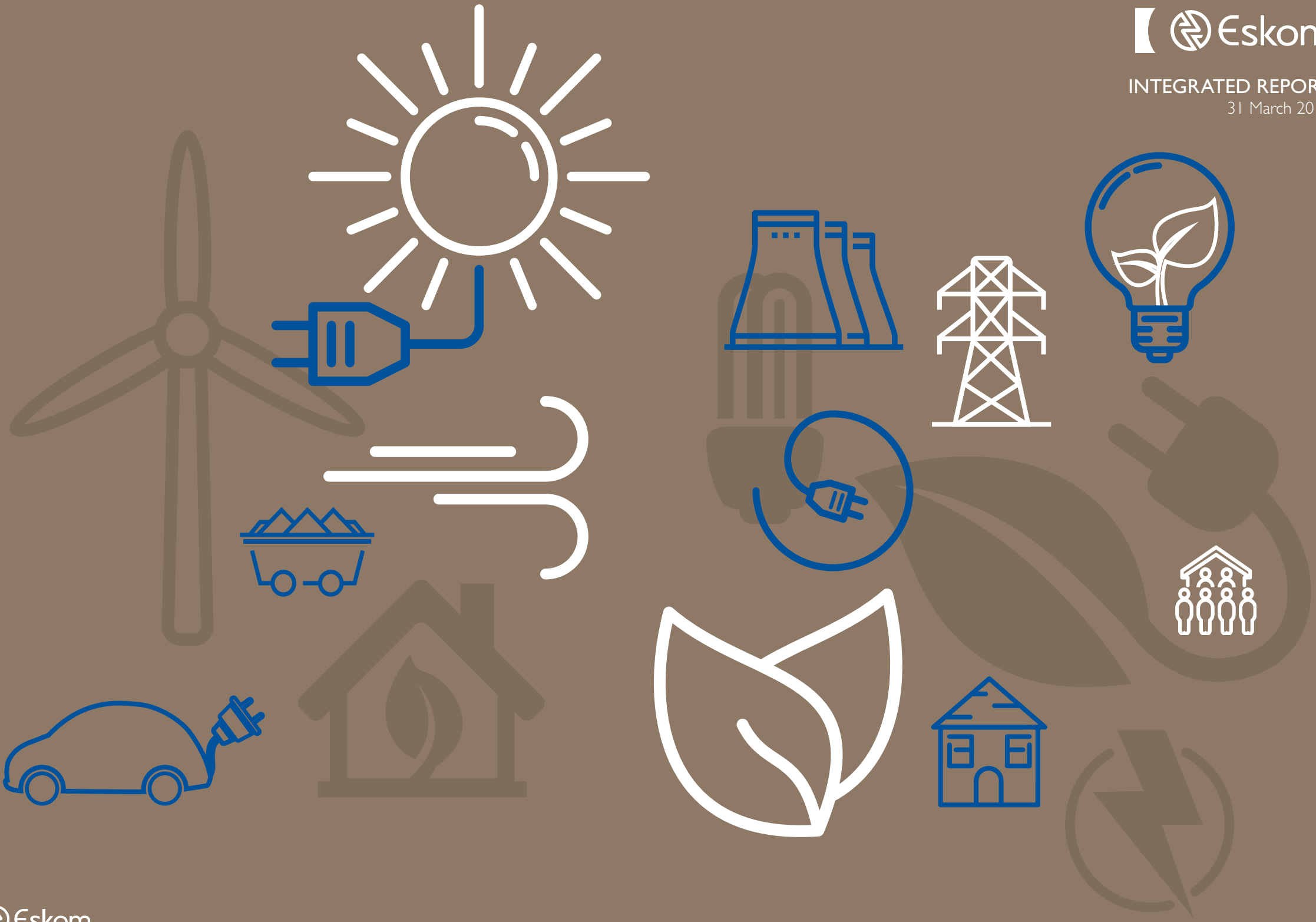
Eskom

INTEGRATED REPORT

31 March 2019



Eskom

www.eskom.co.za

CONTENTS

NAVIGATION ICONS

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

- FC — Our finances (financial capital)
- MC — Our infrastructure (manufactured capital)
- NC — Our interaction with the environment (natural capital)
- HC — Our people (human capital)
- SRC — Our role in communities (social and relationship capital)
- IC — Our know-how (intellectual capital)

Information block or case study

Additional information in the integrated report

Supplementary information provided in a fact sheet

Information available online

A list of abbreviations and glossary of terms are available on pages 157 to 159

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

REQUEST FOR FEEDBACK

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

WHO WE ARE

VISION AND MISSION

Our vision is to drive economic growth by being a financially sustainable provider of energy solutions across Africa

Our mission is threefold

- Turn around the existing business and ensure Eskom's financial sustainability
- Drive economic growth in South Africa in a profitable manner, through the provision of reliable and efficient energy and energy solutions and services for our customers, first in South Africa and then across Africa
- Create a positive social impact on South Africa by driving shared growth and leveraging our footprint

Our values underpin our vision and guide how we do business

Our leadership brand pillars

Our leadership brand pillars support our vision, mission and values. Legitimate and authentic leadership will not be achieved without leaders individually and collectively internalising, articulating, role modelling and actively living the leadership brand pillars

- Heart of a servant
- Learning organisation
- Good governance
- Disciplined execution

THE YEAR AT A GLANCE

Chief Executive, CFO and COO **appointed**

Strategy review culminated in **turnaround plan**

Governance **clean-up** progressing well

Industrial action impacted operations and finance

Environmental performance **deteriorated**

Plant availability dropped below **70%**

Rotational loadshedding implemented on **30 days**

Total OCGT expenditure of **R6.5 billion** to minimise loadshedding

Generation nine-point **recovery programme** introduced

Net loss after tax of **R20.7 billion**

Municipal arrear debt rose to **R19.9 billion**

Government **financial support** announced

ABOUT THIS REPORT

This integrated report reviews our financial, operational, environmental, social and governance performance for the year from 1 April 2018 to 31 March 2019, and follows our 2018 integrated report. It examines our use of and impact on the six capitals, and our performance in relation to our strategy.

Reporting boundary and frameworks

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, unless otherwise stated. For a comprehensive overview of our financial performance, the integrated report should be read in conjunction with our full set of consolidated annual financial statements.

Our consolidated annual financial statements are available at www.eskom.co.za/IR2019

Material events up to the date of approval have been included. Unless otherwise indicated, the information presented is comparable to that of prior years, with no significant restatements.

Basis of preparation

Our integrated report is based on the principles contained in the International <IR> Framework, published by the International Integrated Reporting Council (IIRC). The report seeks to provide a balanced and transparent account of how we create value through our use of and impact on the various capitals.

Our value creation process is depicted in our business model on pages 28 to 29

This is our primary report to stakeholders, and provides information of interest to all stakeholders. As far as possible, we aim to address material matters, both positive and negative, by considering qualitative and quantitative matters material to our operations and strategic objectives, which may influence stakeholders' decision-making. Our strategic risks are considered as part of this process.

The determination of material matters is set out on pages 46 to 48, while our strategic risks are discussed on pages 52 to 54

Building on issues covered in the 2018 report, we have endeavoured to provide a comprehensive update on governance-related concerns; we always strive to improve the conciseness of the report. However, there were a number of significant issues which had to be addressed, which have negatively impacted conciseness.

The content is guided by legal and regulatory requirements, such as the Companies Act, 2008 and the King IV Report on Corporate Governance for South Africa, 2016 (King IV™), as well as global best practice.

Assurance approach

Our combined assurance model relies on several lines of defence, including supervisory oversight, review by management, as well as internal and external assurance. The Audit and Risk Committee and the Board rely on combined assurance in assessing the adequacy of our risk management and internal controls.

The results of the internal and external assurance of our suite of reports is set out on page 60

Our Assurance and Forensic Department provided reasonable assurance on certain aspects of the report. The sustainability KPIs contained in the shareholder compact were subject to external assurance; eight did not receive reasonable assurance.

The independent sustainability assurance report is included from page 160

The consolidated annual financial statements have been audited by the group's independent auditors, SizweNtsalubaGobodo Grant Thornton Inc, who issued a modified opinion relating to the completeness of amounts disclosed in terms of the PFMA. Except for this modification, the consolidated annual financial statements are fairly presented in terms of IFRS.

Refer to the annual financial statements for the independent audit opinion

Board responsibility and approval

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. 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 2019 integrated report, annual financial statements and supplementary information on 18 July 2019.

Mr Jabu Mabuza
Chairman

Ms Sindi Mabaso-Koyana
Audit and Risk Committee

Prof. Malegapuru Makgoba
Social, Ethics and Sustainability Committee

OUR SUITE OF REPORTS

Our 2019 suite of reports consists of the following:

Integrated report and supplementary information
The integrated report is prepared in accordance with the IIRC's International <IR> Framework, and provides an overview of our governance, strategy and performance. The report has been subject to combined assurance, with verification by our internal audit function and reasonable assurance on some KPIs provided by our external auditors. Supplementary information, which may be of interest to some stakeholders, is available in fact sheets at the back of the report.

Annual financial statements
The consolidated annual financial statements of Eskom Holdings SOC Ltd have been prepared in accordance with IFRS as well as the requirements of the Companies Act, 2008 and the Public Finance Management Act, 1999, and were audited by our independent auditors, SizweNtsalubaGobodo Grant Thornton Inc.

Foundation report
The Eskom Development Foundation NPC (the Foundation) coordinates and executes our corporate social investment activities which support certain business imperatives. The report details our CSI activities during the 2018/19 year.

Eskom Factor 2.0
The Eskom Factor is a collective term explaining our footprint in South Africa, which was quantified through a comprehensive external assessment of our economic, social and environmental impact on the country, both positive and negative, for the period from 2012 to 2018.

All documents are available online at www.eskom.co.za/IR2019

Forward-looking statements

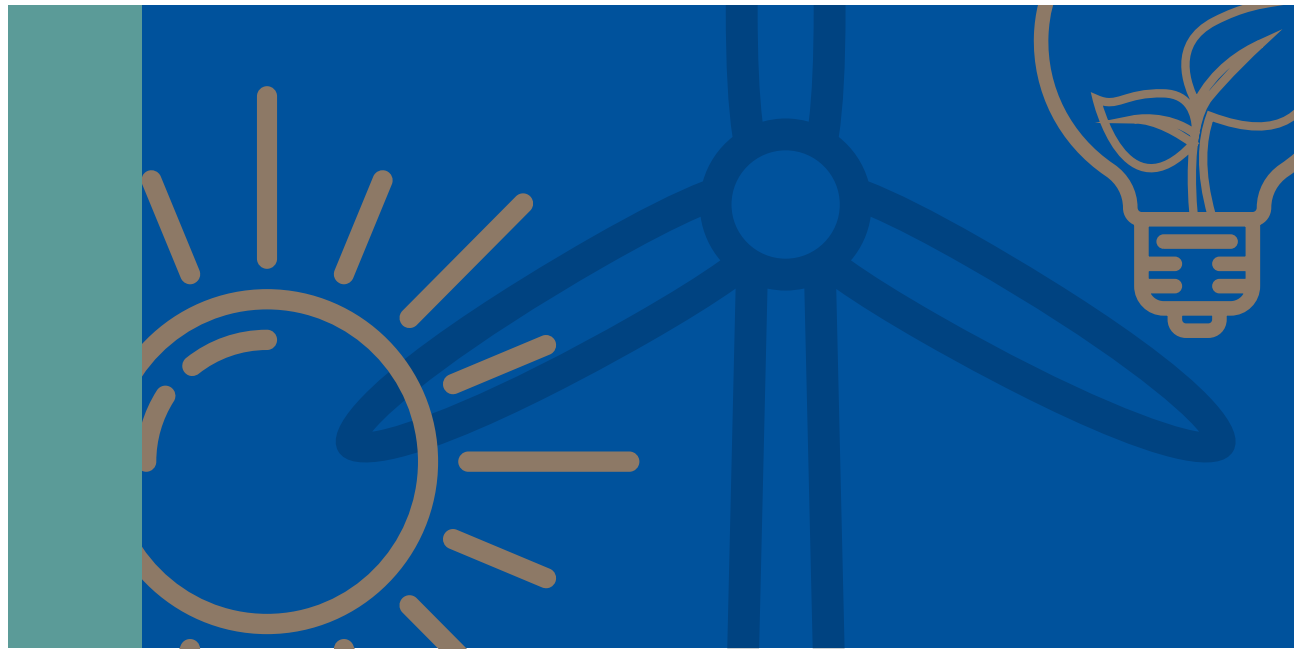
Certain statements in this report regarding Eskom's business operations may constitute forward-looking statements. These include all statements other than statements of historical fact, including those regarding the financial position, business strategy, management plans and objectives for future operations. 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

INTEGRATED REPORTING COMMITTEE OF SOUTH AFRICA

LEADERSHIP AND ETHICS

As ethical leadership forms the foundation of effective corporate governance, we continue to re-establish a culture of ethical behaviour and ethical leadership at Eskom to address the governance issues we have faced in the recent past. Integrating sustainability with decision-making remains of the utmost importance.



CHAIRMAN'S STATEMENT

JABU MABUZA
Chairman

After its appointment last year, the Board's initial focus was on rooting out financial mismanagement, malfeasance and corruption, which was critical to restore transparent and effective governance, and thereby build confidence in Eskom. The Board was further mandated to restore leadership stability, and to develop and implement a financially viable plan to ensure Eskom's access to capital markets and address liquidity challenges. The financial viability model developed during the year was well received, leading to enhanced access to capital markets and improved liquidity.

The organisation has been stabilised, with the appointment of a permanent Group Chief Executive and Chief Financial Officer, as well as the appointment of a Chief Operating Officer. This has further improved our ability to obtain funding, due to increased investor confidence.

The Board has maintained its focus on cleaning up governance issues, with a lot of progress being made in a number of areas, as discussed below. However, over the past year, Eskom was troubled by three significant issues – industrial action which resulted in rotational loadshedding; rapid and unexpected deterioration in Generation plant performance; and a significant decline in liquidity, due in part to escalating municipal arrear debt and rising debt service costs, exacerbated by lower than required price increases awarded by NERSA. These issues negatively impacted Eskom's deteriorating financial performance and an already weak balance sheet.

As a result, the Board's focus had to shift from the governance clean-up to improving operational sustainability and strengthening Eskom's financial position – elements covered by our strategy review, which I will discuss later. While we acknowledge that there is still work to be done, we have made significant progress in addressing these issues.

Progress on governance clean-up

We implemented measures to address issues related to corporate governance breaches that surfaced in the past, to restore Eskom's reputation and place the organisation on a path towards financial and operational sustainability. To this end, Eskom is cooperating with regulatory bodies and law enforcement agencies conducting major investigations into matters of fraud and corruption affecting the organisation. This is a lengthy process, given the legislative processes that must be adhered to, as well as the resulting actions.

Nevertheless, we still achieved significant progress in addressing a number of governance issues. Around 95% of the open disciplinary cases relating to procurement breaches have since been finalised, with about 10% of cases resulting in employee exits. Lifestyle audits of 365 senior employees have been conducted to ensure that those employees comply with the highest standards of integrity and ethics, and do not engage in illicit activities in the performance of their duties. Approximately 12% are considered high risk cases, and have been handed over to the Special Investigating Unit (SIU) for further investigation.

All members of the Board and Exco have completed their declarations of interests, as required, and any conflicts are being managed in line with Eskom's ethics policies and procedures.

These measures are a key component of the Board's campaign to root out corruption and inculcate a renewed culture of honesty, transparency, good governance and ethical leadership which is required to achieve our common objective of sustainability.

Furthermore, with the restoration of a culture of ethics and whistle-blowing, there has also been a steady increase in total whistle-blowing incidents reported and incidents under investigation within Eskom. This demonstrates a significant shift by our employees and other stakeholders to rid the organisation of fraud and corruption.

We took a number of steps to improve governance and to clean up the supply chain process. Governance was improved by elevating decision-making relating to single source and emergency procurement to executive management. Furthermore, the condonation approval process was enhanced – condonations can now only be approved at divisional tender committees or by the Board's Investment and Finance Committee. Moreover, the Board Tender Committee was dissolved, and the terms of reference of the Investment and Finance Committee expanded – this ensures that the Board provides oversight, instead of being involved in the procurement process. The authority of Exco and the Exco Tender Committee was also extended.

In addition, we have cleaned up irregular supplier contracts, and stopped doing business with those suppliers. Where former employees were implicated in cases of suspected malfeasance and corruption, criminal charges have been laid against them and the cases handed to the relevant authorities for further investigation. We are hopeful that under its new leadership, the National Prosecuting Authority will see these cases through to their conclusion.

We also recovered R902 million with interest from McKinsey and Company, while Trillian Management Consultancy has been ordered by the court to repay approximately R600 million with interest, as payments to it were deemed unlawful and invalid. Over and above McKinsey and Trillian, Eskom has started a process to pursue recoveries from suppliers where investigations have revealed that contracts had been concluded irregularly.

For additional detail, refer to "Ethics and progress on governance clean-up – Our response to the challenge" from page 10

Progress was also made in cleaning up the prior year audit modification relating to the completeness of irregular, fruitless and wasteful expenditure and losses due to criminal conduct.

Further information on irregular, fruitless and wasteful expenditure and losses due to criminal conduct is set out in note 51 in the consolidated annual financial statements

Irregular expenditure for the current year totalled R6.6 billion, of which approximately 20% relates to new transgressions. The remaining 80% is attributable to issues which had been detected previously and are continuing until the related contract is condoned, or to prior year transgressions identified during the year. It is to be expected that new instances of irregularities will be detected as we continue our governance clean-up exercise. Nonetheless, the closing balance of irregular expenditure at year end remains high, until we receive the necessary condonations from National Treasury.

This is discussed in some detail under "Ethics and progress on governance clean-up – Improvement process to address irregular expenditure" on pages 12 to 13

We have also made progress in clearing the reportable irregularities previously reported by the external auditors. However, some irregularities will remain open until finalisation of court cases or conclusion of investigations by external parties. A limited number of new reportable irregularities were reported this year, some of them arising out of earlier investigations. We are mindful that more procedural issues may be exposed as we tighten up our processes.

Details of RIs reported, as well as the action taken and status of the respective matters, are discussed in note 52 in the consolidated annual financial statements

The Board remains committed to driving the implementation of King IV™, together with an overall improvement in governance and ethics, in order to align Eskom with its stated values. The Board concedes that certain of the King IV™ principles still need to be effectively implemented, once the governance clean-up has been completed.

Strategy review

Last year, I indicated that the Board intended focusing on the following over our three-year term:

- Instilling transparent and effective governance to support a culture of ethical behaviour by returning to our values
- Improving liquidity and solidifying Eskom's status as a going concern, which will require a focus mainly on costs – primary energy and employee benefit costs, as well as capital expenditure – given NERSA awarding far lower than requested price increases
- Prioritising financial sustainability and strengthening the balance sheet, while minimising reliance on debt and Government guarantees
- Influencing energy policy and the regulatory environment to support Eskom's turnaround. Issues include electricity tariffs, the long-awaited Integrated Resource Plan (IRP) and future allocations to independent power producers (IPPs), as well as dealing with municipal arrear debt

As announced last year, we undertook a strategy review to deal with the extensive challenges confronting the organisation, to help us turn Eskom around and place it on a path towards achieving structural, financial and operational sustainability. The strategy review culminated in a turnaround plan, which was approved by the Board in November 2018, and which we have since presented to our shareholder.

The turnaround plan is supported by four pillars – cost containment, tariff increases and sales growth, debt relief and unbundling or separation – and supported by the Generation nine-point recovery programme.

The plan creates a focused platform for the business to drive the implementation of our strategy. There is agreement in principle on what needs to be done – our turnaround plan is largely aligned to the findings and recommendations by the Presidential Eskom Sustainability Task Team and the Ministerial Technical Review Team appointed by the Minister of Public Enterprises. Since approval of the plan in November 2018, our focus has been on actively engaging with our shareholder and other relevant stakeholders to align on the execution of the four pillars of our turnaround plan.

Our 2019/20 Corporate Plan is built around a preferred financial scenario, which sets out a collaborative solution between Eskom and Government, based on liquidity support and debt relief, to redress the structural, financial and operational challenges confronting Eskom, thereby placing the business on a trajectory towards sustainability. However, it has become apparent that liquidity support alone will not result in Eskom achieving financial sustainability.

Liquidity and going concern

The sustainability of Eskom's liquidity position and medium-term ability to raise funding remains at risk, with total funding raised of R63.3 billion during the year, against an initial funding plan of R72 billion. The ability to secure funding is still affected by past issues of corruption and misconduct, along with the prior year audit modification related to irregular expenditure; financial sustainability continues to be affected by insufficient operating cash flows to cover debt service costs.

Eskom has had to borrow increasing amounts to service its debt obligations, placing it in an unsustainable position. High municipal arrear debt continues to weaken liquidity, and cost overruns and delays in Eskom's new build programme have contributed to higher levels of debt. Furthermore, investors remain concerned about Eskom's liquidity position and its ability to service debt, given weak financial ratios. They are not convinced that Eskom can improve or even maintain its credit risk profile and continue operating as a going concern; this negatively affected funding volumes and pricing. Nonetheless, our credit ratings remained stable over the past year.

Given Eskom's recent poor financial performance and liquidity, it can ill afford the money spent on open-cycle gas turbines (OCGTs) to avoid or minimise rotational loadshedding. Under section 50(1)(d) of the PFMA, the boards of public entities must seek, within their sphere of influence, to prevent any prejudice to the financial interests of the State.

In light of this, the Board has reflected on the unbudgeted expenditure on OCGTs and concluded that it is considered justifiable and in the best interest of the country and the economy to utilise OCGTs to minimise the magnitude of rotational loadshedding, given that the cost of loadshedding to the economy far exceeds the cost of running the OCGTs (with the cost to the country of unserved energy estimated in the region of R84 000/MWh).

Against this backdrop, the Board had concerns that Eskom may be deemed to be trading recklessly and in breach of its fiduciary duty. This led to discussions between the Board and the Ministers of Finance and Public Enterprises, after which it was agreed that a long-term solution for Eskom would be found. In the 2019 National Budget Speech, the Minister of Finance announced firm support to Eskom of R23 billion per year over 10 years. However, the Board had to approach the shareholder again once we realised that the timing of the support was not sufficient, given that some of the assumptions underlying our turnaround plan had not been realised; for example, those around the future tariff trajectory.

In response, Government decided to frontload its support to Eskom by making funds available over the next two years to ensure that Eskom remains a going concern. This will allow sufficient time to review the available options to ensure Eskom's long-term financial viability. Based on the understanding by the shareholder of Eskom's situation and the undertaking of additional financial support, the Board concluded that we are not trading recklessly.

Eskom remains a going concern, but only with Government support, given the less than adequate tariff increases over a number of years. Eskom simply cannot save enough in the coming year to make up for the shortfall on the tariff decision, and the organisation is also reaching the limit of its capacity to borrow.

Urgent intervention is needed to strengthen Eskom's balance sheet to ensure its long-term financial sustainability, as most of our problems require large amounts of money to solve them. In his most recent State of the Nation Address (SONA), the President again highlighted the severity of the problems facing Eskom, and reiterated that "Eskom is too vital to the economy to be allowed to fail".

In response to the concern about Eskom's financial position, Government will allocate further funding to Eskom through an urgent Special Appropriation Bill to be tabled in Parliament. A significant portion of the R230 billion fiscal support we require over the next 10 years is expected to be allocated in the early years. The Minister of Finance is expected to provide details shortly.

We are grateful to our shareholder for their support during these difficult times. Nevertheless, we acknowledge that we have a significant role to play, specifically on cost containment.

Under the four pillars of the strategic turnaround plan, the Board requested a cost containment plan to drive a savings target of R10.6 billion for the 2018/19 financial year. The business did well to save R9.9 billion in terms of this plan, mainly from other operating expenses, interest paid and non-electricity revenue, and also contained capital expenditure. However, savings were negated by significantly higher primary energy costs incurred in the last few months of the year, especially on diesel to minimise the magnitude of rotational loadshedding, as well as the above-inflation wage settlement and once-off payment to bargaining unit employees.

We are dedicated to continuing to do our part where we can, even when it requires difficult decisions. In particular, we are looking at creative ways of optimising primary energy and people costs, as these are the most significant elements of our operating expenses.

Primary energy costs are being actively addressed as part of the Generation nine-point recovery programme. Regarding people costs, we are conscious of the potential socio-economic impact our decisions may have. Nevertheless, we remain committed to finding ways to reduce our wage bill while limiting the detrimental impact on our people and affected communities. We are mindful that we need our people to be able to execute our turnaround plan successfully.

Outlook

A number of structural issues also need to be addressed, such as deliberations on Eskom's role in the impending electricity industry reform process, as well as the relationship between Eskom and independent power producers, and the systemic causes of municipal arrear debt. We still await the final IRP to clarify energy policy and our future role in the market.

We have already demonstrated our commitment to improving governance and financial sustainability, and have seen the results of those actions.

We concede that some areas have not been prioritised over the past year, due to the fire-fighting the Board was forced to do. However, as we turn our attention to executing the four pillars of our strategy, to return to operational and financial sustainability, as well as successfully finalising the new build programme, we are confident that we will again see results. The Generation nine-point recovery programme has already started bearing fruit, positively impacting Generation plant performance.

The appointment of a Group Chief Executive is an immediate priority which is receiving our attention.

Conclusion

As announced recently, Phakamani Hadebe will step down as Group Chief Executive at the end of July 2019. Phakamani has been instrumental in driving stability at Eskom during a very challenging period. As a Board, we have learnt to depend on his resilience to drive the kind of transformation that South Africa expects of our organisation.

I further want to thank our management team and all Eskom Guardians for supporting him and taking on their task with diligence. I want to assure you that the Board believes that the organisation is in capable hands and, as a team, we will achieve a smooth transition that will not undermine our efforts and achievements thus far. Phakamani has indicated his willingness to ensure a seamless transition.

We are grateful to our shareholder, represented by the Honourable Minister Pravin Gordhan, for his unfailing support during these troubled times.

Although we face serious financial, operational and structural challenges, we must stay focused on achieving our turnaround plan through disciplined execution and stewardship. We remain committed to contributing to the development of the South African economy, and we recognise our responsibility to society and industry to provide an enabling environment that fosters welfare, economic growth and equality.

We are resolute about improving operations, strengthening our partnerships with our stakeholders and continuing to rebuild our organisation. We will get through this challenge together and keep building on what we've already achieved, so that once again, we can drive economic growth in South Africa.

Jabu Mabuza
Chairman

ETHICS AND PROGRESS ON GOVERNANCE CLEAN-UP

Effective corporate governance enables the Board and Executive Management Committee (Exco) to exercise their fiduciary duties, by driving optimal and quality decision-making that considers risks and appropriate mitigation measures, while providing oversight of all our operations.

Good corporate governance is displayed through the exercise of ethical and effective leadership in order to achieve a number of outcomes, including an ethical culture, satisfactory performance, effective control and legitimacy.

The Board is the focal point of our corporate governance and is responsible for the organisation's survival and sustainability, and accountable to our shareholder and stakeholders for our performance, by meeting financial, operational and other business expectations.

In accordance with principle 1 of King IV™, the Board displays ethical leadership by demonstrating integrity, competence, fairness, transparency, accountability and responsibility in the performance of its duties and by minimising the negative effects of the organisation's activities on society and the six capitals. In line with principle 2 of King IV™, the Board Charter outlines the responsibilities of the Board, which includes, amongst others, ensuring that the company is perceived as a responsible corporate citizen by demonstrating ethical, social and environmental responsibility, as well as promoting an ethical organisational culture.

Refer to "Our governance" from page 61 for detail on the Board and Exco composition, as well as activities of the Board and its committees

Ethics based on our values

In accordance with King IV™, Eskom's Board is responsible for the governance of ethics within the organisation. This responsibility has been delegated to the People and Governance Committee.

King IV™ recommends that the Board should govern the ethics of the organisation in a manner which supports the establishment of an ethical culture, through:

- Assuming responsibility for the governance of ethics and setting the direction on how it should be addressed
- Approving an appropriate code of conduct and ethics policies which articulate and give effect to organisational ethics
- Ensuring that the code of conduct and ethics policies encompass interaction with both internal and external stakeholders as well as the broader society, and address the key ethical risks of the organisation
- Delegating responsibility for implementation and execution of the code of conduct and ethics policies to management, as well as ensuring that stakeholders are able to familiarise themselves with the contents

Our Code of Ethics, "The Way", gives effect to the direction of ethics in Eskom. It is underpinned by our core values and is intended to promote an ethical culture, and also to inform our practices, policies, procedures and behaviour across all areas of the organisation, including operations, human resources, finance, procurement, health, safety and the environment.

It reflects our organisation's commitment to the highest ethical standards and principles in all our business dealings, and establishes the foundation for the interaction of the Board and our employees with customers, suppliers, the shareholder, the environment, the public and other stakeholders. Induction programmes are offered to new employees and directors; ongoing ethics awareness and training are provided to our employees and suppliers. Our Code of Ethics is also made available to external stakeholders through our website.

Our values are set out under "Who we are"

Operational responsibility for the implementation and management of ethics lies with Exco. The Group Chief Executive is assisted by the Ethics Office in setting the framework, rules and standards for ethical behaviour, and for monitoring the implementation of our ethics policies. Additionally, an ethics management programme has been established to manage ethics effectively. Each division has an ethics structure, consisting of an ethics sponsor and ethics coordinators representing each department within that division. Divisional ethics sponsors and coordinators are responsible for monitoring and reporting divisional ethics performance and compliance. Ethics training and an ethics advisory service are provided to assist in identifying and resolving ethical issues in the workplace.

The Code of Ethics is supplemented by a conflict of interest policy, which sets out the obligations of employees and directors when dealing with conflicts of interest and declaring private work, supplier relations and the receiving and offering of business courtesies. Employees and directors are required to perform a declaration of interest annually, or as soon as any circumstances, which may affect their declaration, change. In the past, semi-skilled employees were excluded from this requirement, however, failure to declare conflicts of interest has been observed as a risk at all levels, thus our conflict of interest policy has broadened its scope to include employees at all occupational levels. Conflicts of interest declared by directors and Exco members are minuted for the record.

No Eskom official or employee is allowed to do business with Eskom while being employed by Eskom or its subsidiaries.

Through an audit process, remedial action has been taken against 25 employees who were identified as having business interests in suppliers doing business with Eskom. Seven of these cases have resulted in employee exits; the remainder have relinquished their business interests.

> Employees and directors have an obligation to declare and manage conflicts of interest. The obligation is to declare all potential conflicts of interest, directorships, memberships, details of any related or interrelated persons or other associates that do business with Eskom, as well as all material personal interests, whether a conflict exists or not. This includes third-party related transactions with an indirect link to Eskom, such as an interest in a business that has an interest in a supplier of Eskom.
>
> Interests include directly related persons, such as interests in a directly related company or personal relationships separated by no more than two degrees of affinity, as well as interrelated persons in a series of linked relationships, including family members, friends, associates or the companies in which they have an interest.
>
> Once a potential conflict of interest has been declared, the onus rests on the line manager of the person involved to determine whether, in fact, a conflict exists and, if so, to manage the conflict appropriately.

All transactions in Eskom are governed in terms of an approved delegation of authority (DOA) framework, which sets required limits and approval authorities per transaction, based on the nature of the transaction. The Group Company Secretary is responsible for the implementation of the DOA and is therefore central to governance, compliance and administration, by promoting integrity and accountability in the organisation and providing the Board with guidance and advice on ethics.

A dedicated toll-free fraud and corruption hotline, which encourages whistle-blowing, is operated by an independent service provider to ensure the integrity and confidentiality of the process, and is available to all stakeholders to report unethical behaviour, crime and irregularities in a confidential manner. We also maintain an Ethics Helpline to assist employees with queries around ethical conduct. Should our Ethics Office become aware of incidents that require further investigation, these matters are referred to our Assurance and Forensic Department for action.

Refer to the contact details on page 184 to report fraud, corruption and irregularities involving Eskom employees or suppliers using our confidential and independent whistle-blowing hotline

Eskom is a signatory to the United Nations Global Compact, which includes an anti-corruption clause, as well as the World Economic Forum's "Partnership Against Corruption" initiative.

Our policies set out our zero tolerance approach towards fraud and corruption, as well as principles which enable all of our stakeholders to report unlawful or irregular conduct in good faith and in a proper manner.

We are determined to clear the company of corruption in all its forms.

A total of 257 new cases were reported through whistle-blowing channels during the current year. By the end of 31 March 2019, 118 investigations had been completed, of which 79 relate to whistle-blowing cases reported during prior years and 39 to cases reported during 2018/19. Approximately 40% of the completed investigations resulted in sanctions, such as disciplinary action, being recommended.

In order to enhance the understanding of fraud and corruption, an Eskom-wide training programme is being finalised and will be delivered to employees at all occupational levels in the coming financial year. The aim is to sensitise our employees to the importance of adhering to processes and controls, and assist in identifying possible unethical behaviour or practices that increase the risk of fraud and corruption.

Progress on governance clean-up

History of governance challenges

In last year's report, we provided background to the corporate governance concerns, particularly around allegations of state capture surrounding state-owned companies (SOCs) in South Africa, including Eskom.

In June 2017, Parliament directed four committees to investigate state capture in South Africa. The Portfolio Committee on Public Enterprises commenced with an inquiry into allegations of governance failures and state capture at Eskom in September 2017. Subsequent to this, the shareholder appointed a new Board in January 2018 in order to return Eskom to financial and operational stability, stabilise management and restore trust and business confidence in the organisation. The appointment of the new Board was well received by both the public and the investor community and was acknowledged as a step in the right direction. The new Board, acting on allegations of corruption and misconduct surfacing during the inquiry, took immediate measures to strengthen governance in Eskom, resulting in a number of executive level suspensions and resignations at Eskom. The process of filling vacancies at executive level is still under way.

In November 2018, the Portfolio Committee on Public Enterprises adopted its report on the inquiry into governance, procurement and the financial sustainability of Eskom. The report noted that appropriate remedial action against wrongdoing, including criminal prosecution and financial recovery, must be pursued by the relevant authorities against all implicated individuals and companies, even where implicated executives had already been suspended or resigned, and where other implicated individuals and companies are no longer directly affiliated with Eskom.

It was further recommended that, with the appointment of a new Board, Eskom must continue to seek to uncover and act on other incidences of corruption and state capture that may have been perpetrated by individuals and companies in collaboration with current and/or former Eskom employees and directors.

In light of the findings of the inquiry, the report recommended that the Department of Public Enterprises (DPE) and Cabinet review the legislative and regulatory framework governing SOCs. This is envisaged to take care of potential weaknesses, including inadequate governance and oversight systems, and a lack of clarity on the role of Eskom's executive authority.

A Judicial Commission of Inquiry into allegations of state capture, led by Deputy Chief Justice Raymond Zondo, commenced in August 2018. The Portfolio Committee handed over their report, together with any documentation and the entire record of evidence collected during the course of their inquiry to the Zondo Commission for further investigation.

The Portfolio Committee report further sets out that feedback on the implementation of the report's recommendations has to be provided by all organs of state mentioned in the report to the Portfolio Committee on Public Enterprises on a quarterly basis, commencing from March 2019.

Our response to the challenge

We are focused on restoring stakeholder confidence – lenders, ratings agencies, civil and governmental organisations, and the public in general.

The perceived maladministration – including allegations of impropriety, liquidity concerns and the 2016/17 and 2017/18 modified audit opinions on the completeness of irregular expenditure – has led to investigations into our governance practices. This has resulted in a loss of confidence in our governance processes, negatively impacting our reputation, and has also had a significant impact on our ability to obtain funding, thereby placing severe pressure on our liquidity position.

In an effort to restore Eskom's reputation as a trusted SOC and place the organisation on a path towards achieving financial and operational sustainability, the Board has implemented measures to address issues related to corporate governance breaches that have surfaced in the past in accordance with the recommendations of the Portfolio Committee.

We acknowledged the need for a comprehensive review across our governance processes, specifically quality of information, governance structures and ethics. We are progressing well with the implementation of our five-point plan to transform governance, by:

- Strengthening our internal ethics and fraud framework, and focusing on consequence management
- Implementing independent lifestyle and conflict of interest audits on senior management and other levels, as deemed necessary
- Investigating and terminating significant irregular supplier contracts linked to fraud and corruption
- Enhancing our commercial governance process to ensure robust scrutiny, and strengthening the DOA framework
- Instituting disciplinary charges and taking legal action

In addition, we have enhanced our PFMA reporting process and are monitoring progress on consequence management and condonations. These measures are a key component of the Board's plans to root out corruption and to inculcate a renewed culture of honesty, transparency, good governance and ethical leadership which is required to achieve our common objective of sustainability. Moreover, these actions are part of a collective effort to improve trust and restore investor confidence, to enable us to re-establish our credibility in order to access financial markets and deliver on our mandate. We will continue to practise a zero tolerance approach to fraud, corruption and other forms of economic crime or dishonest activity.

The Board is committed to adherence to the principles of King IV™ in order to promote an ethical culture and ultimately return Eskom to its core values. Based on our self-assessment, the Board acknowledges that the application of King IV™ principles remains partially effective; we are working on addressing the gaps identified.

Refer to "King IV™ application" on pages 15 to 19 for the results of our assessment on the application of the King IV™ principles

Lifestyle audits and declaration of interest

We are conducting mandatory lifestyle audits on all executives, all senior management and other occupational levels, as deemed necessary. This is done with the objective of ensuring that our employees comply with the highest standards of compliance, ethics and integrity and are not engaged in illicit activities in the performance of their duties.

The lifestyle audits are being conducted by an independent service provider; 365 audits have been completed to date – an approximate 98% completion rate. In a small number of cases, audits have not been completed due to extenuating circumstances, such as extended sick leave due to serious illness or maternity leave. Where required, follow-ups and additional processes will be dealt with as part of a second phase over the next few months, while ensuring that due process is followed and employees are treated fairly.

The results of these audits determine the extent to which further investigations or consequence management are required. Where sufficient evidence implicating current employees has been identified, Eskom has and will continue to take appropriate action. We are also working together with relevant law enforcement authorities to investigate concerns and any violations of the law, even where implicated individuals have subsequently left Eskom's employment. A total of 12% of cases are considered to be high risk and have been handed over to the Special Investigating Unit (SIU) for further investigation. As investigations are completed, consideration is given to legal remedies, including the possible pursuit of civil and criminal proceedings.

All members of the Board and Exco have completed their declarations of interest, as required, and any conflicts are being managed in line with Eskom's ethics policies and procedures.

Investigation of supplier contracts

We have investigated all significant irregular supplier contracts. In instances of non-compliance with our procurement and supply chain management procedures, we have terminated contracts or sanctioned suppliers. These companies are no longer doing business with Eskom. External investigations are continuing into major cases of suspected fraud and corruption as discussed later in this section.

Review of DOA framework

We have reviewed our current DOA framework, based on internal and external feedback, to ensure that risks associated with governance and oversight of transactions are managed more effectively.

The main revision to the DOA includes the dissolution of the Board Tender Committee (BTC) and reinstatement of the authority of the Investment and Finance Committee (IFC) to provide oversight of all investment decisions, procurement strategies and transactions in excess of R1.5 billion. The Board also reconsidered the roles of Exco and the Exco Tender Committee (ETC), with their authorities impacted as follows:

- The delegation of the ETC remains unchanged, which is to approve procurement strategies and transactions between R500 million and R750 million
- ETC will recommend procurement strategies and transactions over R750 million to Exco for approval
- Exco's delegation of authority has been extended to include approval of all procurement strategies and transactions between R750 million and R1.5 billion

Refer to "Feedback on Board activities – Board committees" on pages 64 to 69 for detail on our Board subcommittees

In addition, the Board has requested that the authority levels of power station managers be reviewed to give them increased responsibility over the appointment of critical staff and approval of transactions, in a bid to improve operational oversight at power stations and thereby improve plant performance. The revised DOA is expected to be implemented in the coming year.

Governance has been further improved by elevating decision-making relating to single source and emergency procurement to executive management. Furthermore, the condonation approval process was enhanced – condonations can now only be approved at divisional tender committees or by the IFC.

Investigations and disciplinary action

A total of 1 049 outstanding disciplinary cases relating to procurement breaches were unattended to as at April 2018. Of these, 1 004 were finalised by April 2019. This process has culminated in a total of 116 employee exits.

Investigations concluded during the year have indicated that implicated employees have a tendency for circumventing the procurement and supply chain management policies and procedure, the conflict of interest and private work policies, as well as the declaration of interest procedure. Our Assurance and Forensic Department has also identified a common practice of instances of fronting by suppliers doing business with Eskom. In many instances, the problem was not a failure of our internal controls, but management override of those controls.

Investigations and reporting of these and other matters will continue, with the appropriate disciplinary processes being undertaken, and internal control measures in the affected and related areas being reviewed and enhanced.

With the restoration of a culture of ethics and whistle-blowing, there has been a steady increase in total incidents reported and incidents under investigation within Eskom. This demonstrates a significant shift by our employees and other stakeholders to rid the organisation of fraud and corruption. Matters that require only management intervention but are reported to the investigating team are referred back to higher management. We are embarking on an awareness programme to educate employees and stakeholders about the nature of matters to be reported as well as the minimum information required in order to investigate. A total of 341 cases related to fraud, corruption and irregularities are active and under investigation.

Action based on allegations of corruption and misconduct

While we continue to focus on corporate governance improvements, the Board's priority of dealing with allegations of corruption and misconduct resulted in a number of disciplinary and investigative processes against senior and executive management, ultimately leading to the departure of 18 executives and senior managers.

In the current year, the following executive suspensions were undertaken:

- The Chief Procurement Officer (CPO) was placed on suspension on 10 May 2018 pending an investigation. He resigned on 17 September 2018 after being served with a charge sheet. In January 2019, the position was filled by Mr Solomon Tshitangano
- The Senior General Manager: Assurance and Forensics was placed on precautionary suspension on 2 October 2018. Mr Ishan Bhowani is acting in this position while the investigation continues

The finalisation of investigations into suspended executives remains a key priority for the Board.

