mining                                              | 1 012         | 1 013     | 1 034     | 1 054     | 062       |
| Agricultural                                        | 81 806        | 82 450    | 83 136    | 83 489    | 83 877    |
| Rail                                                | 510           | 509       | 508       | 507       | 509       |
| International                                       |               | II        | 11        | 11        | П         |
| Utilities                                           | 7             | 7         | 7         | 7         | 7         |
| End users across the border                         | 4             | 4         | 4         | 4         | 4         |
|                                                     | 5 976 557     | 5 688 640 | 5 477 602 | 5 232 915 | 5 013 446 |
| Electricity sales per custom<br>GWh                 | ner category, |           |           |           |           |
| Local                                               | 199 028       | 201 022   | 204 274   | 205 525   | 202 770   |
| Distributors                                        | 89 718        | 89 591    | 91 090    | 91 262    | 91 386    |
| Residential                                         | 11 863        | 11 917    | 11 586    | 11 017    | 10 390    |
| Commercial                                          | 10 339        | 10 150    | 9 644     | 9 605     | 9 519     |
| Industrial                                          | 48 295        | 50 150    | 53 467    | 54 658    | 51 675    |
| Mining                                              | 30 559        | 30 629    | 29 988    | 30 667    | 31 611    |
| Agricultural                                        | 5 405         | 5 733     | 5 401     | 5 191     | 5 193     |
| Rail                                                | 2 849         | 2 852     | 3 098     | 3 125     | 2 996     |
| International                                       | 15 093        | 13 465    | 12 000    | 12 378    | 13 791    |
| Utilities                                           | 5 750         | 4 018     | 2 797     | 3 401     | 4 659     |
| End users across the border                         | 9 343         | 9 447     | 9 203     | 8 977     | 9 132     |
|                                                     | 214 121       | 214 487   | 216 274   | 217 903   | 216 561   |
| International sales to coun<br>southern Africa, GWh | tries in      |           |           |           |           |
| southern Africa, Gwn                                | 15 093        | 13 465    | 12 000    | 12 378    | 13 791    |
| Botswana                                            | 984           | I 099     | I 237     | I 608     | 2 574     |
| Lesotho                                             | 252           | 205       | 230       | 122       | 255       |
| Mozambique                                          | 8 120         | 8 281     | 8 360     | 8 3 4     | 8 284     |
| Namibia                                             | 2 089         | I 746     | 924       | 1 248     | 1 822     |
| Swaziland                                           | 986           | I 044     | 882       | 741       | 598       |
| Zambia                                              | 352           | 344       | 16        | 143       | 253       |
| Zimbabwe                                            | 1 743         | 252       | 108       | 154       | 3         |
| Short-term energy market <sup>2</sup>               | 567           | 494       | 243       | 48        | 2         |

1. Prepayments and public lighting are included under residential.

2. 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                                                           | 2016/17 | 2015/16 | 2014/15 | 2013/14 | 2012/13 |
|--------------------------------------------------------------------|---------|---------|---------|---------|---------|
| Electricity revenue per customer category,<br>R million            |         |         |         |         |         |
| Local                                                              | 167 813 | 154 959 | 140 074 | 129 688 | 114 307 |
| Distributors                                                       | 73 009  | 66 396  | 60 051  | 55 371  | 49 891  |
| Residential                                                        | 14 070  | 12 884  | 11 361  | 10 181  | 9 044   |
| Commercial                                                         | 11 279  | 10 157  | 8 599   | 7 940   | 6 972   |
| Industrial                                                         | 32 701  | 31 412  | 30 377  | 28 305  | 23 543  |
| Mining                                                             | 25 915  | 23 895  | 20 848  | 19 829  | 17 620  |
| Agricultural                                                       | 7 659   | 7 349   | 6 247   | 5 645   | 5 180   |
| Rail                                                               | 2 990   | 2 755   | 2 591   | 2 417   | 2 057   |
| IPP network charge                                                 | 190     | 111     | -       | -       | -       |
| International                                                      | 10 682  | 8 055   | 6 306   | 5 887   | 5 892   |
| Utilities                                                          | 6 632   | 4 163   | 2 988   | 2 837   | 3 149   |
| End users across the border                                        | 4 050   | 3 892   | 3 318   | 3 050   | 2 743   |
| Gross electricity revenue                                          | 178 495 | 163 014 | 146 380 | 135 575 | 120 199 |
| Environmental levy included in revenue <sup>2</sup>                | 512     | 513     | 485     | 1 322   | 6 464   |
| Less: Revenue capitalised <sup>3</sup>                             | (717)   | (367)   | _       | (28)    | _       |
| Less: IAS 18 revenue reversal <sup>4</sup>                         | (3 196) | (1 472) | (597)   | -       | -       |
| Electricity revenue per note 32 in the annual financial statements | 175 094 | 161 688 | 146 268 | 136 869 | 126 663 |

I. Prepayments and public lighting are included under residential.

2. The environmental levy of 2c/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 R3 196 million was thus not recognised at 31 March 2017.

# **Power station capacities**

at 31 March 2017

The difference between installed and nominal capacity reflects auxiliary power consumption and reduced capacity caused by the age of plant.