Priority criminal cases were reported to the South African Police Services in respect of former senior and executive employees; however, due to the complexity of the cases and the legislative processes involved, we are still awaiting conclusion of these matters. We continue to provide the necessary support to law enforcement agencies to assist in securing successful prosecutions.

Update on major investigations

We are cooperating with regulatory bodies and law enforcement agencies which are conducting major investigations into matters of fraud, corruption or misconduct affecting the organisation. This remains a

lengthy process in light of the legislative processes that must be adhered to, as well as the resulting actions and remedial recourse to these issues. Financial recoveries and criminal convictions are dependent on successful prosecution by law enforcement agencies and the justice system. We are supporting these regulatory bodies and law enforcement agencies as far as possible with information to assist them in concluding their investigations.

In addition, the Chairman as well as current and former Eskom executives, employees and directors have made, and are expected to make, submissions to the Zondo Commission as the investigation progresses.

National Treasury
As previously reported, National Treasury is investigating the procurement and contract management around the Tegeta contract with Eskom. The objective is to determine whether proper processes and procedures were followed in awarding the contract to Tegeta. Procurement irregularities include non-declaration of interests, as well as the conclusion of the contract while documents were still outstanding.

A forensic firm was tasked by National Treasury to conduct the investigation on its behalf. We have been supporting the investigation by providing the required information, documents and witnesses, including previous audit and investigation reports related to this transaction.

Issues emanating from the Hendrina contract management investigation included failures in coal sampling by Eskom employees and payment for coal not received. These practices were found to be widespread and an extended review of coal verification and receipt practices is taking place, while the required disciplinary investigations are being pursued.

Directorate for Priority Crime Investigation (Hawks)
The Hawks are investigating all suspected cases of criminality, fraud and corruption relating to various contracts in Eskom which have been in the public domain. We continue to assist the Hawks with the provision of relevant documentation, as well as audit and investigation reports pertaining to implicated executives and senior managers.

One notable case involves the procurement of services from McKinsey and Company. The services were procured through a sole source supplier process and, as a result, a competitive bidding process was not followed. In addition, the subcontracting of Trillian Management Consultancy to assist McKinsey did not follow the necessary Eskom procurement processes. Criminal charges have been lodged against implicated employees and are awaiting trial dates. In July 2018, McKinsey issued a public apology and repaid R902 million plus interest amounting to R99 million.

Eskom is further seeking to recover payment of approximately R600 million made to Trillian, on the pretext of their role as B-BBEEE partner to McKinsey. The case was heard in March 2019 at the North Gauteng High Court. On 18 June 2019, the court declared the payments made to Trillian as unlawful and invalid, ordering Trillian to repay the full amount with interest, calculated from the date of judgment. Trillian has since applied for leave to appeal. Eskom brought a counter application to enforce the judgment. If this is granted, Trillian will be ordered to pay Eskom pending their appeal.

Special Investigating Unit
In terms of Proclamation No 11, signed by the President on 6 April 2018, the SIU is investigating matters in Eskom, Transnet and Denel. The scope of the investigation includes maladministration that occurred from 1 January 2010 until the publication date of the Proclamation, which does not have an end date.

In respect of Eskom, the investigation places specific focus on maladministration and corruption at various power stations, including the construction of Medupi and Kusile through the new build programme. The investigation commenced in June 2018 and involves collaboration with other state authorities such as the National Prosecuting Authority and the Asset Forfeiture Unit. We are assisting the SIU in their investigation by providing relevant documentation, as well as audit and investigation reports.

Improvement process to address irregular expenditure

Eskom received a modified audit opinion for the financial years ended 31 March 2017 and 31 March 2018, as the external auditors could not rely on the processes in place to ensure the completeness of irregular expenditure reported in terms of the Public Finance Management Act (PFMA), 1999.

Disclosure of irregular expenditure in terms of the PFMA and the basis on which the audit opinion was modified is set out in note 51 in the consolidated annual financial statements

In response, we have established and implemented a recovery plan to address the shortcomings identified, by ensuring adequate systems and processes to monitor and report all irregular expenditure, as well as taking the necessary corrective actions to address the audit modifications.

The Audit and Risk Committee oversees the progress of the recovery plan. The focus for this year has been on dealing with prior year irregular expenditure and proactive monitoring to ensure compliance to procurement and other relevant legislation, as well as various internal policies and procedures.

The scope of the contract review was expanded to include all contracts awarded since December 2012. We have now completed the review of breaches in respect of reported Preferential Procurement Policy Framework Act (PPPFA), 2000 monetary thresholds and tax compliance of foreign suppliers, as far as practical, from December 2012 to March 2017. The interpretation of the PPPFA relating to monetary thresholds and tax certificates was clarified; our procedures were updated to align with National Treasury instructions and guidelines.

In addition, we have completed the review of breaches in terms of the National Treasury Instruction Note 3, issued 1 May 2016, relating to approvals for modifications on contracts. Part of the reason for non-compliance was the interpretation of the conditions under which modified contracts should be submitted to National Treasury for approval. We have improved internal procedures to ensure full compliance in this regard.

A procurement compliance monitoring plan was implemented. Monitoring reviews assisted in identification and more robust reporting of irregular expenditure to ensure a more complete and detailed PFMA report. Significant progress has been made on closing out matters that can be condoned internally, as well as submission of individual condonations to National Treasury.

Unfortunately, many of the condonation requests submitted during the year have not yet been approved by National Treasury, therefore, these items are still reflected as irregular expenditure. Despite a marked improvement in cleaning up previously identified irregular expenditure, additional irregular expenditure was identified and reported; the closing balance of irregular expenditure at 31 March 2019 therefore remains high. Approximately 20% of the total irregular expenditure incurred during the 2018/19 financial year is as a result of new transgressions which arose or were reported for the first time in the current year. The remaining 80% relates to transgressions that were reported in prior periods, which continue to incur expenditure on the affected contracts, as well as prior year transgressions that were only identified in the current year. Expenditure on affected contracts will only cease to be irregular once condoned.

The auditors have again modified the completeness of information disclosed in terms of the PFMA relating to irregular expenditure, fruitless and wasteful expenditure and losses due to criminal conduct in the 2019 annual financial statements.

For further information, refer to the directors' report in the consolidated annual financial statements

We have improved our proactive monitoring processes – over 90% of contracts over R1 billion were reviewed for execution compliance and 70% of new contracts placed during the current year were tested for compliance upon establishment. While no significant issues were identified relating to execution compliance, the control of records in a central repository once contracts are concluded was identified as an area for improvement. We are implementing system improvements to address this issue.

Our processes to deal with the identification, management and reporting of irregular expenditure, fruitless and wasteful expenditure and losses due to criminal conduct have been enhanced by an updated PFMA reporting procedure which takes into account new requirements from National Treasury and also clarifies roles, responsibilities and accountability. Once approved, the procedure will be implemented and further training undertaken. The procedure also allows for financial recovery from individuals responsible. Disciplinary action has been taken against employees implicated in wrongdoing; civil action and recovery measures continue to be pursued where applicable.

Reportable irregularities raised by the external auditors

In the previous financial years, the external auditors raised a number of reportable irregularities (RIs) in terms of section 45 of the Auditing Profession Act, 2005.

The external auditors are required to first report any RI to the Independent Regulatory Board for Auditors (IRBA), and only then report the matter to management, at the same time affording management an opportunity to respond and/or rectify the matter.

A number of RIs were reported during the audit for the year ended 31 March 2017, the independent review for the six months ended 30 September 2017, as well as the audit for the year ended 31 March 2018. Despite good progress made on closing out the reported irregularities, certain matters have not been closed out due to their dependence on external investigations and the outcome of court cases.

A limited number of new RIs were reported during the current year, including during the interim review, some of them arising out of earlier investigations.

Details of RIs reported, as well as the action taken and status of the respective matters, are discussed in note 52 in the consolidated annual financial statements

The PFMA defines irregular expenditure as "expenditure, other than unauthorised expenditure, incurred in contravention of or that is not in accordance with a requirement of any applicable legislation". This should be very clearly distinguished from fruitless and wasteful expenditure, which means "expenditure which was made in vain and would have been avoided had reasonable care been exercised".

Therefore, the definition is very broad, as it includes all transgressions of any statute. The reason for incurring the expenditure is not the cause for the irregular classification; the irregularity arises from lack of compliance with legislation and/or internal processes.

It doesn't matter whether the breaches were deliberate or accidental, or whether they happened unwittingly or in good faith. As opposed to fruitless and wasteful expenditure, the fact that Eskom received an asset or service in return for the expenditure is not relevant.

An irregularity can be condoned by an internal governance structure, the relevant government department or National Treasury. Until the breach is condoned, the expenditure has to be reported as irregular, even if the irregularity occurred in previous periods. Once the breach is condoned, the expenditure is no longer deemed to be irregular and is removed from the cumulative balance.

KING IV™ APPLICATION

The principles of King IV™ set out the aspirations on the journey towards good corporate governance. Practices are recommended to give effect to the aspirations expressed in these principles.

We have assessed our overall level of effectiveness of implementation of the principles of King IV™ as partially effective, based on an internal assessment by senior managers accountable for the various areas. As reported in the previous year, despite having numerous policies, procedures, standards and controls in place, which are generally deemed to be adequate, these do not always function effectively.

The table below sets out the 16 principles applicable to Eskom, with comments on our application.

King IV™ principle	Governance context
Principle 1: Leadership The governing body should lead ethically and effectively	Eskom's Board exercises effective leadership, adhering to the duties of directors. Directors are considered to have the necessary competence. They act ethically in discharging their responsibility to provide strategic direction and control of the company as provided for in the Board Charter and Eskom's Memorandum of Incorporation (MOI). The Board is making great strides to restore Eskom's ethical culture by placing much greater focus on rooting out fraud and corruption and advocating for good governance. No Eskom official is allowed to do business with Eskom or its subsidiaries. Linked to this, lifestyle audits have been conducted on senior management; based on the results, our Legal Department has been tasked with taking appropriate action where necessary. Regretfully, the Board accepts that internal controls cannot prevent collusion by employees and suppliers. Refer to "Ethics and progress on governance clean-up" on pages 8 to 13 for further information. The Board is committed to setting Eskom's strategic direction, supported by an ethical foundation, to enable a sustainable business, by acting in the best interests of the organisation, while taking into account Eskom's short-, medium- and long-term impact on the economy, society, environment and our stakeholders. The Board considers risks and opportunities, and oversees and monitors strategy implementation and execution by management, ensuring accountability for the organisation's performance. Although the Board delegates duties to various committees and management, accountability remains vested in the Board.
Principle 2: Organisational ethics The governing body should govern the ethics of the organisation in a way that supports the establishment of an ethical culture	The Board is assisted by the People and Governance Committee in overseeing the management and implementation of the Code of Ethics, and monitors the organisation's activities to ensure that they are in line with Eskom's ethics management programme, policies and procedures. The Code of Ethics is guided by Eskom's core values. Policies and procedures are applicable to both employees and contractors, and adherence to policies and procedures forms part of our contractual arrangements with suppliers. A key focus area over the past year was the review of ethics policies and procedures. The related awareness training is ongoing. Measures put in place to monitor and manage organisational ethics include instituting disciplinary action against employees who have transgressed ethics policies and procedures; and upgrading current systems to track employee and supplier declarations of interest to enable proactive monitoring of unethical conduct and provide enhanced reporting. Measures have also been put in place to deal with contractors' transgressions. For further information on the governance of ethics, refer to "Ethics based on our values" on pages 8 to 9.
Principle 3: Responsible corporate citizenship The governing body should ensure that the organisation is and is seen to be a responsible corporate citizen	DPE's Strategic Intent Statement and Eskom's Corporate Plan guide our strategic direction and our interaction with stakeholders in line with relevant legislative requirements. The strategy process ensures that issues related to being a responsible corporate citizen are included in all corporate strategies. The governing body should ensure that the organisation is and is seen to be a responsible corporate citizen The Board sets the direction for good corporate citizenship, including compliance with the Constitution, relevant laws and regulations as well as our own standards, policies and procedures. Our mandate, purpose and strategy are aligned to ensure that Eskom is a good corporate citizen. Performance is measured against the shareholder compact, and a quarterly report is submitted to DPE, detailing our performance against the shareholder compact, as well as providing an overview of financial and operational performance, an update on governance and risk management, and any other key matters requiring the shareholder's attention. Due to the financial and operational challenges experienced during the past year, performance for the year did not meet expectations. The changing landscape around corporate citizenship is tracked through the enviro-scanning process and by defining emerging risks and opportunities. When considering performance, we consider all aspects, such as financial performance, our societal and environmental impacts, as well as the wellbeing of our people. As set out in this report, our performance is aligned to the six capitals. Refer to the sections on "Our finances", "Our infrastructure", "Our interaction with the environment", "Our people", "Our role in communities" and "Our know-how" for detail.

King IV™ principle	Governance context
Principle 4: Strategy and performance The governing body should appreciate that the organisation's core purpose, its risks and opportunities, strategy, business model, performance and sustainable development are all inseparable elements of the value creation process	The Board assumes responsibility for Eskom's purpose, vision, strategy, business model, performance as well as risk and opportunities through an integrated strategy development process, the Corporate Plan and managing performance against the shareholder compact, in accordance with the shareholder's expectations. This process is integrated and incorporates feedback mechanisms to ensure that strategic risks and sustainable development principles inform our strategic direction and business model, that implementation of the Corporate Plan is monitored, and that non-performance or any change in context is highlighted and acted upon. This is achieved through the use of integrated tools, various governance and oversight bodies at operational and Board levels, and a combined assurance process. Furthermore, a Results Management Office has been established to oversee the implementation of our strategic turnaround plan. Refer to "Our business and strategy" on pages 24 to 60 for further information.
Principle 5: Reporting The governing body should ensure that reports issued by the organisation enable stakeholders to make informed assessments of the organisation's performance, and its short-, medium- and long-term prospects	Eskom prepares its annual and interim financial statements in terms of International Financial Reporting Standards (IFRS), the PFMA, 1999 and the Companies Act, 2008. The Audit and Risk Committee (ARC) reviews these externally published reports and recommends approval thereof to the Board. The external auditors review the interim financial statements and audit the annual financial statements in line with International Auditing Standards, the PFMA and Companies Act. The integrated report is prepared based on the guidance contained in the International <IR> Framework. ARC and the Social, Ethics and Sustainability Committee review this report, and recommend approval thereof by the Board. A monthly business report is discussed at divisional management committees and Exco. Furthermore, Eskom prepares a quarterly shareholder report that is reviewed by Exco, ARC and the Board. Some performance indicators are regularly discussed with the shareholder. Although we make every effort to ensure that reports issued to stakeholders support decision-making, we recognise that there is always room for improvement.
Principle 6: Primary roles and responsibilities of the governing body The governing body should serve as the focal point and custodian of corporate governance in the organisation	The Board is fully committed to good corporate governance, and recognises its key role in the successful execution of our strategy. The Board takes the lead in setting the strategic direction of the organisation, which includes the approval of policy and strategy, and also ensures accountability for performance in the organisation. The Board Charter, which is reviewed annually, sets out the Board's role, responsibilities, membership requirements and procedural conduct. In addition, the Board has constituted various committees which assist the Board with its oversight role. To this end, the Board or any of its committees may obtain independent, external professional advice concerning matters within the scope of their duties. The company exercises its rights and is involved in the decision-making on material matters of its subsidiaries. Eskom's subsidiaries have adopted the Subsidiary Governance Framework and aligned it to their MOIs and shareholder compacts.
Principle 7: Composition of the governing body The governing body should comprise the appropriate balance of knowledge, skills, experience, diversity and independence for it to discharge its governance role and responsibilities objectively and effectively	The South African Government is the sole shareholder of Eskom, represented by the Minister of Public Enterprises. All directors are appointed at the discretion of the shareholder. The shareholder considers independence and diversity across race, gender, age and skills when appointing directors. The development of a succession plan will be determined by the shareholder. The Board currently consists of 10 independent non-executive directors and two executive directors, being the Group Chief Executive (GCE) and the Chief Financial Officer (CFO). The People and Governance Committee identifies and recommends additional skills and diversity needs to the shareholder.
Principle 8: Committees of the governing body The governing body should ensure that its arrangements for delegation within its own structures promote independent judgement, and assist with balance of power and the effective discharge of its duties	Committees have been established to assist the Board in discharging its responsibilities. The committees report to the Board on how they have discharged their duties. The terms of reference of all committees are reviewed annually. All members of the Board may attend any meeting of any Board committees. Immediately after being appointed, the Board centralised all decision-making, but has since decentralised decision-making to Board committees, in accordance with their terms of reference. The committees, their roles and responsibilities and key activities, as well as statements on their performance, are disclosed in "Our governance" from page 61. ARC's report is contained in the consolidated annual financial statements and sets out the disclosures required by practice 59 of principle 8.

King IV™ principle	Governance context
Principle 9: Evaluation of the performance of the governing body The governing body should ensure that the evaluation of its own performance and that of its committees, its chair and its individual members, support continued improvement in its performance and effectiveness	A board evaluation is meant to be conducted annually by an independent party, the outcomes of which will be considered by the Board. The concerns and areas of improvement raised should be monitored. As most of Eskom's current directors were only appointed in January 2018, the previous year's evaluation was postponed until all directors had been in office for a year. The board evaluation process for the 2018/19 financial year is currently taking place, and is being conducted by an external service provider. The Board's access to professional independent guidance on corporate governance was supplemented by contracted services. The appointment of a permanent company secretary is in progress.
Principle 10: Appointment and delegation to management The governing body should ensure that the appointment of, and delegation to, management contribute to role clarity and effective exercise of authority and responsibilities	Eskom operates in accordance with an approved DOA framework that sets out the powers and authorities delegated by the Board. It determines the scope, conditions and parameters within which the powers can be exercised by directors, employees and/or committees. During the year, the DOA was reviewed to cater for the creation of the Chief Operating Officer (COO) position, the dissolution of the Board Tender Committee and changes to the organisational structure. Performance of the GCE is evaluated in terms of the targets set by the Board, while the GCE sets targets for Exco members. These targets are embodied in formal performance compacts which are monitored on an ongoing basis. Furthermore, performance against targets is considered by the Board when deciding on short- and long-term incentives to be awarded to Exco members. Although the Board has delegated authority to employees and committees, it has reserved specific matters for its own deliberation and conclusion. These are recorded in the MOI. Given the recent restructuring of Exco, succession planning at executive level is an area of future focus.
Principle 11: Risk governance The governing body should govern risk in a way that supports the organisation in setting and achieving its strategic objectives	The Board, supported by ARC, provides oversight of Eskom's strategic and business risks and opportunities by delegating this responsibility to management through the Board-approved Risk and Resilience Management Policy and Plan. The Board has delegated the implementation and execution of the risk management plan to management, which is included in the performance contracts of all group executives. Nevertheless, the Board oversees the risk management process, its maturity model and performance against the risk management plan on a quarterly basis. Key areas of focus as well as key risks facing the organisation are reported in "Risk and opportunities, assurance and controls – Our strategic risks" on pages 52 to 54.
Principle 12: Technology and information governance The governing body should govern technology and information in a way that supports the organisation setting and achieving its strategic objectives	Oversight of technology and information governance is delegated to ARC, while management is responsible for the implementation and execution thereof. The information technology (IT) and operational technology (OT) functions are managed separately in Eskom; while the integration of these functions remains a challenge, the establishment of an Exco Technology and Information subcommittee is envisaged to enhance integration and collaboration between IT and OT. The Operating Committee and its subcommittees consider high risk matters relating to our ageing power stations and the related operational and technical risks. The committee also considers technical deviations relating to the current new build programme which could have medium- to long-term implications for the new plant. The committee further gives direction to technology study committees on the changing energy landscape as presented in the draft Integrated Resource Plan (IRP) 2018. A quarterly IT governance report is submitted to ARC to provide assurance that Eskom's technology and information management systems are secure and available. The IT charter and governance framework is being updated to reflect organisational changes. Further information is set out under "Risks and opportunities, assurance and controls – Governance of technology and information" on page 58.

King IV™ principle	Governance context
Principle 13: Compliance governance The governing body should govern compliance with applicable laws and adopt non-binding rules, codes and standards in a way that supports the organisation being ethical and a good corporate citizen	The Compliance Charter places responsibility on the Board through ARC to ensure that the organisation complies with regulatory requirements. The Board sets the direction for compliance through the Compliance Policy and, through ARC, oversees compliance in the organisation. The responsibility for implementation and execution of compliance management is delegated to Exco. Eskom's compliance philosophy respects the rule of law. This is supported by a policy that it will, in all material respects, ensure compliance with legal and regulatory requirements. Overall compliance maturity is assessed based on the extent of understanding the compliance universe and related controls, as well as subsequent routine monitoring. Given the complex compliance universe, the overall risk of non-compliance is assessed as high; the focus remains on improving the overall compliance understanding and maturity of various areas. Non-compliance will place Eskom at risk and may result in PFMA reportable matters. Transgressions are dealt with in terms of normal disciplinary processes including civil and criminal action where appropriate. Quantifiable penalties, fines or sanctions levied against the organisation as a result of non-compliance, including environmental sanctions, are disclosed as a note to the financial statements as required by the PFMA.
Principle 14: Remuneration governance The governing body should ensure that the organisation remunerates fairly, responsibly and transparently so as to promote the achievement of strategic objectives and positive outcomes in the short, medium and long term	While we have an approved remuneration policy for our employees, we are still in the process of aligning our executive remuneration practice to the Remuneration and Incentives Guide for State-Owned Companies issued by DPE in February 2018. The guide specifically addresses the remuneration of executive directors, prescribed officers and non-executive directors. Eskom had engagements with DPE during the year to finalise our alignment; a draft policy is currently awaiting DPE's review and comments. The proposed policy will improve governance and ensure that remuneration is seen to be fair, responsible and transparent, and that it balances performance measures with value creation. Information on executive remuneration is set out under "Our governance – Executive remuneration and benefits" on pages 72 to 75, while remuneration of other employees is covered under "Our people – Remuneration and benefits" on pages 134 to 135.
Principle 15: Assurance The governing body should ensure that assurance services and functions enable an effective control environment, and that these support the integrity of information for internal decision-making and of the organisation's external reports	ARC provides independent oversight of the effectiveness of the organisation's assurance functions and services, with particular focus on combined assurance arrangements, including external assurance service providers, internal audit, risk management and the finance function. Eskom's combined assurance model relies on several lines of assurance, including supervisory oversight, review by management, as well as internal and external assurance. The Assurance and Forensic Department provided reasonable assurance on figures and associated narrative, whereas the sustainability KPIs contained in the shareholder compact are subject to external assurance. Under its terms of reference, ARC is responsible for providing independent oversight of the integrity of the consolidated annual financial statements and disclosure of sustainability issues in the integrated report to ensure that these are reliable and in line with financial information. ARC's conclusions on the matters above are set out in their report in the consolidated annual financial statements. The Board, assisted by ARC and the Social, Ethics and Sustainability Committee, considers the integrity and completeness of the integrated report. Furthermore, the acting Senior General Manager: Assurance and Forensics has concluded, based on a formal documented review of Eskom's systems of internal controls and risk management during the year ended 31 March 2019, that our system of internal financial controls is considered adequate, including the design, implementation and effectiveness thereof. The design of the systems of internal control and risk management are considered adequate, although the implementation or application thereof is only partially effective and requires improvement in the system of control relating to compliance. This conclusion considers information and explanations provided by management, as well as discussions with the external auditors on the results of the external audit.

King IV™ principle	Governance context
Principle 16: Stakeholders In the execution of its governance roles and responsibilities, the governing body should adopt a stakeholder-inclusive approach that balances the needs, interests and expectations of material stakeholders in the best interests of the organisation over time	We are committed to an inclusive stakeholder approach, and acknowledge our obligation for effective stakeholder relationship management. Our commitment to maintaining the highest level of integrity, accountability and responsiveness to stakeholders underscores our stakeholder management and value creation. The Board sets the direction for the organisation's stakeholder relationships through the Stakeholder Relations Policy and Matrix. To build and maintain sustainable relationships with stakeholders, standardised and streamlined governance processes have been developed and implemented across the business. Regular engagement with stakeholders enables proactive cultivation of relationships that can serve as a valuable resource during challenging times. Collaboration and regular interaction with all stakeholder groups is essential to our long-term resilience and to building trusting relationships. The Board acknowledges that subsidiaries are separate legal entities and are therefore important stakeholders. Through the Subsidiary Governance Framework, it sets the direction for how the relationships and exercise of power between Eskom and its wholly owned subsidiaries should be conducted. Quarterly feedback on stakeholder engagement is submitted to Exco and the Board for oversight, highlighting challenges that could impact Eskom's licence to operate. Our interaction with stakeholders is discussed under "Stakeholder engagement and material matters – Our interaction with stakeholders" on pages 44 to 46. Our interaction with our customers and our reputation are set out in "Our role in communities" from page 140.

The Board still acknowledges that not all of the King IV™ principles have yet been implemented effectively. Nevertheless, some notable strides have been made, given the permanent appointment of the Group Chief Executive, Chief Financial Officer and Chief Operating Officer over the past year which added stability to the organisation, together with rebuilding a culture of compliance, as the clean-up of previously identified governance issues continues. These remain important enablers to ensure that we restore credibility in our governance.

Nevertheless, the announcement that the GCE will step down in July 2019 has created some uncertainty amongst stakeholders. However, the Board is confident that a suitable replacement for the GCE will be found, and that sufficient internal capability exists to steer the organisation until a replacement is appointed. Furthermore, the GCE has committed to assisting with the transition.

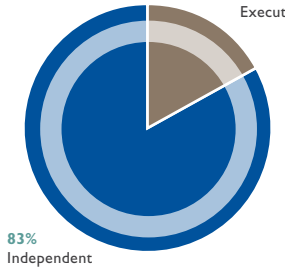
The Board, through its subcommittees, remains committed to driving an improvement in governance and ethics, and will continue to drive effective application of the King IV™ principles.

BOARD OF DIRECTORS AT 31 MARCH 2019

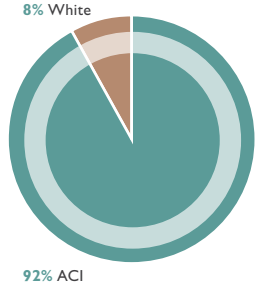
Membership of Board committees

- Audit and Risk Committee
- Investment and Finance Committee
- People and Governance Committee
- Social, Ethics and Sustainability Committee
- Board Tender Committee
- C Denotes chairmanship of a committee

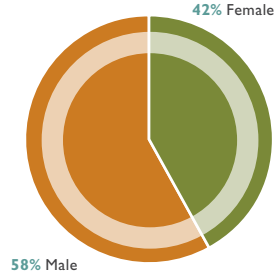
Director classification



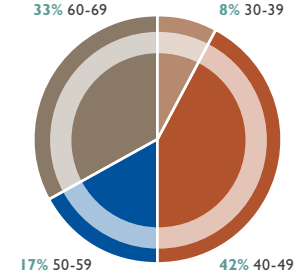
Racial diversity



Gender diversity



Age diversity



MR JABU MABUZA (61)
Chairman
Effective Leadership Program (Pennsylvania University)
Executive Development Program (University of California)

C

DR ROD CROMPTON (66)
Independent non-executive director
BA Hons (University of Natal)
Ph D Humanities (University of Natal)

MR PHAKAMANI HADEBE (51)
Group Chief Executive
MA Economics (University of Durban-Westville)
MA Rural Development (Sussex University)
Executive Leadership Program (Wharton Business School)

MR SIFISO DABENGWA (60)
Independent non-executive director
B Sc (Hons) Engineering (University of Zimbabwe)
MBA (University of Witwatersrand)
Executive Program (University of Michigan)

C

MR CALIB CASSIM (47)
Chief Financial Officer
B Accounting Sciences (Unisa)
Chartered Accountant (SA)
Master of Business Leadership (Unisa)

MS SINDI MABASO-KOYANA (49)
Independent non-executive director
Chartered Accountant (SA)
Diploma in Introduction to Mining (University of Witwatersrand)

C

MS NELISIWE MAGUBANE (53)
Independent non-executive director
B Sc Electrical Engineering – Heavy Current (University of Natal)
Postgraduate Diploma in Business Administration (University of West London)
MBA (Milpark Business School)

MS BUSISIWE MAVUSO (40)
Independent non-executive director
B Compt (Unisa)
Postgraduate Diploma in Management (GIBS)
Master of Business Leadership (Unisa)
Association of Chartered Certified Accountants (ACCA)

PROF. MALEGAPURU MAKGOBA (66)
Independent non-executive director
MB ChB (University of Natal)
D Phil (University of Oxford)
Fellowship of the Royal College of Physicians of London
Advanced Management Program (INSEAD)

C

DR PULANE MOLOKWANE (42)
Independent non-executive director
B Sc Physics and Chemistry (University of North West)
M Sc Applied Radiation Science and Technology (University of North West)
Ph D Chemical Technology (Environmental) (University of Pretoria)

C

DR BANOTHILE MAKHUBELA (34)
Independent non-executive director
M Sc (University of Cape Town)
Ph D (University of Cape Town)

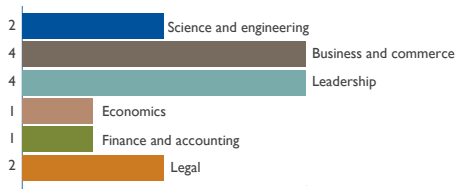
PROF. TSHEPO MONGALO (45)
Independent non-executive director
LLM Commercial Law (University of Cambridge)
Ph D Commercial Law (University of Cape Town)

Qualifications listed above are not exhaustive. Refer to pages 164 to 165 for full details of directors' qualifications and active directorships

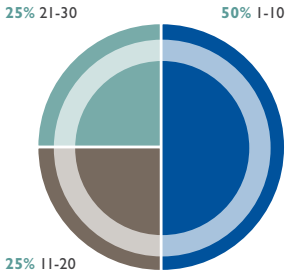
Ages are shown at 31 March 2019.
Only active directorships are reflected.
Note that the Board Tender Committee was dissolved on 31 December 2018.

EXECUTIVE MANAGEMENT COMMITTEE AT 31 MARCH 2019

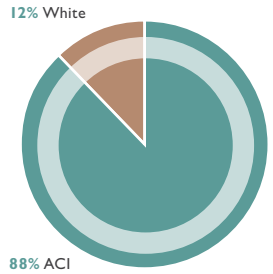
Exco skills



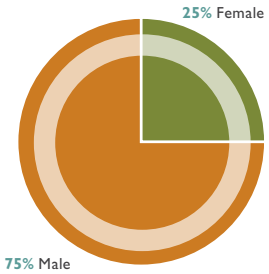
Years of service



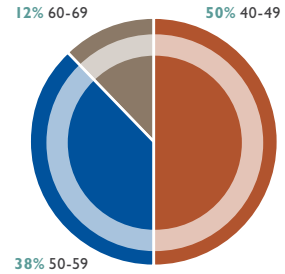
Racial diversity



Gender diversity



Age diversity



MR PHAKAMANI HADEBE (51)
Group Chief Executive
Appointed to Exco in January 2018
1 year in Eskom
MA Economics
(University of Durban-Westville)
MA Rural Development
(Sussex University)
Executive Leadership Program (Wharton Business School)

MR JAN OBERHOLZER (60)
Chief Operating Officer
Appointed to Exco in July 2018
26 years Eskom experience (including from 1983 to 2008)
B Sc Electrical Engineering (University of Pretoria)
Master of Business Leadership (Unisa)
Executive Program (University of Michigan)

MR CALIB CASSIM (47)
Chief Financial Officer
Appointed to Exco in July 2017
17 years in Eskom
B Accounting Sciences (Unisa)
Chartered Accountant (SA)
Master of Business Leadership (Unisa)

MR BARTLETT HEWU (43)
Acting co-Group Executive: Legal and Compliance
Appointed to Exco in April 2018
1 year in Eskom
LLB (University of Pretoria)
LLM Corporate Law (Unisa)
Higher Diploma in Tax
(Rand Afrikaans University)
Higher Diploma in International Tax
(University of Johannesburg)

MR JEROME MTHEMBU (44)
Acting co-Group Executive: Legal and Compliance
Appointed to Exco in April 2018
1 year in Eskom
B Proc (University of KwaZulu-Natal)
LLM (Unisa)
MBA (Henley Business School)

MR SOLOMON TSHITANGANO (57)
General Manager: Procurement
Appointed to Exco in January 2019
<1 year in Eskom
B Com (Hons) (University of Venda)

MS ELSIE PULE (51)
Group Executive: Human Resources
Appointed to Exco in November 2014
21 years in Eskom
BA Hons Psychology (University of Pretoria)
M Sc Business Engineering (Warwick University)

MS NONDUMISO ZIBI (42)
Acting General Manager: Information Technology
Appointed to Exco in January 2018
19 years in Eskom
B Tech Engineering (Durban University of Technology)
Master of Business Leadership (Unisa)

Qualifications listed above are not exhaustive. Refer to page 166 for full details of Exco members' qualifications and active directorships

Ages are shown at 31 March 2019.

A revised executive structure was implemented during the year. Consequently, the group executives for Generation, Transmission, Distribution and Group Capital are no longer members of the Executive Management Committee.

Ms Nondumiso Zibi resigned with effect from 17 May 2019.

OUR BUSINESS AND STRATEGY

Eskom is South Africa's primary electricity supplier, generating more than 90% of the electricity in South Africa, and about 40% of that in Africa.

WHAT WE DO AND OUR IMPACT

Our mandate

Eskom Holdings SOC Ltd is wholly owned by the South African Government, through our shareholder ministry, the Department of Public Enterprises. We also answer to the Department of Energy (DoE) (now the Department of Mineral Resources and Energy), as the ministry which sets energy policy, and National Treasury, which provides financial oversight.

Eskom is South Africa's primary electricity supplier, generating more than 90% of the electricity in South Africa, and about 40% of that in Africa.

We are a state-owned company as defined in the Companies Act, 2008. As a public entity, we are subject to the Public Finance Management Act, 1999. We are also bound by the provisions of our Memorandum of Incorporation.

Our mandate is defined in DPE's Strategic Intent Statement, which is periodically set by the Minister of Public Enterprises (the Minister). It is our privilege to fulfil our mandate of providing a stable electricity supply in a sustainable and efficient manner, in order to assist in lowering the cost of doing business in South Africa and enabling economic growth.

We also recognise that we play a significant developmental role in support of the National Development Plan 2030 (NDP), by supporting job creation, economic and skills development, broad-based black economic empowerment, transformation and other national initiatives.

We have to carefully balance three roles while delivering on our primary mandate, namely supporting socio-economic development, ensuring regulatory compliance and maintaining financial and commercial viability.

We prepare an annual Corporate Plan to give effect to our mandate and set out our medium- to long-term strategic objectives. An annual shareholder compact agreed with DPE outlines the key performance indicators (KPIs) which support our mandate and strategic objectives.

Performance against the 2018/19 shareholder compact is set out in the directors' report in the consolidated annual financial statements, which are available online

The 2019/20 Corporate Plan, which incorporates our strategic turnaround plan and the impact of the decision on the fourth multi-year price determination (MYPD 4) application, covers the three-year period to 2021/22. Due to our immediate focus on executing the turnaround plan and clarity required on certain assumptions therein, we have not prepared a five-year Corporate Plan, as in the past. Nevertheless, a three-year plan meets the requirements of the PFMA, 1999. Accordingly, we have also used targets for 2021/22 as our medium-term targets throughout the report.

The finalisation of the shareholder compact for 2019/20 has been delayed due to ongoing discussions with the shareholder on the strategic turnaround plan, specifically in terms of the support required to execute the four pillars.

Throughout the report, shareholder compact KPIs are indicated using [SC]. These KPIs are also included in the statistical tables, available as a fact sheet at the back of this report

Our longer term strategic direction is encompassed in a revised vision and mission that focuses on driving economic growth.

How and where we operate

We transform inputs from the natural environment – coal, nuclear and liquid fuels, while also using significant amounts of water in the process – into electricity, which is used to power homes and businesses, thereby supporting economic growth and prosperity.

Critical to this process is maintaining the frequency of the power system at 50Hz, to effectively and efficiently balance electricity supply and demand in real time.

Core to our integrated value chain is the generation, transmission, distribution and sale of electricity, aided by the construction of new power stations and network infrastructure. Our core functions rely on support functions in the form of finance, human resources, procurement, information technology, telecommunications, risk and sustainability, legal and compliance, stakeholder management and corporate communications.

South Africa's electricity supply industry

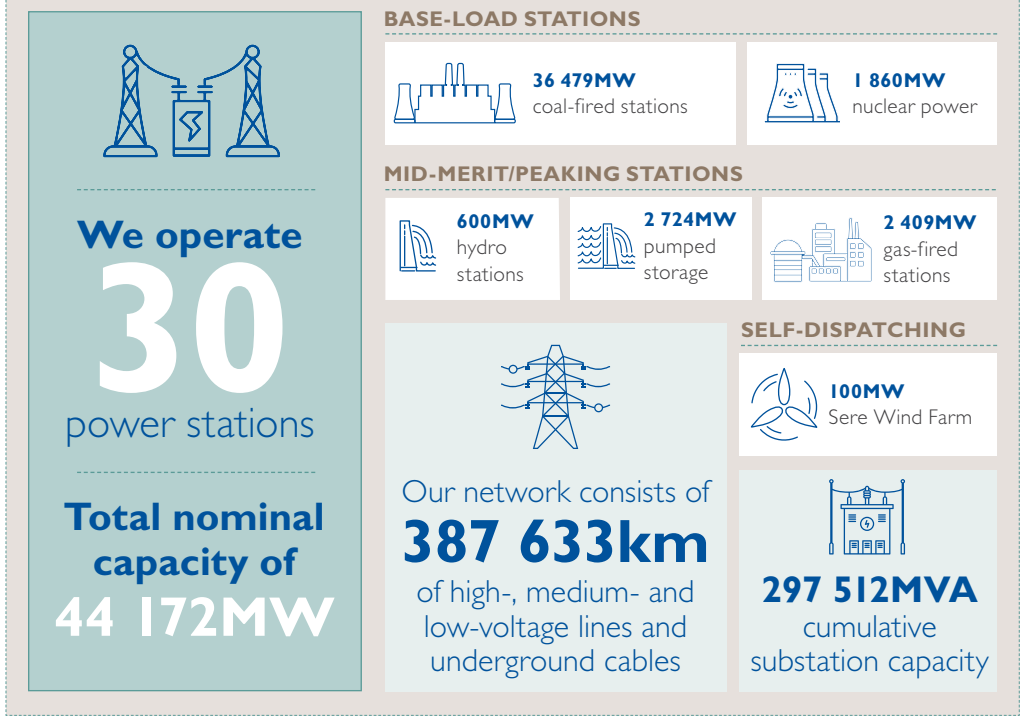
The electricity supply industry covers the generation, transmission, distribution and sale of electricity, as well as the import and export thereof. We operate most of the base-load and peaking capacity; the role played by IPPs is growing.

Capacity added and energy supplied by IPPs are discussed further on page 114

The National Energy Regulator of South Africa (NERSA) regulates the electricity industry in terms of the Electricity Regulation Act, 2006 and the National Energy Regulatory Act, 2004. In addition to providing licences, regulatory rules, guidelines and codes, NERSA also determines our revenue requirement in accordance with the requirements of the Electricity Pricing Policy (EPP). During the past year, we submitted the MYPD 4 application, covering the three-year period from 1 April 2019 to 31 March 2022; we received a determination from NERSA in March 2019.

Our revenue applications are discussed further under "Our finances – Price applications to support revenue requirements" on pages 86 to 87

The National Nuclear Regulator (NNR) regulates our nuclear power station, Koeberg, to ensure that it complies with minimum nuclear safety standards to adequately protect individuals, society and the environment against radiological hazards associated with the use of nuclear technology.



Nature of our business and customer base

Our business is vertically integrated across a value chain that supplies electricity to South Africa and the Southern African Development Community (SADC) region. An integrated grid connects the Southern African Power Pool (SAPP), which comprises South Africa, Botswana, eSwatini, Lesotho, Mozambique, Namibia, Zambia and Zimbabwe. To that end, we rely on SADC members to ensure adequate transmission grids within their borders. In accordance with our strategy to expand our transmission network into the region to increase sales into Africa, we are engaging other utilities.

Our new build programme aims to meet South Africa's growing energy demand and strengthen our transmission grid. Since inception of the new build programme, we have delivered generating capacity of 10 750MW, as well as 7 848km of high-voltage lines and 37 440MVA substation capacity, making good progress against the targets of 17 384MW, 9 756km and 42 470MVA associated with the programme. Three units at Medupi Power Station and one at Kusile have been commissioned and are supplying power to the grid, despite certain challenges being experienced. Commissioning of the units synchronised to the grid during the prior year have been delayed, but are expected during the coming year.

Detailed information on our power stations, power lines and substation capacities is available in the fact sheet on pages 177 to 181

Supply and demand of electricity

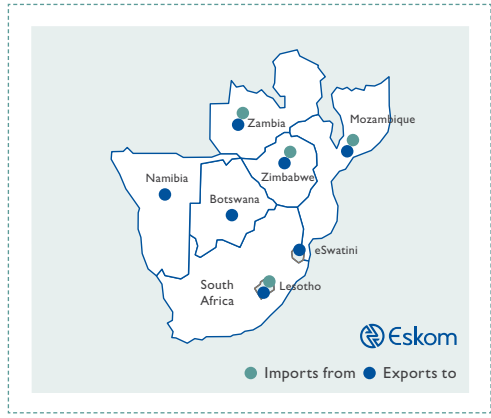
The table below illustrates the supply and demand of electricity, with electricity flowing from Eskom's power stations, IPPs and cross-border suppliers to Eskom's supply points to local and export customers. It also accounts for energy losses incurred during the transmission and distribution process.