| Name of station                               | Location       | Years<br>commissioned,<br>first to last unit | Number and<br>installed capacity<br>of generator sets<br>MW | Total<br>installed<br>capacity<br>MW | Tota<br>nomina<br>capacit<br>MV |
|-----------------------------------------------|----------------|----------------------------------------------|-------------------------------------------------------------|--------------------------------------|---------------------------------|
| Base-load stations                            |                |                                              |                                                             |                                      |                                 |
| Coal-fired (14)                               |                |                                              |                                                             | 38 548                               | 36 44                           |
| Arnot                                         | Middelburg     | Sep 1971 to Aug 1975                         | 1x370; 1x390; 2x396; 2x400                                  | 2 352                                | 2 23                            |
| Camden <sup>1, 2</sup>                        | Ermelo         | Mar 2005 to Jun 2008                         | 3x200; 1x196; 2x195; 1x190; 1x185                           | 56                                   | I 48                            |
| Duvha <sup>3</sup>                            | Emalahleni     | Aug 1980 to Feb 1984                         | 6x600                                                       | 3 600                                | 3 45                            |
| Grootvlei                                     | Balfour        | Apr 2008 to Mar 2011                         | 4x200; 2x190                                                | I 180                                | 2                               |
| Hendrina <sup>2</sup>                         | Middelburg     | May 1970 to Dec 1976                         | 4x200; 3x195; 2x170; 1x168                                  | I 893                                | 1 79                            |
| Kendal <sup>4</sup>                           | Emalahleni     | Oct 1988 to Dec 1992                         | 6x686                                                       | 4 116                                | 3 84                            |
| Komati <sup>I. 2</sup>                        | Middelburg     | Mar 2009 to Oct 2013                         | 4×100; 4×125; 1×90                                          | 990                                  | 90                              |
| Kriel                                         | Bethal         | May 1976 to Mar 1979                         | 6x500                                                       | 3 000                                | 2 85                            |
| Lethabo                                       | Vereeniging    | Dec 1985 to Dec 1990                         | 6×618                                                       | 3 708                                | 3 55                            |
| Majuba⁴                                       | Volksrust      | Apr 1996 to Apr 2001                         | 3×657; 3×713                                                | 4 110                                | 3 84                            |
| Matimba <sup>4</sup>                          | Lephalale      | Dec 1987 to Oct 1991                         | 6x665                                                       | 3 990                                | 3 69                            |
| Matla                                         | Bethal         | Sep 1979 to Jul 1983                         | 6x600                                                       | 3 600                                | 3 45                            |
| Tutuka                                        | Standerton     | Jun 1985 to Jun 1990                         | 6×609                                                       | 3 654                                | 3 51                            |
| Medupi⁴                                       | Lephalale      | Unit 6: Aug 2015                             | 6x794                                                       | 794                                  | 72                              |
| Kusile⁴                                       | Ogies          | Under construction                           | 6×800                                                       |                                      |                                 |
| Nuclear (I)                                   |                |                                              |                                                             | LI                                   |                                 |
| Koeberg                                       | Cape Town      | Jul 1984 to Nov 1985                         | 2×970                                                       | I 940                                | 1 86                            |
| Peaking stations                              |                |                                              |                                                             |                                      |                                 |
| Gas/liquid fuel                               |                |                                              |                                                             |                                      |                                 |
| turbine stations (4)                          |                |                                              |                                                             | 2 426                                | 2 40                            |
| Acacia                                        | Cape Town      | May 1976 to Jul 1976                         | 3×57                                                        | 171                                  | 17                              |
| Ankerlig                                      | Atlantis       | Mar 2007 to Mar 2009                         | 4×149.2; 5×148.3                                            | 1 338                                | 1 32                            |
| Gourikwa                                      | Mossel Bay     | Jul 2007 to Nov 2008                         | 5x149.2                                                     | 746                                  | 74                              |
| Port Rex                                      | East London    | Sep 1976 to Oct 1976                         | 3x57                                                        | 171                                  | 17                              |
| TOTTREX                                       | Last London    | 3cp 1770 to Oct 1770                         | 3,37                                                        |                                      | 17                              |
| Pumped storage<br>schemes (3) <sup>5</sup>    |                |                                              |                                                             | 2 732                                | 2 72                            |
| Drakensberg                                   | Bergville      | Jun 1981 to Apr 1982                         | 4×250                                                       | 1 000                                | 1 00                            |
| Ingula                                        | Ladysmith      | Jun 2016 to Feb 2017                         | 4×333                                                       | 1 332                                | 1 32                            |
| Palmiet                                       | Grabouw        | Apr 1988 to May 1988                         | 2×200                                                       | 400                                  | 40                              |
| Hydroelectric                                 | Grabball       | , p. 1700 to 114, 1700                       |                                                             |                                      |                                 |
| stations (2) <sup>6</sup>                     |                |                                              |                                                             | 600                                  | 60                              |
| Gariep                                        | Norvalspont    | Sep 1971 to Mar 1976                         | 4×90                                                        | 360                                  | 36                              |
| Vanderkloof                                   | Petrusville    | Jan 1977 to Feb 1977                         | 2×120                                                       | 240                                  | 24                              |
| Renewables<br>Wind energy (I)                 |                |                                              |                                                             |                                      |                                 |
| Sere                                          | Vredendal      | Mar 2015                                     | 46×2.2                                                      | 100                                  | 10                              |
| Solar energy                                  |                |                                              |                                                             |                                      |                                 |
| Concentrated solar power <sup>7</sup>         | Upington       | Cancelled                                    | -                                                           | -                                    |                                 |
| Other hydroelectric stations (4) <sup>8</sup> |                |                                              |                                                             | 61                                   |                                 |
| Colley Wobbles                                | Mbashe River   |                                              | 3×14                                                        | 42                                   |                                 |
| First Falls                                   | Umtata River   |                                              | 2×3                                                         | 6                                    |                                 |
| Ncora                                         | Ncora River    |                                              | 2x3<br>2x0.4; 1x1.3                                         | 2                                    |                                 |
| Second Falls                                  | Umtata River   |                                              | 2x0.4, 1x1.5<br>2x5.5                                       |                                      |                                 |
|                                               | apacition (20) |                                              |                                                             | 46 407                               | 44 13                           |
| Total power station of                        |                |                                              |                                                             |                                      |                                 |

| Name of station                                | Total<br>nominal<br>capacity<br>MW |
|------------------------------------------------|------------------------------------|
| Nominal capacity of Eskom-owned power stations | 44 134                             |
| IPP capacity                                   | 5 027                              |
| Solar energy                                   | 474                                |
| Wind                                           | 4 9                                |
| Gas/liquid fuel                                | I 258                              |
| Coal                                           | 455                                |
| Concentrated solar power                       | 200                                |
| Hydroelectric                                  | 14                                 |
| Other                                          | 207                                |
|                                                | 49 161                             |

1. 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.

Grootviel 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 installed capacity) 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 is restricted to periods of peak demand, dependent on the availability of water in the Gariep and Vanderkloof Dams.