Electricity available for distribution	GWh	Electricity demand	GWh
Generation of electricity	218 939	Local sales	195 858
Less: Used for pumping by pumped storage stations	(5 981)	International sales	12 461
Net sent out by Eskom	212 958	Total external sales	208 319
IPP purchases	11 344	Technical and other losses	23 292
International purchases	7 355	Internal use	458
Wheeling[1]	2 750	Wheeling[1]	2 750
		Unaccounted	(412)
Total available for distribution	234 407	Total energy demand	234 407

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.

We estimate that a maximum of 812GWh was lost due to rotational loadshedding and load curtailment over the past year, which equates to less than 0.4% of total energy demand for the year.

We import electricity from Lesotho, Mozambique, Zambia and Zimbabwe, and export to Botswana, eSwatini, Lesotho, Mozambique, Namibia, Zambia and Zimbabwe. We supply a number of international customers, including electricity utilities, in the SADC region.



The electricity generated by Eskom and IPPs, combined with imports from neighbouring countries, is supplied in bulk to distributors – large metros and other municipalities – and also distributed to industrial, commercial, residential and other customers in our licensed areas of supply.

We sold 208 319GWh of electricity to a total of 6 497 372 customers during the year.

The total number of customers, electricity sales volumes and revenue by customer segment are set out in the fact sheet on pages 182 to 183

Eskom generated energy of 218 939GWh for the year, based on the following primary energy sources:

Source	GWh
Coal-fired stations	200 210
Nuclear power	11 580
Pumped storage stations	4 590
Hydro stations	1 029
Wind	328
Open-cycle gas turbines (OCGTs)	1 202
Total	218 939

Our impact on the capitals

All six capitals identified in the International <IR> Framework play a role in our business – as inputs, outcomes or both; the capitals are interrelated in the way that they affect our value creation process.

Just like any other business, we require financial capital to operate; this consists of equity invested by the shareholder and retained earnings, as well as debt funding, a large portion of which is supported by Government guarantees. Our credit rating, which has remained stable over the past year, affects our ability to secure external funding. Our financial capital increases or decreases based on our financial performance and the execution of our funding plan.

Our equity at 31 March 2019 totalled R153.1 billion, consisting of R83 billion in share capital and the balance in retained earnings, with debt securities and borrowings of R440.6 billion provided by lenders and investors (bond holders). The after-tax loss of R20.7 billion recorded during the year decreased our financial capital. As a result of our financial position, we do not pay dividends to our shareholder. Lenders and investors in bonds earn a return in the form of interest paid, coupled with the repayment of debt or capital.

The various elements of our financial capital, and our financial performance, are discussed under "Our finances" from page 85

Our power stations use natural capital, in the form of coal, liquid fuels, nuclear fuel (uranium) and water, as primary energy inputs in the process of generating electricity. This process results in waste, such as gaseous and particulate emissions, ash and nuclear waste, thereby negatively impacting natural capital. In an effort to reduce our impact on the environment, we are gradually transitioning to a cleaner energy mix, with renewable energy mainly provided by IPPs, and clean coal technologies. We still await finalisation of the revised IRP by the newly combined Department of Mineral Resources and Energy, which will provide a view of the country's desired energy mix and Eskom's future role. Under the draft IRP, no further nuclear capacity has been allocated to Eskom.

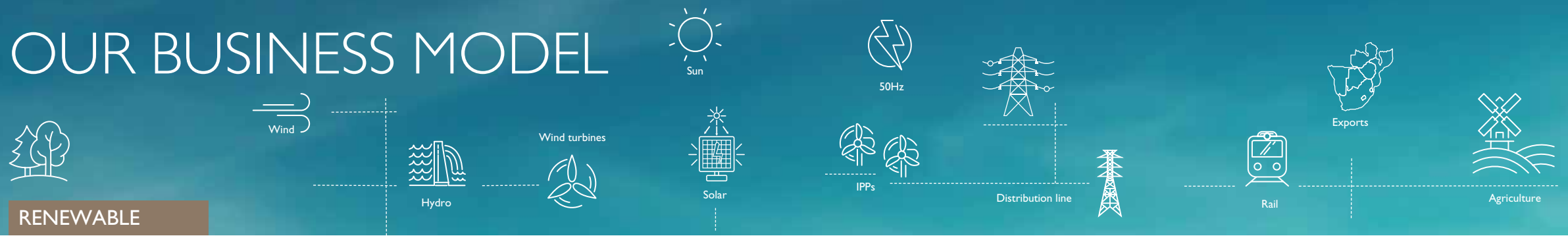
The impact of our operations on the environment, though our use of natural resources in the form of primary energy and generation of waste, is discussed under "Our interaction with the environment" from page 120

Our manufactured capital comprises our power stations, together with our transmission and distribution networks. Our manufactured capital base is eroded in the process of generating, transmitting and distributing electricity, while it is improved through maintenance and major capital refurbishment.

"Our infrastructure" from page 108 discusses the performance of our existing plant and new build programme, as well as capacity provided by IPPs

Our employees and contractors, and their competencies, capabilities and experience, make up our human capital. We enhance our human capital by developing learners in our skills pipeline, and through training of all employees. We strive for racial, gender and disability transformation of our employee base, while being mindful of optimising our workforce to be efficient and productive, in order to manage one of our most significant cost elements.

OUR BUSINESS MODEL



INPUTS

- FC Capital expenditure **R33.9 billion**
- NC **113.76Mt** coal burnt
- NC **292 344Mℓ** raw water used
- MC **48 824MW** installed capacity at 30 stations
- HC **46 665** Group employees
- SRC **234 407GWh** Total energy demand

PERFORMANCE

- NC **26 days** Normalised coal stock
- MC Energy availability (EAF) **69.95%**
- MC Planned maintenance (PCLF) **10.18%**
- MC Unplanned maintenance (UCLF) **18.31%**
- MC IPP purchases **11 344GWh**
- HC **0.31** Group LTIR
- SRC **3.16** System minutes lost <1
- SRC System interruption frequency (SAIFI) **14.9 events**
- SRC System interruption duration (SAIDI) **38 hours**
- SRC **9.7%** Total energy losses

OUTPUTS

- FC Electricity revenue **R177 billion**
- NC **33.23Mt** Ash produced
- NC **220.9Mt** CO_2 emissions
- NC **99.87kt** Particulate emissions
- SRC **218 939GWh** Electricity sent out by Eskom
- SRC **208 319GWh** Total sales

41.9% Municipalities	**5.6%** Residential
23.4% Industrial	**5.1%** Commercial
13.9% Mining	**2.8%** Agriculture
6.0% International	**1.3%** Rail

- FC Municipal arrear debt **R19.9 billion**

OUTCOMES FOR ESKOM

- FC EBITDA **R31.5 billion**
- FC EBITDA margin **17.51%**
- FC Average electricity price **90.01c/kWh**
- FC Free funds from operations after net interest paid **R5.9 billion negative**
- FC External funding raised **R63.3 billion**
- FC Debt/equity ratio **3.10**
- FC Cash and cash equivalents **R2 billion**
- MC Maintenance expense **R14.1 billion**
- MC Depreciation expense **R29.8 billion**
- MC **378.7km** Transmission lines installed

For a discussion of the performance of the abovementioned KPIs against target, refer to "Financial review" and "Operating performance"

OUTCOMES FOR OTHERS

- FC Cash interest cover **0.94**
- FC Debt service cover **0.47**
- NC Relative particulate emissions **0.47kg/MWhSO**
- NC Specific water consumption **1.41ℓ/kWhSO**
- HC Employee benefit costs **R33.3 billion**
- HC **2 988** Total learner pipeline
- HC **6** Employee and contractor fatalities
- HC **Industrial action** experienced
- HC Racial equity in senior management **69.80%**
- HC Gender equity in senior management **39.85%**
- HC **1 416** Group employees with disabilities
- SRC Rotational loadshedding on **30 days**
- SRC Eskom KeyCare index **81.7**
- SRC Electrification **191 585** households connected
- SRC CSI committed spend **R132.4 million**
- SRC **58.66%** B-BBEE compliant spend

The industrial action over the past year indicated how easy it is to destroy value, both for ourselves and our stakeholders, when one of the capitals is not managed properly. The industrial action had a significant financial impact on Eskom, not only in terms of the ultimate wage settlement and the cost of the once-off payment, but also in terms of the effect on our operations, while potentially costing the economy billions due to the effect of rotational loadshedding as a result of the industrial action.

Our workforce, transformation and safety are discussed under "Our people" from page 130

Our relationships with customers, suppliers, communities and the public in general constitute our social and relationship capital. This is positively impacted by our activities enabling economic growth, as well as our contribution to job creation, skills development, supplier transformation and broad-based black economic empowerment. In addition, our corporate social investment (CSI) activities improve the lives of many less fortunate South Africans. Furthermore, our electrification programme has seen around six million households electrified within our licensed areas of supply since 1991, significantly enhancing the lives of those affected. Given the low level of trust in our organisation, we understand that strong stakeholder relationships are critical to our ability to create value.

"Our role in communities" sets out our interaction with customers, suppliers and the public, as well as our CSI activities and electrification programme, from page 140

Our intellectual capital includes technology, which is a key enabler of our business and comprises telecommunications, information technology, as well as research and innovation; the latter focuses on industrialising future technologies such as battery storage and the improvement of current operations. Intellectual capital also includes patents, organisational knowledge, systems, policies and procedures.

Our intellectual capital is discussed under "Our know-how" from page 145

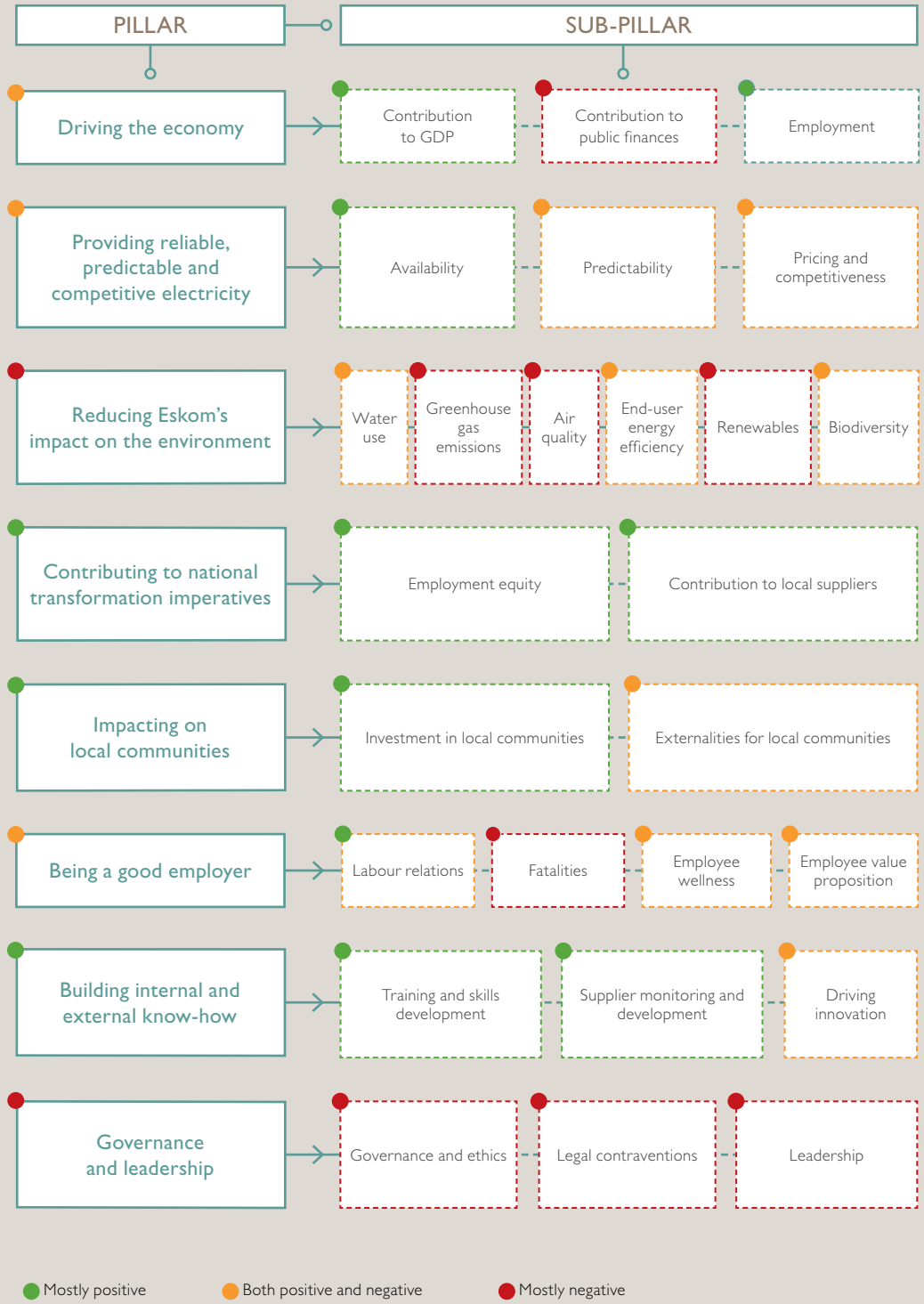
In 2011, we released the Eskom Factor report, which is a collective term explaining our footprint in South Africa quantified through an integrated, external assessment of our economic, social and environmental impact on the country, both positive and negative. It is very much aligned to the six capitals.

We have updated that exercise for the period from 2012 to 2018, and the results are contained in the Eskom Factor 2.0, which builds on the Eskom Factor report from 2011. The exercise used a methodology based on the Measuring Impact Framework, developed by the World Business Council for Sustainable Development (WBCSD).

The Eskom Factor 2.0 is available online

The Eskom Factor 2.0 measures our impact according to 224 indicators, which have culminated in eight pillars of influence.

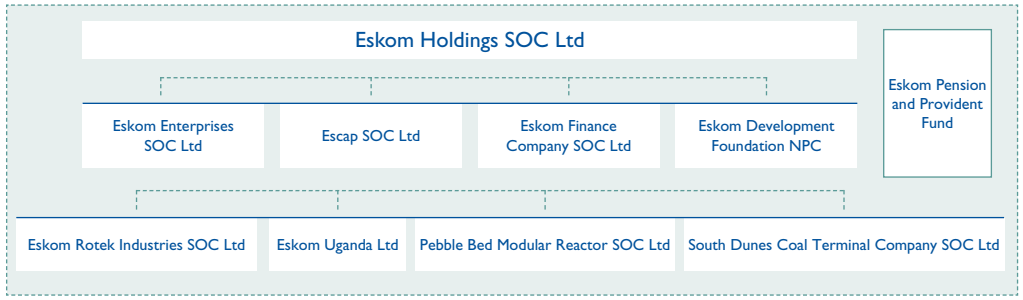
ESKOM FACTOR 2.0



Legal and operating structure

Over the past year, there have been no significant changes to our group structure. Our head office is based in Johannesburg, and we have operations across South Africa, with administrative offices in most major centres. We have one subsidiary based in Uganda.

The map on page 178 indicates the geographic location of our power stations and major transmission lines



Eskom Holdings SOC Ltd is the main operating company, which houses the electricity business and also holds investments in subsidiaries. The Eskom group comprises the operating company and its subsidiaries and joint ventures.

Legal structure (noting only major subsidiaries)

The main function of our subsidiaries is to provide strategic services to Eskom and its employees.

Eskom Enterprises SOC Ltd (EE) functions as an investment holding company. Through its subsidiary, Eskom Rotek Industries SOC Ltd (ERI), it provides lifecycle and technical support, plant maintenance and support for the capacity expansion programme to Eskom's line divisions.

Eskom Uganda Limited, a subsidiary of Eskom Enterprises SOC Ltd (EE), operates and maintains two small hydroelectric power stations at Nalubaale and Kiira with combined capacity of close to 380MW, under a 20-year concession arrangement which ends in 2023. Uganda as a whole has installed capacity of almost 1 200MW, with peak demand of close to 500MW.

Pebble Bed Modular Reactor SOC Ltd (PBMR) remains in a state of care and maintenance in order to preserve the intellectual property (IP) created over the period of its operation.

EE holds an effective 69% interest in South Dunes Coal Terminal Company SOC Ltd (SDCT), both directly and indirectly through Golang Coal SOC Ltd (not shown in the diagram). SDCT participates in the Phase V expansion of the Richards Bay Coal Terminal (RBCT), which entitles it to the right to export coal.

Other dormant subsidiaries of EE (not reflected above) are in the process of being wound up or liquidated.

Escap SOC Ltd is Eskom's wholly owned insurance captive company. It underwrites the risk of Eskom and its subsidiaries.

The disposal of Eskom Finance Company SOC Ltd (EFC) has again been delayed, although we remain committed to disposing of the business, as mandated by our shareholder, in order to free up cash tied up in EFC.

After being absorbed into Eskom in the 2017/18 financial year, the Eskom Development Foundation NPC (the Foundation) has operated as a subsidiary since 1 April 2018, following the shareholder's advice to delay the Foundation's dissolution, pending completion of a review of our operating model, which is in progress.

The Eskom Pension and Provident Fund is a hybrid defined benefit and defined contribution pension fund, registered as a self-administered pension fund in terms of the Pension Funds Act, 1956. It is an independent legal entity, governed by a board of trustees, and is the second largest pension fund in the country, with assets well in excess of R100 billion. It is not owned by Eskom.

Full details of Eskom's equity-accounted investees and subsidiaries at 31 March 2019 are set out in notes 11 and 12 of our consolidated annual financial statements

Operating structure

Eskom comprises line divisions that operate the electricity value chain, service functions which support those operations and strategic functions to develop the organisation. Members of Exco and top executives are assigned accountability for the various areas.

Line divisions	Service functions	Strategic functions
Generation	Primary Energy	Risk and Sustainability
Transmission	Group Finance	Strategy Support
Distribution	Group Human Resources	Legal and Compliance
Group Capital (new build)	Group Procurement	Corporate Affairs
	Group IT	Assurance and Forensic (reports directly to the Board)
	Group Security	

Contribution to financial performance

The contribution by the main companies to the group's financial performance and position is shown below. The Eskom business is by far the most significant.

R million	Eskom company	EE group	Escap	EFC	Foundation	Eliminations and other	Eskom group
Revenue	179 892	9 032	2 941	862	–	(12 835)	**179 892**
EBITDA[1]	29 255	583	119	136	(5)	1 411	**31 499**
Net (loss)/profit after tax	(23 189)	226	632	92	–	1 510	**(20 729)**
Total assets	746 287	7 720	13 252	8 927	159	(18 327)	**758 018**
Total liabilities	607 795	2 188	6 017	7 796	159	(19 031)	**604 924**
Capital expenditure[2]	34 985	241	–	–	–	(528)	**34 698**

1. EBITDA excludes fair value adjustments on financial instruments and embedded derivatives.
2. The company and group figures include DoE funded capital expenditure of R2.8 billion.

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

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

HOW THE MACRO ENVIRONMENT AFFECTS US

Our operating model, related policy frameworks, market structures and rules need to adapt rapidly in order to accommodate this shifting landscape.

We acknowledge that our strategy and market position cannot be addressed in isolation, but has to factor in the dynamics of the broader South African electricity industry, as well as key Government policy decisions regarding the electricity industry. Enabling legislation such as the Electricity Regulation Act, 2006, the Electricity Pricing Policy (EPP), the revised IRP, decisions regarding the sustainability of the broader South African electricity sector and amendments to legislation which may impact the structure of the electricity supply and distribution industry must all be taken into account.

During the current year, our operational challenges have manifested in a significantly lower energy availability factor across our generation fleet (mainly our coal-fired plant) than in the previous year, placing us in an uncertain position with a very limited operating reserve margin. In addition, our ageing fleet is operated at much higher levels than industry norms, creating an increased risk of plant failures. These risks periodically necessitated extensive and costly emergency response measures to meet the country's peak demand, and have also resulted in incidents of national loadshedding in order to stabilise the grid. These challenges also occurred against the backdrop of the largest capital investment programme in the country and the continent, which we are undertaking to ensure adequate electricity capacity to stimulate economic growth, while also replacing existing capacity nearing the end of its useful life. Furthermore, our financial challenges place us in an unsustainable position, requiring us to borrow increasing amounts in order to service debt obligations and manage liquidity concerns arising from tariffs which are not cost reflective, non-paying customers, poor plant performance, as well as delays and resulting cost overruns in our capacity expansion programme.

We generate more than 90% of South Africa's electricity, with more than 80% coming from coal-based technology. The large size and vertically-integrated structure of our organisation means that any challenge experienced by one part of the business threatens the whole, thereby placing the country's electricity supply at risk.

It is clear that we need to prepare to operate in a world in which traditional utility business models will come under pressure, due to a more competitive and decentralised approach to the electricity industry structure taking shape. Independent power producers (IPPs) and small-scale embedded generation (SSEG), which often rely on renewable electricity production technologies, emphasise the changing consumption patterns from grid-based services to demand for storage and backup capacity. Our ability to respond to this change will inform our future success. Unfortunately, the long-term nature of the industry and our role within the structure remains unclear.

Given the energy sector context and macroeconomic climate in which we operate, the path to structural, financial and operational sustainability is multifaceted. All key stakeholders will need to work together to ensure that our strategic turnaround plan is implemented effectively. External factors pose a number of risks to which we need to respond, however, they also present opportunities to explore towards building a sustainable organisation.

The global energy sector landscape is undergoing unprecedented levels of change and innovation. The entire energy value chain is influenced by political, economic, social, technological, environmental and legislative dynamics. We have witnessed a continuous shift in market and demand trends as well as customer needs and choices, as the way in which electricity is produced, transmitted, stored and used evolves. We accept that this may negatively impact Eskom, despite the benefit to the country and the environment.

Our assessment of external political, economic, social, technological, environmental and legislative factors affecting Eskom is highlighted below.

Political environment

In the last decade, state-owned companies (SOCs) globally have had to transform their business models in order to continue to deliver services to their customers at affordable prices, which are often not cost-reflective, whilst meeting developmental mandates and the political needs of the state. SOCs are also competing in increasingly liberalised markets with disruptive technological innovation threatening their market positions, which traditionally had little or no competition. SOCs in South Africa continue to be seen as a means to drive the developmental mandate of the country, as envisaged through the NDP, and are critical for socio-economic growth.

In light of the risk to the sustainability of SOC business models, as well as serious allegations of state capture, mismanagement and poor corporate governance, Government has played an increasingly active role in the oversight of SOC operations. This could be seen to influence the independence of boards, call into question the governance shifts required to overcome fraud and corruption, and threaten the innovation and responsiveness required for service delivery at the lowest reasonable cost.

Eskom is intrinsically linked to the Sovereign credit rating and was previously identified as the biggest risk to the South African economy. Furthermore, the South African Reserve Bank (SARB) recently noted that bailouts for SOCs such as Eskom will weaken the nation's fiscal position and put the country's last remaining investment-grade credit rating from Moody's at risk.

As such, Eskom has become a focal point in the South African political landscape and is subject to ongoing political intervention. As the largest SOC in South Africa, our contribution to promoting and furthering development in the South African economy cannot be understated. However, balancing our developmental and commercial mandates continues to be a challenge. To enhance our autonomy, we need to turn around our operational and financial performance and rebuild Eskom as a sustainable organisation, albeit with a strong developmental mandate.

President Ramaphosa has highlighted the importance of African regional integration as part of South Africa's drive to spur investment, confidence and growth in the region. Enabling policies such as the African Continental Free Trade Agreement, Strategic Integrated Projects (SIPs) and bilateral trade agreements will facilitate our growth into regional power pools. However, the increase in own generation capacity and infrastructure in neighbouring countries, as well as the expansion of IPP demand by regional grids, highlight the shifts in electricity trade expected in SADC – this will further challenge our role as market leader in the region. How market expansion will be realised and what our role in non-regulated markets outside of South Africa will be must be clarified for the short, medium and long term to inform our Africa strategy.

Globally, the trend of regional integration has resulted in international trade wars around key product and service markets. This has resulted in varied levels of market certainty, with the most recent and prolific examples including the China-US trade discussions, Brexit and China's Belt and Road Initiative. New trade positions offer opportunities for partnerships and investments, usually on a bilateral basis. One risk though is that trade pacts prioritise key industrial sectors, and therefore challenge the future competitive position of South Africa's automotive and manufacturing sectors. Ensuring the sustainability of our key sectors is critical to South Africa's growth, and we play a crucial enabling role by providing security of supply and facilitating appropriate tariff structures. Our challenge is to address prioritised markets, by highlighting required shifts in market rules, and to retain key customers as part of the national growth effort.

Macroeconomic climate

According to the International Monetary Fund, global expansion in economic activity has continued to lose momentum, with global growth projected to slow to 3.3% in 2019 and 3.6% in 2020. Growth in many developing countries, such as South Africa, remains weak. South Africa's projected growth rate has declined to 1.2% in 2019 and 1.5% in 2020. This is below the projected average growth rate for sub-Saharan Africa of 3.5% in 2019, indicating that South Africa is expected to perform significantly worse than its neighbouring countries.

Stats SA recently announced that GDP had declined by 3.2% during the first quarter of 2019, the largest decline in the past 10 years. All industries declined compared to the final quarter of 2018. The main reasons are depressed expenditure and investment in the economy, weak consumer demand, the negative impact of rotational loadshedding and a recurring decline in mining production.

The lack of adequate transmission infrastructure integrated across the SADC region, combined with rising public debt which impedes further infrastructure development, constrains our potential to leverage off the growth in the area and may limit the volume of electricity we are able to export. Lower than expected growth for South Africa and the sub-Saharan African region will have a negative impact on electricity demand and therefore our revenue.

Business confidence has deteriorated – locally, regionally and globally. This restricts investment and raises concerns around future growth potential. Locally, declining confidence is driven by poor retail sales growth as consumers have had to prioritise spending due to higher fuel prices and increased value added tax; policy uncertainty; governance failures in the public and private sector accompanied by qualified audit outcomes; as well as service delivery concerns, including the electricity supply crisis. Inflationary price pressures will continue to be a concern for customers. Our strategic planning is based on the assumption of annualised inflation of approximately 5.8% over the next five years, in line with SARB's inflation targeting of between 3% and 6%.

High levels of gross national debt continue to be anticipated as Government is required to borrow to fund policy implementation. Our debt burden also impacts the Sovereign credit rating directly, due to the extent to which the state is exposed as guarantor through the Guarantee Framework Agreement. Historic credit rating downgrades and the view by ratings agencies that SOCs are a risk to the Sovereign have negatively impacted our ability to secure further funding. Due to the strategic importance of electricity supply, Government has committed to support Eskom financially in order to stabilise the organisation.

Eskom has a significant role to play in supporting the economic climate. We can improve investor confidence through the way in which we address historic corruption, as well as our transparency in dealing with structural, financial and operational challenges. We can drive confidence and investment in key sectors by supporting required policy shifts, enabling sector growth through the support of Special Economic Zones and dedicated supply agreements, as well as striving for policy certainty in the electricity supply industry and related industries. However, our most significant and immediate role remains to ensure minimal disruption of the economy due to rotational loadshedding.

Social context

Since 1994, South Africa has embarked on a programme of significant socio-economic transformation with the purpose of achieving social equality in order to overcome the legacy of racial discrimination left by the apartheid regime. In support of this, Government's programme of economic development focuses on placing the South African economy on a path that ensures rapid sustainable growth, higher investment, increased employment, reduced inequality and transformation of the economy.

Despite this, industrial action, community unrest and crime have continued to impact our business as a result of socio-economic pressures. Demands for employment, access to quality education, a decent wage, affordable services, reliable service delivery and, increasingly, access to land, demonstrates the need for local and national service providers to focus on enabling social change. The outcome of protest action, work stoppages, equipment theft, meter tampering and illegal connections – representing just a few of the direct effects of social challenges on our organisation – are disrupted supply, increased costs, public safety concerns, poor customer service and reputational damage.

Social inequality continues to contribute to stagnant sales volumes as well as revenue recovery challenges, despite a growing customer base, albeit primarily in the residential sector. Together with Government, we will focus on a new approach to service our customers, ensure market retention and revenue collection, and also continue our focus on transformation and skills development.

Our contribution to skills development and transformation is discussed under "Our people" from page 130 and "Our role in communities" from page 140

Our training facilities are being leveraged to address the required engineering and technical capacities to improve skills and cater for skilled employment in related sectors. Leveraging these offerings as part of a partnership and commercialising our training facilities are being considered as part of a new operating model in order to strategically position our organisation as a supplier of skills and expertise.

Utility trends

As part of our strategy, we have to consider trends in the broader power utility industry. Globally, the last five years have been challenging for traditional power utilities, which have suffered significant declines in market share and profitability. Renewable electricity production and alternate technologies have grown rapidly in recent years. This has resulted in greater competition for electricity supply, increased customer choice and altered consumption patterns.

Decreases in energy subsidies have been seen globally, driven by decreased costs of energy, a transition to renewable energy and the increased demand for energy storage and backup capacity. Decreased subsidies have triggered significant debates within the regulatory environment, specifically around how to calculate the costs of embedded generation and how to regulate self-supply. Policy makers and regulators have noted these developments and are proposing necessary changes to the existing pricing methodology. Diversifying into the energy storage and backup capacity market is a clear opportunity for us to explore new markets both locally and regionally.

Private equity initiatives in the African region and appeals for participation of private equity partners in SOCs locally have increased. These are driven by the high level of investment required, perceived ineffectiveness or inefficiency of operations and the desire for strategic partnering. Our role in the electricity supply industry, beyond our existing infrastructure and security of supply through base-load capacity, has been central to the debate, as stakeholders and the economy seek transformation. We are participating in these engagements to clarify our preferred role and scope in the transforming energy sector.

Any transformation will have to clarify the manner in which public-private partnerships will be explored and what this may mean for state ownership of strategic assets. A collaborative effort with Government, industry players, labour, customers and special interest groups is crucial to ensure that the consumer, our people and the economy are not disadvantaged during this process. Ultimately, Eskom's transformation and flexibility to respond to emerging utility trends will be informed by these engagements, as well as finalisation of the draft IRP.

This is covered in further detail under "Our know-how – Investing in appropriate technologies" on pages 146 to 150

Globally, a decrease in the number and value of mergers and acquisitions in the electricity sector has been observed. Debt offerings continue to be the dominant type of deal undertaken. These trends speak to the increasing challenges of sustaining traditional, vertically-integrated business models within the sector, and are indicative of the amount of industry restructuring that has taken place over the past two years. Furthermore, utilities are displaying increased transparency regarding operations and finances. Our restructuring and turnaround strategy should be noted within this context.

Locally, the rapid evolution of technology developments in the sector, exacerbated by electricity shortages and above-inflation price increases that have manifested over the last decade, have culminated in a declining electricity sales trend. Over the past year, the decline was highest in large power users in the mining industry due to a wide range of factors including low economic growth, commodity market volatility, loadshedding and increasing electricity costs, which have led to the downscaling of operations and the inability of our key customers to maintain their electricity consumption. Based on the IRP, higher expected future demand will require increased capacity, and we continue to commission new capacity at Medupi and Kusile Power Stations to ensure that the country's future energy needs are met.

Whilst we are delivering on the new build programme to provide additional base-load capacity, IPPs are also expected to increase peaking capacity in the medium to long term. Given our demand outlook, the challenge of effectively and efficiently balancing supply with demand by ensuring that the power system is stable at 50Hz remains, despite the entry of new technologies and supply-side participants. The unpredictable behaviour and limited availability of renewable technologies such as wind and solar require that we consider alternative strategies to ensure instantaneous balancing of the system, including demand response initiatives and energy storage solutions.

We also have to strengthen our transmission and distribution networks to allow for network access by IPPs and other supply-side participants. The commissioning of IPP capacity continues to limit the optimal deployment of our own plant, which has a marginal cost of production that is much lower than the incremental cost of IPPs. Nevertheless, IPP capacity has proven crucial during periods of poor plant performance to ensure sufficient supply to the grid, despite the extensive cost involved.

Technological advances

We have seen a significant shift towards a greater gas preference locally, as indicated in the draft IRP, as well as by members of SADC. This will require greater interdependency in the region, in the supply, transport, processing and refining of gas. In the European Union, the rise of hydrogen as an alternative to gas has been noted and is a consideration for interconnected economies, such as the SADC region, that may capitalise on gas and hydrogen infrastructure to address future demand. Platinum is used as a catalyst in hydrogen fuel cell production technology; it is anticipated that greater platinum demand may sustain sales in the mining sector and stimulate the regional economy.

Renewable technologies, mainly wind and solar, accounted for nearly half of the annual global electricity capacity added during the last year. The drivers for this are mainly price competitiveness, grid parity for these technologies and a global focus on addressing climate change. This has led to challenges around conventional grid planning, grid stability, regulation, energy storage and backup capacity. In this context, gas may be seen as a possible alternative for balancing the intermittency of renewables, in conjunction with other technologies.

Preferred technology choices for the region should consider the consequences for the entire value chain and the transition necessary to accommodate a change in technology preference. We have reconstituted our Integrated Strategic Electricity Planning (ISEP) process as part of our turnaround strategy development, in order to identify long-term options for both the supply and demand of electricity, to facilitate engagement with our stakeholders to integrate technological developments and opportunities into the new business plan and industry structure proposals.

The viability and presence of energy storage and backup capacity options in the global energy market are being driven by an increased demand for energy storage capacity, in response to the intermittency of renewables and the need to stabilise the grid, as well as the increased supply of alternative technologies and material inputs to produce affordable energy storage technology. Although South Africa's storage demands are relatively small for the time being, they are increasing given current supply constraints and the need to complement existing capacity. This demand will further increase as we address the challenge of electrification of remote and rural areas in South Africa. During the year we have successfully demonstrated off-grid, distributed generation and energy storage technology through a smart microgrid pilot project.

This project is discussed under "Our know-how – Rural microgrid pilot" on page 149

Oil, gas and mining companies have entered the electricity supply arena, challenging existing market positions traditionally held by utilities, thereby increasing competition and requiring utilities to diversify their product and service offerings. Digitisation trends are enabling the rise of the end-to-end utility which delivers smart capabilities, monitoring and diagnostics as well as adaptive, automated systems. Many utilities globally are developing a digitisation strategy to ensure market retention and to leverage technologies to secure revenue beyond the sale of electricity. We are exploring enabling options, such as our digital platform and smart meters, as part of our digitisation strategy.

Tariff structures of the future

The introduction of renewable energy technology in the past decade has created opportunities for a cleaner and more diversified energy mix. Moreover, the cost of renewable technologies has reduced significantly as a result of an exponential increase in global adoption. Locally, the cost of renewable energy has decreased by up to 75% for photovoltaic (PV) energy and 50% for wind energy, between bid window 1 and bid window 4 of the Renewable Energy Independent Power Producer (RE-IPP) programme. This welcome development bodes well for the future of economies, the electricity supply industry and consumers worldwide. However, Eskom is tied into 20-year contracts under earlier bid windows, therefore some of the benefits of lower prices may only be realised on new contracts under later bid windows. The decline in cost coupled with increased environmental awareness has sparked public debate as to why fossil fuel-based generation technologies continue to be deployed, while cleaner, affordable energy is able to be generated from renewable sources. To answer this, one has to understand the concept of load on the power system.

The transition from conventional technology to an era with a higher renewable technology component in the energy mix must be navigated with caution in order to avoid dire consequences to the power system. The role of electricity utilities is to ensure continuous delivery of electricity by balancing load – supply and demand – in real time to maintain a stable grid. Failure to do this can lead to a total system failure and blackout. Demand varies seasonally, weekly and hourly. These variations are predictable to some extent: during the day, demand varies with pronounced peaks in the morning and evening, mimicking the daily routine of cooking, commuting, heating and ablutions across the country; in South Africa, demand is lowest during summer and highest during winter, due to the additional heating required. Utilities have to address the challenge of ensuring that demand is met reliably at every second of the day, and that the generation supplying the load is optimal in terms of cost.

Conventional generation technology converts stored energy – in the form of chemical energy in coal, gas and oil; potential energy through water stored in a dam; or fission energy through uranium – to electrical energy. Because the energy is in a stored form, it is possible to dispatch it in a fairly predictable way to ensure that the amount of supply is closely matched to the demand load. Renewable energy technologies, however, rely mostly on fairly unpredictable weather conditions to generate electricity – solar PV and wind are the two dominant types, which generate electricity only when conditions are favourable (i.e. when the sun is shining or the wind is blowing). This reliance on uncontrollable and unpredictable weather conditions means that the amount of electricity supplied by renewable resources could at certain times be insufficient and at other times too much, when compared to demand. Generally speaking, renewable energy is not dispatchable, whereas conventional energy sources are dispatchable to a large extent.

Because renewable energy without storage is not dispatchable, it has to be paired with dispatchable energy sources in order to reliably meet the load requirements of the system and thereby ensure grid stability. Therefore, the ability of conventional generation technologies to be dispatched on demand is very valuable. This benefit is inseparable from conventional generation technologies. While renewable energy technologies have the benefit of providing clean, affordable energy, they lack the inherent benefit of reliability that conventional generation technologies provide to the power system.

This means that the energy needs of the country has to be met with a combination of both renewable and dispatchable energy sources. Different energy sources should not be viewed in competition, but as complementary. The draft IRP provides for this through gas generators over and above the fleet of existing dispatchable energy resources, such as coal-fired power stations, in order to fill the gap when renewable energy technology cannot generate electricity.

Other technologies have been developed to compensate for the variability and lack of dispatchability of renewable energy. Battery storage is one example – it can be used to store energy during times when there is excess supply and release it when renewable energy technology alone is unable to meet demand. However, the absence of cost-effective, large-scale storage technology means that much of the renewable energy generated has to be consumed whenever it is generated, regardless of the demand at the time. Since the cost of battery storage technology is still prohibitively expensive to enable large-scale deployment, existing dispatchable generation technologies remain the only viable option to ensure reliability of power systems. As ageing dispatchable power stations are decommissioned, more and more renewable energy sources will be installed and will have to be paired with affordable technologies that can assist with dispatchability and reliability of supply.

There is an unfortunate tendency by some to compare the cost of renewable technology with the cost of conventional technology on a simplistic basis of units of energy generated. This comparison neglects all the other services that are provided by conventional, large-scale generation technology, often resulting in the conclusion that renewable energy is significantly cheaper and that other technology, such as coal-fired generation, should be removed from the energy mix. This is fundamentally flawed; a comparison should instead be made on a total mix of services that are required for constant, reliable electricity supply to consumers that is sufficient to meet their peak demand. Inappropriate comparisons are sure to lead to inappropriate conclusions and the benefits of other services provided may be gradually neglected, resulting in an inherently unreliable and unstable power system.

Conventional generation technologies offer two primary benefits: the production of electricity as well as reliability of supply, through their dispatchability. Electricity tariffs have traditionally bundled both of these benefits into a single price because there were no appreciable differences in the benefits offered by different conventional generation technologies. However, with the introduction of alternate generation technologies, the tariff structure of the future will need to adapt to the new reality, where different benefits are provided by different technologies. The consumer of the future may make use of non-dispatchable technology for the benefit of clean, renewable and affordable energy, while remaining connected to the grid for the benefit of reliability of supply when non-dispatchable technology is unable to meet their peak demand.

Therefore, one clear benefit of remaining connected to the grid is that the utility is always available as a supplier of last resort, providing consumers with a contingency when all other sources fail to supply them with electricity. This means that even if a consumer is able to reduce their energy requirements from the grid to zero, the mere fact that they remain connected to the grid means that whenever they require the power system to supply them, it should be able to cater for their total needs. This standby availability of supply necessitates large capital investments by the utility; these need to be recouped. While conventional power stations operated by the utility may be idle during periods when demand from the grid is low, these power stations need to be available to meet peak demand at any point – therefore, the utility has to be compensated even during idle periods to assist with maintaining its plant for it to provide reliability services.

In order for utilities to be appropriately compensated for these services, they need to be quantified and made transparent so that tariffs can adequately reflect them. A tariff reform will ensure that tariffs are differentiated and unbundled to reflect the full suite of services of the electricity supply industry. Once the tariff is unbundled, comparisons in cost between different services can be made fairly, enabling market players to compete and provide different service mixes. Those connected to the grid must pay for the services that are provided, both to avoid cross-subsidisation and to send appropriate market signals.

It is clear that the global utility model is evolving from a traditional model of generating and supplying electricity to an end-to-end utility model where a variety of services, including reliability services, are provided. There is therefore an urgent need for tariff reform to reflect the new realities as the technology landscape evolves; a standard tariff for consumers connected to the grid should reflect a fixed cost for reliability services and a variable cost for energy and other services used.

Cyber security continues to be a social and technological concern as the internet entrenches interconnectivity and exposes organisations to data leaks, hacking, theft and other forms of cyber crime. Grid security and the protection against cyber threats will require increased attention as the electricity economy transitions to a more connected state through the use of smart energy technologies and diversified supply.

Environmental shifts

Given the global shift away from coal-fired electricity generation, global decommissioning of coal-fired stations has become increasingly commonplace. A number of global and local financing institutions have multilaterally agreed that they will no longer fund coal-based investments. Coal re-firing and co-firing with other fuel sources have been explored as a means of reducing the environmental impact of coal-fired stations. There has been a trend for ageing coal-fired plants reaching the end of their useful lives to be replaced with renewable generation options and energy storage capacity. We have to formulate a sustainable strategy in order to address these challenges, given that the majority of our generating capacity remains coal-based.

In the local context, the impact on surrounding communities needs to be addressed when the time comes for the decommissioning or repurposing of coal-fired units and stations. However, we have to ensure that we achieve a sustainable energy availability factor prior to these decisions being taken. We will need to address how communities and existing capacities are sustained as stations reach the end of their useful lives.

One option is to leverage existing infrastructure for future generation capacity and minimise the socio-economic impact at these locations. The transition to a low-carbon, climate-resilient economy requires broader engagement to identify the social interventions needed to secure employment, reduce inequality and maintain growth when the economy shifts from carbon-intensive production to a more sustainable approach. The timing of these strategic decisions is of paramount importance, as premature closure and decommissioning of stations could lead to a shortage of capacity.