7. The concentrated solar project (100MW) previously shown as under construction has been cancelled.

8. Installed and operational, but not included for capacity management purposes.



# Power lines and substations in service

at 31 March 2017

| Category                                  | 2016/17 | 2015/16 | 2014/15 | 2013/14 | 2012/13 |
|-------------------------------------------|---------|---------|---------|---------|---------|
| Power lines                               |         |         |         |         |         |
| Transmission power lines, km <sup>1</sup> | 32 220  | 31 957  | 31 107  | 29 924  | 29 29   |
| 765kV                                     | 2 782   | 2 608   | 2 235   | 2 235   | 1 66    |
| 533kV DC (monopolar)                      | 1 035   | 1 035   | I 035   | I 035   | 1 03    |
| 400kV <sup>2</sup>                        | 18 943  | 18 872  | 18 377  | 17 011  | 16 89   |
| 275kV                                     | 7 358   | 7 343   | 7 361   | 7 361   | 7 36    |
| 220kV                                     | I 220   | 2 7     | 2 7     | 2 7     | 2       |
| 132kV                                     | 882     | 882     | 882     | I 065   | 1 11    |
| Distribution power lines, km              | 48 805  | 49 210  | 48 278  | 46 093  | 44 39   |
| 132kV and higher                          | 25 011  | 25 528  | 24 929  | 22 719  | 21 50   |
| 33 to 88kV                                | 23 794  | 23 682  | 23 349  | 23 374  | 22 88   |
| Reticulation power lines, km              |         |         |         |         |         |
| 22kV and lower                            | 296 188 | 288 550 | 281 510 | 276 027 | 269 57  |
| Underground cables, km                    | 7 499   | 7 571   | 7 436   | 7 293   | 7 02    |
| 132kV and higher                          | 75      | 66      | 65      | 65      | 6       |
| 33 to 88kV                                | 215     | 375     | 361     | 364     | 21      |
| 22kV and lower                            | 7 209   | 7 130   | 7 010   | 6 864   | 6 74    |
| Total all power lines, km                 | 384 712 | 377 287 | 368 331 | 359 337 | 350 28  |
| Total transformer capacity, MVA           | 276 583 | 244 637 | 239 490 | 232 179 | 225 79  |
| Transmission, MVA <sup>3</sup>            | 147 415 | 143 440 | 139 610 | 138 350 | 135 84  |
| Distribution and reticulation, MVA        | 129 168 | 101 197 | 99 880  | 93 829  | 89 95   |
| Total transformers, number                | 375 995 | 342 387 | 335 242 | 329 314 | 320 50  |
| Transmission, number                      | 433     | 427     | 423     | 420     | 41      |
| Distribution and reticulation, number     | 372 562 | 341 960 | 334 819 | 328 894 | 320 08  |

I. Transmission power line lengths are included as per distances from the Geographic Information System (GIS).

 The Majuba Umfolozi No 1 765kV 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 ≥30MVA and primary voltage ≥132kV.

## **Benchmarking information**

The fact sheet details the benchmarking exercises undertaken by the Generation Division.

### **Coal-fired stations**

VGB worst quartile

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 has historically been consistent, although showing signs of instability from 2012 when a decline was observed
- Eskom units generally compare favourably with the VGB benchmark with respect to planned maintenance in the median and low quartiles, while Eskom's best performing units continue to be better than that of VGB benchmark units
- Since 2012, Eskom's UCLF performance showed a significant deterioration compared to the VGB benchmark on all quartiles
- With respect to the use of available plant (energy utilisation factor or EUF), all Eskom coal-fired units are performing at a level close to, and in many cases above, the VGB best quartile, an indication that Eskom is running its power station units at much higher levels than the VGB benchmark units

VGB best quartile



.... Eskom median

#### Energy availability factor (EAF), all coal sizes (82 VGB units, excluding Eskom units), %

Eskom worst quartile

VGB median



Eskom best quartile

## **Benchmarking information**

continued



Planned capability loss factor (PCLF), all coal sizes (82 VGB units, excluding Eskom units), %





Energy utilisation factor (EUF), all coal sizes (82 VGB units, excluding Eskom units), %

- VGB worst quartile 🛛 ••• Eskom worst quartile - VGB median - ••• Eskom median - VGB best quartile -••• Eskom best quartile

## **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 routine WANO peer review of Koeberg was carried out in February 2017.

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 have received such accreditation.

For the review period, Koeberg performance has generally been better than the 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.



Unit capability factor (UCF) for all pressurised water reactor (PWR) units worldwide, %

- Worldwide PWR worst quartile

Worldwide PWR worst guartile

••• Koeberg mear

•••• Koeberg mean



Worldwide PWR median

- Worldwide PWR best quartile

Worldwide PWR best guartile



Unplanned capability loss factor (UCLF) for all pressurised water reactor (PWR) units worldwide, %



Worldwide PWR median

# **Benchmarking information**

Worldwide PWR worst guartile

continued

••• Koeberg mean



2-month collective radiation exposure (CRE) for all pressurised water reactor (PWR) units worldwide, man-Sieverts per unit Worldwide PWR median



Worldwide PWR best quartile



 Worldwide PWR worst guartile
 Worldwide PWR median ••• Koeberg mean Worldwide PWR best quartile



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:

Environmental implications of using or saving electricity

211.1Mt of CO<sub>2</sub> ÷ 214 121GWh of sales = 0.99 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 electricity consumption): 211.1Mt ÷ (220 166GWh generated less 4 808GWh own consumption) = 0.98 tons per MWh

| Figures represent the 12-month | period from | I April 2016 | to 31 | March 2017. |
|--------------------------------|-------------|--------------|-------|-------------|
|--------------------------------|-------------|--------------|-------|-------------|

|                                        | Factor I               |                             | 1        | f electricity | consumption is mea | easured in:         |  |
|----------------------------------------|------------------------|-----------------------------|----------|---------------|--------------------|---------------------|--|
|                                        | (total energy<br>sold) | (total energy<br>generated) | k₩h      | MWh           | GWh                | TWh                 |  |
| Coal use                               | 0.53                   | 0.53                        | kilogram | ton           | thousand tons (kt) | million tons (Mt)   |  |
| Water use <sup>1</sup>                 | 1.44                   | 1.43                        | litre    | kilolitre     | megalitre (Ml)     | thousand megalitres |  |
| Ash produced                           | 152                    | 151                         | gram     | kilogram      | ton                | thousand tons (kt)  |  |
| Particulate<br>emissions               | 0.30                   | 0.30                        | gram     | kilogram      | ton                | thousand tons (kt)  |  |
| CO, emissions <sup>2</sup>             | 0.99                   | 0.98                        | kilogram | ton           | thousand tons (kt) | million tons (Mt)   |  |
| SO <sub>2</sub> emissions <sup>2</sup> | 8.25                   | 8.20                        | gram     | kilogram      | ton                | thousand tons (kt)  |  |
| NO <sup>°</sup> emissions <sup>3</sup> | 4.13                   | 4.11                        | gram     | kilogram      | ton                | thousand tons (kt)  |  |