Commitments to reduce emissions involve both investment in new equipment and technologies, such as fabric filter plants and flue gas desulphurisation (FGD), and investment in cleaner, replacement generating capacity on the supply side. On the demand side, the shift towards energy efficient and eco-friendly equipment and appliances has reduced the electricity demand of end consumers and remains critical to addressing climate change concerns. Mitigation and adaptation strategies are in place to address our contribution to climate change.

The implementation of the Carbon Tax Act, 2019, effective from 1 June 2019, may have a significant impact on our customers and our financial sustainability in the medium to long term, once tax-free emission allowances have lapsed.

This is discussed in further detail under "Our interaction with the environment – Carbon mitigation mechanisms" on page 128

Transformation in the automotive industry, specifically the decline in diesel vehicles, the introduction of carbon taxes and fuel levies and the promotion of electric and hybrid vehicles, has been influenced by global policies and commitments aimed at carbon reduction. The shift towards electric vehicles is impacting demand for local, fuel-based vehicle production as well as associated metals, such as platinum. Reduced demand for both may have negative implications for key sectors of our economy and a knock-on effect on demand from these key customer groups. However, this may be offset by increased platinum demand related to the production of hydrogen fuel cell technology.

Adoption of electric vehicles (eMobility) by the South African automotive industry will require supporting infrastructure for consumers to charge vehicle batteries. Clarity around our role in this space is therefore needed to boost investor confidence and encourage local automotive companies to diversify their production to include electric vehicles. Oil and gas companies are increasingly investing in battery charging stations as part of their service offering. Enabling expansion in this area through policy and standards would increase electricity sales without any significant infrastructure investment from Eskom.

Our position on eMobility in South Africa is discussed in further detail under "Our know-how – Eskom's eMobility programme" on page 150

Legal and regulatory environment

Nationalisation and indigenisation of mineral resources in Africa have increased, driven by higher demand for key commodities and higher prices for minerals as a result of both their scarcity and growing significance in the global economy. Securing access to these minerals, which are extracted through the use of energy-intensive equipment, becomes a key strategy for investors to support their operations as well as diversify their product offerings. Demand will drive significant investment into emerging miners and cost-plus mines, and presents an opportunity for integrating Eskom further into the value chain.

Future diversification such as gas and energy storage will inform new strategic partnerships subject to legal, regulatory and commercial prescripts. Should Eskom consider diversifying into energy storage, accessing scarce minerals such as vanadium and cobalt will be paramount. The proposed Competition Amendment Bill highlights a shift towards supporting small industry players and opening up monopolised markets to new local entrants. This will have implications for our suppliers, our customers and our ability to pursue growth from energy storage and non-regulated market opportunities, such as the sale of fly and coarse ash, a by-product of electricity generation, and the commercialisation of fibre.

Policy decisions in the energy sector, including decisions around new capacity, energy mix and the types of technologies to be deployed are set out in the IRP. It provides Eskom with an allocation, as well as specifying the capacity to be catered for by other industry and market players, including IPPs.

Capacity decisions, what to build and when to build, are not up to Eskom. Despite our awareness of shifts in the electricity supply industry and emerging technology, our responsiveness is limited by policy direction and the regulated nature of the market.

The draft IRP 2018 was issued for public comment in August 2018. We submitted our comments to DoE in October 2018. Subsequently, the draft IRP was updated to incorporate comments arising from the public participation process; the updated draft was submitted to the National Economic Development and Labour Council (Nedlac) in March 2019 for review. In order to restore policy certainty in the electricity sector, and to enable Eskom to plan properly and be adequately prepared for the long-term challenges in the electricity supply industry, it is critical that the updated IRP be approved as soon as possible.

NERSA regulates the electricity supply industry in South Africa. NERSA is responsible for determining our allowable revenue through tariffs and charges in line with the MYPD methodology and the EPP. Nevertheless, NERSA's revenue decision for 2018/19, which granted a 5.23% standard tariff price increase for the year, indicated that NERSA did not consider Eskom's sustainability when it made its decision, in contravention of its mandate. The Board has lodged a High Court review of this decision.

Refer to "Our finances – Price applications to support revenue requirements" on pages 86 to 87 for further information

The average standard tariff price increases over the past few years have not enabled a migration towards cost-reflective tariffs as envisaged in the EPP. Cost containment initiatives alone will not restore Eskom's financial sustainability, therefore it is critical that the price of electricity migrates to cost reflectivity over time.

OUR STRATEGY AND OUTLOOK

Strategic context

In the prior year, we refined our strategy to respond to challenges being faced at the time. We aimed to clean up governance issues, stop the bleeding and re-energise the business in order to set a firm foundation for growth. At the same time, we planned to continue implementing cost containment initiatives, while focusing on strengthening our financial position through demand stimulation, cost containment and efficiencies, as well as striving to achieve a cost-reflective price of electricity.

This was all aimed at improving liquidity over the next two years, as well as improving the EBITDA margin to above 35%. Our goal was to achieve a standalone investment-grade credit rating within the next five to seven years by reducing our reliance on debt financing. This was in response to previous credit ratings downgrades and various governance issues which had constrained access to funding, requiring clear trade-offs on capital and operating expenditure.

To achieve our mandate, we need to balance three roles: supporting socio-economic improvements, ensuring regulatory compliance and maintaining commercial viability.

As a major employer in the economy, our actions have an impact on the wider community, therefore any decisions must be made with this in mind. Added to this is the safety of our workforce, the community and our assets. We are committed to upholding our value of Zero Harm at all times. In order to continue delivering on our mandate, we need to remain commercially viable and financially and operationally sustainable.

Our strategy remains aligned to the key areas set out in DPE's Strategic Intent Statement, which are also aligned to the six capitals, namely:

- Provide reliable, predictable and affordable electricity in line with regulatory methodology, and strive for cost containment and improved operational efficiencies
- Ensure and maintain a financially viable and sustainable company
- Reduce our 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
- Continue to strengthen and enhance our governance and reporting processes
- Ensure that our company structure is responsive to the changing energy landscape

Strategy overview

As a result of the extensive challenges confronting the organisation throughout the past few years, we embarked upon a comprehensive strategic review. The goal thereof was to develop a strategy that would turn around the organisation and place it on a path towards achieving structural, financial and operational sustainability. This process culminated in the development of a strategic turnaround plan, which has been shared with our shareholder. At the same time, our financial and operating challenges intensified, adding an even greater sense of urgency to achieving our turnaround objectives.

The strategic turnaround plan was approved by the Board in November 2018, and requires close collaboration with and involvement of the shareholder, including deliberations on the role of Eskom in the impending electricity industry reform process.

In the immediate to medium term, the turnaround plan is enabled by four pillars, supported by the Generation nine-point recovery programme. The plan creates a focused platform for the business to drive the implementation of our strategy.

Generation's nine-point recovery programme is discussed in "Our infrastructure – Generation performance" on pages 109 to 114

The four pillars which have to be implemented simultaneously for the plan to succeed are:

- *Cost containment:* We must reduce our overall annual cost base by at least R33 billion in 2022/23, with cumulative cash savings of approximately R77 billion required over the next four years
- *Revenue optimisation:* We submitted the MYPD 4 revenue application to NERSA, based on revenue that caters for prudent and efficient costs as well as a reasonable return that matches our debt service commitments (interest and debt repayments). This pillar also covers growing sales volumes, in order to increase revenue
- *Debt relief:* We approached Government for R100 billion in immediate direct financial assistance to reduce debt and interest to a sustainable level. Government has committed to providing R23 billion per year for the next 10 years
- *Separation or unbundling:* To redress our structural deficiencies, the strategic turnaround plan recommended that Eskom be split into three entities, namely Generation, Transmission and Distribution, each wholly owned by Eskom Holdings

After the ultimate separation of Eskom into three entities under Eskom Holdings, these entities will have separate assets, debt, employees, licences and financial statements, and will deal with each other at arm's length. Nevertheless, the first step will be functional separation, eventually followed by legal separation.

We are reviewing our current structure, in preparation for functional and legal separation, which should initially have very little operational impact.

Care should be taken not to view this process as privatisation; it is aligned with our ambition to ensure that Eskom remains sustainable, and is in line with international best practices to support the long-term evolution of the electricity industry.

This process is expected to have many benefits:

- Allow the separate entities to raise funding more cheaply on the strength of their standalone income statements, balance sheets and cash flows
- Create greater transparency across the value chain and reduce opportunities for fraud, corruption and rent-seeking
- Provide clear performance incentives in each business
- Reduce the systemic risk South Africa faces by having one very large entity, where problems in one part of the electricity value chain affect the entire value chain. Instead, it will isolate problems and deal with them where they arise, without compromising the entire system
- Position the electricity sector to embrace clean technology, distributed generation and respond to other industry changes
- Reduce support required from Government in the form of capital outlays and guarantees, mainly due to increased participation by market players and funding over time
- Generate competition in the electricity market that is expected to drive improvements in efficiency and put downward pressure on prices
- Provide open access to the grid and remove conflicts of interest in the procurement of power from IPPs
- Diversify the generation of electricity across a multitude of power producers, thereby reducing the country's reliance on a single supplier
- Provide a stable platform for transparently contracting least-cost and most secure power

As part of our revised strategy, our key objectives are to:

- Execute the approved turnaround plan to create a financially self-sustaining company
- Ring-fence operations in line with international best practice to support the long-term evolution of the electricity industry
- Improve transparency of reporting to the shareholder and the broader public in order to build trust

To provide the country with the assurance that our turnaround plan is credible to address the challenges confronting Eskom, the Presidency appointed a Presidential Eskom Sustainability Task Team in December 2018, comprising renowned energy experts, to review our proposed strategy.

The recommendations from the Presidential Task Team have not suggested any significant changes to our strategy and turnaround plan.

There is wide agreement that our strategic turnaround plan cannot be executed in isolation, but has to factor in the broader South African energy sector context, as well as key government policy decisions relating to the electricity industry, more specifically in terms of the draft IRP, the electricity industry structure, Electricity Regulation Act, 2006, amendments to enabling legislation (such as the Energy White Paper) and the ongoing sustainability of the broader South African energy sector.

While the turnaround plan was being developed, we commenced with the implementation of immediate cost optimisation measures to stop the bleeding. These included:

- Interim savings measures: In collaboration with the various business areas, key areas for savings were identified, including controllable aspects of primary energy, operating costs, other income and to a limited extent, revenue. An initial savings target was set to align expenditure with the budget contained in the 2018/19 Corporate Plan, although the target was subsequently adjusted to R10.6 billion to allow for further maintenance spend by the business
- The following cost containment measures were also planned:
  - Capital expenditure was reduced from R55 billion to R45 billion annually
  - Annual average operating cost increase was reduced from 11% to 4.5%
  - A freeze on staff appointments was implemented, together with no salary increases for senior managers and executives, as well as no bonuses for all employees, although bargaining unit staff received a once-off payment as part of the three-year wage settlement
  - A section 189 process was concluded resulting in the reduction from 21 to nine F-bands, being Eskom's top management level
  - Headcount reduction of about 1 700 was envisaged by the end of March 2019, mostly through natural attrition

When the Board approved the strategic turnaround plan in November 2018, it was clear that, unless the four pillars were effected simultaneously, the plan would not address our going concern challenges and long-term sustainability. Since then, several factors with a negative impact on our financial, technical, commercial and socio-economic performance have become a reality.

The following complexities have to be navigated to effectively execute the turnaround plan:

- To ensure financial sustainability, Eskom required immediate debt relief of R100 billion. However, Government initially awarded R23 billion per year, resulting in a R31 billion gap over the next three years. The frontloading of the support announced in the most recent SONA is expected to address the shortfall
- The tariff increases of 9.41%, 8.10% and 5.22% respectively determined by NERSA are substantively less than the revised tariff increases of 17.1%, 15.4% and 15.5% requested, resulting in a shortfall of R102 billion. Whilst Eskom will be following due process to seek rectification regarding the unsustainable tariff determination awarded, this is likely to be a long drawn-out process with no guaranteed relief
- Furthermore, NERSA's RCA determinations created a further gap of R34 billion relating to years two to four of MYPD 3, and another R17 billion relating to year five. This adds to the abovementioned shortfall of R102 billion created by the MYPD 4 determination
- Continued operational challenges, notably on the Generation front, still poses the risk of rotational loadshedding, which is necessary to maintain the integrity of the power system. This not only results in the expensive use of diesel to run the OCGTs to avoid or minimise the magnitude of loadshedding, but also results in revenue curtailment due to lost sales opportunities
- To improve plant performance in Generation, Transmission and Distribution, additional funding of R49 billion is required

Given the prevailing operating context and macroeconomic environment, the path to structural, financial and operational sustainability is complex and will require the commitment, tenacity and resilience of all key stakeholders to ensure effective execution of our strategic turnaround plan and the 2019/20 to 2021/22 Corporate Plan.

Going forward, we will also be focusing on the evolution of our business model to respond to changes in our operating environment, to determine our future markets and products. This also covers our footprint on the African continent, our carbon intensity and future services we could offer.

We are committed to completing the new build programme, with Medupi Power Station (pictured above) expected to be completed in 2020/21.

STAKEHOLDER ENGAGEMENT AND MATERIAL MATTERS

The Board has delegated the management of stakeholder relationships to Exco. Responsibility for oversight of the effectiveness of all stakeholder engagements rests with the Social, Ethics and Sustainability Committee (SES).

As a key role player in South Africa's socio-economic development, we are mandated to support the country's growth and developmental aspirations. Our continued role in the future electricity supply industry depends heavily on our willingness to be inclusive when making decisions that have an impact on sustainability and our broader operating environment. Stakeholder inclusivity helps us to understand and adequately respond to stakeholder needs, interests and expectations. Responsible lobbying and shareholder activism, therefore, form an important part of our stakeholder engagement.

Effective stakeholder engagement remains a high priority and an enabler of our strategy, as our reputation depends on and is largely influenced by stakeholder perceptions, which in turn affect our performance and ability to achieve our strategic objectives. Due to its strategic nature, our engagements with stakeholders are carefully planned in terms of the engagement approach, scope and intended outcome.

Our interaction with stakeholders

Public trust in Eskom is at an all-time low. The past year presented many challenges for the energy sector, and our reputation was greatly impacted by the unprecedented financial and operational challenges that we faced.

Our stakeholder engagement strategy

We require effective stakeholder relations management and communication to set the context for future conversations. This requires the right level of advocacy and clear communication with our stakeholder groups, providing us an opportunity to educate our stakeholders on the challenges and conflicting priorities we are facing, and the trade-offs required to respond effectively to these challenges.

Creating an enabling environment for future conversations requires carefully planned stakeholder engagements and an increased focus on the successful management of our challenges as they relate to our stakeholders' issues. To this end, our stakeholder engagement strategy is aimed at obtaining a better understanding of the vision and values of our stakeholder groups, which ultimately support the achievement of our strategic turnaround plan. We need to ensure that we increase both the quality and quantity of conversations in order to improve our relationships and reputation in the long term.

At this juncture, we need to emphasise new and emerging complexities that have arisen as a result of our current financial and operational challenges and share the imperatives of our turnaround plan. We will work very closely with Government to ensure that our turnaround plan is supported and successfully implemented. We need to redouble our efforts to communicate clearly and constantly to our key stakeholder groups on our plans and progress on navigating the organisation out of the current financial and operational difficulties.

Reviewing and refining our interim operating model will require a significant shift across multiple stakeholder fronts. This will require transparent communication with our stakeholders to define their expectations and foster a shared understanding of key challenges that affect both their and our operating environments, with the aim of developing shared solutions.

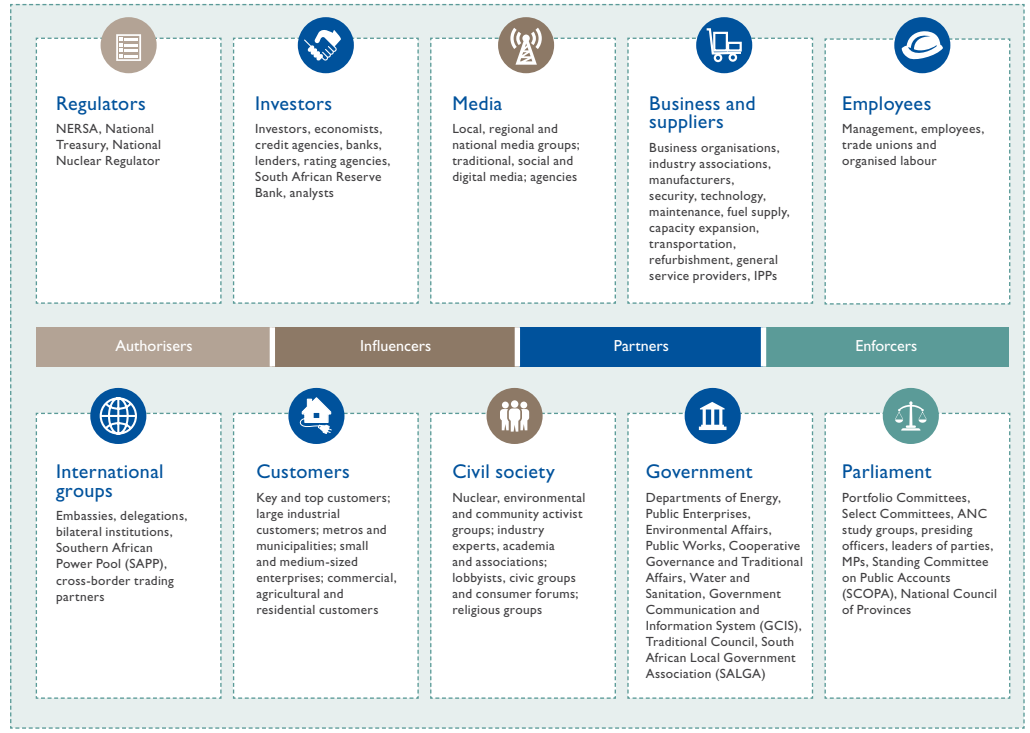
All stakeholder engagements are planned to support our ongoing and future business objectives. Our stakeholder engagement strategy therefore focuses on the following:

- *Organisational sustainability and value creation:* to maximise our contribution to sustainable development and demonstrate value creation to maintain our social licence to operate
- *Issue focused advocacy plan:* to manage specific issues that affect our relationship with specific stakeholders and address complex problems and challenges in cooperation with stakeholders
- *New strategy advocacy plan:* to transform our organisation over the next few years will require strategic support and stakeholder engagement. The Communications Strategy Centre has been established as a central strategic coordination point to ensure that we coordinate our communication regarding our strategy and operating model through a single forum to internal and external stakeholders

Stakeholder groups

We operate within a complex landscape which involves multiple stakeholders with diverging objectives who are engaged through several engagement channels and touch points. Exco assumes ultimate responsibility for managing stakeholder relationships, however, engagements with different stakeholder groups are the responsibility of various functions within Eskom.

The following graphic provides an overview of our key stakeholder groups; it includes only the most notable stakeholders per area. Stakeholders have been classified as authorisers, influencers, partners or enforcers.



As a state-owned entity, we must implement government policy and strategy. Therefore, it is important to ensure alignment with the shareholder to facilitate the best possible outcome for the organisation. Most importantly, the turnaround plan will require direct and continual cooperation with key decision-makers and government departments. We will engage with the Presidential Eskom Sustainability Task Team and Ministerial Technical Review Team where needed to finalise the details of the turnaround plan and align on the implementation thereof. Furthermore, we will work closely with the shareholder on ensuring security of supply and engaging organised labour on strategic issues.

Quality of relationships

Our reputation has shown a steady decline over recent years. This was not caused by any one single event, but rather a multitude of contributing factors. During the year, our poor reputation was exacerbated by the effects of industrial action, loadshedding, tariff increases, our dire financial situation requiring Government financial support, uncertainty regarding our planned restructuring as well as the clean-up of previous governance issues. Our stakeholders' perception of our reputation has adversely affected our citizenship dimension score in the RepTrak® reputation survey, as numerous stakeholder groups share the view that we cannot be trusted.

Refer to "Our role in communities – Our reputation" on page 141 for more information

Going forward, our attention is on implementing our turnaround plan and rebuilding and strengthening confidence and trust in the organisation. We will continue to focus on strengthening corporate governance and ethics in order to restore confidence and ensure our sustainability. Our leadership will continue to meet with critical stakeholders, including employees, to share and obtain support for our strategy and interim operating model.

Issues raised by stakeholders

Issues raised by different groups include the following:

Stakeholder group	Issues raised
Government	Performance against the shareholder compact, financial and operational sustainability, progress on the new build programme, electrification programme, job creation, debt management, governance and leadership issues, separation of Eskom into three separate entities, significant cost containment efforts, financial support from Government
Parliament	Governance and leadership issues, management of municipal arrear debt, financial sustainability and liquidity, procurement processes, policy compliance, environmental compliance, performance against the shareholder compact, business continuity planning, separation of Eskom into three separate entities, significant cost containment efforts, financial support from Government
NERSA	Revenue and tariff increases, credit ratings, contract management, Government guarantees, nuclear programme, tariff increases, cost containment efforts, financial sustainability
Investors	Financial sustainability, loan agreements, credit ratings, funding plans, cash projections, governance and leadership issues, rising debt, cleaner technology adoption, separation of Eskom into three separate entities, significant cost containment efforts, financial support from Government
Customers	Quality and reliability of supply, electricity pricing, customer connections, accurate accounts, electrification grants, service levels, forewarning of rotational loadshedding
Business and industry	Business and development opportunities, affordable electricity, tariff certainty, security of supply, forewarning of rotational loadshedding, governance and leadership issues, infrastructure management, improvement of procurement processes, operational status updates, separation of Eskom into three separate entities, significant cost containment efforts, financial support from Government
Employees and organised labour	Job security, employee benefits, perceived lack of consultation or decisiveness, governance issues, leadership instability, number of senior acting positions, electricity pricing, economic impact, business performance, strategic direction, separation of Eskom into three separate entities, significant cost containment efforts, financial support from Government
Suppliers	Governance and leadership issues, financial and operational performance, health and safety, skills development programmes, supplier development and localisation, job creation, progress on the new build programme, workforce demobilisation
Civil society	Responding to climate change, renewable energy and nuclear programmes, cost management, governance and leadership issues, international reputation, perceived financial mismanagement, corruption, innovation projects, non-compliance with regulations, balancing of demand and supply
International institutions	Renewable energy, collaboration and investment opportunities, skills development programmes, cross-border collaboration opportunities, grid expansion into Africa

Material matters

A matter is considered material if it influences or is likely to influence the decisions, actions and behaviour of either stakeholders or Eskom, or affect our ability to create value in the short, medium and long term.

Materiality determination process

For the purposes of the integrated report, we consider those matters which may influence decision-making or affect our ability to create value on an annual basis; particular attention is given to changes in the strategic and operating environment since the previous review. We consider topics discussed at Board level, risk management outcomes and issues raised by various stakeholder groups through numerous platforms – these include lenders and investors, key customers, customer surveys, matters raised by the media and in Parliament, and more generally via the Stakeholder Relations Department.

Issues are ranked as being of high, medium or low materiality by considering the level of impact the issue has or could have on our ability to achieve our strategy and thereby create value, the level of concern to stakeholders and the degree to which we can control or influence the issue. Those deemed to be material matters are covered in detail in our integrated report, while other matters are dealt with at a high level or using other platforms.

Current year material matters

The material matters reported in our previous integrated report remain applicable, although the level of importance may have changed. Two matters which have become significantly more prominent are those dealing with governance, leadership and corruption, as well as financial sustainability and liquidity.

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

Material matter	Associated strategic risk	Potential impact on value creation	Timeframe of impact
HC SRC Poor governance and leadership instability, coupled with possible corruption and the prior year audit modification relating to irregular expenditure	Breakdown in relations with recognised organised labour Further deterioration of Eskom's reputation, caused by acts of unethical behaviour by Eskom leadership and senior management, which will impact Eskom on multiple levels	Negative	Short to medium term
FC Liquidity and funding, including the possibility of credit ratings downgrades	Eskom saturating its borrowing capacity, coupled with credit ratings downgrades	Mostly negative	Short, medium and long term
FC MC NC Lack of policy and regulatory certainty, including the electricity price path and application of MYPD and RCA methodology, as well as the long-delayed revised IRP	Market rules and long-term industry structure are unclear, coupled with the impact of revised IRP (or no) allocations, which may impact or alter our energy mix and flexibility	Negative	Short, medium and long term
FC Financial sustainability and going concern, considering revenue adequacy and cost containment efforts	Declining levels of long-term profitability due to declining sales or limited ability to implement the growth strategy, inadequate price increases and unsuccessful cost containment efforts	Negative	Short, medium and long term
FC Declining or stagnant sales (utility death spiral), and pursuing opportunities for growth	Reduced demand for Eskom's electricity, coupled with increasing competition for end users, leading to revenue shortfall Declining levels of long-term profitability due to declining sales or limited ability to implement the growth strategy, inadequate price increases and unsuccessful cost containment efforts	Negative	Short, medium and long term
FC SRC Escalating municipal and Soweto arrear debt	Unreliable supply or increasing municipal debt driving away customers looking for reliable alternatives, thereby decreasing sales	Negative	Short to medium term
MC SRC Ensuring security of supply through satisfactory plant performance and healthy industrial relations, which would reduce the possibility of loadshedding	Reduced demand for Eskom's electricity, coupled with increasing competition for end users, leading to revenue shortfall Unreliable supply or increasing municipal debt driving away customers looking for reliable alternatives, thereby decreasing sales	Negative	Short, medium and long term
MC NC Coal and water security to ensure continued availability of power stations	Unreliable supply or increasing municipal debt driving away customers looking for reliable alternatives, thereby decreasing sales	Negative	Short, medium and long term
MC NC Environmental performance and compliance, including emissions and greenhouse gas reporting	Inability to meet climate change mitigation targets impacting our licence to operate Failure to implement climate change adaptation measures, which could affect plant performance	Negative	Short, medium and long term
MC NC Climate change, including energy mix and complying with carbon budgets	Market rules and long-term industry structure are unclear, coupled with the impact of revised IRP (or no) allocations, which may impact or alter our energy mix and flexibility Inability to meet climate change mitigation targets impacting our licence to operate Failure to implement climate change adaptation measures, which could affect plant performance	Negative	Medium to long term
MC HC Ensuring adequate skills to execute our strategy and ensure optimal business performance, while transforming the workforce	Breakdown in relations with recognised organised labour Lack of adequate, available and affordable skills	Positive and negative	Short, medium and long term

Material matter	Associated strategic risk	Potential impact on value creation	Timeframe of impact
FC MC NC HC SRC Decommissioning stations or placing units/ stations into cold reserve, a problem which is exacerbated by the impact of IPPs. Decommissioning will also affect our workforce, suppliers and the communities in which we operate	Reduced demand for Eskom's electricity, coupled with increasing competition for end users, leading to revenue shortfall Inability to sell in the region in the long term, partly due to an inability to build transmission lines fast enough to support the capacity increase, leading to stranded assets in South Africa and over-investment in transmission assets in the region Breakdown in relations with recognised organised labour	Negative	Medium to long term
FC MC NC HC SRC Strategy review and turnaround plan	Breakdown in relations with recognised organised labour Eskom saturating its borrowing capacity, coupled with credit ratings downgrades Declining levels of long-term profitability due to declining sales or limited ability to implement the growth strategy, inadequate price increases and unsuccessful cost containment efforts Further deterioration of Eskom's reputation, caused by acts of unethical behaviour by Eskom leadership and senior management, which will impact Eskom on multiple levels	Expected to be both positive and negative	Short, medium and long ter

Our strategic risks, which are largely aligned to the material matters, are set out on pages 52 to 54 with the impact and associated timeframe

Outlook

Our stakeholder engagement strategy sets the direction for current and future conversations to pursue shared value with our stakeholders and enable the successful outcome of our strategic objectives. We continue to engage with our stakeholders and strive to position our story as honestly and transparently as possible, despite the increase in public scrutiny and loss of trust. As indicated earlier, we have set a key objective in our turnaround plan to improve transparency of reporting to the shareholder and the broader public, in order to build trust.

Our role is to protect, shape and support our relationships and partnerships with all of our stakeholders. We are optimistic about improvement in the future and we believe that the majority of our stakeholders want to participate in conversations to bring forward new perspectives in order to achieve mutually beneficial outcomes, resolve issues and create opportunities for all involved.

RISKS AND OPPORTUNITIES, ASSURANCE AND CONTROLS

Enterprise risk management process

The Board assumes responsibility for the governance of risks and opportunities in Eskom and sets the direction for how they should be managed through our policies and frameworks.

We apply an integrated approach to managing both risk and resilience in accordance with the Integrated Risk Management Framework and Standard. Our Risk and Resilience Policy and Plan as well as Risk Appetite and Tolerance Framework are the key governing documents in this regard approved by the Board. Oversight of resilience and business continuity remains a Board priority – it enables the organisation to operate under conditions of uncertainty and volatility and respond appropriately to internal and external events.

Through the Risk and Resilience Policy and Plan, we have embedded risk and resilience into our management processes, our decision-making and our outcomes. In line with principle 11 of King IV™, the responsibility to implement and execute effective risk and resilience management has been delegated to Exco in order to support the organisation in achieving its strategic objectives. The Audit and Risk Committee (ARC), Exco and its Risk and Sustainability Committee review the key priorities and deliverables in our Risk and Resilience Plan annually.

In accordance with King IV™, to strengthen governance and risk-based decision-making, we have implemented a risk assessment and risk and resilience management plan as a requirement for all Exco and Board submissions from November 2018.

Our risk and resilience management processes enable us to perform periodic scans of the environment to assess material risks and opportunities that may affect the achievement of our objectives; we tailor our response within our risk appetite and tolerance levels. This ensures that we are able to formulate and execute our strategy effectively and operate efficiently as a business with minimum disruption and enhanced value creation. Outcomes are monitored regularly, and our direction adjusted when required. Risk-based strategy development and assumption setting underpin the process and decisions based on our strategy. Risk assessments are conducted as part of the development of all corporate and divisional plans in Eskom.

Our Risk Appetite and Tolerance Framework sets out the levels of risk that we are willing to tolerate in pursuit of our strategic objectives. The Risk Appetite and Tolerance Framework is aligned to our internal policies and takes into consideration the principles outlined in King IV™, ISO 31000 on risk management and the COSO internal control framework.

The Enterprise Risk and Resilience Department is mandated to assist Exco by setting the standards and procedures for risk and resilience management, establishing risk and resilience assessments, planning, reporting, monitoring and response capabilities.

We have established risk structures within each division, consisting of risk owners and risk and resilience practitioners, responsible for identifying and reporting divisional risks and response plans. We therefore follow both a top-down and bottom-up approach to risk management.

Strategic risks, which are most significant in affecting our ability to achieve our strategic objectives, are identified at organisational level. Divisions are responsible for identifying and managing business risks as well as the strategic risks allocated to them. All risks, including emerging risks, are considered by the Board, through ARC.

Strategic risks

Strategic risks are those which cut across the organisation, impact our strategic direction or are largely outside of our control. The assessment of strategic risks is performed by our Enterprise Risk and Resilience Department, and clarified in workshops with Exco and Board, with input from divisions and the involvement of key subject matter experts. We perform regular environmental scanning to monitor changes in our broader operating environment. Strategic risks and associated response plans are reviewed regularly, with input from Exco and ARC.

Business risks

Business risks are those which may affect the achievement of divisional business plans and are classified from Priority I risks at the highest level to Priority IV risks at the lowest level. Priority levels are determined based on the assessment of likelihood and consequence criteria. Consequences consider the potential impact of a risk, ranging from financial, operational, legal and compliance, reputational, safety and environmental outcomes. Divisional line management is responsible for the identification and treatment of business risks, however, Priority 1 risks are reported to Exco and ARC for oversight. Due to the high number of Priority I risks that were tracked during the year, Exco has resolved that quarterly risk workshops will be held in future to focus on treating and reducing the level of risks.

Disaster risks

Disaster risks are those which are inherent to our operations and would have a significant consequence should they materialise. Due to their low likelihood of materialising as well as the adequacy of controls, they are generally managed through our resilience programmes for emergency preparedness and disaster management.

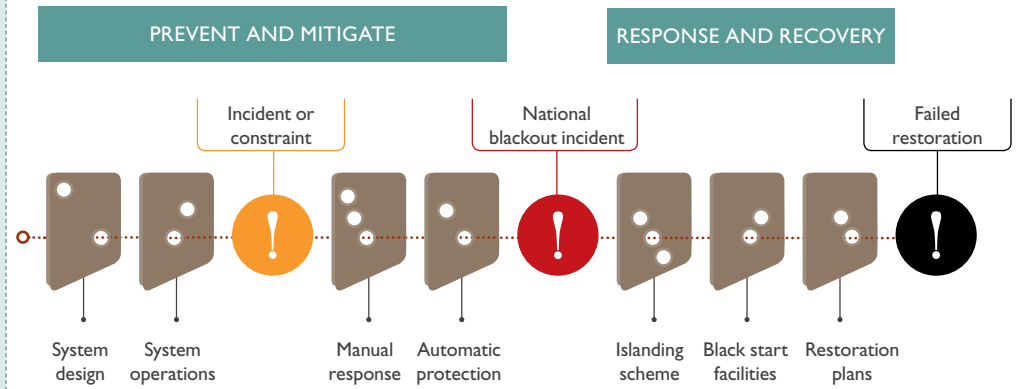
National disaster priorities have been identified and accountability for risk and response planning for each has been assigned to individual Exco members.

Preventing or dealing with a national blackout incident

A national blackout incident remains a low-likelihood disaster scenario due to the various system defence barriers in place to prevent its occurrence. As required by the Disaster Management Act, 2002, we have established and implemented a framework for the prevention and mitigation of, as well as response to and recovery from, a national blackout incident.

Our system defence barriers are comprised of controls designed to prevent and mitigate against the occurrence of a blackout incident. Failure of the national grid will only occur should failure of several barriers occur simultaneously. Should this low-likelihood scenario occur, our framework includes response and recovery plans to manage the incident and restart the national power system efficiently and effectively.

The diagram below illustrates the system defence barriers designed to prevent and respond to a blackout disaster:



Each of these barriers forms an integral part of our organisational planning and is embedded into the way that we design and operate against the requirements of the Grid Code. To meet these requirements, we have implemented detailed standards, procedures and processes that must be met in order to maintain the integrity of each barrier.

Prevent and mitigate

System design

Our system design is based on: adequate generation to meet demand and provide suitable reserves and contingency; compliance with Grid Code requirements, such as generator and transmission line design specifications and black start facility requirements; system operations through best practice standards and processes; as well as network flexibility beyond minimum Grid Code design criteria.

System operations

Our System Operator ensures continuous delivery of electricity by balancing supply and demand in real time to maintain a stable grid. Generation output is altered every four seconds to match demand. To achieve this requires supply and demand forecasts, planning of reserve margins (such as peaking generation through pumped storage schemes and OCGTs) and load reduction requirements over various time horizons. Safe and responsive operations depend on system protection mechanisms, such as real-time monitoring and auto-start reserves. To operate our systems we undertake integrated planning to ensure adequate supply of water, coal and liquid fuel to our power stations, workforce requirements as well as outage scheduling in Generation and Transmission based on our supply and demand forecasts.

Manual response

When significant or numerous unforeseen constraints occur, manual responses are implemented to ensure that system stability is maintained. Manual response procedures implemented by the System Operator may include load reduction protocols, such as load curtailment by large customers or loadshedding; manual islanding to recover plant generation and to feed local or regional loads; as well as third-party interventions, such as those of municipal and metropolitan distributors. These responses address incidents and constraints in a coordinated, real-time manner across national and regional control centres.

Automatic protection

In the event that the grid cannot be stabilised due to abnormal frequencies or voltages, despite implementation of our manual responses, automatic system protection will trigger and stabilise the system within less than one second. The automatic under-frequency system is the final defence against a system blackout and is capable of reducing 50% of the system load in a staged approach, each with a different time delay. In the unlikely event that this is unable to restore the grid to a frequency of 50Hz, a national blackout incident could still occur.

Response and recovery

Islanding scheme

In the event of a blackout incident, system restoration can be accelerated when several power station units are able to island; that is, remain operational but disconnected from the grid. Several of our newer coal-fired units are designed and certified for automatic unit islanding. Tests of unit islanding are regularly conducted and resources to operate the island, such as contingency fuel oil, are available. Islanded units assist in restarting operations of other units and other power stations by feeding local and regional loads.

Black start capability

Should unit islanding be unsuccessful, black start facilities must be available to restart the power system. Three black start facilities are currently in place and these units are regularly tested in terms of the requirements of the Grid Code. The power system is operated and maintained in such a manner that at least one of these units is available at all times; protocols are in place to ensure that the resources required by these facilities are not compromised.

Restoration plans

Eskom's technical restoration plan is a detailed procedure on how to restart the interconnected power system following a national blackout incident. Islanded units and black start facilities supply auxiliary loads at power stations, with the priority being to build a network of islands so that multiple islands will be energised simultaneously and synchronised together to restore the grid. While the restoration process can differ greatly depending on the initial blackout scenario, one possible method of system restoration could be as follows:

1. A battery starts a small diesel generator installed at a black start facility
2. The diesel generator is used to provide start-up power to a generating unit to supply auxiliary load
3. Key transmission lines between the black start facility and major residential load centres are energised
4. The power from the black start facility is used to start up a nearby coal-fired base-load power station
5. Major residential load centres are then provided with power to stabilise the generating units on the black-started network
6. In our large network system, system restoration will require starting multiple islands of generation and then reconnecting these islands to re-form a complete grid

South African context

The most likely cause of a national blackout incident would be an unforeseen sequence of events that results in a cascading loss of generation, eventually leading to a complete loss of supply across the country. The likelihood of such an event increases when the system is unstable and can occur with very little or even no warning. Although Eskom has adequate emergency preparedness measures in place, limited disaster preparedness for such an incident exists at a country level. Given the severe impact of a potential blackout, it is essential that risk factors that increase the likelihood of a blackout incident be avoided or rapidly treated, including appropriate implementation of OCGTs and load reduction to manage system reserves in real-time.

A national blackout incident would have an immediate impact on safety and security, the environment and production as well as a cascading impact on critical infrastructure such as telecommunications, transport, water, sewerage, fuel pipelines, financial services and food security. Other countries in the southern African region would also be impacted. There is potential for widespread public unrest and vandalism to the extent that supply restoration could be impeded.

As such, the Eskom Blackout Response Plan is in place to ensure an effective and appropriate response to a national blackout incident and recovery of our operations, as well as support to South Africa's National Disaster Management Centre (NDMC) in the event of such an incident. The Disaster Management Planning Framework for a blackout incident is divided into four interrelated plans:

- Our core technical response together with our response partners, through our islanding scheme, black start facilities and restoration of the power system
- Our integrated emergency response as a company, across operational and support functions, including finance, security, resource management, telecommunications and transport logistics
- A coordinated response with South Africa's disaster management structures (at national, provincial and local levels) and sector departments
- A coordinated response with the southern African region

Black start facilities are more critical in South Africa than in interconnected grids such as Europe or North America. We do not have strong interconnections with neighbouring utilities to assist in restarting our power system. Additionally, due to the layout of our national grid, the size of the country and the vast distances between the main generation pool in Mpumalanga and some of our major residential load centres, it can take a longer period of time to completely restore the power system when compared to utilities in North America and Europe. Therefore, restoration of the first loads would take several hours, while restoration of the whole system could take a few days or even weeks.

We are committed to ensuring that the various barriers of protection are in place to prevent a blackout incident from occurring. This includes managing reserves, implementing load reduction as and when required, executing protocols to manage critical supply and demand imbalances in real-time, and the various automatic protection schemes in place. We conduct national simulation exercises regularly to test the resilience of the organisation. These national drills test technical and non-technical responses during a disruption of the electricity supply infrastructure across the different levels of the organisation. Regular testing of our black start infrastructure and restoration plans are also undertaken, as required by the Grid Code.

Priority 1 disasters are those related to our core operations, which would have a major impact on the country. Priority 2 disasters are external items which could impact our operations and, in so doing, potentially lead to a Priority 1 disaster. Our identified disaster risks are as follows:

Priority 1

Nuclear incident
National blackout incident
Severe power system constraint
Economic or financial collapse

Priority 2

National industrial action
Cyber-attack or catastrophic IT system failure
Solar or geomagnetic storm
National liquid fuels crisis
National drought
Worldwide pandemic of infectious disease
Terrorism or political instability

Note that economic collapse of South Africa or financial collapse of Eskom has been upgraded to a Priority 1 disaster in our latest Enterprise Risk and Resilience Plan for the coming year.

The South African Grid Code and the Disaster Management Act, 2002, require us to plan for a range of disaster scenarios, including those that have a high impact but low probability of occurring. Our Enterprise Resilience Programme aims to prepare Eskom for major disruptions as a result of internal or external events. The programme is structured across site and divisional level, provincial level, as well as national level disaster management. In addition to undertaking regular tests and simulation exercises, we continue to review our technical and non-technical vulnerabilities to prevent and recover from disaster incidents.

Our strategic risks

Strategic risks are categorised across five dimensions, namely:

- Market and competition, both local and regional
- People
- Finance
- Sustainability
- Governance

The strategic risk landscape continues to be affected by a number of key concerns, namely the continued impact of NERSA's revenue and Regulatory Clearing Account (RCA) decisions on our financial sustainability; poor plant performance and system constraints leading to incidents of loadshedding; increasing non-collectability of municipal arrear debt; declining sales volumes; policy uncertainty; and more recently, industrial action.

As a result of our strategy review, new risks have emerged, including the risk of low employee morale and productivity and an inability to implement our strategy, as well as the risk of interference in decisions and processes by outside parties.

In response to our strategy review and the identification of new risks, we are enhancing our risk and resilience management processes to support our strategic objectives and the structure of our interim operating model. Our risk profile will be aligned to the objectives of our new strategy; we are placing a particular focus on agility in the face of change, through driving our turnaround initiatives and responsiveness to strategic risks. Promoting the adequacy of risk and resilience resourcing across the organisation and assessing skills development requirements will support our governance structures and enhance areas that require improvement in risk and resilience management.