1. 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 2: CO <sub>2</sub> emissions        |  |
|---------------------------------------------|--|
| Using Factor I                              |  |
| Used 90MWh of electricity                   |  |
| 90 × 0.99 = 89.1                            |  |
| Therefore 89.1 tons CO <sub>2</sub> emitted |  |
| Using Factor 2                              |  |
| Used 90MWh of electricity                   |  |
| 90 × 0.98 = 88.2                            |  |
| Therefore 88.2 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

# **Board and Exco** meeting attendance

## Attendance at Board and committee meetings for the year ended 31 March 2017

| Members                                                                 | Board  | Audit<br>and Risk | Investment<br>and<br>Finance | People and<br>Governance | Board<br>Recovery<br>and Build<br>Programme | Social,<br>Ethics and<br>Sustainability | Board<br>Tender |
|-------------------------------------------------------------------------|--------|-------------------|------------------------------|--------------------------|---------------------------------------------|-----------------------------------------|-----------------|
| Total number of meetings                                                | 17     | 5                 | 9                            | 7                        | I                                           | 4                                       | 13              |
| Independent non-executiv                                                | es     |                   |                              |                          |                                             |                                         |                 |
| Current members                                                         |        |                   |                              |                          |                                             |                                         |                 |
| Dr BS Ngubane                                                           | *16/17 |                   |                              | 4/7                      | 1/1                                         |                                         |                 |
| Mr ZW Khoza                                                             | 16/17  |                   | 9/9                          | 7/7                      |                                             | 4/4                                     | *13/13          |
| Ms VJ Klein                                                             | 15/17  | 5/5               | 9/9                          | *7/7                     |                                             | 4/4                                     |                 |
| Mr G Leonardi                                                           | 8/17   | 3/5               |                              | 2/7                      |                                             | 1/3                                     |                 |
| Ms C Mabude                                                             | 16/17  | *5/5              | *6/6                         | 5/7                      |                                             | 1/1                                     | 13/13           |
| Dr P Naidoo 14/                                                         |        | 5/5               | 9/9                          |                          | 1/1                                         | *4/4                                    | 10/10           |
| Previous members                                                        |        |                   |                              |                          |                                             |                                         |                 |
| Ms N Carrim<br>(resigned 30 June 2016)                                  | 3/3    |                   |                              | 2/2                      | 1/1                                         | 1/1                                     | 2/3             |
| Ms M Cassim<br>(resigned 14 April 2016)                                 | 0/0    |                   |                              |                          |                                             |                                         |                 |
| Mr R Kumalo<br>(resigned 12 April 2016)                                 | 0/0    |                   | 0/1                          |                          | 0/0                                         |                                         |                 |
| Ms DV Naidoo<br>(resigned 30 June 2016)                                 | 3/3    | 1/1               |                              |                          | 1/1                                         |                                         | 3/3             |
| Mr MV Pamensky<br>(resigned 25 November 2016)                           | 7/10   | 2/2               | 3/3                          |                          |                                             |                                         |                 |
| Executives                                                              |        |                   |                              |                          |                                             |                                         |                 |
| Mr A Singh                                                              | 15/17  |                   |                              |                          | 1/1                                         |                                         |                 |
| Mr B Molefe (went on early<br>retirement effective<br>31 December 2016) | 7/12   |                   |                              | 0/6                      | 0/1                                         | 0/3                                     |                 |

Attendance as reflected above refers to directors who were members of that committee during the year to 31 March 2017, and reflects changes due to rotation of members in committee memberships.

An asterisk denotes the chairmanship of the Board or committee at 31 March 2017.

The Board Recovery and Build Programme committee was dissolved on 30 June 2016.

## Attendance at Exco meetings for the year ended 31 March 2017

| Executive           | Divisional responsibility                                                                                            | Number of<br>meetings<br>attended |
|---------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Total number of mee | etings                                                                                                               | 9                                 |
| Mr B Molefe         | Group Chief Executive (went on early retirement effective 31 December 2016)                                          | 1/5                               |
| Mr MM Koko          | Interim Group Chief Executive (from 1 December 2016, previously Group Executive: Generation)                         | 7/9                               |
| Mr A Singh          | Chief Financial Officer                                                                                              | 8/9                               |
| Mr P Govender       | Acting Group Executive: Group Capital (from 22 March 2017)                                                           | 1/1                               |
| Mr T Govender       | Group Executive: Transmission and Sustainability                                                                     | 8/9                               |
| Mr W Majola         | Acting Group Executive: Generation (from I January 2017)                                                             | 1/3                               |
| Mr S Maritz         | Group Executive: Information Technology and Chief Information Officer<br>(from 1 June 2016)                          | 5/7                               |
| Mr AA Masango       | Group Executive: Office of the Group Chief Executive (from 22 March 2017, previously Group Executive: Group Capital) | 8/9                               |
| Ms A Noah           | Group Executive: Customer Services                                                                                   | 5/9                               |
| Mr MM Ntsokolo      | Group Executive: Distribution                                                                                        | 7/9                               |
| Ms EM Pule          | Group Executive: Human Resources (from 1 June 2016)                                                                  | 7/9                               |

# 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 2017. Our engagement was conducted by a team with relevant experience in sustainability reporting.

## Subject matter

www

Weare required to provide reasonable assurance on the following selected sustainability keyperformance 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 are available on Eskom's website, at www.eskom.co.za/OurCompany/SustainableDevelopment/Pages/Sustainable\_Development.aspx

| No.  | Indicator                                                                   | Unit of measure | Boundary      | Reporting criteria                    |  |
|------|-----------------------------------------------------------------------------|-----------------|---------------|---------------------------------------|--|
| Focι | is on safety                                                                |                 |               |                                       |  |
| I.   | Lost-time injury rate (LTIR) (excluding occupational diseases) <sup>1</sup> | Index           | Eskom         | Occupational Health<br>and Safety Act |  |
| Impi | rove operations                                                             |                 |               |                                       |  |
| 2.   | Planned capability loss factor (PCLF)                                       | Percentage      | Generation    |                                       |  |
| 3.   | Energy availability factor (EAF)                                            | Percentage      | Generation    |                                       |  |
| 4.   | System average interruption duration index (SAIDI)                          | Hours           | Distribution  | Eskom's measurement                   |  |
| 5.   | System average interruption frequency index (SAIFI)                         | Number          | Distribution  | specification                         |  |
| 6.   | System minutes <1                                                           | Minutes         | Transmission  |                                       |  |
| 7.   | Distribution total energy losses <sup>1</sup>                               | %               | Distribution  |                                       |  |
| Deli | ver capital expansion                                                       |                 |               |                                       |  |
| 8.   | Generation capacity installed and commissioned                              | MW              | Generation    |                                       |  |
| 9.   | Transmission lines installed                                                | Km              | Transmission  | Eskom's measurement specification     |  |
| 10.  | Transmission transformer capacity installed and commissioned                | MVA             | Transmission  |                                       |  |
| 11.  | Distribution capex for strengthening and refurbishment <sup>1</sup>         | Rands           | Distribution  |                                       |  |
| Redu | ice environmental footprint in existing fleet                               |                 |               |                                       |  |
| 12.  | Relative particulate emissions                                              | kg/MWh sent out | Generation    | Environmental Act                     |  |
| 13.  | Water usage                                                                 | ℓ/kWh sent out  | Generation    | Water Act                             |  |
| 14.  | Migration of coal delivery volume from road to rail                         | Mt              | Generation    | Eskom's measurement                   |  |
| 15.  | Carbon dioxide emissions <sup>2</sup>                                       | Mt              | Generation    | specification                         |  |
| Com  | pliance capital investments                                                 |                 |               |                                       |  |
| 16.  | N-I compliance – new build <sup>i</sup>                                     | R million       | Group Capital | Eskom's measurement                   |  |
| 17.  | Environmental compliance <sup>1</sup>                                       | R million       | Group Capital | specification                         |  |

| No.  | Indicator                                                                                    | Unit of measure                  | Boundary | Reporting criteria                                        |  |
|------|----------------------------------------------------------------------------------------------|----------------------------------|----------|-----------------------------------------------------------|--|
| Ensu | ire financial sustainability                                                                 | •                                |          |                                                           |  |
| 18.  | Operating cost per employee <sup>1</sup>                                                     | R million/<br>full-time employee | Eskom    |                                                           |  |
| 19.  | Cash interest cover <sup>1</sup>                                                             | Ratio                            | Eskom    |                                                           |  |
| 20.  | Debt equity ratio                                                                            | Ratio                            | Eskom    |                                                           |  |
| 21.  | Free funds from operations as percentage of gross debt                                       | %                                | Eskom    | Eskom's measurement                                       |  |
| 22.  | Business productivity programme savings                                                      | R                                | Eskom    | specification                                             |  |
| 23.  | Free funds from operations as percentage of capex <sup>1</sup>                               | %                                | Eskom    |                                                           |  |
| 24.  | Average debtors days for municipalities, top customers,<br>LPUs and SPUs (excluding Soweto)' | Days                             | Eskom    |                                                           |  |
| 25.  | Coal purchased                                                                               | R/ton                            | Eskom    |                                                           |  |
| Hum  | nan capital                                                                                  |                                  |          |                                                           |  |
| 26.  | Training spend as % of gross manpower costs                                                  | %                                | Eskom    |                                                           |  |
| 27.  | Learner intake <sup>i</sup>                                                                  | Number                           | Eskom    |                                                           |  |
| 28.  | Disability equity in total workforce                                                         | %                                | Eskom    |                                                           |  |
| 29.  | Racial equity in senior management                                                           | %                                | Eskom    | Eskom's measurement<br>specification                      |  |
| 30.  | Gender equity in senior management                                                           | %                                | Eskom    |                                                           |  |
| 31.  | Racial equity in professional and middle management                                          | %                                | Eskom    |                                                           |  |
| 32.  | Gender equity in professional and middle management                                          | %                                | Eskom    | 1                                                         |  |
| Ecor | nomic impact                                                                                 | ·                                |          | ·                                                         |  |
| 33.  | Percentage of local content contracted in new build                                          | %                                | Eskom    | <b>F I I</b>                                              |  |
| 34.  | Percentage of local sourcing in procurement<br>(Eskom wide)                                  | %                                | Eskom    | <ul> <li>Eskom's measurement<br/>specification</li> </ul> |  |
| 35.  | Percentage of B-BBEE attributable spend against total measured procurement spend (TMPS)      | %                                | Eskom    |                                                           |  |
| 36.  | Percentage of BO attributable spend against TMPS                                             | %                                | Eskom    |                                                           |  |
| 37.  | Percentage of BWO attributable spend against TMPS                                            | %                                | Eskom    | B-BBEE amended codes                                      |  |
| 38.  | Percentage of BYO attributable spend against TMPS                                            | %                                | Eskom    | of good practice                                          |  |
| 39.  | Percentage of BPLwD attributable spend against TMPS                                          | %                                | Eskom    |                                                           |  |
| 40.  | Percentage of QSE attributable spend against TMPS                                            | %                                | Eskom    |                                                           |  |
| 41.  | Percentage of EME attributable spend against TMPS                                            | %                                | Eskom    |                                                           |  |
| 42.  | Technology transfer (acquisition of intellectual property)                                   | Number                           | Eskom    |                                                           |  |
| 43.  | Technology transfer (skills development)                                                     | Number                           | Eskom    | Eskom's measurement specification                         |  |
| 44.  | Technology transfer (job creation)                                                           | Number                           | Eskom    |                                                           |  |
| Elec | trification                                                                                  |                                  |          |                                                           |  |
| 45.  | Department of Energy funded electrification connections <sup>2</sup>                         | Number                           | Eskom    | Eskom's measurement specification                         |  |
|      |                                                                                              |                                  |          |                                                           |  |

1. Not assured in the prior year.

2. Not included in the shareholder compact.

# Independent sustainability assurance report continued

## **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 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
- 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 judgment 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
- 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 coal-fired 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 Learner intake KPI could not be established in 33% of the sites visited due to inadequate processes and systems in place to ensure that all learners are accounted for.

The validity and accuracy of the Coal migration KPI could not be confirmed as the processes and systems put in place to collate, review and monitor the data that supports the reliable measurement of the KPI are not complied with. The alternative procedures performed confirmed the weaknesses in the environment. Furthermore the completeness of the number reported could not be ascertained.

The validity, accuracy and completeness of the Local content (Eskom-wide and new build) KPI could not be confirmed due to audit evidence that was not sufficient and appropriate to validate these assertions.