In line with our Risk and Resilience Plan, these improvements will provide the fundamental building blocks for a risk intelligent and resilient organisation, to ensure that the organisation is characterised by risk information that is used to determine the right risks for reward, that risk is better embedded in strategy and planning, and that early warning risk indicators are in place.

Our strategic risks are noted below.

	Strategic risk	Associated material matter	Likely impact on value creation	Timeframe of impact
	Market and competition			
FC SRC	Reduced demand for Eskom's electricity, coupled with increasing competition for end users, leading to revenue shortfall	Declining or stagnant sales (utility death spiral), and pursuing opportunities for growth Ensuring security of supply through satisfactory plant performance, which would reduce the possibility of loadshedding Decommissioning stations or placing units/stations into cold reserve	Negative	Short, medium and long term
FC SRC	Unreliable supply or increasing municipal debt driving away customers looking for reliable alternatives, thereby decreasing sales	Escalating municipal and Soweto arrear debt Ensuring security of supply through satisfactory plant performance, which would reduce the possibility of loadshedding Coal and water security to ensure continued availability of power stations	Negative	Short, medium and long term
FC MC SRC	Inability to sell in the region in the long term, partly due to an inability to build transmission lines fast enough to support the capacity increase, leading to stranded assets in South Africa and over-investment in transmission assets in the region	Decommissioning stations or placing units/stations into cold reserve Strategy review and turnaround plan	Negative	Short, medium and long term
	People			
FC MC HC SRC	Breakdown in relations with recognised organised labour	Poor governance and leadership instability, coupled with possible corruption and the prior year audit qualification on irregular expenditure Ensuring adequate skills to execute our strategy and ensure optimal business performance, while transforming the workforce Decommissioning stations or placing units/stations into cold reserve Strategy review and turnaround plan	Negative	Short, medium and long term
FC MC HC	Lack of adequate, available and affordable skills	Ensuring adequate skills to execute our strategy and ensure optimal business performance, while transforming the workforce	Negative	Medium to long term
	Finance			
FC	Eskom saturating its borrowing capacity, coupled with credit ratings downgrades	Liquidity and funding, including credit ratings downgrades Strategy review and turnaround plan	Negative	Short, medium and long term
FC MC HC SRC	Declining levels of long-term profitability due to declining sales, inadequate allowed return or limited ability to implement the growth strategy, inadequate price increases and unsuccessful cost containment efforts	Financial sustainability and going concern, considering revenue adequacy and cost containment efforts Declining or stagnant sales (utility death spiral), and pursuing opportunities for growth Strategy review and turnaround plan	Negative	Medium to long term
	Sustainability			
FC MC NC	Market rules and long-term industry structure are unclear, coupled with the impact of revised IRP (or no) allocations, which may impact or alter our energy mix and flexibility	Lack of policy and regulatory certainty, including the electricity price path and treatment of RCAs, as well as the long-delayed revised IRP	Most likely negative	Short, medium and long term

Strategic risk	Associated material matter	Likely impact on value creation	Timeframe of impact
NC SRC Inability to meet climate change mitigation targets impacting our licence to operate	Environmental performance and compliance, including emissions and greenhouse gas reporting Climate change, including energy mix and complying with carbon budgets	Negative	Medium to long term
MC NC Failure to implement climate change adaptation measures, which could affect plant performance	Environmental performance and compliance, including emissions and greenhouse gas reporting Climate change, including energy mix and complying with carbon budgets	Negative	Medium to long term
Governance, ethics and fraud			
FC MC HC SRC Further deterioration of Eskom's reputation, caused by acts of unethical behaviour by Eskom leadership and senior management, which will impact Eskom on multiple levels	Poor governance and leadership instability, coupled with possible corruption and the prior year audit qualification on irregular expenditure Strategy review and turnaround plan	Negative	Short, medium and long term

Eskom's challenges have not improved over the past five years, but instead have become even more severe, with some risks materialising. As part of the implementation of our turnaround plan, some tough decisions will be required to manage the risks to achieving our current objectives.

Risks and issues out of Eskom's control, or those that we can only partially influence, will need to be addressed through a national dialogue that includes issues such as the industry structure, the future role of Eskom and the national energy mix.

Enterprise resilience

Our Enterprise Resilience Programme aims to ensure organisational compliance with the Disaster Management Act, 2002, the international business continuity management standard, ISO 22301, the international risk management standard, ISO 31000, the National Disaster Management Framework, as well as operation of an incident command system and integrated emergency response structures.

Business continuity management, facilitated through our Enterprise Resilience Programme, encompasses planning and preparation to ensure that the organisation can continue to operate in case of serious incidents or disasters, and is able to recover to an operational state within a reasonably short period.

Given the complex and integrated nature of national and provincial disaster prevention and response planning, group executives have been assigned responsibility for disaster priorities at a national level. This accountability includes that of coordinating planning across our numerous divisions and functions as well as with external responders and stakeholders. In June 2018, we submitted our revised Disaster Management Plan to the NDMC and we continue to provide quarterly feedback to the National Disaster Management Forum (NDMF).

Whilst we are addressing our disaster management obligations in terms of the Disaster Management Act, 2002, concerns remain about the country-level planning for a major electricity-related incident, such as a national blackout. Response planning for a major electricity-related incident at country level is the accountability of the DoE; however, given that the DoE has not established this other than for a nuclear incident, the NDMC is coordinating planning at this level. A project initiated by the NDMC has been slow to deliver the necessary results; we have since established a memorandum of cooperation to address this concern.

The NDMC has indicated that international best practice, through adoption of an incident command system, will become a legislated requirement for incident disaster response in South Africa. In the previous financial year we implemented our incident command system based on a joint initiative between the Federal Emergency Management Agency (FEMA) and South Africa; we are recognised as a leader in its implementation as a SOC.

Our established integrated emergency response structures are activated through our incident command system based on the level of response required. When a functional response is required in a given division, our Tactical Command Centre structures are activated. When a coordinated response is required across several divisions in a particular province, our Provincial Joint Command Centres (PJCCs) are activated. Our strategic Emergency Response Command Centre (ERCC) is activated in the event of a threat or incident which impacts the entire organisation at a national level.

Our ERCC was activated a record number of times during the year in response to major strategic incidents, including industrial action from 11 June to 7 August 2018; to address the low coal stockpiles, recovery plan and system impact on 9 July 2018; and to manage severe supply constraints due to poor Generation plant performance from 23 October to 14 December 2018, and again from 11 February to 31 March 2019.

As a result of lessons learnt and gaps identified during the industrial action experienced during the year, our industrial action disaster response plan is being enhanced, through our Risk and Resilience Department, our Assurance and Forensic Department and our Industrial Action Working Group.

Eskom was awarded the Institute of Risk Management (IRMSA) Sector Award at its annual function. Eskom also led the development and publication of an international report by Grid Operator 15 (GO15) on power system resilience models in October 2018.

During the year, a national severe supply constraint simulation was successfully executed to test our contingency loadshedding in stages 5 to 8, which allow for between 5 000MW and 8 000MW of national loadshedding. Contingency loadshedding will allow us to protect the electricity power system from a national blackout in the event of significant unplanned incidents.

Furthermore, all nine provinces have undergone simulation exercises over the past year to test emergency response preparedness.

Keeping the power system balanced at 50Hz, in line with international standards, is critical to prevent a national blackout incident. When the national grid is under pressure and we are unable to balance the system through normal operating measures and the use of peaking generation, such as IPPs and OCGTs, we must reduce demand as agreed with NERSA, through the implementation of a process of load reduction, comprised of two components:

- *Load curtailment:* Our agreements with some of our large industrial customers mean we can instruct them to reduce electricity consumption when it is urgent to balance the system. They are able to reduce their load by up to 20%, significantly easing capacity on the grid; however, it takes a minimum of two hours to implement
- *Rotational loadshedding:* If, after load curtailment, the demand on the system is still greater than available supply, we have to implement loadshedding to prevent an imbalance and triggering of our automatic system protection. Loadshedding will also be implemented if there is insufficient time to request load curtailment; in winter, loadshedding may be implemented before curtailment due to the high demand during peak periods

It should be noted that rotational loadshedding differs substantially from uncontrolled interruptions. Loadshedding is a highly controlled process, with interruptions to defined areas on a rotational basis for relatively short periods of time, usually between two to four hours, in order to protect the national power system. This highly controlled process is executed by Eskom and municipal operators in control rooms, in the field and in contact centres across the country. The points at which supply is interrupted is determined by the System Operator based on the nature and location of the constraint.

Uncontrolled interruptions could affect the whole of the power system, or a part thereof, and can occur where technical systems or infrastructure fail, or where forces of nature, for example lightning, have interrupted or damaged the power system. Where an imbalance of electricity supply and demand arises due to uncontrolled interruptions, loadshedding remains the prudent option to protect the grid and prevent triggering of an automatic system protection or an uncontrolled incident such as a blackout.

Identifying and prioritising opportunities for growth

Our subsidiary, Eskom Enterprises, is mandated to be a structure of sustainable, non-regulated businesses, providing mission-critical services to Eskom and the electricity industry as a whole. Eskom Enterprises aims to grow the energy industry and, in doing so, improve the quality of life of the people in South Africa, SADC and the rest of the continent. In the previous financial year, Eskom Enterprises was mandated to establish a Growth Office to diversify into new markets with new products by leveraging on our group intellectual capital. This reflects the strategic shift in Eskom Enterprises, from a primary focus of supporting Eskom through engineering and maintenance services, to being a vehicle of growth and optimisation within our group of companies.

The Growth Office has been established to identify growth opportunities that, if related to our regulated business, can be implemented through one of our line divisions or, if related to non-regulated business, can be implemented through a subsidiary or the Growth Office itself.

Opportunities that are available for us to explore are informed by our broader operating environment, including political, economic, social, technological, environmental and legislative influences. This is particularly important as we explore our future role in the electricity supply industry and our functional restructuring.

Refer to "How the macro environment affects us" from page 34 for additional information on the impact of the broader operating environment

In order to achieve our objectives, partnerships will be pursued, particularly in the non-regulated business, to gain access to new markets and expertise. We aim to drive growth projects and pursue new opportunities in new, non-regulated markets in South Africa and in existing, regulated and non-regulated markets within SADC. Our focus is on existing products in the short term, and new products in the medium to long term. Specific emphasis is placed on identified growth opportunities that have the potential to produce a high return and can be realised within three years, as well as the development of sustainable revenue streams.

With respect to our regulated business, we have identified revenue growth in existing markets through existing, modified or new products as a means to service the customer of the future and address our declining electricity sales volumes. This thinking is embedded into our focused research, testing and development towards our grand challenges. We are developing business cases, pilots and demonstrations through flagship projects which include bulk and beyond-meter battery storage, electric vehicle advocacy through eMobility, smart technologies, such as smart metering and home automation, as well as distributed energy resources, such as microgrids and household renewables through rooftop PV. We are also piloting the use of sales incentive offerings to stimulate electricity demand and retain energy-intensive customers. In order for us to remain successful, we will have to approach our entire service and product offering in an agile way in order to retain customers as well as become an early adopter of technological enablers.

Refer to "Our know-how – Research, testing and development" on pages 147 to 150 and "Our finances – Sales and revenue" on pages 98 to 99 for additional information

Digitisation of our existing processes and our product offerings presents additional opportunities to reduce the cost of our operations, increase efficiency and enhance the customer experience as we shift towards becoming a digital utility. Our focus here remains on advanced analytics to assist in predictive maintenance, fraud detection, optimisation of resources and plant, as well as improved customer engagement. Ways in which to digitise our value chain are being explored through smart technologies including smart meters, smart asset management, remote sensors and monitoring, real-time diagnostics and maintenance support, as well as interactive customer platforms. We are transitioning towards hybrid information technologies, such as digital and cloud solutions, and have approved a policy to drive our cloud strategy implementation across the organisation.

In our previous report, we discussed our potential for growth into new markets using existing skills and assets. Our predominant focus remains on the following Growth Office initiatives:

Growth project	Progress
Commercialisation of Eskom's spare fibre optic capacity	We have completed and submitted two PFMA pre-notifications to DPE on our fibre strategy. After receiving the shareholder's support, we plan to engage the market for the lease of fibre on a request for information basis, in order to finalise the business case for commercialisation
Conversion of Eskom Rotek Industries' transformer maintenance facility into an assembly facility	Our assembly facility business model is on track, with the Eskom Enterprises Board having approved two collaboration models to give effect to an agreement between parties. Negotiations and development of a master service and licence agreement are still in the early stages
Investigating the viability of a desalination project in Cape Town, following the success of the desalination plant at Koeberg	The financial review of the desalination project has been completed; the business case is complete and awaiting Eskom Enterprises Board approval. The recommendation is that the water desalination plant be located at Koeberg
Development of a business case for the viability of the manufacturing of pebble bed modular reactor fuel, as well as nuclear consulting	The pebble bed modular reactor fuel manufacturing business case is progressing slowly and is dependent on the success of our nuclear small modular reactor business case. As the project has been delayed, a letter requesting an extension has been submitted to DPE
Supporting the implementation of Eskom's integrated Africa strategy	We are still in the process of developing a pipeline of opportunities to pursue, including supporting development of network infrastructure into Africa, providing engineering consultancy services and commercialisation of our intellectual property. Development of new generation capacity in new markets in the sub-Saharan region is a longer term option that will consider local and regional market dynamics and appropriate technologies
Investigating viable micro- and mini-grid solutions	We have completed a pilot rural microgrid project in Wilhelmina, Free State. Further business cases are under development
Commercialisation of fly and coarse ash	The DEA waste exclusion regulations were released for public comment in April 2019. Once approved, certain applications of our ash by-product are expected to be excluded from the waste regulations; this will relax the conditions on ash being deemed a hazardous material, thereby enabling implementation of our ash commercialisation strategy, including applications of ash in bricks, cement, soil amelioration, road construction and mine backfilling

Assurance and controls

Our Assurance and Forensic (A&F) Department is an independent internal audit function which reports directly to ARC.

ARC retains responsibility for setting the direction for risk management, internal controls and combined assurance throughout the organisation. ARC approves A&F's annual charter, a risk-based audit plan and a resource plan, to ensure that our internal audit function has adequate resources to address the complexity of the risks faced by the organisation and is able to provide adequate assurance on the effectiveness of the governance and control environment.

Systems, policies and procedures

All aspects of our operations are supported by systems, standardised processes, policies and procedures which 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, as well as additional KPIs set out in our Corporate Plan.

We recently obtained ISO 9001:2015 certification and have implemented ISO 14001:2004, OHSAS 18001:2007, ISO 31000:2009 and AA 1000 in specific divisions and business units to regulate environmental management, occupational health and safety, risk management and stakeholder engagement respectively. Our focus remains on entrenching quality management principles within the organisation; we will continue to conduct assurance in this regard to maintain and improve the Quality Management System. Our continuous approach to quality requires that new approaches and standards be pursued to ensure our sustainable performance.

Refer to "Our know-how – Our systems and processes" on pages 152 to 154 for additional information

Risk management and internal controls

The Board, through ARC, ensures that an effective risk management process is in place and that internal controls are both adequate and effective. The combined assurance model provides ARC with an overview of significant risks, as well as the effectiveness of critical controls to treat those risks.

A&F assists the organisation in achieving its objectives by performing assessments and providing assurance on the design, implementation and effectiveness of governance, risk and resilience management, as well as controls. The outcome of these assessments, based on the results of audit work planned and completed by both internal and external assurance providers, concluded the following:

Governance	Risk management	Internal financial controls	Controls
Eskom governance still requires improvement – more specifically, compliance with applicable laws, regulations and governance protocols. Roles, responsibilities and authority of external governance role players are to be clarified in Eskom's legislative and policy frameworks The Board's priority remains the clean-up of all governance matters in order to maintain a high ethical standard. With this tone at the top, it is clear that there is a migration towards restoring Eskom's ethical culture and good governance practices, which will ultimately result in the achievement of good performance and effective control	A risk management system for identifying, managing and reporting on risk is in place and considered adequate. However, the system of control relating to compliance is only partially effective	Based on the results of audit work and reviews, nothing significant has come to the attention of the Assurance and Forensic Department that has caused it to believe that Eskom's internal financial controls do not form a reasonable basis for the preparation of Eskom's financial statements. Internal financial controls are adequate and operating effectively	Control deficiencies relating to the application of or compliance with the supply chain management, plant maintenance, project management, coal management and contracts management procedures were identified. The design of the internal control system is adequate, although the implementation or application thereof requires improvement

Governance of technology and information

Technology and information are a growing source of competitive advantage for the enhancement of intellectual capital of an organisation. In accordance with King IV™, governance oversight for technology and information is the responsibility of Board. Through ARC, Board has adopted an IT Charter and policies to provide direction on how information technology should be addressed in the organisation.

The responsibility for the management and execution of technology and information in the organisation has been delegated to Exco. Information technology and operational technology functions are managed and governed separately through Exco subcommittees. The Operating Committee is responsible for operational technology and includes subcommittees dealing with technical process governance, evaluating technology choices in the evolving energy landscape and monitoring technologies throughout their lifecycles. The Risk and Sustainability Committee is responsible for information technology and includes subcommittees dealing with Group IT management and operations, enterprise architecture and information technology risks, such as cyber security.

Refer to "Our know-how – Our systems and processes" on pages 152 to 154 for additional information on technical process governance

The integration of information technology and operational technology remains a challenge. Our IT Charter and governance frameworks are being revised to reflect organisational changes; it is envisaged that the establishment of an Exco Technology and Information Committee will assist in addressing this concern. In order to address the emergence of cyber threats globally as well as inadequate cyber security capability, we have established a Cyber Security Committee to integrate and streamline cyber security controls across the organisation.

A&F performs assessments and provides assurance on the effectiveness of technology and information governance, risk management, compliance and controls. These reports are submitted to Exco and ARC on a quarterly basis.

In addressing technology and information management, we achieved ISO 9001:2015 certification in September 2018. ISO 27001 provides the framework for our information security management system, which includes security policies, standards, risk treatment plans, as well as controls and procedures, and also ensures confidentiality, integrity and availability of information, as well as requirements relating to the protection of personal information (POPI).

Group IT and Group Technology business plans are developed on an annual basis, aligned to the Corporate Plan and organisational needs. These plans outline how technology and information will be approached and addressed in the organisation. Opportunities and emerging trends that will enable us to deliver on our strategic objectives are identified and included in these plans.

Compliance

We have adopted a compliance philosophy to respect the rule of law and comply with all regulatory requirements that impact Eskom. The Board is accountable for compliance and sets the approach through the Compliance Charter and, with the assistance of ARC, oversees compliance in the organisation. The responsibility for the establishment of the compliance function and the implementation and execution of compliance management has been delegated to Exco. Our focus remains on improving our overall compliance maturity, and understanding both the obligations incurred as well as the rights and protections that compliance affords.

Non-compliance places the organisation at risk and may result in reportable matters through the PFMA, 1999. Reviews indicate that the overall risk of non-compliance for the organisation remains medium to high.

Although the level of understanding of high-priority regulatory obligations has increased since the previous year, a high degree of compliance maturity can only be reached if assurance can be routinely provided that there is material compliance with regulatory obligations.

The focus on improving the overall level of understanding and maturity of compliance areas will be maintained by:

- Continuing to identify and understand our compliance obligations, and the inclusion thereof in the compliance universe
- Mapping, linking and implementation of controls
- Improving routine monitoring and reporting
- Implementing treatment actions where required

Progress on the above is monitored on a regular basis through compliance management and reporting.

Combined assurance

Combined assurance offers benefits extending beyond mere compliance. It includes maximising risk and governance oversight; optimising overall assurance activities; improved reporting to the Board and other committees; coordinated and relevant assurance, with an emphasis on key risks faced by the organisation; as well as enhanced control efficiencies and a possible reduction in assurance costs. The combined assurance model includes a combination of line function oversight, risk and resilience management and compliance functions, as well as other specialist assurance services.

The combined assurance model includes all assurance providers and line functions so that, collectively, these enable an effective control environment, integrity of information for decision-making by oversight committees, and for external reporting.

BOARD AND ARC		
Level 4		Considers the myriad of control deficiencies, risk and realities affecting the organisation, and then provides guidance on how to address these in order to ensure performance, business health and sustainability
EXTERNAL AUDIT		
Level 3		Independent reasonable assurance that the annual financial statements and integrated report are free from material misstatement and are prepared, in all material respects, in accordance with IFRS and King IV™. Provides business insights on internal financial controls and financial reporting
INTERNAL AUDIT		
Level 3		Assurance over the adequacy and effectiveness of the network of risk management, control and governance processes, including key financial controls as represented by management
SPECIALISED CONTROL FUNCTIONS		
Level 2		Development and maintenance of internal control frameworks and policies, reviewing their suitability and monitoring their application
RISK, RESILIENCE AND COMPLIANCE MANAGEMENT		
Level 2		Assurance over the implementation of risk, resilience and compliance management practices and processes
OPERATIONS MANAGEMENT AND SPECIALISED REVIEW FUNCTIONS		
Level 1		Assurance over the adequacy of operational risk management, effective adherence to control processes and delivery against operational and sustainability objectives
OPERATIONS EXECUTION AND MANAGER/SUPERVISORY OVERSIGHT		
Level 0		Management and supervisors ensure the implementation of set controls and risk management processes to ensure a safe, high-performing and sustainable operating environment

ARC is ultimately accountable for providing oversight of the combined assurance activities in terms of the combined assurance framework. The responsibility for combined assurance has been delegated to A&F, which facilitates and coordinates the execution of combined assurance activities and reports back to relevant committees. ARC receives reports on the status of governance, risk management and compliance, and the adequacy of preventative and corrective controls from the various levels of assurance.

The internal and external assurance of our year-end reports and the results thereof are set out below:

Report	Framework(s) applied	Internal assurance	External assurance	Outcome
Integrated report	International <IR> Framework	Reviewed by divisional management, group executives and CFO Reviewed and recommended for approval by Exco, ARC and SES Approved by Board A&F provided reasonable assurance on certain aspects of the report	Sustainability KPIs contained in the shareholder compact were externally assured by SizweNtsalubaGobodo Grant Thornton Inc (SNG Grant Thornton)	Reasonable assurance by A&F of figures and associated narrative in the following sections: • Leadership and ethics • Our business and strategy • Our governance • Financial review • Operating performance • Supplementary information Reasonable assurance provided by SNG Grant Thornton on all but eight KPIs subjected to assurance. SNG Grant Thornton also reviewed the integrated report for consistency with the annual financial statements
Annual financial statements	IFRS Companies Act, 2008 PFMA, 1999	Reviewed by finance management and CFO Reviewed and recommended for approval by Exco and ARC Approved by Board	Audited by SNG Grant Thornton, our independent external auditors	Modified audit opinion relating to the completeness of amounts disclosed in terms of the PFMA Except for the modification, the consolidated annual financial statements are fairly presented in terms of IFRS

ARC has concluded, based on the information and explanations provided by management and A&F, as well as through discussions with the external auditors, that the systems and processes of risk management and compliance are adequate, even though the effectiveness and application thereof need to be improved, and that the internal accounting controls are adequate to ensure that the financial records may be relied upon for the preparation of reliable financial statements and to maintain accountability for assets and liabilities. ARC also concluded that A&F is operated effectively and has adequate expertise, resources and experience. Furthermore, ARC is satisfied that Eskom has access to adequate resources, facilities and support from Government to be able to continue its operations for the foreseeable future, in support of the going concern assumption.

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

OUR GOVERNANCE

An essential component of our governance framework is role clarity between the shareholder, the Board and the management of Eskom. This is set out in the Strategic Intent Statement and our shareholder compact with DPE. Our Memorandum of Incorporation further regulates the company and our relationship with the shareholder.

GOVERNANCE FRAMEWORK

Being a state-owned company, our main purpose is to deliver on the strategic intent set out by DPE, our shareholder ministry. In addition, we adhere to the statutory responsibilities set out in the Companies Act, 2008; the Public Finance Management Act, 1999; section 29 of the National Treasury regulations; as well as any other applicable legislation, regulations and guidelines, as noted below.

There are three tiers governing the functioning of the organisation:

- The Minister of Public Enterprises, the Honourable Mr Pravin Gordhan, MP, maintains executive authority over the organisation
- The Board guides the organisation's strategic direction, as set out in our Corporate Plan
- Exco is responsible for implementing our strategy, by exercising executive control in managing our day-to-day operations; this is monitored by the Board

King IV™ stipulates that the governing body's primary roles and responsibilities include:

- Steering the organisation and setting the strategic direction, which is aligned to DPE's Strategic Intent Statement and other shareholder objectives
- Approving policies and plans which give effect to the strategy
- Overseeing strategy implementation and execution by management, by monitoring performance
- Ensuring accountability for performance through reporting and disclosure

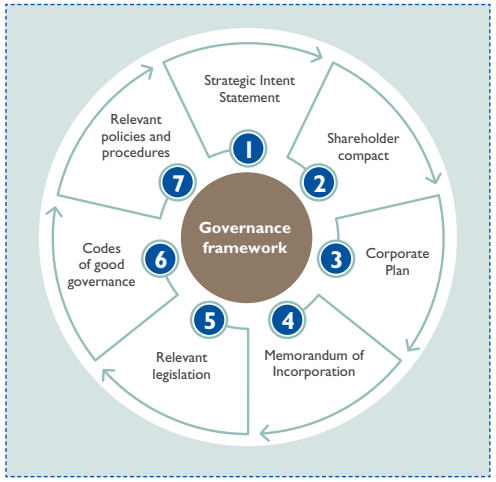
With the exception of our Group Chief Executive and Chief Financial Officer, the Board is comprised entirely of independent non-executive directors.

The shareholder is responsible for the appointment of non-executive directors, subject to approval by Cabinet, and these directorships are reviewed annually at the annual general meeting.

The Board identifies, evaluates and nominates potential candidates for the positions of Group Chief Executive and Chief Financial Officer. The shareholder appoints the Group Chief Executive, whereas the Chief Financial Officer is appointed by the Board, subject to shareholder approval. The People and Governance Committee, a Board subcommittee, assists the shareholder by identifying the necessary skills, qualifications and experience required by the Board to achieve our objectives.

Certain matters require approval in terms of the PFMA; this is set out in the materiality framework which, together with our delegation of authority framework, guides the referral of matters from executive-level committees to Board, and from there to DPE and National Treasury, where applicable.

The elements of our governance framework can be summarised as follows:



Legislation and regulations

Eskom is 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, for instance, water usage and atmospheric emissions. Our licensing conditions place strict limits on plant emissions to limit our environmental impact.

We have to adhere to a wide range of legislation that influences our governance. It includes the Electricity Regulation Act, 2006; Companies Act, 2008; Public Finance Management Act (PFMA), 1999; National Environmental Management Act, 1998; National Water Act, 1998; National Energy Regulator Act, 2004; National Nuclear Regulator Act, 1999; Nuclear Energy Act, 1999; National Radioactive Waste Disposal Institute Act, 2008; Preferential Procurement Policy Framework Act (PPPFA), 2000; Promotion of Access to Information Act (PAIA), 2000; Promotion of Administrative Justice Act (PAJA), 2000; Occupational Health and Safety Act, 1993; Basic Conditions of Employment Act, 1997; and Employment Equity Act, 1998. Furthermore, King IV™; the Protocol on Corporate Governance in the Public Sector; the JSE Listings Requirements; and various international guidelines set the standard for best practice in governance and reporting.

Comprehensive disclosure of PAIA requests in the integrated report is restricted by the nature, volume and complexity thereof, together with the percentage of refusals. However, the information is available on request

FEEDBACK ON BOARD ACTIVITIES

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.

As mentioned before, we are intent on improving governance in Eskom, in addition to the investigations being conducted into the previous lapses in governance.

To that end, the Board remains committed to driving the implementation of King IV™, together with an overall improvement in governance and ethics, in order to align the organisation with our stated values.

The Board concedes that certain of the King IV™ principles still need to be effectively implemented, once the governance clean-up has been completed.

Refer to "Leadership and ethics – Ethics and progress on governance clean-up" from page 8

Board Charter

The Board Charter, which is reviewed annually, includes the following:

- The Board is to carry out its role and responsibilities, and exercise its authority as determined by the Companies Act, 2008, read with the PFMA, 1999, Eskom's Memorandum of Incorporation (MOI), the delegation of authority framework, the shareholder compact and any other applicable legislation or policy or procedure as determined by the shareholder, known collectively as the governance framework. If there is a conflict between the Board Charter and the governance framework, the framework will take precedence
- Directors, in exercising their duties, shall apply the relevant principles of King IV™, and explain the application of these principles. The roles and responsibilities of the Chairman and the Group Chief Executive are detailed
- The Board Charter sets out the Board's responsibilities in setting the strategic direction for the organisation, approving policy and planning, overseeing and monitoring strategy execution and ensuring accountability

Board constitution and appointments

In accordance with our MOI, the Board must consist of a minimum of three and a maximum of 15 directors. At least two must be executive directors, and the majority non-executive directors.

Refer to pages 20 to 21 for the profiles and committee memberships of the Board, as well as the racial, gender and age diversity of the Board

Non-executive directors are appointed to the Board by the shareholder for a period of three years, reviewable annually, and may not serve more than three consecutive terms. Since the shareholder appoints all directors, racial, gender and disability targets as well as succession planning are managed by the shareholder. Nevertheless, the People and Governance Committee assists the shareholder by identifying the necessary skills, qualifications and experience required by the Board to achieve our objectives.

Directors' qualifications and active directorships are set out in the fact sheet on pages 164 to 165

Changes in Board composition

After the resignation of three directors during the past year, we currently have 12 directors, consisting of 10 independent non-executive directors and two executive directors. No new directors have been appointed during the year. The Chairman, as an independent non-executive, fulfils the role of lead independent director.

The directors who resigned are:

- Mr Mark Lamberti, with effect from 6 April 2018
- Ms Jacky Molisane, an employee of the DPE, from 18 September 2018
- Mr George Sebulela, from 19 October 2018

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 issues of importance.

Attendance of Board and subcommittee meetings is available in the fact sheet on page 167

Group Company Secretary

The Group Company Secretary provides advice and support to directors and is vital to the efficient and effective functioning of the Board. As such, the position plays a central role in the governance and administration of the organisation's affairs.

Ms Suzanne Daniels, the previous Group Company Secretary, was suspended on 2 October 2017. At a disciplinary hearing concluded in July 2018, she was found guilty on four charges and dismissed.

Mr Wynand van Wyngaardt was appointed as Group Company Secretary on 20 August 2018, although he has since resigned on 30 April 2019. Mr Mtutuzeli Tyalimpi was appointed on a fixed-term basis with effect from 2 July 2019.

Director training

In August 2018, the Board attended a nuclear induction for directors presented by the World Association for Nuclear Operators (WANO) and the management team of Koeberg. As part of the training, some Board members conducted a site visit to the Koeberg Nuclear Power Station. The Board also attended a coal workshop to obtain an understanding of the coal challenges, options, maintenance plans, coal supply and quality issues.

Future training and awareness for directors includes additional nuclear awareness, with exposure to Koeberg-specific nuclear training. Other training will focus on the capital expansion programme, environmental issues, as well as research in new technologies. Workshops are planned to cover the areas related to the Audit and Risk Committee and the Social, Ethics and Sustainability Committee.

Board evaluation

As reported previously, no Board evaluation was conducted for the year to 31 March 2018 due to the appointment of the new Board in January 2018. The shareholder resolved that the evaluation of the Board be postponed to the end of March 2019.

A service provider has been appointed to conduct a full independent Board evaluation, which is currently in progress.

The Board has not conducted a self-assessment on its performance over the year.

For further information, refer to Principle 9 under "Leadership and ethics – King IV™ application" on page 17

Board committees

The effectiveness of the Board is enabled by subcommittees to which it delegates authority without diluting its own accountability. The Board appoints members to the various committees, with due consideration of the necessary skills and experience required.

Both the Audit and Risk Committee and the Social, Ethics and Sustainability Committee are statutory committees as prescribed by the Companies Act, 2008. Appointments to the Audit and Risk Committee are made by the shareholder in terms of our MOI and the Companies Act, 2008.

All Board committees are chaired by an independent non-executive director and consist of independent non-executive directors. Committees exercise their authority in accordance with Board-approved 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 annually.

The individual and collective responsibilities of directors regarding their fiduciary duties and responsibilities are not negated by the deliberations of the committees. Directors are required to exercise due care and judgement in accordance with their statutory obligations.

Reports of the various Board committees are included below, and include the committees' membership at the end of the year, the purpose and key activities of the various committees, as well as the number of meetings held during the year. References to sections of the integrated report relevant to the duties and activities of the committees are also provided.

Board Tender Committee (BTC)

The BTC held eight meetings until 31 December 2018. The committee's purpose was to ensure that the procurement system is equitable, transparent, competitive and cost effective to support commercial decision-making. The committee evaluated tenders over R750 million, as required by the approval limits set out in Eskom's delegation of authority framework, in line with the requirements of the PFMA, 1999.

During its operation, the members were Dr Pulane Molokwane (Chairman), Mr Sifiso Dabengwa and Ms Nelisiwe Magubane.

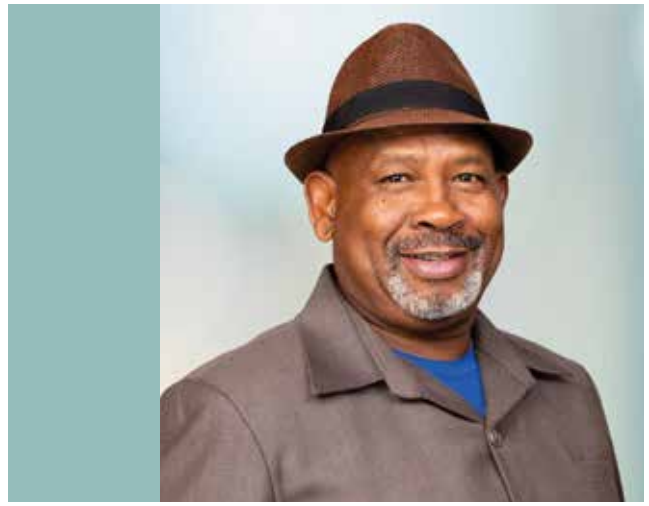
The committee's key activities during the year included approval of the following:

- Various tenders, including short-term coal supply agreements
- Power purchase agreements with IPPs and municipal generators
- Various capital and refurbishment projects
- Supply of petrol, diesel and fuel oil to coal-fired power stations

The committee was dissolved by the Board, supported by the shareholder, effective 31 December 2018, as there was an overlap between the functions of the BTC and IFC.

Refer to "Ethics and progress on governance clean-up – Review of DOA framework" on page 11 for information on how these transactions are treated under the revised DOA framework

REPORT BY THE BOARD



Number of meetings

19 meetings held during the year

Purpose

- Setting Eskom's 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

Invitees

No external advisors were invited to Board meetings during the year.

Key activities and decisions

- Considered and approved recommendations from the various Board committees
- Approved the dissolution of the BTC. Henceforth, procurement strategies and transactions over R1.5 billion will be submitted to the Investment and Finance Committee for recommendation, and for approval to the Board
- Considered the lifestyle audit report with recommendations on the way forward. The Board mandated the Legal Department to take relevant action where required
- Approved the three-year negotiated settlement for bargaining unit employees, based on the recommendation by the People and Governance Committee
- Approved legal proceedings for the recovery of funds from McKinsey and Trillian
- Approved the air quality implementation plan
- Approved negotiations for the procurement of enriched uranium for the next decade
- Approved the proposed trilateral co-operation framework between Eskom, the State Grid Corporation of China and China Development Bank (CDB)
- Approved the interim operating model, as well as the overall strategy and required stakeholder engagement
- The shutdown of Grootvlei, Komati and Hendrina was considered, taking into account the impact on employees and communities, combined with the dependence on plant availability achieved by Generation
- Extension of the T-Systems contract was supported, subject to National Treasury approval
- Emergency procurement of fuel oil for a limited period was approved in order to support security of supply
- Approved the long-term coal strategy, including the investment in cost-plus mines where required
- Considered and approved the strategy risk assessment
- Approved the request for additional funds for OCGTs, provided that the Ministers of Public Enterprises and Finance are formally informed that Eskom does not have the funds to "keep the lights on at all costs", and that additional funds are being requested over and above the R23 billion annual support for a period of 10 years recently announced by Government
- The Corporate Plan for 2019/20 to 2021/22 was approved for submission to the DPE

Conclusion

The Board has adopted an appropriate formal terms of reference as its Board Charter, has regulated its affairs in compliance with this charter and has discharged all its responsibilities contained therein. Furthermore, the Board is satisfied that it comprises the appropriate balance of knowledge, skills, experience, diversity and independence, and is satisfied with the reasons for the resignation of previous directors.

Jabu Mabuza
Chairman

REPORT BY THE AUDIT AND RISK COMMITTEE

Number of meetings

12 meetings were held during the year

Membership (at year end)

Three independent non-executive directors:
Ms Sindi Mabaso-Koyana (Chairman), Dr Rod Crompton and Prof. Malegapuru Makgoba

Collectively, members have qualifications or experience in corporate finance, accounting, commerce, industry, public sector and medicine.

Invitees

No external advisors were invited to committee meetings during the year. The Chief Financial Officer, Group Chief Executive, Chief Operating Officer and Senior General Manager: Assurance and Forensics are invited to attend all ARC meetings.

Purpose

The committee's roles and responsibilities include:

- The statutory functions of an audit committee set out in the Companies Act, 2008 and Public Finance Management Act, 1999, including oversight of financial reporting and disclosure, risk management and internal control systems, as well as internal and external audit functions
- Risk management
- Governance of information technology
- ARC also serves as the audit committee for Eskom's wholly owned subsidiaries, with the exception of Escap, which has its own audit committee in terms of the Insurance Act, 2017

Key activities

Key activities during the year included considering and recommending the following for approval by Board:

- Year-end and interim group financial statements, integrated reports and related documents, as well as the external audit fee
- Quarterly shareholder reports
- Going concern statements
- Reportable irregularities raised by the auditors
- The insurance plan and premium for 2019/20
- The enterprise risk and resilience report
- Compliance charter
- Progress on the supply chain recovery programme
- Progress against cost-saving initiatives

In addition, the committee:

- Considered items to be suggested to the Chairman and Group Chief Executive for discussion with the Minister of Public Enterprises and the President of South Africa
- Monitored financial performance and liquidity; IT governance, risk, security and compliance; ethics; nuclear assurance; enterprise risk and resilience; litigation and new legislation; compliance management

References

Refer to the report of the Audit and Risk Committee in the consolidated annual financial statements.

Also refer to "Our business and strategy – Risks and opportunities, assurance and controls".

Future focus areas

Focus areas for the forthcoming year include to:

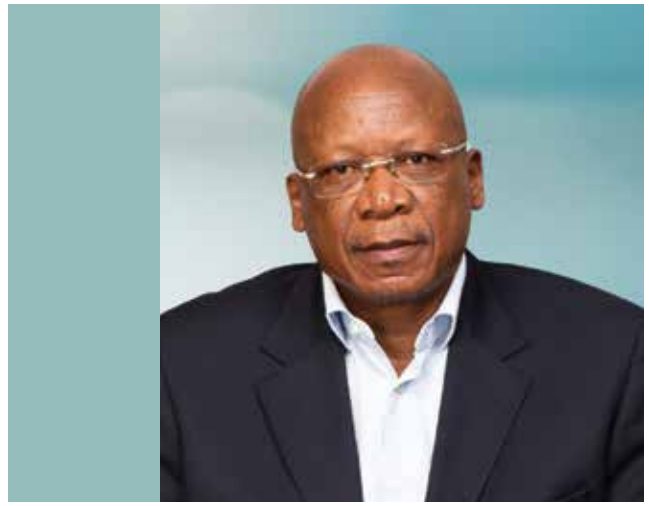
- Oversee the operations of Eskom's subsidiaries and the activities of subsidiaries' assurance committees
- Review the effectiveness of the company's systems of internal financial and other controls and business risk management, as well as the adequacy of the subsequent consequence management relating to investigations and disciplinary action, to ensure that corruption is addressed in a sustainable manner
- Consider sustainability risks relating to financial reporting and Eskom's going concern, specifically with respect to progress on cost containment efforts
- Review the cooperation and coordination between the internal and external audit functions, including the resourcing of A&F, as well as external audit succession planning in collaboration with the Auditor-General
- Consider the appropriateness of establishing separate committees responsible for audit and risk
- Review the Board's risk appetite and tolerance framework
- The Board has asked the Minister of Public Enterprises to appoint another two members to the Audit and Risk Committee, and has submitted two names for the Minister's consideration

Conclusion

The committee fulfilled all its statutory duties in terms of section 94(7)(f) of the Companies Act, 2008. The committee has adopted an appropriate formal terms of reference as its charter, has regulated its affairs in compliance with this charter and has discharged all its responsibilities contained therein.

Ms Sindi Mabaso-Koyana
Chairman
Audit and Risk Committee

REPORT BY THE INVESTMENT AND FINANCE COMMITTEE



Number of meetings

7 meetings were held during the year

Membership (at year end)

Three independent non-executive directors:
Mr Sifiso Dabengwa (Chairman), Ms Busisiwe Mavuso and Prof. Tshepo Mongalo

Invitees

No external advisors were invited to committee meetings during the year.