### Conclusion

In our opinion, except for the effects of the matters 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

Our report includes the provision of reasonable assurance on selected KPIs, on which we were previously not required to provide assurance, as indicated in the table above. Hence, with regard to these KPIs, the current year information relating to prior reporting periods has not been subject to assurance procedures. 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.

the

SizweNtsalubaGobodo Inc. Registered auditors

**Per BF Zwane** Chartered Accountant (SA) Director

15 June 2017

# **GRI G4** indicator table

We have provided some GRI disclosures in our 2017 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                        |
| G4-1   | Statement from most senior decision-maker about the relevance<br>of sustainability and the organisation's strategy for addressing<br>sustainability. The statement should present the overall vision and<br>strategy for the short term, medium term, and long term, particularly<br>with regard to managing the significant economic, environmental and<br>social impacts that the organisation causes and contributes to, or the<br>impacts that can be linked to its activities as a result of relationships<br>with others (such as suppliers, people or organisations in local<br>communities) | Chairman's statement, page 3                                                                                                                                                                                                                                                                                                                                                           |
| G4-2   | Description of key impacts, risks, and opportunities (including<br>the organisation's key impacts on sustainability and effects on<br>stakeholders, and the impact of sustainability trends, risks, and<br>opportunities on the long-term prospects and financial performance<br>of the organisation)                                                                                                                                                                                                                                                                                               | Our strategic risks, pages 29 and 30<br>Identifying and prioritising opportunities, page 30                                                                                                                                                                                                                                                                                            |
| Organ  | isational profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                        |
| G4-3   | Report the name of the organisation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Contact details, page 132                                                                                                                                                                                                                                                                                                                                                              |
| G4-4   | Report the primary brands, products, and services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Our mandate, vision and mission, page 4                                                                                                                                                                                                                                                                                                                                                |
| G4-5   | Report the location of the organisation's headquarters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Legal structure, page 11                                                                                                                                                                                                                                                                                                                                                               |
| G4-6   | Report the number of countries where the organisation operates,<br>and names of countries where either the organisation has significant<br>operations or that are specifically relevant to the sustainability topics<br>covered in the report                                                                                                                                                                                                                                                                                                                                                       | Legal structure, page 11                                                                                                                                                                                                                                                                                                                                                               |
| G4-7   | Report the nature of ownership and legal form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Our mandate, vision and mission, page 4                                                                                                                                                                                                                                                                                                                                                |
| G4-8   | Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Nature of our business and customer base, pages<br>4 and 5<br>Fact sheet on customer information, page 110                                                                                                                                                                                                                                                                             |
| G4-9   | Report the scale of the organisation (including total number of<br>employees, operations, net sales, total capitalisation broken down<br>in terms of debt and equity, and quantity of products or services<br>provided)                                                                                                                                                                                                                                                                                                                                                                             | Eskom's energy wheel, page 7<br>Our business model, page 9<br>Our impact on the capitals, page 10<br>Building sustainable skills – Headcount, page 67<br>Fact sheet on customer information, pages 110<br>and 111                                                                                                                                                                      |
| G4-10  | Report the total number of employees by employment contract<br>and gender, as well as permanent employees, supervised workforce,<br>workforce by region and gender, workers legally recognised as self-<br>employed, or employees of contractors, and significant variations in<br>employment numbers (due to seasonal variations)                                                                                                                                                                                                                                                                  | Building sustainable skills – Headcount, page 67<br>Transformation and social sustainability –<br>Improving internal transformation, page 72                                                                                                                                                                                                                                           |
| G4-11  | Report the percentage of total employees covered by collective bargaining agreements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Building sustainable skills – Headcount, page 67                                                                                                                                                                                                                                                                                                                                       |
| G4-12  | Describe the organisation's supply chain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Transformation and social sustainability – Our<br>contribution to supplier development, page 71                                                                                                                                                                                                                                                                                        |
| 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<br>charters, principles, or other initiatives to which the organisation<br>subscribes or which it endorses                                                                                                                                                                                                                                                                                                                                                                                                                             | United Nations Global Compact; other key UN<br>initiatives, such as the CEO Water Mandate,<br>Caring for Climate, as well as Sustainable Energy<br>for All; Carbon Disclosure Project. We are also a<br>UNGC LEAD company, recognised for leadership<br>in the sustainability field. We are a member of the<br>IIRC's <ir> Business Network and Public Sector<br/>Pioneer Network</ir> |

| Ref     | Description                                                                                                                                                                                                                                                                                                                                | Reference                                                                                                                                                                                                                                                                                    |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G4-16   | List memberships of associations (such as industry associations)<br>and national or international advocacy organisations in which the<br>organisation holds a position on the governance body, participates in<br>projects or committees, provides substantive funding beyond routine<br>membership dues, or views membership as strategic | Our key strategic international memberships<br>include Electric Power Research Institute<br>(EPRI), World Economic Forum (WEF), World<br>Association of Nuclear Operators (WANO),<br>Pressurised Water Reactor Owners' Group<br>(PWROG), and Institute of Nuclear Power<br>Operations (INPO) |
| EUI     | Installed capacity, broken down by primary energy source and by regulatory regime                                                                                                                                                                                                                                                          | Nature of our business and customer base, page<br>Fact sheet on power station capacities, page 112                                                                                                                                                                                           |
| EU2     | Net energy output broken down by primary energy source and by regulatory regime                                                                                                                                                                                                                                                            | Eskom's energy wheel, page 7                                                                                                                                                                                                                                                                 |
| EU3     | Number of residential, industrial, institutional and commercial customer accounts                                                                                                                                                                                                                                                          | Fact sheet on customer information, page 110                                                                                                                                                                                                                                                 |
| EU4     | Length of above and underground transmission and distribution lines by regulatory regime                                                                                                                                                                                                                                                   | Nature of our business and customer base, page<br>Fact sheet on power lines and substations in<br>service, page 114                                                                                                                                                                          |
| EU5     | Allocation of CO $_2 e$ emissions allowances or equivalent, broken down by carbon trading framework                                                                                                                                                                                                                                        | Not applicable – carbon budgets will only becom<br>mandatory from 2020                                                                                                                                                                                                                       |
| Identif | ied material aspects and boundaries                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                              |
| G4-17   | List all entities included in the organisation's consolidated financial<br>statements, and report any entity included in the organisation's<br>consolidated financial statements not covered by the report                                                                                                                                 | Legal structure, page 11<br>Annual financial statements, note 12                                                                                                                                                                                                                             |
| G4-18   | Explain the process for defining the report content and the Aspect<br>Boundaries, and how the organisation has implemented the Reporting<br>Principles for Defining Report Content                                                                                                                                                         | Basis of preparation, IFC<br>We believe that the principles of stakeholder<br>inclusiveness, sustainability context, materiality<br>and completeness have been addressed in this<br>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<br>The annual financial statements have been<br>restated – refer Key accounting policies,<br>significant judgements and estimates, page 81 au<br>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 groups, page 24<br>Stakeholder engagements and topics covered,<br>pages 25 and 26                                                                                                                                                                                                |
| G4-25   | Report the basis for identification and selection of stakeholders with whom to engage                                                                                                                                                                                                                                                      | Stakeholder groups, page 24                                                                                                                                                                                                                                                                  |
| 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 page 24                               |                                                                                                                                                                                                                                                                                              |
| G4-27   | Report key topics and concerns that have been raised through<br>stakeholder engagement, and how the organisation has responded<br>to those key topics and concerns, including through its reporting.<br>Report the stakeholder groups that raised each of the key topics and<br>concerns                                                   | Stakeholder engagements and topics covered, pages 25 and 26                                                                                                                                                                                                                                  |

# **GRI G4 indicator table**

continued

| Ref    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Reference                                                                                                                                                                                                                                                                                  |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report | profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                            |
| G4-28  | Reporting period (such as fiscal or calendar year) for information provided                                                                                                                                                                                                                                                                                                                                                                                                                                          | Reporting boundary and frameworks, IFC                                                                                                                                                                                                                                                     |
| G4-29  | Date of most recent previous report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Reporting boundary and frameworks, IFC                                                                                                                                                                                                                                                     |
| G4-30  | Reporting cycle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | We report annually                                                                                                                                                                                                                                                                         |
| G4-31  | Provide the contact point for questions regarding the report or its contents                                                                                                                                                                                                                                                                                                                                                                                                                                         | Comments may be sent to<br>IRfeedback@eskom.co.za (also noted on the inside<br>flap and under contact details)                                                                                                                                                                             |
| G4-32  | Report the "in accordance" option the organisation has chosen,<br>as well as the GRI Content Index for the chosen option, and the<br>reference to the External Assurance Report, if the report has been<br>externally assured                                                                                                                                                                                                                                                                                        | Not applicable. This report is not prepared in<br>accordance with GRI G4 reporting criteria,<br>although it contains some GRI disclosures                                                                                                                                                  |
| G4-33  | Report the organisation's policy and current practice with regard<br>to seeking external assurance for the report. If not included in the<br>assurance report accompanying the sustainability report, report the<br>scope and basis of any external assurance provided, as well as the<br>relationship between the organisation and the assurance providers.<br>Report whether the highest governance body or senior executives<br>are involved in seeking assurance for the organisation's sustainability<br>report | Assurance approach, IFC<br>Combined assurance, page 33                                                                                                                                                                                                                                     |
| Govern | ance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                            |
| G4-34  | Report the governance structure of the organisation, including<br>committees of the highest governance body. Identify any committees<br>responsible for decision-making on economic, environmental and<br>social impacts                                                                                                                                                                                                                                                                                             | Board of Directors and committees, pages 94 to<br>96. All Board committees play a role, although the<br>Social, Ethics and Sustainability Committee has<br>primary responsibility for sustainability matters                                                                               |
| G4-35  | Report the process for delegating authority for economic,<br>environmental and social topics from the highest governance body to<br>senior executives and other employees                                                                                                                                                                                                                                                                                                                                            | Executive responsibility has been delegated<br>to Mr Thava Govender, Group Executive:<br>Transmission and Sustainability, who reports to<br>the Group Chief Executive                                                                                                                      |
| G4-36  | Report whether the organisation has appointed an executive-level<br>position or positions with responsibility for economic, environmental<br>and social topics, and whether post holders report directly to the<br>highest governance body                                                                                                                                                                                                                                                                           | Executive responsibility has been delegated<br>to Mr Thava Govender, Group Executive:<br>Transmission and Sustainability, who reports to<br>the Group Chief Executive                                                                                                                      |
| G4-37  | Report processes for consultation between stakeholders and the<br>highest governance body on economic, environmental and social<br>topics. If consultation is delegated, describe to whom and any<br>feedback processes to the highest governance body                                                                                                                                                                                                                                                               | Consultation with stakeholders has been<br>delegated to the Stakeholder Relations<br>Department, which reports to the Board on a<br>quarterly basis                                                                                                                                        |
| G4-38  | Report the composition of the highest governance body and its<br>committees by executive or non-executive; independence; tenure on<br>the governance body; number of each individual's other significant<br>positions and commitments, and the nature of the commitments;<br>gender; membership of under-represented social groups;<br>competencies relating to economic, environmental and social impacts;<br>stakeholder representation                                                                            | Racial and gender equity of the Board of<br>Directors is noted on pages 20 and 21, as are<br>other significant commitments<br>Directors are appointed by the Minister of Public<br>Enterprises; no stakeholders other than the<br>shareholder are specifically represented on the<br>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<br>and its committees, and the criteria used for nominating and selecting<br>highest governance body members (including diversity, independence,<br>expertise and experience relating to economic, environmental and<br>social topics, and how stakeholders are involved)                                                                                                                                                                            | Board constitution and appointments, page 94<br>Board committees, page 95                                                                                                                                                                                                                  |
| G4-4I  | Report processes for the highest governance body to ensure conflicts<br>of interest are avoided and managed. Report whether conflicts of<br>interest are disclosed to stakeholders                                                                                                                                                                                                                                                                                                                                   | Code of Ethics, page 94                                                                                                                                                                                                                                                                    |