Purpose

The committee's responsibilities include:

- Oversight of investment strategy and capital programme
- Approval of business cases for new ventures or projects
- Monitoring major capital projects and investments
- Approval of the borrowing programme and financial budgets
- Oversight of our treasury function
- From 1 January 2019, IFC took over the responsibilities of the BTC for all transactions over R1.5 billion, with Exco being responsible for approving transactions from R750 million to R1.5 billion

Key activities

Key activities during the year included considering and recommending the following for approval by Board:

- Progress on collections from municipalities and Soweto, and the write-off of bad debt
- Mandates to secure funding
- Various capital and refurbishment projects, as well as various coal supply agreements
- The conclusion of firm power sales agreements with a number of SADC countries
- The progress on the disposal of Eskom Finance Company
- Borrowing programme for the 2019/20 financial year
- Submission to NERSA of the MYPD 4 revenue application and the 2018 RCA, and noted NERSA's RCA balance decisions for 2015, 2016 and 2017
- Eskom's comments on the draft Integrated Resource Plan 2018 for submission
- Revised shutdown dates for Grootvlei, Komati and Hendrina
- Generation outage capital funding requirement for 2019/20
- Request for additional funding for OCGT for 2018/19
- Contracting strategy for the distributed battery storage project

Future focus areas

Focus areas for the forthcoming year include to:

- Oversee the financial health of Eskom, which includes Eskom's capital structure after the unbundling
- Monitor the restructuring of the Generation, Transmission and Distribution divisions
- Consider appropriate investment options for Eskom based on the investment policy, the Corporate Plan and budget
- Supervise financial and business plans, as well as criteria and guidelines for capital and project budgeting for Eskom, its divisions and subsidiaries

Conclusion

The committee has adopted an appropriate formal terms of reference. It has regulated its affairs in compliance with its terms of reference and has discharged all its responsibilities contained therein.

Mr Sifiso Dabengwa
Chairman
Investment and Finance Committee

REPORT BY THE PEOPLE AND GOVERNANCE COMMITTEE

Number of meetings

8 meetings were held during the year

Membership (at year end)

Three independent non-executive directors:
Mr Jabu Mabuza (Chairman), Ms Busisiwe Mavuso and Prof. Tshepo Mongalo

Invitees

No external advisors were invited to committee meetings during the year.

Purpose

The committee's responsibilities include:

- Executive nomination and succession planning
- Remuneration of directors and senior executives
- Human resources strategies and policies
- Custodian of corporate governance and governance matters, including the ethics management programme

Key activities

Key activities during the year included noting and/or recommending the following for approval by the Board:

- Reviewing the organisational structure and the creation of a Chief Operating Officer position
- Determining the Board training schedule
- Collective bargaining forum (CBF) salary negotiations update, recommendations, guidance and requested mandate
- Status and challenges of the strategy execution and the way forward
- DPE response on the governance review
- Employee benefits and cost analysis
- Ethics report and code of ethics policy
- Assurance and forensic reports
- Updates on disciplinary cases and investigations, as well as the Zondo Commission investigations
- HR industrial relations report

References

Refer to "Board constitution and appointments" earlier in this section.

Refer to "Executive remuneration" later in this section.

Future focus areas

Focus areas for the forthcoming year include to:

- Perform a review of critical skills and the subsequent acquisition of critical resources
- Ensure the effective use of internal resources over and above the acquisition of external resources
- Finalise Eskom's remuneration policy in alignment with DPE's remuneration guideline and best practice
- Consider human resources strategies and policies regarding headcount reduction, employee benefit cost savings and organisational restructuring

Conclusion

The committee has adopted an appropriate formal terms of reference, has regulated its affairs in compliance with its terms of reference and has discharged all its responsibilities contained therein.

Mr Jabu Mabuza
Chairman
People and Governance Committee

REPORT BY THE SOCIAL, ETHICS AND SUSTAINABILITY COMMITTEE

Number of meetings

4 meetings were held during the year

Membership (at year end)

Three independent non-executive directors:
Prof. Malegapuru Makgoba (Chairman), Dr Banothile Makhubela and Ms Busisiwe Mavuso

Invitees

No external advisors were invited to committee meetings during the year.

Purpose

The committee's responsibilities include:

- The statutory functions of a social and ethics committee as set out in the Companies Act, 2008
- Oversight of our social and economic development role, good corporate citizenship, environment, health and public safety programmes, the operational sustainability index and sustainability audit
- Serving as the social and ethics committee for Eskom's wholly owned subsidiaries
- Oversight of nuclear policies, strategies and guidelines, as well as nuclear safety in terms of all regulatory requirements and international best practice

Key activities

Key activities during the year included the following that were noted for reporting to the Board:

- Reviewed ethics report and state of ethics in Eskom
- Considered the sustainability audit and the recovery plan
- Noted the strategy to manage the older power stations, as well as pollution prevention and atmospheric emissions plans
- Provided nuclear oversight, including safety and new build
- Noted and reviewed a number of reports, including occupational health and safety; industrial and employee relations; skills development; stakeholder engagement; environmental management; climate change; operational sustainability; electrification; and the integrated report
- Approved the Eskom Factor report reflecting the way forward

Future focus areas

Focus areas for the forthcoming year include to:

- Review the committee's terms of reference to ensure alignment with the strategy, MOI and Companies Regulations 43(2)(a), 2011
- Oversee the implementation of the Eskom turnaround plan and Generation nine-point recovery programme, and monitor the results thereof
- Provide recommendations on strategic risks
- Monitor stakeholder engagements and review protocols for engagements
- Review compliance with supplier development and localisation (SD&L) requirements
- Oversee the management of nuclear risks with a focus on the status of World Association of Nuclear Operator (WANO) findings

Conclusion

The committee fulfilled all its statutory duties as set out in Regulation 43 of the Companies Act, 2008. The committee has adopted an appropriate formal terms of reference, has regulated its affairs in compliance with its terms of reference and has discharged all its responsibilities contained therein.

Prof. Malegapuru Makgoba
Chairman
Social, Ethics and Sustainability Committee

EXCO UPDATE

Exco composition

Exco is established by the Group Chief Executive (GCE), and assists the GCE in executing the strategy set by the Board, as well as exercising executive control over day-to-day operations.

The Board felt that a three-person top team, comprising a Group Chief Executive, a Chief Financial Officer and a Chief Operating Officer, was warranted.

As previously reported, Mr Phakamani Hadebe was appointed as Group Chief Executive. Thereafter, Mr Jan Oberholzer was appointed as Chief Operating Officer (COO), and Mr Calib Cassim was permanently appointed as Chief Financial Officer (CFO). Other key executive vacancies were also filled through permanent appointments.

The shareholder appoints the 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. The CFO is appointed by the Board, subject to shareholder approval. Group executives are recommended by the GCE and appointed by the People and Governance Committee.

The GCE and CFO are appointed on five-year contracts. The acting co-Group Executives: Legal and Compliance are fixed-term contractors. All other executives are full-time employees, subject to Eskom's conditions of service.

The Board recognises that a reduction in employee benefit costs, being one of our most significant cost elements, is required to place us on a path to building a more sustainable organisation. In this context, the Board reviewed our executive structure. As a result, we undertook a section 189 process under the Labour Relations Act, 1995 with respect to our executive management in November 2018.

This process was concluded in December 2018 and resulted in the voluntary separation of eight executives. The number of executive positions reduced from 21 to nine by way of combining or regrading roles.

Thereafter, the Board approved a revised executive structure which provides a sound leadership platform upon which to build a sustainable and successful organisation. Under this structure, Distribution and Customer Services are consolidated under a single executive; Legal and Compliance has been elevated to an executive role due to the strategic importance of compliance within our current context; and the group executives for Generation, Distribution, Transmission and Group Capital will report to the Chief Operating Officer, reflecting full accountability for profit and loss within their business, as we focus on returning to profitability.

Refer to page 166 for the profiles and areas of responsibility of Exco members, including their date of appointment to Exco, their Eskom experience, qualifications and directorships

For the first nine months of this financial year, we operated with a 10-member Exco, the only change being the inclusion of the COO position, which was created in July 2018. With effect from 1 January 2019, after conclusion of the section 189 process, we moved to a more streamlined seven-member Exco, comprising the GCE and his direct reports: the CFO, the COO and group executives for Human Resources, Information Technology, Legal and Compliance, and Procurement.

Exco held 29 meetings during the year. Five of these were held by the new streamlined Exco.

Attendance of Exco meetings is shown in the fact sheet on page 167

Changes in executive leadership

The following changes in executive leadership took place during the year:

- Mr Phakamani Hadebe, previously the Interim Group Chief Executive, was permanently appointed as Group Chief Executive effective 1 June 2018
- Mr Jan Oberholzer was appointed Chief Operating Officer on 16 July 2018
- Mr Thava Govender, Group Executive: Generation and acting Group Executive: Sustainability and Risk, resigned effective 31 January 2019
- Mr Andrew Etzinger was appointed acting Group Executive: Generation with effect from 1 November 2018. He remained a member of Exco until the streamlining, after which he was appointed as General Manager: Sustainability and Risk. He still acts as Group Executive: Generation until a permanent appointment is made
- Mr Abram Masango, Group Executive: Group Capital, resigned effective 16 November 2018
- Mr Calib Cassim, previously the acting Chief Financial Officer, was permanently appointed as Chief Financial Officer effective 1 December 2018
- Mr Mongezi Ntsokolo, Group Executive: Distribution, was retrenched under the section 189 process effective 31 December 2018
- Ms Ayanda Noah, Group Executive: Customer Services, was retrenched effective 31 December 2018
- Mr Willy Majola, Senior General Manager: Generation, was retrenched effective 31 December 2018
- Mr Segomoco Scheppers was appointed as Group Executive: Transmission from 1 January 2019
- Mr Solomon Tshitangano was appointed as General Manager: Procurement, effective 1 January 2019
- Mr Bartlett Hewu and Mr Jerome Mthembu were appointed as acting co-Group Executives: Legal and Compliance, effective 1 January 2019
- Mr Kobus Steyn, previously the acting Group Executive: Group Capital, took up a position as the General Manager: Kusile from 1 January 2019. For the time being, the COO is looking after the Group Capital portfolio

Executive suspensions were discussed under "Ethics and progress on governance clean-up – Action based on allegations of corruption and misconduct" on page 11

Subsequent to year end, Mr Monde Bala was appointed as Group Executive: Distribution with effect from 1 April 2019, and Mr Bheki Nxumalo was appointed as Group Executive: Generation from 1 July 2019.

Ms Nondumiso Zibi, the acting General Manager: Information Technology, resigned from Eskom effective 17 May 2019. Mr Nico Harris will be acting in the position until a replacement is appointed.

Furthermore, Mr Phakamani Hadebe announced that he will step down at the end of July 2019. The Board will endeavour to find a replacement as soon as possible.

Exco subcommittees

The following subcommittees assist Exco in the execution of its duties:

Subcommittee	Purpose/key activities
Capital Committee	• Investment decisions to support Eskom's strategy • Decisions about the commercial process • Considers the impact of decisions on the funding plan, equity and key financial ratios
Exco Tender Committee	• Ensures that the procurement system is fair, equitable, transparent, competitive and cost effective as required by the PFMA • Approves transactions between R750 million and R1.5 billion
Finance Committee	• Decisions on financial strategy and budgets • Monitors financial performance and recommends plans to Exco to meet financial targets • Integration of Treasury and business activities • Monitors the funding pipeline, cash flow position and financial risk management
Nuclear Management Committee	• Management of Eskom's nuclear objectives • Risk management for nuclear operations • Interfaces with regulatory bodies and deals with licensing matters
Operating Committee	• Key operational decisions in Generation, Transmission, Distribution and the new build programme • Risk evaluation and mitigation approach to technical and operational health performance
People Committee	• Human resources decisions, issues, processes and procedures • Talent management and staffing • Strategic workforce planning
Regulation, Policy and Economics Committee	• Reviews impact of regulatory and economic policies, as well as long-term energy policy • Development of regulatory response strategy and tariff outlook • Oversight of Eskom's regulated licences • Recommends regulatory submissions for approval • Monitors the approach to environmental policies and Eskom's economic impact
Risk and Sustainability Committee	• Consolidation and monitoring of overall business risks and processes • Monitors operational risk within compliance guidelines • Considers safety, health, environmental and quality compliance • Reputational risk management

Update on Mr Brian Molefe's pension pay-out

The matter of the pension pay-out of the former Eskom GCE, Mr Brian Molefe, has been ongoing since early 2017. On 25 January 2018, the High Court in Pretoria ruled that the early retirement agreement reached between Mr Molefe and the Board was unlawful and should be set aside. The judgment stipulated that Mr Molefe needed to repay all amounts paid to him by the Eskom Pension and Provident Fund within 10 days. In addition, Mr Molefe was also ordered to pay the legal costs of the applicants in the matter.

In February 2018, Mr Molefe applied for leave to appeal the North Gauteng High Court judgment concerning the pension pay-out. Mr Molefe's application for leave to appeal was dismissed with costs on 17 April 2018. Mr Molefe then petitioned the Supreme Court of Appeal for leave to appeal the decision of the North Gauteng High Court.

Mr Molefe's petition to the Supreme Court of Appeal was dismissed and he subsequently applied for reconsideration. The application for reconsideration was dismissed on 17 April 2019.

Mr Molefe has subsequently appealed to the Constitutional Court; the matter is currently pending. We await finalisation of this matter by the Constitutional Court before we can take any further action.

EXECUTIVE REMUNERATION AND BENEFITS

Our approach to remuneration

The People and Governance Committee (PGC) is mandated by the Board to oversee all aspects of remuneration in a fair, transparent, responsible and equitable manner, and to ensure that the Board is fully aware of developments regarding the remuneration of executives and employees.

During the past year, the PGC complied with all relevant regulatory and legal requirements pertaining to the remuneration of employees across the organisation. The PGC also notes that Eskom's executive remuneration philosophy was complied with throughout the year, and no deviations were noted.

King IV™ specifically focuses on remuneration in principle 14. In particular, it emphasises that remuneration practices should be equitable, responsible and transparent, linked to the organisation's strategy, and should result in continued shareholder value creation. In this regard, the PGC strives to ensure that remuneration structures encourage value creation and support our strategic objectives, to advance Eskom's long-term sustainability.

Our approach to remuneration is aimed at attracting, retaining and motivating executive leadership by ensuring we appropriately remunerate our executives. We achieve this by reviewing the guaranteed remuneration of each executive on an annual basis in light of market trends, as well as linking executive remuneration to the performance of both the organisation and the individual executive.

Eskom is the largest state-owned company in South Africa with a business that is vast and complex, comparable with the largest companies listed on the JSE. Given our current financial and operational challenges, combined with the fact that we have to participate in an extremely competitive labour market, we require strong leadership to steer the successful turnaround of Eskom – the success of Eskom translates into success for South Africa. Therefore, it is essential that Eskom is able to attract and retain talented leadership, by applying suitable remuneration assumptions and benchmarking.

We endeavour to remunerate at the median of the market, based on a suite of benchmark companies. We also include an evaluation of jobs of similar size and complexity. The PGC can utilise the services of external consultants to obtain benchmarking data and provide independent market trends.

Remuneration is aligned with the objective of meeting shareholder expectations and addressing other challenges, and is not simply meant to remunerate the workforce for showing up for work. Consequently, our philosophy rests on the following fundamental premises, namely to:

- Attract and retain talent
- Reward good performance and the achievement of organisational objectives
- Compete in the commercial labour market on a fair and equitable basis

New guidelines for the remuneration and incentives of employees of state-owned companies were issued by DPE in February 2018, replacing the 2007 DPE remuneration guidelines approved by Cabinet. The new guideline has been issued to improve governance and ensure that remuneration is fair, responsible and transparent, and that it aligns performance measures with value creation.

Executive remuneration is frequently reviewed to ensure alignment with DPE's remuneration guidelines and best practice. Eskom had engagements during the year with the DPE to finalise the alignment of our executive remuneration policies with the remuneration standards issued by DPE. A draft policy, which aims to ensure that remuneration is fair and transparent, has been submitted to DPE for review. Once feedback has been received, the policy will be finalised and implemented.

Eskom participates in three external executive remuneration surveys annually to ensure that an objective and independent view of executive remuneration is considered. Results are analysed per quartile, position and survey company.

Key areas of focus

The PGC is focused on the following:

- Adopting the principles of King IV™ on the remuneration of directors and senior executives as required by principle 14
- Implementing DPE's guidelines for the remuneration and incentives of employees of state-owned companies
- Establishing that the remuneration and incentive philosophy is aligned to the shareholder compact, as well as organisational and individual performance
- Acting in the best interests of the organisation

Inequality has been identified as a collective national challenge and accordingly, it is vital that Eskom and the Board operate in alignment with the DPE policy of fiscal prudence, as well as in the best interests of the people of South Africa when determining remuneration policies.

Remuneration philosophy

It is the role of the PGC to assist the Board in approving, guiding and influencing key human resources policies and initiatives in accordance with shareholder requirements, social expectations and legislation, such as the Employment Equity Act, 1998. The PGC carries out its role in accordance with the committee's approved terms of reference which are reviewed and approved annually.

The PGC is solely responsible for determining executive remuneration, rewards and other benefits; executives are not involved in the approval process. The PGC also maintains the right to adjust, withhold or veto any remuneration payable to executives.

The PGC proposes the remuneration of the GCE for the Board's consideration. The Board then recommends the remuneration to the shareholder for approval. The remuneration of other group executives is approved by the PGC, while ensuring it is in line with the framework approved by the shareholder. The remuneration of Exco members is determined by taking into account their level of skill, experience, contribution to organisational performance and success of the group. Incentives are linked to the performance of the organisation and an individual's own contribution.

The PGC has adopted the following principles and guidelines to ensure that business performance is optimised:

- Remuneration policies are designed in a way that demonstrates a clear relationship between executive performance and remuneration. This assists in succession planning and identification of executives for senior positions
- Executives and management are motivated to pursue the long-term growth and success of Eskom within an appropriate risk management control framework
- Every effort is made to promote an ethical culture that supports responsible corporate citizenship, with appropriate short- and long-term incentives that are fair and achievable
- Variable executive remuneration is linked to individual and organisational performance through financial and non-financial targets set upfront for KPIs, subject to achieving financial and/or technical gatekeepers. This serves to align executive performance with the shareholder's interests
- Gatekeepers form a critical part of the short-term incentive framework. A gatekeeper must first be achieved for employees to qualify for a bonus. Employees will only qualify for a bonus once all identified gatekeepers have been met

Executive remuneration comprises a guaranteed package, other payments (such as personal security, motor vehicle expenses and cellphone costs), as well as short- and long-term incentives only if the qualifying criteria are met. The PGC reviews the structure of these packages annually to ensure an appropriate balance between fixed and variable remuneration.

Group executives have permanent employment contracts based on Eskom's standard employment conditions. The contracts cover matters such as the employee's powers and duties, confidentiality, remuneration including variable remuneration, appropriate provisions of company policies and procedures, intellectual property rights, retirement benefits and more.

The GCE and CFO each have a five-year term contract.

Structure of remuneration elements

Remuneration of executive management is set out below.

Remuneration element	Executive management	Link to strategic intent
Guaranteed remuneration	The PGC approves annual remuneration increases for executives in April of each year; these are approved by the shareholder. Group executives receive a guaranteed package. The guaranteed amount is fixed and includes compulsory benefits such as medical aid, pension, group life and death benefit. The guaranteed amount is reviewed annually to maintain remuneration in line with market trends based on an appropriate comparison group	To ensure that talented individuals are attracted and retained
Other benefits	Cell phone allowance, motor vehicle expenses and personal security	To provide support to employees to perform their role efficiently
Short-term incentives	The short-term incentive scheme rewards the achievement of predetermined performance objectives and targets linked to the shareholder compact, subject to the achievement of defined gatekeepers. Performance objectives and targets are determined by the GCE in individual performance contracts for each financial year. The GCE's objectives and targets are approved by the PGC	To manage and facilitate the performance of executives through a results-driven approach that is collaborative, transparent and fair
Long-term incentives	The long-term incentive scheme is designed to attract, retain and reward Exco members for meeting organisational objectives determined by the shareholder over a three-year period. The final vesting percentage is at the discretion of the PGC	To ensure the long-term sustainability of the organisation
Termination or separation benefits	Terminations are managed within Eskom's conditions of employment	Not applicable

The remuneration of managerial and bargaining unit employees is discussed under "Our people – Remuneration and benefits" on pages 134 to 135

Five units at Medupi Power Station have been synchronised to the grid, denoted by the lights on top of the boiler housing.

Short-term incentive scheme

The achievement of Eskom's Corporate Plan requires disciplined execution and cascading of performance indicators and targets into the performance compacts of both business units and individual employees. Operational performance is evaluated primarily against the targets in the shareholder compact; the Minister of Public Enterprises is provided with quarterly reports on the progress towards achieving these targets.

Executive performance compacts incorporate the following main features:

Gatekeeper or hurdle conditions
Net profit of more than R500 million is required to fund a bonus pool. Furthermore, bonuses are only paid if the following conditions are achieved:

- Earnings before interest, tax, depreciation and amortisation (EBITDA) of R49.2 billion
- An unmodified audit opinion
- Achievement of at least 80% of shareholder compact targets

These conditions also apply to the short-term incentive (STI) scheme for staff.

Key performance areas (KPAs)
KPAs established for each group and division have a future focus and comprise the following:

- Financial driver per group
- Board-priority initiatives
- Group-specific KPAs

Financial initiatives constitute 20% of the individual compact, and Board-priority initiatives constitute 30%. Group-specific KPAs per group ensure that key areas defined by Exco are addressed, and constitutes 50% of the compact.

The calculation of short-term incentive (STI) pay-outs is based on an individual's guaranteed remuneration. However, individuals will only be able to benefit from the scheme if all the gatekeepers are achieved. The bonus for on-target performance is set at 35% of an individual's guaranteed package and capped at 42%.

Long-term incentives

Bonus units are awarded to senior executives. These units are awarded on 1 April of each year, and have a three-year vesting period. The value of the bonus units is deemed to be R1 at grant date, and is escalated at a money market rate to determine the value at reporting date. Based on retention risk, the GCE proposes the allocation of bonus units for consideration by the PGC, which makes the final determination. The PGC retains full discretion whether an award for a particular year will be made or not.

Performance conditions and targets for the long-term incentive scheme have been determined by the Board over a three-year period, in line with the Corporate Plan and shareholder compact, with a weighting for each category.

Conditions include financial and non-financial targets in areas such as ensuring business sustainability and reliability of electricity supply, providing for future power needs through the new build programme, and supporting South Africa's developmental objectives.

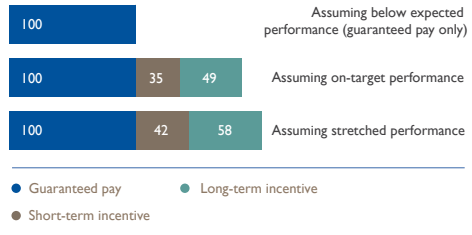
Bonus units only vest if, and to the extent that, these targets are met. Potential vesting percentages range from 0% to 70% of pensionable earnings; on-target vesting is set at 50%. Pensionable earnings equal 70% of guaranteed pay. Threshold and stretch targets are set for each measure.

The vesting period for bonus units is three years from the grant date. The PGC decides at the end of that period on the amounts to be paid in line with the:

- Percentage of performance units which vest based on the performance conditions achieved
- Value of the performance units based on the grant value, escalated at the money market rate

The vesting of the awarded bonus units is dependent on the scheme participant remaining in Eskom's employment throughout the vesting period. The bonus units lapse if employment ceases during the vesting period, other than for permitted reasons such as retirement or death.

Illustration of potential earnings for executive management on single total figure basis



No short-term or long-term incentives will be awarded to executives for the 2018/19 financial year.

Fees paid to non-executive directors

Remuneration of non-executive directors is benchmarked against the norms for companies of similar stature to Eskom and is in line with the guidelines issued by DPE. The PGC submits proposals on non-executive director remuneration to the Board, which then makes recommendations regarding the non-executives' remuneration to the shareholder for approval.

Non-executive directors are paid a fixed monthly fee.

Application of remuneration principles and policies

We strive to continuously improve the reporting practice for executive remuneration in the interests of improved clarity and transparency and to align with the reporting requirements of King IV™.

Refer to note 49 in the consolidated annual financial statements for detailed remuneration information as required by King IV™

Total remuneration earned by directors and group executives

Category, R 000	2018/19	2017/18
Non-executive directors	**6 857**	6 026
Executive directors	**11 861**	14 921
Other group executives	**43 996**	51 616
Total remuneration	**62 714**	72 563

The short-term cash incentive and long-term incentives are reported on an accrued basis in the single total figure of remuneration, once the performance conditions attached to the award element are met, in line with the requirements of King IV™. To determine cash earnings in the cycle, the accruals are removed and accruals from previous cycles are added back.

Short-term incentives

No short-term incentives will be awarded as the gatekeepers were not achieved.

Long-term incentives

Bonus units were awarded to Exco members on 1 April 2014, 2015 and 2016.

The Board resolved that no bonus units will be awarded for 2018.

Bonus units awarded on 1 April 2016 vested on 31 March 2019 with a vesting rate over the three-year period of 38.07%, payable at R1.27 per unit.

The Board applied its discretion and resolved that the awards vested at 0% due to the Eskom's current financial constraints.

Voluntary separation of executive management
As mentioned in the previous section, we undertook a section 189 process under the Labour Relations Act, 1995 with respect to executive management in November 2018, resulting in the voluntary separation of eight executives. Total payments of R18.7 million were made to executives in this regard.

Conclusion

The People and Governance Committee is satisfied that Eskom has complied with its remuneration philosophy throughout the 2018/19 year, and no deviations have been noted.

FINANCIAL REVIEW

We realise the importance of cost savings, and have a focused cost containment programme targeting cumulative cash savings of R77 billion over the next four years. Nevertheless, cost savings alone will not be sufficient to improve our financial health. The price of electricity also has to migrate to cost reflectivity over time. We must reduce our reliance on debt funding as a source of liquidity; the only way to achieve that is to improve operating cash flows, therefore the strong focus on moving to a prudent cost-reflective tariff.

CHIEF FINANCIAL OFFICER'S REPORT

CALIB CASSIM
Chief Financial Officer

A year ago, we highlighted a number of risks which could impede the execution of our strategy and impact Eskom's financial health, such as:

- Possible further credit ratings downgrades
- Adverse decisions on the recovery of the MYPD 3 RCA balance and the upcoming MYPD 4 application, failing to result in cost-reflective tariffs
- Further escalation in receivables, particularly in municipal arrear debt
- An inability to achieve targeted cost savings, driven by external factors beyond our control

With the exception of further credit ratings downgrades, all these risks have materialised, further adding to our already significant financial challenges.

We realise the importance of cost containment, and are targeting cumulative cash savings of R77 billion over the next four years. However, cost savings alone will not be sufficient to improve our financial health. Cash from operating activities of R32.7 billion was grossly insufficient to cover debt service commitments of R70.3 billion during the year. Therefore, the price of electricity also has to migrate to cost reflectivity over time. The current average selling price of approximately 90c/kWh is well below the levels required to be cost reflective, estimated at around 120c/kWh.

Our revenue is determined through a regulatory process, which has led to a shortfall of R102 billion compared to the amount we applied for over the coming three years of the MYPD 4 period, as well as shortfalls on the RCA balance decisions for the MYPD 3 period. Therefore, we remain highly dependent on debt funding, given the below-inflation tariff increases over the past two years, combined with above-inflation operating cost increases to meet demand, given system constraints due to poor Generation plant performance. We have borrowed R63.3 billion (including commercial paper) over the past year; given our balance sheet constraints, there is a limit to further debt accumulation. Other than increasing our Government guaranteed borrowing, which will simply exacerbate our already weakened financial position, the only option left is shareholder support.

In order to ensure financial sustainability, we require a rate of return on assets at least equal to the weighted average cost of capital (WACC). NERSA granted Eskom a return on assets significantly lower than our WACC, further weakening the balance sheet over time. The return also needs to factor in the mismatch between the terms associated with the borrowing programme and the asset base used for the return calculation. The average term linked to borrowings is approximately seven years, while the average term relating to the asset base is in excess of 40 years. This results in a gap in funding, through a mismatch between the cash required to service debt, and the cash received in the form of a return on assets through revenue determined by NERSA. Our gross debt/EBITDA ratio of 15.64 (against a target of 5) reflects this unsustainable position, to restore financial sustainability. By implication, at an EBITDA level of R30 billion, our gross debt should be limited to R150 billion.

The return needs to be sufficient for our surplus operational cash flows to meet short-term liquidity requirements and service long-term debt commitments. Ideally, we should be in a position where our operational cash flows are sufficient to fund our total debt service cost and even a portion of our capital expenditure associated with plant refurbishment and acquisition of production equipment. Our aim is to reduce our reliance on debt funding and optimise our balance sheet.

Overview of performance

As noted by the Chairman, the sustainability of Eskom's liquidity position and medium-term ability to raise funding remains at risk, as we were still affected by past issues of corruption and misconduct, concerns around Eskom's financial sustainability along with the prior year audit modification related to irregular expenditure. Furthermore, the operational challenges we experienced over the year had a significant impact on our liquidity position.

For the progress on cleaning up irregular expenditure, refer to "Ethics and progress on governance clean-up – Improvement process to address irregular expenditure" on pages 12 to 13

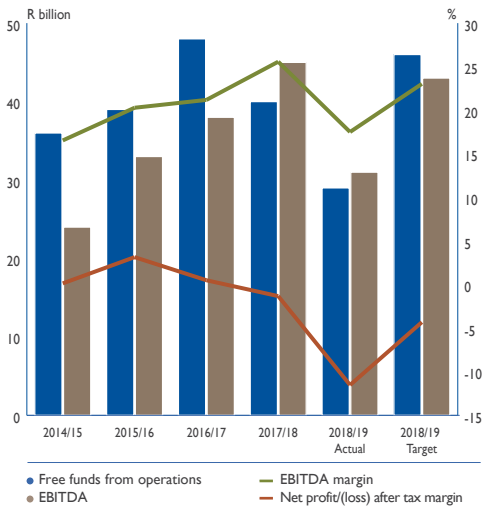
Liquidity remained one of the most challenging issues facing us over the past year.

Our access to funding in both the domestic and foreign markets was restricted due to decreased investor confidence, as a result of reputational damage owing to the audit modifications in the 2016/17 and 2017/18 financial statements related to the completeness of irregular expenditure; previously reported governance issues; ongoing operational challenges; as well as uncertainty regarding our proposed restructuring. Nevertheless, with the announcement of Government's financial support we were able to secure R63.3 billion, or approximately 88%, of our R72 billion funding target for the year. We had to manage liquidity by reducing capital expenditure, and utilising cash reserves.

Other issues contributed to our liquidity problems, such as escalating municipal arrear debt; a price increase of only 5.23% granted by NERSA for the 2018/19 financial year; a 1.82% decline in sales volumes; as well as an above-inflation wage settlement agreement, accompanied by a once-off payment totalling R0.6 billion, for bargaining unit employees.

These issues were exacerbated by deteriorating Generation plant performance, necessitating increased use of Eskom and IPP OCGTs in order to avoid or minimise the impact of loadshedding, at a total OCGT fuel cost of R6.5 billion. Rebuilding coal stock levels at a number of power stations also negatively impacted liquidity by approximately R2.5 billion. A maximum of 812GWh was lost due to rotational loadshedding and load curtailment, further reducing our already stagnating sales.

As a result, EBITDA for the year deteriorated to R31.5 billion (March 2018: R45.4 billion) and the EBITDA margin dropped to 17.51% (March 2018: 25.57%). We recorded a net loss before tax of R29.1 billion (March 2018: R2.6 billion). In an effort to manage our financial challenges, we restricted our organisational cash requirements through targeted savings on both operating and capital expenditure.



Eskom has lodged a High Court review to set aside NERSA's revenue decision for 2018/19. Furthermore, the Board has also approved a request for a review through a High Court application of NERSA's reasons for decision on the RCA balance of R32.7 billion, as it resulted in a shortfall of R34 billion against our RCA application. The information provided by NERSA on the 2018/19 revenue decision seems to indicate that NERSA did not consider Eskom's sustainability when it made its decision, in contravention of its mandate.

Furthermore, NERSA announced an approved RCA balance for the fifth year of MYPD 3 of R3.9 billion, which is significantly less than the R21.6 billion applied for, to be recovered from standard tariff customers, local special pricing arrangement customers and international customers. NERSA also announced its allowable revenue decision for MYPD 4, again resulting in a total shortfall against the application of R102 billion over the three years covered by the application. The tariff increase for 2019/20 equates to 13.87%, including the RCA, which is below the increase anticipated in our turnaround plan. In determining the allowable revenue, NERSA allowed a return on assets of 1.5%, well below the 6.9% allowed in the 2018/19 revenue determination. It further appears that NERSA deducted the annual R23 billion support announced by Government from the return on assets, resulting in a negative return. Neither an implementation plan for the recovery of the approved RCA balance, nor the reasons for decision for the RCA or MYPD 4 decisions, have been announced. Only once the announcements have been made, will the Board be in a position to decide on the way forward. Eskom will submit an RCA application of R27.2 billion for the 2018/19 financial year.

The viability of our turnaround plan is based on four pillars, one of which relates to cost containment. We instituted a cost containment plan to drive a savings target of R10.6 billion for the 2018/19 financial year, which included an improvement in revenue.

We did well to save R9.9 billion in terms of this plan, mainly from other operating expenses, interest paid and non-electricity revenue. However, savings have been eroded by significantly higher primary energy costs incurred in the last few months of the year, as well as the above-inflation wage settlement and once-off payment to bargaining unit employees.

In terms of our cost containment programme, we are targeting cumulative cash savings of R77 billion over the next four years, comprising operating expenditure of R44.3 billion, capital expenditure of R19.9 billion and working capital of R12.8 billion. The savings in 2022/23 alone amount to about R33 billion. Estimated savings are built on several initiatives, such as optimising primary energy costs, growing coal volumes from cost-plus mines, programmes geared towards generation and network excellence, procurement and human resources initiatives, and reducing sundry expenses. Nevertheless, as we've noted before, cost savings alone are not enough to ensure Eskom's financial sustainability, but it is a key part of the turnaround plan.

Another one of the pillars is improving our revenue outlook through migrating towards cost-reflective tariff increases from NERSA and growing sales volumes.

Despite Eskom applying for prudent and efficient revenues, the average standard tariff price increases and RCA decisions by NERSA have not enabled the migration towards cost-reflective tariffs as envisaged in the Electricity Pricing Policy. NERSA's regulatory processes remain of great interest to investors and ratings agencies, and are crucial to their assessment of the future trajectory of our financial and operational sustainability, which influences their investment decisions.

Total invoiced municipal arrear debt (including interest) continues to deteriorate, increasing from R13.6 billion at 31 March 2018 to R19.9 billion at year end, with the top 20 defaulting municipalities contributing almost 81% of total invoiced municipal arrear debt. We have exhausted many of the avenues within our control to recover the money, such as interrupting supply to defaulting municipalities or attaching their assets, and installing prepaid meters in pilot project areas. The situation is simply not sustainable, and urgent Government intervention is being sought to resolve the current impasse.

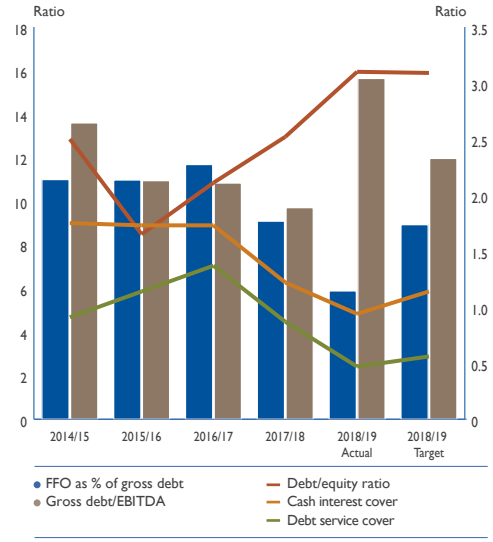
It became evident towards the end of the financial year that securing funding would be difficult due to the uncertainty around the proposed restructuring announced in the 2019 National Budget Speech and SONA addresses, as well as the recent loadshedding and ongoing concerns regarding Eskom's financial health.

Investors remain concerned about our liquidity position and our ability to service debt given NERSA's revenue determination, above-inflation cost escalations and our weak balance sheet. Investors are also worried about our deteriorating financial position and our ability to maintain or improve our credit risk profile; this negatively affected funding volumes and pricing.

A contributing factor to our liquidity shortfall was the issuance of local bonds being significantly lower than anticipated. During the past year, we experienced a lack of demand in the local market due to decreased investor confidence. We did, however, witness growing market appetite and demand from international investors. To this end, we issued an international bond in August 2018, of which USD1 billion is Government guaranteed and USD500 million is unguaranteed; the bond was oversubscribed.

The difficulty in securing funding, coupled with the non-release of agreed funding during March 2019, resulted in Eskom requesting an early advance amounting to R13.5 billion during April and May 2019 from National Treasury, against the R23 billion Government support initially announced during the Budget Speech. This was performed in terms of a section 16 appropriation under the PFMA, 1999.

We also obtained a bridging loan of R3 billion at the end of March 2019 to assist us in meeting our obligations. However, cash flow remains constrained until October 2019, with the outlook worsening further until March 2020. These cash flow challenges make it clear that Eskom is in crisis.



All of our solvency ratios performed worse than target during the year, and remain well below acceptable investment-grade levels. Moreover, all solvency ratios declined compared to the prior year. Of particular concern is that our cash interest cover ratio declined below one, indicating that our operating cash flows during the year were inadequate to fund even the interest component of our debt service requirements.

We are fortunate that our credit ratings have remained stable over the past year, with those by Standard & Poor's and Fitch both receiving an uplift on the outlook.

Outlook

Projected liquidity balances for the 2019/20 financial year remain constrained and require prudent liquidity management to prioritise cash outflows, so that it does not result in negative cash balances.

We remain reliant on Government support, drawdowns from existing facilities and committed investors in order to maintain a positive cash balance during the coming year.

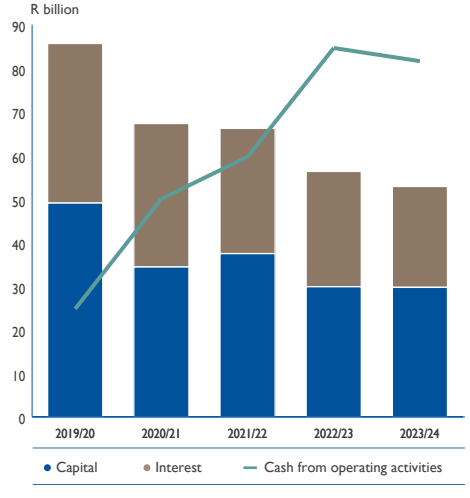
The primary focus of our borrowing programme is to secure funding to match our annual capital expansion programme and working capital requirements. We plan to secure funding of R46.2 billion during the coming financial year, of which R26.9 billion, or 58%, was already committed at 30 June 2019. Moreover, we plan to secure funding of R207.4 billion over the five years from 2019/20 to 2023/24. The Board has approved the borrowing programme for the next five years.

As mentioned before, our turnaround plan requires a collaborative solution between Eskom and Government, based on liquidity support and debt relief, to redress the structural, financial and operational challenges confronting Eskom, in order to place the business on a trajectory towards sustainability.

However, it has become apparent that liquidity support alone will not result in Eskom achieving financial sustainability – there has to be a reduction in our gearing to ensure longer term financial sustainability. To do this, we must reduce our reliance on debt funding as a source of liquidity; the only way to achieve that is to improve operating cash flows, therefore the strong focus on moving to a prudent cost-reflective tariff.

Our funding strategy over the medium term remains to maintain a sufficient liquidity buffer and to increase committed funding facilities. However, we need to improve operational cash flows to fund the cash required for debt servicing, as well as a portion of capital expenditure required to maintain operations, such as Generation outages, refurbishment of plant and replacement of components. Ideally, we should only use borrowings to fund capacity expansion.

The debt repayment profile, based on existing debt only, is still relatively pressured over both the short and long term, with interest payments of approximately R148 billion and capital repayments of R180 billion over the next five years, and maturities currently extending to 2043. That is why debt relief is so important as the third pillar of our turnaround plan, as part of which we requested R100 billion in immediate direct financial assistance from Government to reduce debt and interest to sustainable levels. However, the initial amount of R69 billion over three years allocated in the Budget Speech fell short of this requirement, which was exacerbated by the revenue shortfall determined by NERSA. This prompted further engagement with the shareholder.



As previously noted, increasing debt levels and existing operational challenges are not sustainable. Liquidity constraints and concerns related to past corruption and misconduct may have a major impact on loan covenants, which could lead to defaults as well as cross-defaults. The projected cash from operating activities will not be sufficient to service interest and capital repayments on existing debt until 2022/23. Eskom requires additional revenue, significant cost savings as well as additional Government support to improve its financial position. We are also reaching the cap on the available Government guarantees and could soon be running out of capacity to raise guaranteed debt.

To this end, the President announced in his latest State of the Nation Address (SONA) that National Treasury would make additional funds available over the next two years to ensure that Eskom remains a going concern. This will allow sufficient time to review the available options to ensure Eskom's long-term financial viability. On this basis, the Board has concluded that Eskom remains a going concern, although we note the material uncertainty related to going concern raised by the external auditors in their independent audit opinion on the consolidated annual financial statements.

Our overarching objective is to return Eskom to financial sustainability, while improving transparency of reporting to the shareholder and the broader public in order to build trust.

Conclusion

Eskom cannot weather the storm on its own. We need the support of our shareholder, Government at large and all our stakeholders, including our employees – South Africa depends on it. We are grateful for the support already received, which will help us navigate the difficult waters facing us.

As Eskom Guardians, we all have to do our part – this is not a head office problem only. We have to remain focused on diligently executing the four pillars of our turnaround plan, as well as the Generation nine-point recovery programme, while delivering on our mandate of supplying South Africa's power needs.

If our operations perform better, our financial performance will follow suit. Nevertheless, we need to realise that our problems will not be solved overnight – it will take an integrated effort over the next few years to steer the ship and get through the storm.

Calib Cassim
Chief Financial Officer

CONDENSED ANNUAL FINANCIAL STATEMENTS

The group and company financial results set out in the condensed financial statements which follow have been extracted from the consolidated annual financial statements of Eskom Holdings SOC Ltd for the year ended 31 March 2019, which have been prepared in accordance with International Financial Reporting Standards (IFRS) and in the manner required by the Companies Act, 2008 and the Public Finance Management Act (PFMA), 1999.

The consolidated annual financial statements have been prepared under the supervision of the Chief Financial Officer, Mr Calib Cassim CA(SA), and were duly approved by the Board of Directors on 18 July 2019.

The consolidated annual financial statements have been audited by the group's independent auditors, SizweNtsalubaGobodo Grant Thornton 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 modified opinion relating to the completeness of amounts disclosed in terms of the PFMA. Except for this modification, the consolidated annual financial statements are fairly presented in terms of IFRS.

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 hard copies are available on request.

Future performance plans and/or strategies referred to in the integrated report have not been reviewed or reported on by the group's independent auditors.

Condensed income statements

for the year ended 31 March 2019

	Group		Company	
	2019 Rm	2018 Rm	2019 Rm	2018 Rm
Continuing operations				
Revenue	**179 892**	177 424	**179 892**	177 424
Other income	**2 150**	1 372	**3 073**	1 787
Primary energy	**(99 488)**	(85 202)	**(99 488)**	(85 202)
Employee benefit expense	**(33 272)**	(29 454)	**(27 616)**	(24 455)
Net impairment reversal/(loss)	**431**	(553)	**413**	(528)
Other expenses	**(18 214)**	(18 228)	**(27 019)**	(25 598)
Profit before depreciation and amortisation expense and net fair value loss (EBITDA)	**31 499**	45 359	**29 255**	43 428
Depreciation and amortisation expense	**(29 756)**	(23 132)	**(29 662)**	(23 110)
Net fair value loss on financial instruments, excluding embedded derivatives	**(5 266)**	(1 898)	**(5 225)**	(1 998)
Net fair value gain on embedded derivatives	**1 857**	123	**1 857**	123
(Loss)/profit before net finance cost	**(1 666)**	20 452	**(3 775)**	18 443
Net finance cost	**(27 517)**	(23 089)	**(28 676)**	(24 199)
Finance income	**2 722**	2 872	**1 679**	1 874
Finance cost	**(30 239)**	(25 961)	**(30 355)**	(26 073)
Share of profit of equity-accounted investees after tax	**35**	34	**–**	–
Loss before tax	**(29 148)**	(2 603)	**(32 451)**	(5 756)
Income tax	**8 419**	266	**9 262**	1 148
Loss for the year	**(20 729)**	(2 337)	**(23 189)**	(4 608)

The statements of comprehensive income and statements of changes in equity are available in the consolidated annual financial statements

Condensed statements of financial position

at 31 March 2019

	Group		Company	
	2019 Rm	2018 Rm	2019 Rm	2018 Rm
Assets				
Non-current assets	**685 153**	658 067	**685 578**	658 440
Property, plant and equipment and intangible assets	**655 562**	634 593	**655 939**	634 962
Future fuel supplies	**6 471**	7 157	**6 471**	7 157
Investment in equity-accounted investees and subsidiaries	**373**	372	**479**	479
Derivatives held for risk management	**20 582**	13 705	**20 582**	13 705
Other non-current assets	**2 165**	2 240	**2 107**	2 137
Current assets	**63 994**	72 123	**60 709**	70 531
Inventories	**26 482**	24 348	**26 251**	24 122
Loans receivable	**26**	18	**6 071**	6 201
Derivatives held for risk management	**2 080**	1 873	**2 080**	1 875
Trade and other receivables	**21 976**	20 125	**23 137**	21 429
Insurance investments	**7 946**	8 172	**–**	–
Financial trading assets	**1 779**	168	**162**	168
Other current assets	**1 674**	1 596	**1 491**	1 357
Cash and cash equivalents	**2 031**	15 823	**1 517**	15 379
Non-current assets held-for-sale	**8 871**	8 926	**–**	40
Total assets	**758 018**	739 116	**746 287**	729 011
Equity				
Capital and reserves attributable to the owner of the company	**153 094**	170 336	**138 492**	158 075
Liabilities				
Non-current liabilities	**495 194**	474 353	**494 267**	473 788
Debt securities and borrowings	**387 208**	348 112	**387 161**	348 060
Embedded derivatives	**1 365**	3 434	**1 365**	3 434
Derivatives held for risk management	**5 643**	16 570	**5 643**	16 570
Deferred tax	**8 350**	15 846	**7 804**	15 665
Employee benefit obligations	**13 546**	13 725	**13 242**	13 404
Provisions	**45 588**	44 370	**45 558**	44 359
Finance lease payables	**9 130**	9 533	**9 130**	9 533
Deferred income	**21 295**	19 796	**21 295**	19 796
Other non-current liabilities	**3 069**	2 967	**3 069**	2 967
Current liabilities	**108 051**	92 745	**113 528**	97 148
Debt securities and borrowings	**53 402**	40 572	**57 886**	44 525
Embedded derivatives	**2 069**	1 857	**2 069**	1 857
Derivatives held for risk management	**1 397**	4 896	**1 397**	4 896
Employee benefit obligations	**3 244**	3 244	**2 976**	2 992
Provisions	**5 662**	5 309	**5 556**	5 194
Trade and other payables	**36 849**	32 116	**38 208**	32 944
Payments received in advance	**3 359**	3 003	**3 367**	2 996
Other current liabilities	**2 069**	1 748	**2 069**	1 744
Non-current liabilities held-for-sale	**1 679**	1 682	**–**	–
Total liabilities	**604 924**	568 780	**607 795**	570 936
Total equity and liabilities	**758 018**	739 116	**746 287**	729 011

Condensed statements of cash flows

for the year ended 31 March 2019

	Group		Company	
	2019 Rm	2018 Rm	2019 Rm	2018 Rm
Cash flows from operating activities				
Loss before tax	**(29 148)**	(2 603)	**(32 451)**	(5 756)
Adjustment for non-cash items	**58 712**	44 710	**59 974**	46 193
Changes in working capital	**3 693**	(2 448)	**4 800**	(2 580)
Cash generated from operations	**33 257**	39 659	**32 323**	37 857
Net cash flows used in derivatives held for risk management	**(172)**	(1 726)	**(174)**	(1 738)
Finance income received	**245**	393	**245**	393
Finance cost paid	**(277)**	(28)	**(276)**	(28)
Income taxes paid	**(313)**	(724)	**–**	–
Net cash from operating activities	**32 740**	37 574	**32 188**	36 484
Cash flows from investing activities				
Proceeds from disposal of property, plant and equipment	**566**	453	**566**	448
Acquisitions of property, plant and equipment and intangibles	**(34 530)**	(49 501)	**(34 817)**	(49 412)
Expenditure on future fuel supplies	**(548)**	(1 618)	**(548)**	(1 618)
Increase in payments made in advance	**(9)**	(40)	**(9)**	(40)
Expenditure incurred on provisions	**(1 707)**	(4 788)	**(1 707)**	(4 788)
Net cash flows used in derivatives held for risk management	**(166)**	(91)	**(166)**	(91)
Net acquisition of insurance investments	**(1 356)**	(1 492)	**–**	–
Decrease/(increase) in loans receivable and finance lease receivables	**54**	31	**125**	(6)
Dividends received	**83**	63	**35**	27
Finance income received	**1 411**	1 486	**506**	534
Net cash used in investing activities	**(36 202)**	(55 497)	**(36 015)**	(54 946)
Cash flows from financing activities				
Debt securities and borrowings raised	**58 914**	53 234	**59 364**	53 761
Payments made in advance to secure debt raised	**(1 179)**	(929)	**(1 179)**	(929)
Debt securities and borrowings repaid	**(34 445)**	(12 548)	**(34 332)**	(12 591)
Net cash flows from/(used in) derivatives held for risk management	**1 219**	(1 824)	**1 219**	(1 824)
Disposal of treasury investments	**–**	6 586	**–**	6 586
Net cash flows from financial trading assets	**10**	1 459	**10**	1 459
Net cash flows used in finance lease payables and financial trading liabilities	**(386)**	(1 487)	**(386)**	(1 487)
Finance income received	**858**	1 034	**820**	1 004
Finance cost paid	**(35 845)**	(31 909)	**(36 035)**	(32 051)
Taxes paid	**(69)**	(69)	**(69)**	(69)
Net cash from financing activities	**(10 933)**	13 547	**(10 588)**	13 859
Net decrease in cash and cash equivalents	**(14 395)**	(4 376)	**(14 485)**	(4 603)
Cash and cash equivalents at the beginning of the year	**15 823**	20 425	**15 379**	19 964
Foreign currency translation	**50**	(25)	**–**	–
Effect of movements in exchange rates on cash held	**620**	10	**620**	10
Assets and liabilities held-for-sale	**(67)**	(211)	**3**	8
Cash and cash equivalents at the end of the year	**2 031**	15 823	**1 517**	15 379

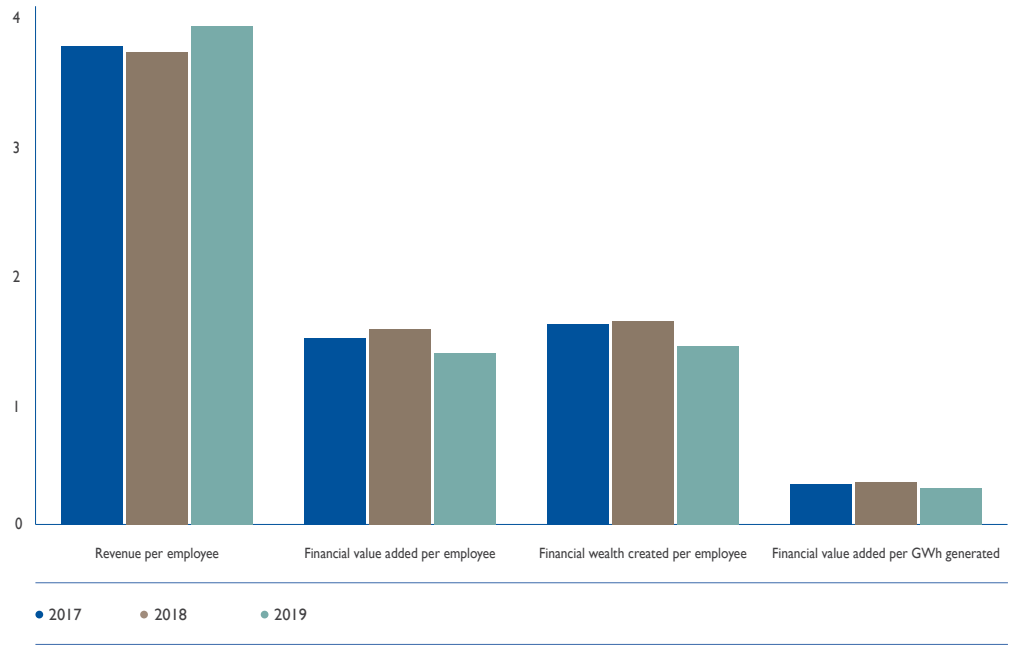
FINANCIAL VALUE ADDED

Financial value added statement

for the year ended 31 March 2019

	2019 Rm	2018 Rm
Revenue	**179 892**	177 424
Other income	**2 185**	1 406
Less: Primary energy and other operating expenses	**(120 552)**	(105 578)
Financial value added	**61 525**	73 252
Finance income	**2 722**	2 872
Financial wealth created	**64 247**	76 124
Financial value distributed	**82 815**	75 007
Benefits to employees	**36 658**	32 655
Social spending to communities	**128**	180
Finance costs to lenders	**45 617**	41 508
Taxation to Government	**412**	664
Financial value reinvested in the group to maintain and develop operations	**(18 568)**	1 117
Depreciation and amortisation	**29 756**	23 132
Borrowing costs capitalised	**(15 378)**	(15 547)
Employee costs capitalised	**(3 386)**	(3 201)
Deferred tax	**(8 831)**	(930)
Net loss	**(20 729)**	(2 337)
Financial wealth created	**64 247**	76 124
Financial value created, R million		
Revenue per employee	**3.85**	3.65
Financial value added per employee	**1.32**	1.51
Financial wealth created per employee	**1.38**	1.57
Financial value added per GWh generated	**0.28**	0.33
Number of employees and fixed-term contractors at year end	**46 665**	48 628
GWh generated	**218 939**	221 936

Average values per unit, R million



OUR FINANCES

Highlights

- Government financial support package of R23 billion per year announced in the 2019 National Budget Speech, with further frontloading over the next two years to ensure that Eskom remains a going concern

Improvements

- NERSA announced the implementation plan for the recovery of the MYPD 3 RCA balance
- Credit ratings remained relatively stable during the year
- Headcount reduction due to natural attrition contained growth in employee benefit costs
- Cost containment efforts bore some fruit, despite being eroded by operational challenges

Challenges

- Financial performance ratios deteriorated in comparison to 2017/18, negatively affecting investor confidence
- Operating cash flows insufficient to fund debt service requirements
- Funding efforts hampered by low levels of investor confidence
- Declining sales volumes due to prevailing economic conditions, supply constraints and load reduction, as well as some customers opting for alternate technology and self-generation
- Sales incentives were piloted to stimulate demand and retain key energy-intensive customers, although the results were hampered by supply constraints
- Poor Generation plant performance led to extensive use of costly OCGTs to stabilise the national grid
- Expenditure on IPPs accounts for 25% of primary energy costs, despite supplying only 5% of energy produced

Lowlights

- Net loss after tax of R20.7 billion; EBITDA margin declined to 17.51%
- Unsustainably low liquidity levels, requiring ongoing monitoring of cash requirements
- Significant escalation in municipal arrear debt, with adverse judgments affecting debt collection
- NERSA's MYPD 4 revenue determination resulted in a shortfall of R102 billion compared to our application over the next three years, also providing a negative return on assets and further jeopardising financial sustainability
- Considerably above-inflation increases in average coal purchase cost per ton, average price of diesel and electricity import tariffs
- Above-inflation wage settlement negotiated only after industrial action which resulted in rotational loadshedding at significant cost to the country and Eskom's operations, placing additional pressure on future costs

In order to fund our operations, we require financial capital. The sources of financial capital are either debt funding or equity, which may be in the form of revenue or shareholder support in the form of an equity injection.

Managing liquidity

Cash and cash equivalents were severely constrained, at only R2 billion at year end (March 2018: R15.8 billion); we are monitoring cash flows on a continuous basis to mitigate the risk. The significant deterioration in cash on hand was due to poor operational cash flows and increased debt servicing costs. A R20 billion bridge-to-bond facility obtained in February 2018 was settled upon the issuance of an international bond in August 2018. Furthermore, delayed drawdowns of a R7 billion facility resulted in short-term bridging finance of R3 billion being required at the end of March 2019.

Net cash flows from operating activities for the year were R32.7 billion (March 2018: R37.6 billion). As a result, liquidity ratios worsened considerably compared to the prior year, and remain well below investment-grade levels required by ratings agencies. The working capital ratio declined slightly to 1.02 (March 2018: 1.05); however, the cash interest cover ratio and debt service cover ratio declined significantly to 0.94 (March 2018: 1.22) and 0.47 (March 2018: 0.87) respectively. Operating cash flows remain inadequate to fund our debt service requirements, including repayments of interest and capital, as well as a portion of our investing activities relating to capital expenditure.

Net cash flows used in investing activities amounted to R36.2 billion for the year (March 2018: R55.5 billion). Acquisition of property, plant and equipment, intangible assets and future fuel, exclusive of capitalised borrowing costs, came to R35.1 billion (March 2018: R51.1 billion), predominantly due to expenditure on the new build programme, Generation outage and technical plan requirements, as well as expenditure on our network infrastructure. Due to our ongoing liquidity challenges, we cut back on capital expenditure. However, that is not a sustainable solution to our liquidity challenges, as deferring capital maintenance, refurbishment and replacement of infrastructure may lead to more significant operational challenges in the future. To mitigate against this risk, we have set aside an additional R49 billion of operational and capital expenditure over the next five years in order to address the turnaround required on plant performance.

For detail of capital expenditure incurred, refer to the table on page 117

Net cash flows used in financing activities for the year were R10.9 billion (March 2018: R13.5 billion inflow). Cash flows from debt securities and borrowings amounted to R58.9 billion, net of commercial paper, (March 2018: R53.2 billion) while we repaid debt of R34.5 billion, net of commercial paper (March 2018: R12.5 billion); this included the R20 billion bridge-to-bond facility obtained in the previous year and repaid during the current year. Interest paid totalled R35.8 billion (March 2018: R31.9 billion) due to our increasing debt balance.

As a result of our liquidity challenges, we asked National Treasury for an early advance against the R23 billion Government support initially announced during the 2019 National Budget Speech. A total of R13.5 billion was received during April 2019 and was concluded in terms of an appropriation under section 16 of the PFMA, 1999. This was necessitated due to delayed drawdowns of a R7 billion facility at the end of the financial year.

Price applications to support revenue requirements

The viability of our turnaround plan is based on four pillars, one of which is improving our revenue outlook through migrating towards cost-reflective tariff increases from NERSA as well as growing sales volumes. Despite Eskom applying for prudent and efficient revenues, the average standard tariff price increases and RCA decisions by NERSA have not enabled the migration towards cost-reflective tariffs as envisaged in the Electricity Pricing Policy. NERSA's regulatory processes remain of great interest to investors and ratings agencies, and are crucial to their assessment of the future trajectory of our financial and operational sustainability, which influences their investment decision.

Revenue decision for 2018/19

NERSA's revenue decision for 2018/19 granted a 5.23% standard tariff price increase for the year, of which approximately 3% accounted for increases in IPP costs. This decision has had severe consequences on our financial sustainability, going concern status and ability to service debt commitments. We do not believe that the decision was made in accordance with the Electricity Regulation Act, 2006 or the MYPD methodology, both of which require NERSA to make a revenue decision that allows Eskom to recover efficient costs and a fair return.

Therefore, in June 2018 we lodged a High Court review to set aside this decision. NERSA lodged a notice of intent to oppose the review, but has not submitted any details to the court regarding the basis of its opposition. NERSA has provided further information on the revenue decision, which appears to indicate that it did not consider Eskom's sustainability when making its decision. This is in contravention of its mandate.

RCA balance applications

As reported previously, NERSA allowed only R32.7 billion of the R66.7 billion requested in terms of the RCA methodology for the 2014/15, 2015/16 and 2016/17 financial years relating to MYPD 3. In October 2018, NERSA announced that the RCA balance will be recovered over a four-year period, from 2019/20 to 2022/23, with an equivalent recovery of R8.2 billion per year. This equates to an approximate 4.4% tariff increase for 2019/20, excluding the MYPD 4 determination. The reasons for the RCA balance decision were published in December 2018.

We have also submitted a High Court application to review this RCA balance decision. Judicial case management has been requested. It is envisaged that both the review of the 2018/19 revenue decision and the review of the RCA balance decision could be combined into a single High Court hearing. No court date has yet been set.

In September 2018, we submitted an RCA balance application of R21.6 billion for 2017/18, the fifth and final year of MYPD 3. NERSA consulted with stakeholders during public hearings in all provinces from 14 January to 5 February 2019. In March 2019, NERSA approved an RCA balance of only R3.9 billion, being less than 20% of the amount requested. Neither an implementation plan for the recovery of the approved RCA balance nor the reasons for decision have been published at the time of finalising this report. The Board will decide on the way forward once this information is made available.

The RCA balance for 2018/19 is R27.2 billion. The RCA balance application will be submitted to NERSA after the publication of our 2018/19 annual financial statements. It is evident that the RCA balance application reflects the significant shortfall in the original revenue decision when compared to our original revenue application. In accordance with the MYPD methodology, we will continue to apply for RCA balances on an annual basis.

Of concern is that NERSA approved only R345 million for Eskom-owned OCGT costs for 2018/19, while expenditure amounted to R3.8 billion during the year, as we were required to make extensive use of OCGTs in order to stabilise the national grid and limit the impact of rotational loadshedding on the economy. However, there is a significant risk that NERSA will not allow the full variance in the RCA balance application.

Revenue decision for MYPD 4 (2019/20 to 2021/22)

We submitted our MYPD 4 revenue application for the period 2019/20 to 2021/22 in September 2018. We applied for revenue of R219 billion in 2019/20, R252 billion in 2020/21 and R291 billion in 2021/22, which corresponded to an approximate 15% average annual price increase over the MYPD 4 period. The application was based on making electricity pricing sustainable along every component of the value chain and strengthening Eskom's financial position.

After public consultation, NERSA announced its revenue decision in March 2019, allowing revenue of R206 billion for 2019/20, R222 billion for 2020/21 and R233 billion for 2021/22; a total shortfall of R102 billion over the three-year period of the application. This decision corresponds to standard tariff price increases of 9.41%, 8.10% and 5.22% for the three years in question. When including the MYPD 3 RCA recovery, the average standard tariff increase for 2019/20 equates to 13.87%.

In determining the allowable revenue, NERSA indicated that it has deducted the annual R23 billion Government support announced in the 2019 National Budget Speech from the return on assets, thereby providing Eskom with a negative return on assets. Prior to the deduction of the Government support, the return on assets allowed by NERSA was only approximately 1.5%, which is far below our pre-tax real weighted average cost of capital of around 9.5%. These decisions will have a severely detrimental impact on our liquidity position and status as a going concern, as well as hinder our ability to raise further debt due to declining investor confidence owing to regulatory uncertainty. We have since requested that NERSA clarify the basis for the treatment of the Government support under the MYPD 4 methodology. NERSA has undertaken to provide clarity in the reasons for decision (yet to be published at the date of this report) on how the Government support was considered to be part of the return on assets component under the MYPD methodology. In comparison, the equity injection provided by Government in 2014 was treated as completely independent of any allowable revenue decision.

Controlling expenditure to maintain liquidity

Another one of the pillars of our turnaround plan is cost containment – we have identified the need to reduce Eskom's cost base by approximately R33 billion in 2022/23.

Cost savings over the past year

During the year, in response to the year-end loss forecast by the end of the first quarter, we instituted a cost containment plan to drive a savings target of R10.6 billion for the 2018/19 financial year, which included an improvement in revenue. We did well to save R9.9 billion in terms of this plan, although savings have been negated by significantly higher primary energy costs incurred in the last few months of the year, as well as the above-inflation wage settlement and once-off payment to bargaining unit employees.

Future cost savings

The cumulative cash savings targeted over the next four years amounts to R77 billion, comprising operating expenditure of R44.3 billion, capital expenditure of R19.9 billion and working capital of R12.8 billion, as is depicted in the following graph on page 90. The cash savings are determined by comparing the revised budget, incorporating the turnaround plan initiatives, with the original budget.

How the revenue determination affects our financial sustainability

Eskom undertakes three main activities – the generation, transmission and distribution of electricity. These activities are separately licensed by NERSA, while the revenues that Eskom earns from each licensed business are subject to economic regulation.

In a regulated environment, the predominant question that arises is how to determine whether the revenue allowed by the regulator, and consequently the unit selling price of the regulated product or service, is reasonable. In the context of the electricity supply industry, the starting point for determination of allowed revenue is the basic formula that is applied by energy regulators worldwide when regulating electricity prices in terms of a 'cost-of-service' methodology. This formula is illustrated below:

Allowed revenue = Primary energy cost + operating and maintenance cost + depreciation + return on capital

The average standard electricity tariff may then be calculated as:

Average standard tariff per kWh = Allowed revenue ÷ sales volumes (kWh)

The purpose of including each of the four components of the basic formula is as follows:

- *Primary energy cost* provides the revenue with which to pay for the fuel – such as coal, diesel and uranium – as well as other primary energy – such as water – that is required to generate electricity
- *Operating and maintenance cost* provides the revenue with which to pay for the maintenance, employee costs, insurance costs and other operating expenditure which are incurred in order to operate power stations, transmission lines and substations, and distribution systems and services
- *Depreciation* provides the revenue, in installments spread over the full operational life of the assets, with which to redeem the debt and equity capital that were initially raised for investment into the assets (on the basis that total debt and equity capital is always equal to total assets)
- *Return on capital* represents the cost of the debt and equity capital – such as interest expense – that is incurred on the unredeemed portion of capital. In terms of this formula, capital is redeemed at the same rate that the assets are depreciated; hence the unredeemed portion of total capital is always equal to the depreciated value of the assets, assuming a nominal return. This also enables regulators, for reasons of practicality and convenience, to also calculate the amount of return on capital as a return on assets

The allowed revenue formula may be rewritten as follows:

Allowed revenue − (primary energy cost + operating and maintenance cost + depreciation) = return on capital (or assets)

Return on capital ÷ total capital (or total depreciated assets) = percentage return on capital (or assets)

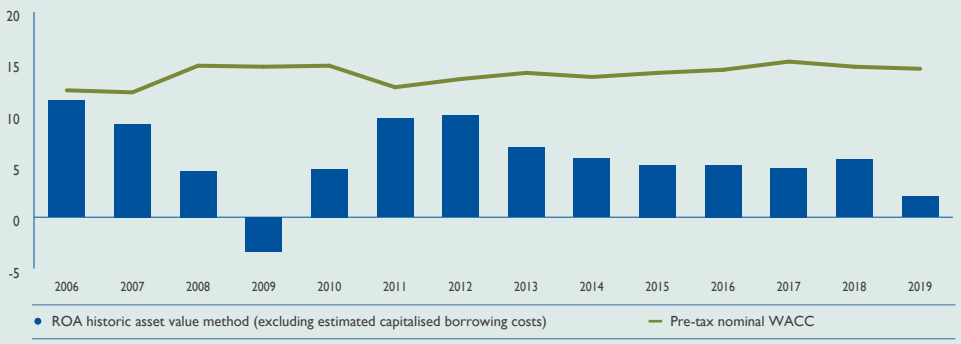
In terms of the regulatory methodology, once costs have been adjusted to prudent and efficient levels, actual expenditure incurred will not be fully recovered – and thus a shortfall will occur – where the *percentage return on capital*, or *percentage return on assets*, (*percentage return*) is below the *percentage weighted average cost of capital (WACC)*. Furthermore, the percentage by which the allowed *percentage return* falls below the *percentage WACC* can be converted to an amount of revenue shortfall, by multiplying the percentage shortfall by the total capital (or total assets).

In order to better understand the root causes of Eskom's financial challenges and Eskom's significant debt burden, of R441 billion debt securities and borrowings on the balance sheet, the principles discussed above are analysed within the Eskom context.

For the purposes of the analysis the annual income statements were normalised in that certain once-off costs were omitted. Interest incurred and capitalised during the construction of new assets was omitted given that the return on this interest is already recovered during the construction phase by virtue of the asset values of the assets under construction being included into the asset base for regulatory purposes.

The following graph depicts the comparison of the actual percentage return earned versus the *percentage pre-tax nominal WACC* for the period 2005/06 to 2018/19.

Actual return versus cost of capital, %



It is clear that, historically, the allowed percentage return reflects a significant shortfall versus Eskom's percentage WACC. With the exception of the periods between 2005/06 to 2006/07 and 2010/11 to 2011/12, the allowed percentage return has reflected shortfalls of approximately 10% or greater when compared to our percentage WACC.

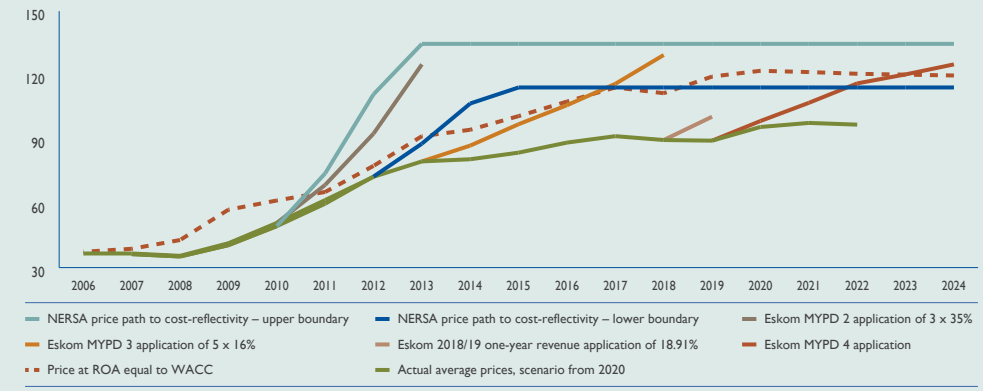
After multiplying the percentage shortfall on the return by Eskom's total capital, and adjusting for tax and interest costs, the amount of revenue shortfall arising due to historic revenue determinations is shown below.

Annual and cumulative revenue shortfall (after tax and interest), R billion

From 2012/13 to 2015/16 the annual shortfall was between R18 billion and R35 billon per year. In 2016/17 and 2017/18 the annual shortfall rose to above R40 billion per year, and in 2018/19 above R60 billion for the first time. The cumulative shortfall approached approximately R100 billion by 2013/14, R200 billion by 2016/17 and R310 billion by 2018/19. With no other option, these shortfalls had to be funded by raising additional debt.

The graph below reflects what the annual average standard electricity tariff should have been in order to achieve returns equal to the pre-tax nominal WACC – this is illustrated by the dotted red line. In comparison, actual electricity tariffs charged – up to 2018/19, thereafter the average standard tariffs implied by the recent MYPD 4 revenue determination – are indicated by the solid green line.

Price comparison, c/kWh (constant 2019 prices)

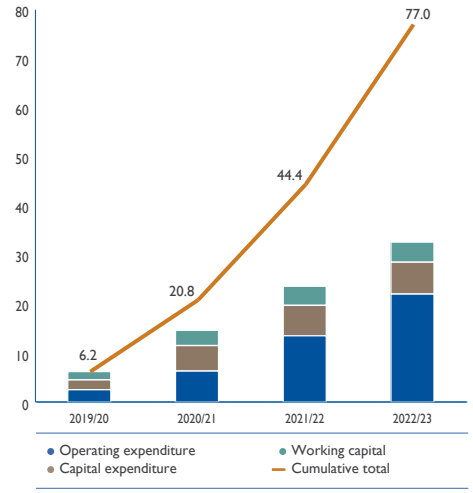


The difference between what tariffs should have been, and what they were, resulted in a cumulative shortfall in revenue of R310 billion by 2018/19. The graph further reflects that the level that tariffs should have been compares well with the NERSA price path (upper and lower boundaries) as published in its reasons for decision document in June 2009. In addition, it aligns well to the tariff level of the least-cost scenario of the draft IRP.

The graph also indicates Eskom's revenue applications for MYPD 2, MYPD 3, the one-year application for 2018/19, and MYPD 4, illustrating our efforts to restore the tariff to cost-reflective levels through our applications to NERSA.

For Eskom and the electricity supply industry to be financially sustainable, continue to operate and maintain its assets in a reliable state, as well as to meet the financial obligations related to existing and new infrastructure capacity, the average tariff will need to migrate to the level where the WACC can be recovered through cost-reflective tariffs – indicated by the dotted red line. Alternatively, given that debt borrowing has been almost fully saturated and available Government guarantees will soon be running out of capacity, Eskom will require Government support in order to address the annual after-tax revenue shortfall.

Planned cost savings, R billion



We have identified a number of initiatives to reach the savings target by 2022/23. The plan calls for roadmaps and initiative owners to be allocated to each initiative; some initiatives are already being implemented. Nevertheless, the target remains an enormous stretch for the business.

The savings are built on several initiatives:

- *Optimise primary energy costs:* Renegotiate coal contracts to ensure that appropriate prices are paid
- *Volume growth from cost-plus mines:* Invest in cost-plus mines to increase output
- *Generation excellence:* Improve outage and maintenance management
- *Network excellence:* Improve asset maintenance and reduce non-technical losses by combatting illegal connections
- *Procurement excellence:* Ensure that all procurement is done efficiently and in line with market rates
- *Human resources excellence:* Pursue savings through natural attrition and reduction of overtime, as well as targeting enhanced productivity levels
- *Reduce sundry expenses:* Cut all non-essential budgets to reduce non-value-adding sundry expenditure, on items such as travel, facilities and subscriptions
- A number of other smaller initiatives

The implementation of these savings initiatives will be carefully tracked and reported to the highest levels of Government on an ongoing basis through the Results Management Office. Complete and immediate implementation of these initiatives is a requirement for Eskom's financial stability.

Cost savings alone will not be enough to ensure Eskom's financial sustainability. Nevertheless, we take accountability for those matters which are under our control.

Managing arrear debt

The ability of our customers to pay is largely determined by both local and global economic factors, including commodity prices, business confidence and policy decisions. Despite our growing customer base, challenges such as crime, financial pressures, shifts to self-generation technology and social inequality continue to lead to stagnant sales volumes as well as revenue recovery challenges, exacerbated by a culture of non-payment in some sectors.

Average debtors days deteriorated significantly year-on-year, mainly due to an escalation in municipal arrear debt and continued low payments levels in Soweto. Average municipal debtors days remain unacceptably high as the trend of non-payment worsened considerably, with invoiced municipal arrear debt escalating by close to 50% against the prior year.

In the current financial year, we adopted *IFRS 15: Revenue from contracts with customers*, which determines how we account for our revenue and debtors. We do not recognise revenue if it is not considered collectable at the date of sale, however, we continue to bill all customers based on consumption. Customers that fail the collectability criterion are accounted for on a cash basis, and revenue is only recognised once payment is received. As a result, external revenue of R6.4 billion was not recognised during the year (March 2018: R3.3 billion).

Key debt management indicators at 31 March 2019

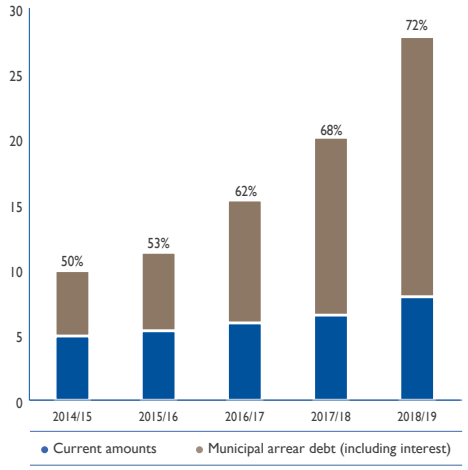
Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Arrear debt as % of revenue, %[SC]	2.44	3.14	2.02	**4.21**	2.73	2.42	■
Average debtors days (including Soweto), days[SC, 1]	74.58	85.00	78.95	**82.50**	71.11	57.31	▲
Debtors days – municipalities, average debtors days	109.63	113.14	96.27	**94.28**	76.63	53.25	●
Debtors days – large power top customers excluding disputes, average debtors days	14.88	14.88	14.88	**13.46**	13.89	15.34	●
Other large power user debtors days (<100GWh p.a.), average debtors days	16.50	16.90	16.66	**17.19**	16.64	16.78	▲
Debtors days – small power users excluding Soweto, average debtors days	41.54	44.69	46.08	**42.61**	43.36	48.75	●

1. Total average debtor days includes overdue international debtors.
2. Debtors days are based on amounts processed on our billing system, and shown before accounting adjustments relating to uncollectability.

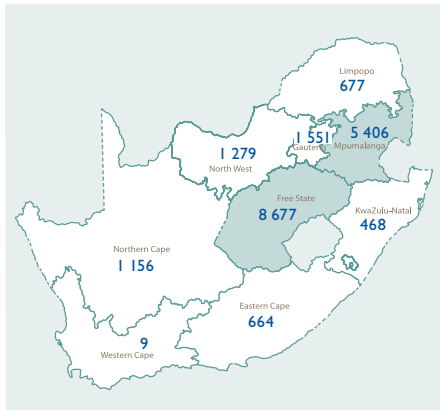
Municipal arrear debt

Total municipal arrear debt has continued to escalate to unacceptably high levels, amounting to R19.9 billion (including interest) at year end (March 2018: R13.6 billion). This represents 71.7% of total invoiced municipal debt (including interest). The top 20 defaulting municipalities constitute 81% of total invoiced municipal arrear debt (March 2018: 82%), and almost 44% of the arrear debt is owed by Free State municipalities. At year end, there were 34 municipalities with total arrear debt of more than R100 million each (March 2018: 23). Eskom requires urgent Government intervention to resolve the matter, as we have exhausted all avenues at our disposal to collect amounts due, including interruption of supply to defaulting municipalities after following the PAJA process.

Invoiced municipal arrear debt (including interest) and arrear debt percentage at 31 March 2019, R billion



Municipal arrear debt by province, R million



The top 10 defaulting municipalities, who owed a combined total of R13.9 billion in invoiced arrear debt (or 70% of total invoiced municipal arrear debt) at year end, are:

Municipality, R million	2018/19	2017/18
1. Maluti-A-Phofung Local Municipality, Free State	**3 769**	2 694
2. Emalahleni Local Municipality, Mpumalanga	**2 487**	1 577
3. Matjhabeng Local Municipality, Free State	**2 199**	1 770
4. Emfuleni Local Municipality, Gauteng	**1 194**	621
5. Ngwathe Local Municipality, Free State	**1 085**	915
6. Govan Mbeki Municipality, Mpumalanga	**1 082**	514
7. Lekwa Local Municipality, Mpumalanga	**768**	479
8. Thaba Chweu Local Municipality, Mpumalanga	**546**	420
9. Ditsobotla Local Municipality, North West	**405**	286
10. Modimolle-Mookgophong Local Municipality, Limpopo	**370**	238

Dealing with defaulting municipalities

Due to increasing debt levels we have had to apply stringent measures to manage our municipal arrear debt. In previous years, we implemented a number of concessions to assist municipalities; unfortunately, these concessions did not yield the desired results and the culture of non-payment continues. We then applied additional credit control measures, including the negotiation of payment arrangements for overdue amounts, with incentives for municipalities that adhere to the terms of these arrangements and settle current amounts owing. To this end, a total of 51 payment agreements were active with defaulting municipalities at year end, including 11 of the top 20 defaulters. However, of these, only six payment agreements were being fully honoured, including only one of the top 20 defaulting municipalities. This is a significant deterioration from the previous financial year and has contributed to the increase in municipal debt balances, which has severely impacted our liquidity.

In cases where defaulting municipalities fail to adhere to payment arrangements, the PAJA process is initiated in order to disconnect or interrupt supply to those municipalities. During the year, electricity supply was interrupted to 15 municipalities. While the Electricity Regulation Act, 2006 and electricity supply agreements concluded between Eskom and municipalities entitle us to completely disconnect electricity supply, we elect to implement controlled interruptions during certain times of the day to limit the impact on paying municipal customers and the economy. Negotiations with municipalities continue in order to avert interruptions.

Regrettably, we are continuously challenged in court by municipalities, paying municipal customers, concerned organisations and other interest groups to prevent interruption of supply. As a result, Eskom has been interdicted from interrupting supply to 25 municipalities, including 13 of the top 20 defaulting municipalities, thereby severely limiting our options to recover amounts due. While interdicts are in force, arrear debt continues to escalate.

Recently, we obtained a default judgment against Maluti-A-Phofung Local Municipality and have attached their movable assets in an attempt to recover amounts due. We have also started issuing summonses to municipalities as an alternative measure to recover outstanding debt. Summonses have been issued to a further 15 municipalities.

As previously reported, an Inter-Ministerial Task Team (IMTT) was established to address the systematic and structural issues behind the debt owed to Eskom and to municipalities, the constitutional matters relating to the executive authority for electricity distribution as well as related operational challenges between Eskom and municipalities. The Minister of Cooperative Governance and Traditional Affairs appointed an advisory panel to assist the IMTT.

The advisory panel's report has been finalised, and contains a number of recommendations. The advisory panel concluded that municipalities have exclusive executive authority over electricity distribution and reticulation within a municipal boundary, finding that Eskom must supply electricity on behalf of municipalities in terms of a service delivery agreement. It further suggested that municipal debt be unbundled and restructured by Eskom, as well as several recommendations regarding charging interest to municipalities. We continue to engage the IMTT on these recommendations.

Implementing some of the recommendations will be time-consuming and will require legislative amendments, which may lead to a further increase in municipal debt in the short to medium term. Inter-governmental interventions, including placing municipalities under administration in terms of section 139 of the Constitution, have not yielded the desired results. Nonetheless, the Board has approved that we enter into an operating agreement with municipalities, on the basis that we provide electricity to our customers in our area of supply under the distribution licence issued by NERSA. In addition, in July 2018, we finalised concessions relating to certain capital and connection charges payable by municipalities, allowing these to be paid off over a longer period in order to provide relief to defaulting municipalities. Issues of surcharges, credit control and public lighting require legislative and policy enablement for Eskom to execute.

We are mindful of the impact that interruption of electricity supply has on the public and the economy, and furthermore, that legal processes are not only expensive but do not always adequately address the payment challenge. The Board acknowledges its fiduciary duty, in terms of the PFMA, 1999, to collect all revenue due to Eskom; we intend to continue pursuing all available legal avenues in order to recover amounts due by all defaulting municipalities. Unfortunately, the escalating municipal debt is no longer an issue that can be solved by Eskom alone but one that requires urgent and concerted Government intervention. Our view remains that, unless the root causes of the problems are addressed, the payment challenges in municipalities will not improve. Continued support and cooperation from Government and other stakeholders are crucial to resolving these challenges.

Residential arrear debt

In comparison to municipal arrear debt, which covers only a few hundred municipal customers, defaulting small power user (SPU) customers, particularly in Soweto, comprise tens of thousands of residential customers, making them much more difficult to manage and collect arrear debt. While municipal arrear debt has grown exponentially over the past few years, Soweto SPU debt is growing at a much slower rate, as the problem is mainly historical and increases relate largely to interest. However, low payment levels continue to contribute to increases in arrear capital and interest amounts.

Total invoiced Soweto SPU debt has increased to R13.6 billion (including interest) at year end (March 2018: R12.4 billion), of which only R795 million is deemed collectable. The balance excluding interest not recognised amounts to R6.4 billion (March 2018: R6 billion). Moreover, payment levels of approximately 12.5% on Soweto residential accounts remain unacceptably low, and have continued to decline over recent years. Total Soweto SPU payments received during the year amounted to only R106 million, a shortfall of R742 million against amounts billed.

The rollout of split meters with conversion to prepaid metering was initiated several years ago in an effort to address this problem. To date, we have installed 81 325 split meters and converted 54 646 of these to prepaid. In the coming year, we are targeting the conversion of the remainder of all Soweto split meters and the installation of an additional 15 000 new prepaid meters. Our progress in this regard is hampered by community resistance, vandalism of equipment as well as our financial constraints.