| Ref    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Reference                                                                                                                                                                                                            |  |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| G4-42  | Report the highest governance body's and senior executives' roles<br>in the development, approval, and updating of the organisation's<br>purpose, value or mission statements, strategies, policies, and goals<br>related to economic, environmental and social impacts                                                                                                                                                                                                                                                                      | Our leadership, page 19<br>Board of Directors and committees, pages 94<br>to 96                                                                                                                                      |  |
| G4-43  | Report the measures taken to develop and enhance the highest<br>governance body's collective knowledge of economic, environmental<br>and social topics                                                                                                                                                                                                                                                                                                                                                                                       | Director induction and training, page 95                                                                                                                                                                             |  |
| G4-44  | Report the processes for evaluation of the highest governance body's<br>performance with respect to governance of economic, environmental<br>and social topics. Report whether such evaluation is independent or<br>not, and its frequency, and whether it is a self-assessment. Report<br>actions taken in response to evaluation of the highest governance<br>body's performance with respect to governance of economic,<br>environmental and social topics, including, as a minimum, changes in<br>membership and organisational practice | Board evaluation, page 95                                                                                                                                                                                            |  |
| G4-45  | Report the highest governance body's role in the identification and<br>management of economic, environmental and social impacts, risks,<br>and opportunities. Include the highest governance body's role in<br>the implementation of due diligence processes. Report whether<br>stakeholder consultation is used to support the highest governance<br>body's identification and management of economic, environmental<br>and social impacts, risks, and opportunities                                                                        | Enterprise risk management process, page 28                                                                                                                                                                          |  |
| G4-46  | Report the highest governance body's role in reviewing the<br>effectiveness of the organisation's risk management processes for<br>economic, environmental and social topics                                                                                                                                                                                                                                                                                                                                                                 | Risk management and internal controls, page 3                                                                                                                                                                        |  |
| G4-47  | Report the frequency of the highest governance body's review of<br>economic, environmental and social impacts, risks, and opportunities                                                                                                                                                                                                                                                                                                                                                                                                      | At least quarterly                                                                                                                                                                                                   |  |
| G4-48  | Report the highest committee or position that formally reviews and<br>approves the organisation's sustainability report and ensures that all<br>material Aspects are covered                                                                                                                                                                                                                                                                                                                                                                 | Not applicable in the current year, as material<br>Aspects are not reported on, although the<br>Social, Ethics and Sustainability Committee<br>is responsible for ensuring the integrity of<br>information presented |  |
| G4-51  | Report the remuneration policies for the highest governance body<br>and senior executives for different types of remuneration, and how<br>performance criteria in the remuneration policy relate to the highest<br>governance body's and senior executives' economic, environmental<br>and social objectives                                                                                                                                                                                                                                 | Remuneration structure, page 98                                                                                                                                                                                      |  |
| G4-52  | Report the process for determining remuneration, and whether remuneration consultants are involved                                                                                                                                                                                                                                                                                                                                                                                                                                           | Our approach to remuneration, page 98                                                                                                                                                                                |  |
| Ethics | and integrity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                      |  |
| 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, pages 93 and 94                                                                                                                                                                                     |  |
| G4-57  | Report the internal and external mechanisms for seeking advice on<br>ethical and unlawful behavior, and matters related to organisational<br>integrity, such as helplines or advice lines                                                                                                                                                                                                                                                                                                                                                    | Code of Ethics, page 94                                                                                                                                                                                              |  |
| G4-58  | Report the internal and external mechanisms for reporting concerns<br>about unethical or unlawful behavior, and matters related to<br>organisational integrity, such as escalation through line management,<br>whistleblowing mechanisms or hotlines                                                                                                                                                                                                                                                                                         | Code of Ethics, page 94                                                                                                                                                                                              |  |

# **Compliance with Promotion of Access to Information Act**

This fact sheet contains our declaration in terms of Section 32 of the Promotion of Access to Information Act, 2000 (PAIA) for 2016/17.

The statistics required by South African Human Rights Commission are as follows:

|                                                                                                                          | 2016/17        |
|--------------------------------------------------------------------------------------------------------------------------|----------------|
| a. The number of requests for access received                                                                            | 67             |
| b. The number of requests for access granted in full                                                                     | 8              |
| c. The number of requests for access refused in full                                                                     | 6              |
| d. The number of requests for access refused partially                                                                   | 25             |
| e. The number of requests for access in process                                                                          | 18             |
| f. The number of internal appeals lodged                                                                                 | 6              |
| g. The number of internal appeals in process                                                                             | -              |
| h. The number of cases in which access was given as a result of internal appeal                                          | 3              |
| . The number of internal appeals lodged on the grounds that a request was regarded as having been refus<br>of Section 27 | sed in terms 2 |
| j. The number of applications ending up in court                                                                         | -              |
| k. The number of cases in which extension of 30 days were requested                                                      | 46             |

Eight formal requests were rejected as they were not in line with the requirements of the Act, while two were deferred.

In addition to these formal requests, we also dealt with informal requests lodged via the PAIA Portal, not in terms of the Act.

www

\_\_\_\_\_ Our PAIA manual is available on http://www.eskom.co.za/OurCompany/PAIA/Pages/Promotion\_Of\_Access\_To\_Information.aspx



Eddie Laubscher National Deputy Information Officer Eskom Holdings SOC Ltd

15 June 2017

# **Contact details**

| Telephone numbers            |                                                                                             | Websites and email addresses                       |                                        |
|------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------|
| Eskom head office            | +27    800 8                                                                                | Eskom website                                      | www.eskom.co.za<br>Contact@eskom.co.za |
| Eskom Media Desk             | +27    800 3304<br>+27    800 3309<br>+27    800 3343<br>+27    800 3378<br>+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    800 2323                                                                             | Eskom integrated results                           | www.eskom.co.za/IR2017                 |
| 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<br>CSI@eskom.co.za |
| National Sharecall number    | 08600 ESKOM or<br>08600 37566                                                               | Promotion of Access to<br>Information Act requests | PAIA@eskom.co.za                       |
| Customer SMS line            | 35328                                                                                       | Integrated demand management<br>and energy advice  | AdvisoryService@eskom.co.za            |
| CS (customer service) mobile | Dial *120*6937566# or<br>*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<br>2 Maxwell Drive<br>Sunninghill<br>Sandton<br>2157                     | PO Box 1091<br>Johannesburg<br>2000      |   |
| Group Company Secretary                                                                      | Company registration number              |   |
| Ms Suzanne Daniels<br>Office of the Company Secretary<br>PO Box 1091<br>Johannesburg<br>2000 | Eskom Holdings SOC Ltd<br>2002/015527/30 | Ø |

# **Our suite of reports**

Our 2017 suite of reports comprises the following:



#### Integrated report and supplementary information

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.



### Annual financial statements

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 are audited by our independent auditors.



## Foundation report

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 for the 2016/17 year. The Foundation will be absorbed into Eskom from 1 April 2017, although our CSI initiatives will continue.

www

All documents are available online at www.eskom.co.za/IR2017

## 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.

Eskom is a supporter member of

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