For details of debtors by category, including impairment and carrying values, refer to notes 5.1.2 and 19 in the consolidated annual financial statements

Update on prepaid meter pilot projects

We continued with our prepaid meter pilot projects, aimed at installing prepaid meters and collecting revenue on behalf of municipalities. These will assist us in collecting payment of current amounts in order to prevent the debt from increasing, although it will not support the recovery of overdue debt.

By 31 March 2019, a total of 2 705 prepaid meters have been installed in Phumelela Local Municipality in the Free State. In addition, we are also billing 25 conventional – mainly commercial – customers directly.

The pilot at Raymond Mhlaba Local Municipality in the Eastern Cape commenced in March 2018, with a total of 6 789 prepaid smart meters installed by March 2019. After conclusion of the installation phase, the learnings were shared and knowledge transferred to the municipality. The project has since moved into maintenance phase and trained municipal officials are now responsible for new installations, with occasional assistance from Eskom's customer network centre in the region.

Collection of current amounts in the municipalities has improved due to the installation of prepaid smart meters. Remote monitoring is being implemented to maintain lower levels of losses already achieved.

Credit ratings and funding

Solvency ratios

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Group							
Free funds from operations as % of gross debt, %[1]	20.15	7.62	8.93	**5.89**	9.09	11.69	■
Cash interest cover, ratio	3.42	0.65	1.14	**0.94**	1.22	1.73	■
Debt service cover, ratio	1.63	0.29	0.56	**0.47**	0.87	1.37	■
Gross debt/EBITDA, ratio	5.33	14.61	11.97	**15.64**	9.71	10.84	■
Debt/equity (including long-term provisions), ratio	0.60	2.69	3.09	**3.10**	2.52	2.11	■
Gearing, %	36	72	76	**76**	72	68	■

1. Free funds from operations are calculated before accounting for interest paid for shareholder compact-related ratios.

All of our solvency ratios performed worse than target during the year, and remain well below acceptable investment-grade levels. Moreover, all solvency ratios declined compared to the prior year. Of concern is that our cash interest cover ratio declined below one, indicating that our operating cash flows during the year were inadequate to fund even the interest component of our debt service requirements.

Our cash from operating and funding activities combined were also not sufficient to meet our total debt service requirements and capital investment activities, resulting in a significant deterioration in our liquidity position.

Restoring our solvency ratios and profitability to acceptable levels requires successful implementation of our turnaround plan. To improve our liquidity, our turnaround plan requires us to obtain additional sales volumes and adequate tariffs, achieve internal cost containment measures as well as obtain additional Government support and optimise our balance sheet.

Credit ratings

There have been no changes to the credit ratings of both Eskom and the Sovereign, with credit ratings agencies affirming their previous credit ratings during the year. Eskom remains at sub-investment grade level; this impacts our ability to access unguaranteed funding and increases our cost of borrowing.

Credit ratings agencies have recognised the positive actions taken during the year, including steps by the Board and management to improve corporate governance, as well as Government's focus on our challenges and commitment to provide financial support, as announced during the 2019 National Budget Speech.

Summary of Eskom's credit ratings at 31 March 2019

Rating	Standard & Poor's	Moody's	Fitch: local currency
Foreign currency	CCC+	B2	n/a
Local currency	CCC+	B2	BB-
Standalone	ccc-	caa2	CCC
Outlook	Stable	Negative	Negative
Last rating action	Affirmed	Downgrade	Affirmed
Last action date	1 March 2019	28 March 2018	25 October 2018

In October 2018, Fitch affirmed our credit ratings and uplifted the outlook from Ratings Watch Negative to Negative. The affirmation of the rating and the resolution of the Ratings Watch Negative were supported by an improvement in liquidity at the time, steps taken by the Board and management to improve corporate governance, as well as NERSA's decision on the regulatory clearing account balance. The main rationale for the negative outlook remains our weak operating and financial profile.

On 1 March 2019, Standard & Poor's revised the outlook from negative to stable and affirmed our credit rating. The stable outlook reflects the view that Government's publicly stated commitment to provide R23 billion of funding per year to Eskom has reduced both the risk of funding shortfalls over the following months and uncertainty regarding Government's commitment to provide timely support.

Funding activities

Our funding plan of R72.1 billion for the 2018/19 financial year was adjusted during the year to accommodate alternate funding sources. As a result, our plan was altered to increase our funding requirements from structured products and reduce our requirements from domestic notes and ECAs for the year. Structured products include diverse capital market products and innovative financing solutions offered by investment banks and other institutions. Flexibility in our funding plan ensures the successful funding of the capital expansion programme and our working capital requirements, and allows us to adapt to the changing market appetite and pursue new funding opportunities as they arise.

Although our funding plan projected a cash balance of R7 billion by year end, it became evident late in the financial year that securing the remainder of our funding would be difficult due to investor uncertainty around the unbundling, as announced in the 2019 National Budget Speech; our operational challenges, which resulted in several incidents of rotational loadshedding; as well as ongoing concerns around our financial health. This, coupled with delayed drawdowns of a R7 billion facility, required us to obtain a R3 billion short-term bridging facility at the end of March 2019.

A contributing factor to our liquidity shortfall was the issuance of local bonds being significantly lower than anticipated. During the past year, we experienced a lack of demand in the local market due to decreased investor confidence as a result of reputational damage owing to the audit modifications in the 2016/17 and 2017/18 financial statements; previously reported governance issues; as well as the matters mentioned above. We did, however, witness growing market appetite and demand from international investors.

Progress on the execution of the 2018/19 and 2019/20 borrowing programmes at 30 June 2019

	2018/19		2019/20	
Potential sources, R billion	Target	Committed to date	Target	Committed to date
Development finance institutions (DFIs)	15.3	**10.5**	26.6	22.9
Export credit agencies (ECAs)	5.8	**0.5**	5.4	0.3
International bonds	20.0	**21.6**	–	–
Domestic bonds and notes > one year	13.0	**9.0**	6.1	3.2
Domestic bonds and notes ≤ one year	10.0	**3.6**	1.1	0.5
Structured products	8.0	**15.0**	7.0	–
Bank funding	–	**3.0**	–	–
Total	72.1	**63.3**	46.2	26.9

1. Committed sources include funding raised or signed facilities with milestone drawdowns.
2. Funding sources targeted for 2019/20 are subject to change.

The 2019 Global Capital Awards were held in London, United Kingdom in May 2019. Our Treasury Department was recognised with the following awards:

- Most Impressive African Funding Official, first place – André Pillay, General Manager: Eskom Treasury
- Most Impressive African Issuer, third place – Eskom Holdings SOC Ltd

We secured total funding of R63.3 billion for the year (March 2018: R57.5 billion). This amount includes the issuance of an international bond in August 2018, of which USD1 billion is Government guaranteed and USD500 million is unguaranteed. The international market remains a significant pool of liquidity based on access, potential size and diversity of funding sources. In addition to our international bond issuance, we issued a request for proposal during the year for innovative funding proposals, subsequently concluding a R15 billion structured consortium loan facility in January 2019. The facility is required to be settled in 12 months.

Our ratings downgrades in previous financial years have increased lenders' requirements for Government guarantees of our debt. In present market conditions, a bond issuance with a Government guarantee is 300 to 350 basis points cheaper than one without a guarantee, thereby reducing the cost of borrowing to Eskom. At 31 March 2019, we have utilised R335.8 billion of the Government guarantees (March 2018: R240.5 billion), relating to both foreign and local bond issuances and loan agreements.

Of the total facility of R350 billion, 96% has been committed and only 4% remains unallocated for future funding (March 2018: 79% committed, 17% under negotiation and 4% available). We are therefore reaching the cap on available Government guarantees and will soon be running out of capacity to raise guaranteed debt, until previously guaranteed debt is repaid and the guarantees become available. This has an impact on the conclusion of funding arrangements and the timing of our cash flows, due to delays in the turnaround time of approval of guarantee applications.

The utilisation of guarantees is required where investor mandates and credit ratings considerations do not allow access to funding through non-investment-grade-rated funding agreements without the provision of guarantees. The level of utilisation of Government guarantees requires further discussions with Government given the number of funding initiatives under way which require guarantees. Discussions on amendments to and updating of the Domestic Medium Term Note programme continue, and we have shared proposed amendments with DPE and National Treasury.

Challenges associated with uncertainty on NERSA's application of the regulatory methodology associated with tariffs, ongoing concerns around past corporate governance failures, audit modifications in the previous two financial years, as well as possible credit ratings downgrades in future remain a concern for our investors.

The appointment of the new Board in January 2018, actions taken relating to implicated former executives and improved transparency on such matters, combined with leadership stability have alleviated investor concerns to some extent.

Refer to "Ethics and progress on governance clean-up – Progress on governance clean-up" on pages 9 to 13 for further information on the steps we have taken to address our past corporate governance challenges

Nevertheless, investors have further expressed concern regarding insufficient detail provided by Government and Eskom on the announced unbundling during the President's SONA, as well as the terms, conditions and timing of our turnaround plan and Government's financial support package. Therefore, the sustainability of our liquidity position and medium-term ability to raise funding remain at risk.

Furthermore, investors remain concerned about our weak liquidity position and our ability to service debt obligations, given our high levels of debt and weak financial ratios. Investors are not satisfied that we can maintain or improve our credit risk profile on a standalone basis; this is negatively affecting funding volumes and pricing.

Our average cost of debt during the year was 9.33% (March 2018: 9.23%). Total borrowing costs have increased due to higher interest rates on DFIs and local debt as well as our worsening credit risk profile. Our borrowing costs include a blend of fixed and floating rates. Given that fixed finance costs provide better hedging of interest rate exposures, 73% of our finance costs are currently fixed. The remainder is subject to floating rates which are linked to movements in short-term rates, such as JIBAR and LIBOR, and may increase or decrease during interest rate cycles.

Due to our financial and operational challenges, coupled with increasing debt levels, the perceived risk of credit default has increased. Such an event could trigger a breach of loan covenants, cross-defaults and may result in Government guarantees being called up. We require additional revenue, significant cost savings as well as additional Government financial support to improve our financial position and safely mitigate this risk.

Compliance with loan covenants

Loan covenants are conditions in loan agreements and bond issuances that either require us to fulfil certain conditions or forbid us from undertaking certain actions. A breach of loan covenants, unless waived, would trigger an event of default on the corresponding debt facility.

An event of default would permit the lender to accelerate or demand repayment of their facility before the normal maturity date. The majority of our facilities contain cross-default provisions that allow other lenders to accelerate or recall their facilities if an event of default has occurred and is continuing under another facility. All of our facilities allow a lender to accelerate or recall their facility if another lender has done so by reason of default. A lender under a facility guaranteed by the Government's Guarantee Framework Agreement (GFA) will be entitled to demand repayment from the Government following any acceleration or recall of its loans.

A breach of loan covenant could occur under any of the following conditions, unless waived by lenders: misrepresentation of information, an inability to service debt and interest obligations, fraud, corruption and anti-competitive practices in funded contracts, lack of going concern status, reportable irregularities, modified audit opinions, and rescheduling or restructuring of debt.

We continually assess the potential risk of breach of loan covenants and events of default and take proactive, appropriate action to prevent their occurrence. Despite our challenges, no events of default have occurred to date.

The prescribed foreign borrowing limit of R308 billion, set by National Treasury, was extended until the end of the 2018/19 financial year. We await approval from DPE and National Treasury to increase the foreign borrowing limit to ensure the successful execution of our future borrowing programme. The nominal value of our foreign currency debt is monitored on a quarterly basis and amounted to R207 billion at year end (March 2018: R245 billion), well within the prescribed limit.

Future funding requirements

We plan to secure funding of R46.2 billion during the upcoming financial year, of which R26.9 billion, or 58%, was already committed at 30 June 2019. This funding was secured by way of DFI and ECA loan agreements, which will be drawn down subject to requirements. To meet this plan, we will also seek to secure additional funding from DFIs and ECAs, domestic bond and note issuances, structured products as well as a possible international Sukuk bond issuance.

The primary focus of our borrowing programme is to secure funding to match our annual capital expansion programme and working capital requirements. The objectives of our borrowing programme include:

- Ensuring that we have adequate liquidity reserves to meet cash flow requirements, by maintaining and managing appropriate cash balances and committed lines of credit
- Diversifying our sources of funding as well as our investor base
- Raising cost-effective funding within acceptable risk levels
- Managing the risk of interest rates, foreign exchange fluctuations and liquidity, associated with borrowings

We plan to secure funding of R207.4 billion over the five years from 2019/20 to 2023/24. This relates to the funding of Eskom Holdings SOC Ltd only and excludes our subsidiaries. The borrowing programme reflects a decrease of R67 billion compared to the R274.4 billion previously targeted for the period 2018/19 to 2022/23, largely due to a reduction in capital requirements in response to our financial challenges and difficulty in raising additional debt. We strive to honour debt service costs from our operating cash flows and only utilise borrowings to support completion of our capital investment programme.

Annual funding requirement	R billion
2019/20	**46.2**
2020/21	**41.9**
2021/22	**39.1**
2022/23	**42.4**
2023/24	**37.8**
Total	**207.4**

The Board has approved the borrowing programme for the next five years.

The volume of debt per category targeted in the borrowing programme is based on a combination of anticipated investor appetite, market depth, funding costs, tenor and phasing of liquidity requirements. There has been a market shift in the recent past, with DFIs and ECAs adopting strict lending rules, precluding the financing of non-renewable technologies. This risk is being managed by diversifying our funding sources to include funding from alternate sources and investors that are prepared to finance cleaner, high-efficiency and low-emissions coal projects. Our borrowing programme therefore makes provision for a wide range of DFI and ECA funding from both the Western, Middle Eastern and Asian markets.

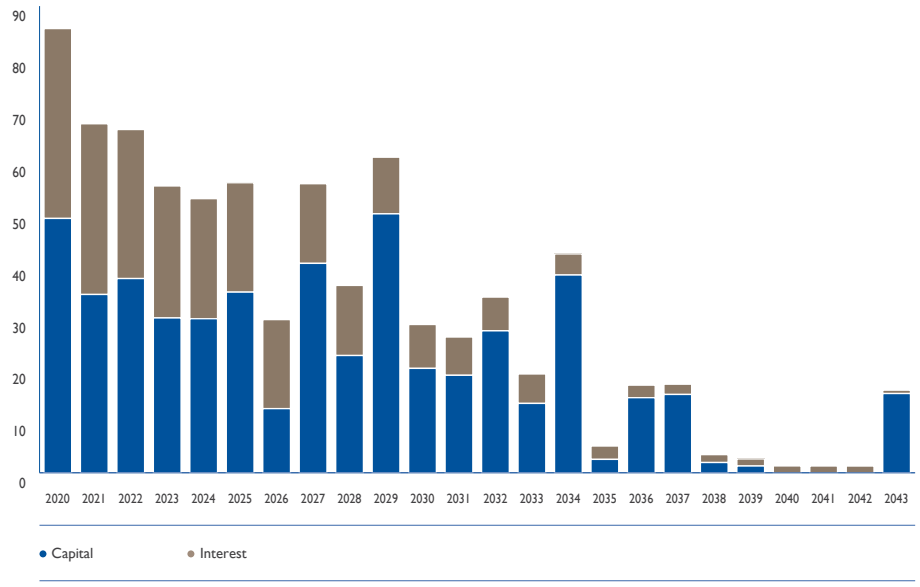
Our borrowing programme further assumes that we will continue to leverage cost efficiency improvements, together with the liquidation of the regulatory clearing account balance and balance sheet optimisation, in order to stabilise liquidity levels over the short to medium term. Government guarantees have also remained an important factor for accessing funding in our plan.

From a liquidity perspective, we have always deemed it prudent to maintain a liquidity buffer that covers an average of three months of organisational cash flow requirements. Our monthly cash flow requirement is approximately R7 billion, resulting in a prudent three-month liquidity buffer of approximately R20 billion. Maintaining the required liquidity buffer at acceptable levels over recent months continued to be a challenge, with liquidity dropping to R2 billion at year end. Therefore, our funding strategy over the five-year period includes working towards maintaining a sufficient liquidity buffer and increasing committed funding facilities.

Our planned funding of R46.2 billion for the 2019/20 financial year remains unchanged, despite the Government support announced during the 2019 National Budget Speech, as the support does not adequately address our liquidity challenges in coming years. Therefore, we are exploring different options to find an appropriate solution, supported by Government. We will re-evaluate our planned funding based on the outcome of our discussions with Government on both their support package and our planned unbundling.

With interest payments of approximately R148 billion and debt repayments of R180 billion over the next five years, and the majority of maturities extending to 2043, our debt repayment profile is relatively pressured over both the short and long term. Total anticipated debt service costs for the 2019/20 financial year amount to R85.7 billion. This will create additional liquidity pressure compared to the repayments of R70.3 billion during the current year. Our funding strategy will continue to prioritise longer term funding to support short-term debt maturities and alleviate repayment risk. Ideally, the term of our debt should match the useful life of the assets being financed, to align to the methodology applied by NERSA when calculating the required rate of return.

Anticipated capital and interest cash flows (including swaps) of the existing debt portfolio at 31 March 2019, R billion



A range of issues continue to impact our ability to secure funding in both domestic and foreign markets. Projected liquidity balances for the coming financial year remain constrained and will require prudent liquidity management to prioritise cash outflows, so as to avoid overdraft. We remain reliant on Government support, drawdowns from existing facilities and local investors in order to maintain a positive cash balance during the coming year. Investors await detail on our turnaround plan and demonstration of how it will place us on a path towards long-term structural, operational and financial sustainability. Moreover, we await clarity regarding the terms, conditions, extent and timing of Government's financial support package and the planned unbundling. Perceived lack of progress in this regard will negatively impact our ability to obtain funding.

Key funding focus areas for the coming year include maintenance of an appropriate liquidity buffer and timing of the execution of the borrowing programme. Over the short term, we will continue to leverage cost containment initiatives, recovery of the RCA balances and balance sheet optimisation to stabilise and manage our liquidity. However, successful implementation of our turnaround plan, through Government financial support and appropriate tariff increases, is critical to ensuring we are able to improve our credit ratings and balance sheet over the longer term.

We will continue our engagements with investors, credit rating agencies and Government to address these issues to ensure that we can successfully execute our borrowing programme.

Financial results of operations

The group recorded a net loss after tax of R20.7 billion for the year (March 2018: R2.3 billion), and EBITDA of R31.5 billion (March 2018: R45.4 billion). The EBITDA margin declined to 17.51% (March 2018: 25.57%, restated), mainly due to increased primary energy and employee benefit expenditure, combined with largely stagnant revenue growth during the year. No short-term performance bonus provision was raised, as the scheme is self-funded and the net profit target of R500 million was not met to create a bonus pool above this level.

Refer to the consolidated annual financial statements available online, which detail the financial performance of the group and company

Our return on assets, using both historical valuation of assets and the replacement value, remains far below both the real and nominal weighted average cost of capital. This continues the trend discussed in prior years.

Profitability ratios

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Company							
Electricity revenue per kWh (including environmental levy), c/kWh	116.90	102.44	89.40	**90.01**	85.06	83.60	●
Electricity operating costs, R/MWh	892.31	845.73	691.98	**728.85**	634.69	662.98	■
Value add per employee, R million per full-time employee[sc. 1]	n/a	n/a	1.55	**1.29**	1.56	1.44	■
Group							
EBITDA, R million	56 111	34 386	42 956	**31 499**	45 359	37 532	■
EBITDA margin, %	23.83	16.58	23.03	**17.51**	25.57	21.19	■
Working capital, ratio	1.49	1.48	1.19	**1.02**	1.05	0.85	■
Free funds from operations (FFO), R million	60 290	38 272	45 932	**29 047**	40 022	47 571	■
FFO after net interest paid, R million	42 824	394	10 941	**(5 940)**	9 147	21 148	■
FFO as % of total capex, %[2]	111.77	82.40	95.41	**79.07**	77.84	75.11	■

1. Value add per employee is calculated according to the shareholder compact definition. It has not been included as a shareholder compact target in future.
2. Free funds from operations are calculated before accounting for interest paid for shareholder compact-related ratios.

The majority of financial performance ratios performed worse than target and deteriorated in comparison to the prior financial year. Financial results remain well below levels acceptable to investors and credit rating agencies.

Sales and revenue

Revenue for the group was R179.9 billion (March 2018: R177.4 billion). Electricity revenue of R177.3 billion (March 2018: R174.9 billion, restated), excluding pre-commissioning revenue capitalised, increased by R2.6 billion year-on-year. This does not correlate to the 5.23% price increase, as the amount was reduced by revenue of R6.4 billion not being recognised due to collectability criteria not being met (March 2018: R3.3 billion), coupled with a decline in sales volumes. The price of 90.01c/kWh sold reflects a year-on-year increase of 5.8%; this is slightly higher than the NERSA determination of 5.23% due to differences between volume and capacity charges as well as differences in time-of-use tariffs, as consumption patterns varied from expectations.

Revenue and the matching primary energy expense related to electricity produced at Medupi and Kusile, after units are synchronised to the grid and are producing electricity but prior to those units being placed in commercial operation, is capitalised for accounting purposes under IFRS requirements, even though the power is transmitted into the electricity grid for sale to customers. Pre-commissioning revenue capitalised and excluded from final net revenue amounted to R3.4 billion (March 2018: R2.2 billion), with the year-on-year increase attributable to an increase in production volumes at Medupi and Kusile, due to the units not having been placed in commercial operation when originally anticipated.

Electricity sales of 208 319GWh for the year were 1.82% lower than last year (March 2018: 212 190GWh). Mining customers recorded a decline of 4.2%, or 1 263GWh, due to the economic downturn leading to the closure of a number of mines and shafts, as well as several mines being placed in care and maintenance. International sales declined by 18.4%, or 2 806GWh, due to neighbouring countries utilising more of their own generation due to improved dam levels supporting hydro generation, as well as the curtailment of exports owing to our supply constraints, and growing arrear debt balances of some of our trading partners.

Refer to the fact sheet on pages 182 to 183 for the number of customers by customer segment, as well as electricity sales by customer category, both volumes and revenue

Although overall customer numbers have increased, this is predominantly due to growth in residential customers, largely as a result of our electrification expansion programme; customer numbers in industrial and energy-intensive sectors are slowly declining. This has contributed to the declining trend in sales volumes and remains a major concern.

In order to address the decline in electricity sales volumes, we have developed a sales retention and growth framework aimed at sustaining and growing demand, expediting customer projects, attracting new customers and implementing innovative products. Our engagement with energy-intensive customers highlighted the need for incentivised electricity pricing and product offerings. To this end, we have applied innovative pricing options to optimise sales to large industrial customers, in line with the DoE's framework for short-term negotiated pricing agreements and NERSA's approved customised incentive pricing.

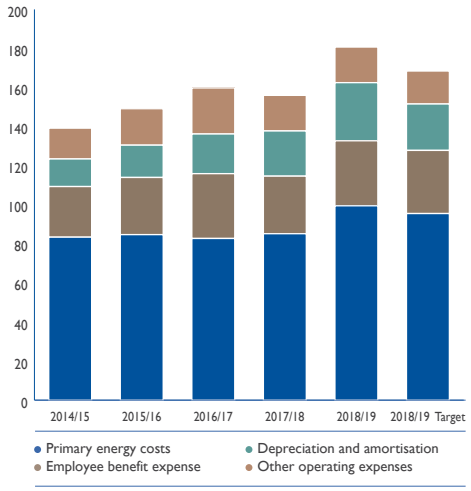
This programme has led to the retention of two smelter customers in distress. One customer was able to continue operations and consumed around 82GWh since 1 October 2018. Another customer restarted operations on 1 March 2018, after previously closing and retrenching approximately 3 500 employees due to financial and economic pressures, and consumed around 698GWh during the year.

In June 2018, we launched "The Offer", a sales incentive which provides financial incentives for incremental sales above a customer-specific historical consumption baseline. Nine industrial and mining customers participated in the pilot, and consumed an additional 1 406GWh during the year. A further eight energy intensive customers have expressed interest in negotiated pricing agreements.

While our efforts in addressing declining sales volumes continue, the shortage of available generating capacity and rotational loadshedding, required to stabilise the national grid, have largely nullified the progress of our programmes.

Operating costs

Operating expenses, R billion



Primary energy

Primary energy cost (including coal, water and liquid fuels) increased significantly to R99.5 billion (March 2018: R85.2 billion). Our own generation costs (excluding the environmental levy) increased by 14.7% to R63 billion (March 2018: R54.9 billion), driven by significantly higher utilisation of OCGTs, higher coal usage per GWh generated due to Generation plant performance challenges and higher coal cost per GWh generated due to more expensive coal from short- and medium-term sources. Gas and oil required for the start-up of coal-fired units increased substantially due to the higher number of unit trips experienced during the year. Total coal burn costs (excluding the environmental levy) increased by 8.7% to R58.5 billion (March 2018: R53.8 billion), as a result of higher coal usage and an increase of 14.1% in the average coal purchase cost per ton. We continue to apply the least-cost merit order dispatch of available stations.

As mentioned above, usage of OCGTs increased substantially during the year, driven by poor plant performance and supply constraints, with 1 202GWh being generated during the year at a cost of R3.8 billion (March 2018: R0.3 billion spent producing 118GWh). The OCGT load factor increased to 5.69% (March 2018: 0.56%).

Expenditure on IPPs amounted to R25 billion for the year, adding 11 344GWh to the energy production mix (March 2018: R19.3 billion and 9 584GWh). The increase is primarily due to the commissioning of new renewable IPPs during the year, as well as extensive use of IPP OCGTs to supplement supply during periods of generation constraints. The amount spent on IPPs was reduced by R1.7 billion, relating to the accounting charge on the Avon and Dedisa gas peakers, which are treated as arrangements containing a lease under IFRIC 4 (March 2018: R2 billion). IFRIC 4 will no longer be applied in 2019/20 when *IFRS 16: Leases* becomes effective.

The total expenditure (net of the IFRIC 4 adjustment) on IPP OCGTs amounted to R2.7 billion (March 2018: R0.3 billion) to produce 552GWh (March 2018: 105GWh), while R22.3 billion was spent on renewable IPPs (March 2018: R19 billion) to produce 10 792GWh (March 2018: 9 479GWh). The weighted average IPP unit cost (before the IFRIC 4 lease adjustment) increased to 235c/kWh (March 2018: 222c/kWh) based on contractual increases and the higher usage of the more expensive IPP-owned OCGTs. The weighted average renewable IPP unit cost increased to 206c/kWh (March 2018: 200c/kWh).

Refer to "Our infrastructure – Energy supplied by IPPs" on page 114 for further information

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

Unit cost, R/MWh	2018/19	2017/18	% change
Coal	**339**	309	9.71
Nuclear	**103**	94	9.57
OCGTs	**3 128**	2 313	35.23
IPPs[1]	**2 200**	2 015	9.18
IPP OCGTs[1]	**4 344**	2 926	48.46
Renewable IPPs	**2 058**	2 005	2.64
International purchases	**509**	358	42.18

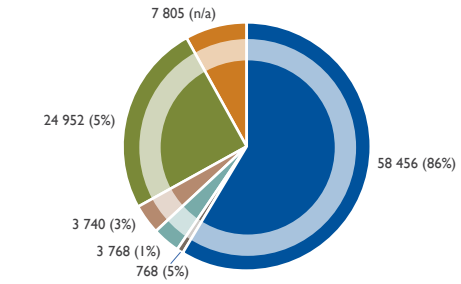
1. The average cost is calculated on the net amount spent on energy, after the IFRIC 4 lease adjustment.

The significant increases in the R/MWh cost of OCGTs and international imports were due to an approximate 30% increase in the weighted average cost of diesel, and an increase of 46.3% in the average tariff charged by Hidroelèctrica de Cahora Bassa (HCB) since the prior year. The increase in the average HCB tariff is the result of tariff adjustments, due to annual inflationary measures and a periodic adjustment based on a matrix of indices, as well as changing consumption patterns leading to a higher proportion of supply during the more expensive daytime peak. These levels of cost increases are unsustainable given our prevailing financial challenges.

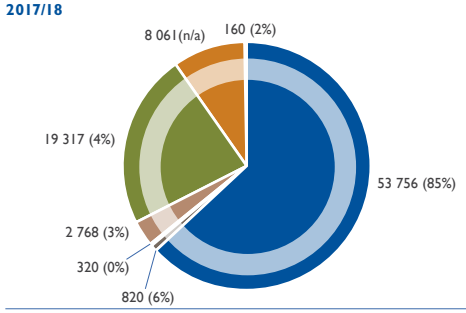
The following graphs set out the breakdown of primary energy costs, net of amounts capitalised during the pre-commissioning of new build units, with the contribution to GWh energy produced in brackets.

Primary energy breakdown, R million

2018/19



2017/18



Other operating costs

The number of employees in the group (including fixed-term contractors) decreased to 46 665 (March 2018: 48 628), as a result of the moratorium on external appointments instituted during the year, limiting the replacement of employees leaving through natural attrition. However, the mandatory conversion of temporary employee services employees to fixed-term contractors at ERI during the year resulted in an increase in ERI's total headcount. Net employee benefit costs for the year amounted to R33.3 billion, after capitalisation of costs to qualifying assets (March 2018: R29.5 billion). Despite a reduction in headcount, these costs have increased as a result of the bargaining unit wage agreement leading to a 7.5% salary increase for bargaining unit employees in 2018/19, an inflationary 4.7% salary increase for middle management/ professionally qualified employees, as well as the impact of the income differentials adjustment. In terms of the wage agreement, a once-off payment totalling R0.6 billion was provided to bargaining unit employees. Overtime cost increased slightly to R2.2 billion (March 2018: R2.1 billion) as a result of increased unplanned maintenance.

Net impairment reversal amounted to R0.4 billion (March 2018: R0.6 billion net impairment loss). Despite the increasing municipal arrear debt, a net reversal of impairment arose on trade and other receivables due to the reversal of prior year impairments due to the adoption of IFRS 15. The cumulative impairment provision raised at year end for arrear customer debt (excluding interest) was R8.2 billion for all electricity debtors (March 2018: R8.4 billion).

Other operating expenses, including maintenance, amounted to R18.2 billion (March 2018: R18.2 billion). Excluding once-off provision write-backs and reversals in the 2017/18 financial year, a reduction of 4.1% year-on-year in other operating expenses was achieved as a result of cost containment efforts, primarily due to reductions in contractor costs and licencing fees.

Maintenance expenditure remains a significant contributor to operating expenditure. The group's net repairs and maintenance for the year, which includes overhead costs, amounted to R14.1 billion, after capitalising costs to qualifying projects, but before eliminating intergroup transactions for work done by ERI (March 2018: R14 billion). Maintenance in Generation Division was higher than the prior year due to a significant increase in planned and unplanned maintenance. Nonetheless, in an effort to contain costs given our liquidity constraints, reductions in maintenance expenditure were achieved by Transmission and Distribution.

Depreciation and amortisation increased to R29.8 billion (March 2018: R23.1 billion), due to the effect of new units placed in commercial operation attracting depreciation, as well as accelerated depreciation amounting to R3.3 billion relating to units at Hendrina and Komati placed in cold reserve.

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 R5.3 billion (March 2018: R1.9 billion), and arose mainly due to credit risk adjustments and exchange rate movements. The net impact of fair value changes in embedded derivatives for the year was a fair value gain of R1.9 billion (March 2018: R0.1 billion), with the year-on-year increase primarily influenced by the strengthening of the Dollar on a USD-denominated contract, and the unwinding of future cash flows.

Net finance cost

Gross finance income for the year was R2.7 billion for the group (March 2018: R2.9 billion) as high organisational cash requirements have lowered cash balances available for investment. Gross finance cost for the group was R45.6 billion (March 2018: R41.5 billion), due to both higher levels of borrowings, and the higher weighted average cost thereof. The average cost of debt has increased to 9.33% (March 2018: 9.23%). Borrowing costs capitalised to property, plant and equipment amounted to R15.4 billion (March 2018: R15.5 billion); the decline is due to fewer units under construction attracting interest, as units from the new build programme have entered commercial operation. Net finance cost for the group amounted to R27.5 billion (March 2018: R23.1 billion).

Taxation

The effective tax rate for the year was 29% (March 2018: 10%), with limited amounts of non-taxable income and non-deductible expenditure when compared to the previous financial year.

Movement in assets and liabilities

Significant balance sheet movements arising during the year were in respect of inventory, property, plant and equipment, debt securities and borrowings, and cash and cash equivalents. Our inventory balances increased by 8.8% year-on-year due to the acquisition of maintenance spares and materials in order to address plant performance challenges, as well as the increase in the average coal purchase price per ton, leading to a higher weighted average price, coupled with an increase in coal stock levels.

The net increase of R52 billion in net interest-bearing debt and borrowings was discussed as part of the section on funding activities. The impact of the capital expansion programme can be seen in the growth in property, plant and equipment; however, our investment in our asset base was offset by increased depreciation as discussed above.

The reduction in cash and cash equivalents was discussed earlier under liquidity.

Future focus areas

- Continue to actively manage liquidity to support operations, as well as capital expenditure and debt service requirements
- Pursue initiatives to slow the growth in municipal arrear debt, and continue to work with the Government to improve the collection thereof
- Secure funding to match our annual capital spend, targeting a position where an operational cash surplus is sufficient to fund both debt servicing and capital expenditure to maintain operations
- Arrest the decline in sales and implement initiatives to grow sales volumes
- Explore all avenues to ensure that we are awarded a cost-reflective tariff in accordance with NERSA's methodology
- Implement targeted cost containment efforts, to reach the annual target of approximately R33 billion in 2022/23, with cumulative savings of R77 billion by 2022/23
- Strengthen Eskom's balance sheet through Government assistance, in order to reduce our reliance on debt and contain debt service costs

OPERATING PERFORMANCE

We are confident that our Generation nine-point recovery programme will address the root causes of our many and complex problems, although it will take both significant work and extensive funding to execute. To this end, we have set aside R49 billion over the next five years to improve the performance of Generation, Transmission and Distribution plant.

CHIEF EXECUTIVE'S REVIEW

PHAKAMANI HADEBE
Group Chief Executive

We are arguably facing the most challenging circumstances in Eskom's 96-year history, even though the organisation has no doubt had its share of ups and downs during its time.

As mentioned by both the Chairman and our CFO, Eskom was troubled by three significant issues over the past year – industrial action during June and July 2018 which resulted in rotational loadshedding for four days; rapid and unexpected deterioration in Generation plant performance – including unsatisfactory performance by new build units – leading to further rotational loadshedding; and a significant decline in liquidity.

A number of interventions have since been implemented, and we have begun to see a turnaround in Generation plant performance in particular. With the support of the Board and Exco, we have forged ahead in delivering our mandate and, although we had a difficult year, notable strides have been made in addressing the key challenges facing the organisation.

In order to bring leadership stability to the organisation, the positions of Group Chief Executive, Chief Financial Officer and Chief Operating Officer were confirmed during the past year – the COO position was created when we realised the importance of operational alignment.

Overview of strategy

Prior to intervention by Government, Eskom's going concern status was at serious risk and our ability to reliably meet South Africa's energy needs became increasingly doubtful. Without comprehensive changes and Government assistance, the company might have struggled to meet its financial obligations for the coming year.

In response to the troubling conditions facing us, we reviewed our strategic direction in consultation with key stakeholders, to effect a shift in performance to facilitate a return to financial and operational sustainability. Our strategic turnaround plan was developed in close collaboration with Government, notably DPE and National Treasury, and was reviewed by the Presidential Eskom Sustainability Task Team and the Ministerial Technical Review Team.

The plan was also stress-tested by independent external consultants; they found our financial plan to be robust and viable.

Government's direction regarding Eskom – as announced in the SONA in February 2019, with further detail provided in the 2019 National Budget Speech – is largely aligned to our plan.

The viability of our strategic turnaround plan is based on four pillars, of which the levers have to be implemented simultaneously. The four pillars are cost containment, revenue optimisation driven by adequate tariff increases through NERSA coupled with growing sales volumes, financial support from Government to optimise our balance sheet, and separating Eskom into three entities by 2023, under a holding company.

Our overarching objective is to create a financially self-sustaining company, while improving transparency of reporting to the shareholder and the broader public in order to build trust.

The four pillars which have to be implemented were discussed in more detail under "Our strategy and outlook – Strategy overview" on pages 41 to 43

We are reviewing our current structure, in preparation for business separation. This is aligned with our ambition to ensure that Eskom remains sustainable, and is in line with international best practice to support the long-term evolution of the electricity industry. It is also expected to improve transparency, accountability and agility, while catering for the possibility of private investment, if and when needed.

When the Board approved the strategic turnaround plan in November 2018, it was clear that, unless the four pillars were effected simultaneously, the plan would not address our going concern challenges and long-term sustainability. Since then, several factors with a negative impact on our financial, technical, commercial and socio-economic performance became a reality, such as declining sales due to a changing sector landscape and rotational loadshedding, lower than anticipated tariff increases and a delay in Government support.

Our focus over the next three years therefore has to be on six major areas:

- Continue executing the Generation nine-point recovery programme
- Cost containment
- Balance sheet optimisation
- Retention and growth of revenue through sales volumes
- Adequate tariff increases
- Strategic turnaround and business separation

These are not dissimilar to the objectives we pursued during the past financial year to strengthen Eskom's financial position through demand stimulation, cost containment and improving efficiencies (through a reduction in capital and operating expenditure), supported by a cost-reflective price of electricity. In addition, we remain focused on the governance clean-up and rooting out corruption.

Performance review

Governance clean-up

I arrived at a time when the organisation was grappling with many challenges – we were not generating enough income to cover all of our expenses, we were plagued by a significant amount of allegations relating to governance, corruption and misconduct, and financial institutions were not willing to lend us money. As a result, we were struggling to raise funds and our liquidity position was dangerously poor. We therefore prioritised investigations into irregularities and mismanagement. This resulted in executives and employees who were involved in wrongdoing, including fraud and corruption, being brought to account.

Our unified efforts against fraud, corruption, and maladministration are yielding the desired results, as employees' faith in Eskom's whistle-blowing channels has been renewed.

Apart from employing a stringent process in the approval of sole-source and emergency procurement transactions, plans were put in place to pursue criminal prosecution, money recovery, and other appropriate punitive actions against implicated suppliers. Trillian and McKinsey are part of our success story.

The governance clean-up has been discussed in detail in the Chairman's statement from page 4

Financial overview

As mentioned before, the company's financial sustainability continues to be affected by insufficient revenue being collected to cover operating expenditure and the capital cost of the new build programme. Moreover, Eskom's ability to secure funding is still affected by past issues of corruption and misconduct, and investors' response to the prior year audit modification related to irregular expenditure, all of which also increases the cost of borrowing. Nevertheless, we have seen an increase in investor confidence and support as a result of the actions taken in improving our governance and rooting out corruption. We were able to raise funding of R63.3 billion, or approximately 88%, against an initial funding plan of R72 billion for the 2018/19 financial year.

We also implemented various cost containment initiatives during the year, and are committed to achieving R77 billion in cumulative cash savings over the next four years.

Nevertheless, the single biggest challenge to our liquidity over the past year was the operational performance of our Generation plant, and the impact that had on investor confidence and our ability to obtain funding.

Our liquidity, funding and financial performance, together with notable cost containment achievements, are covered in detail in the Chief Financial Officer's report from page 77

Plant and network performance

Plant availability performed markedly worse than last year, at 69.95% for the year (March 2018: 78%), and far below our ultimate aspiration of 80%. Planned maintenance of Generation plant was stable at 10.18% (March 2018: 10.35%), although the quality and effectiveness of maintenance could be improved. Unplanned maintenance deteriorated significantly to 18.31% for the year (March 2018: 10.18%), partly due to an increase in equipment breakdowns, after plant had to be operated far outside acceptable norms for too long in order to keep the lights on, combined with boiler tube failures, slips against scheduled outages and major incidents, such as the one at Lethabo Unit 5 in October 2018.

We regret the 30 days on which rotational loadshedding had to be implemented during the past year, and the negative impact on our customers and the economy.

However, we are confident that our Generation nine-point recovery programme will address the root causes of the many and complex problems, although it will take both significant work and extensive funding to execute – we have set aside R49 billion over the next five years to improve the performance of Generation, Transmission and Distribution plant. We are already seeing the fruits of the implementation of the Generation nine-point recovery programme and the winter plan. EAF has improved in the first quarter of the current financial year, OCGT usage has reduced and we have not implemented rotational loadshedding since 23 March 2019. Our Transmission and Distribution divisions, alongside Koeberg Nuclear Power Station, have been operating efficiently. Going forward, we will be focusing more in these areas to ensure that satisfactory performance is sustained.

I am also pleased to announce the appointment of Mr Bheki Nxumalo as Group Executive: Generation from July 2019 – this is expected to bring some stability to the division and provide clear direction to employees, positively impacting morale and productivity.

Eskom purchased 11 344GWh from IPPs at a cost (including a capacity charge) of R26.7 billion during the year (March 2018: 9 584GWh at R21.3 billion), at an average cost of 235c/kWh (March 2018: 222c/kWh). At 31 March 2019, total available IPP capacity of 4 981MW consisted of renewable IPPs of 3 976MW and IPP gas peakers of 1 005MW (March 2018: total of 4 779MW).

Our world-class System Operator continued to deliver excellent performance. Transmission system minutes lost <1 performance of 3.16 minutes for the year performed better than target (March 2018: 2.09), despite three major network incidents; good line fault performance was maintained. Although distribution network interruption frequency exceeded target and performed significantly better than the prior year, interruption duration performed worse than the prior year, despite achieving target.

Still, illegal connections and theft of network equipment continue to pose a risk to the security of supply to affected areas, as well as to public safety. We are also concerned about our ageing network infrastructure and inadequate network protection, given the impact a significant network failure may have on power supply, as network equipment could take weeks to replace.

Normalised coal stock levels (excluding stock at Medupi and Kusile Power Stations, and excess stock at Lethabo) stood at 26 days at year end (March 2018: 28 days), with nine power stations below their minimum stock levels; since year end, this has reduced to three, due to focused delivery against the Generation nine-point recovery programme. Based on the revised methodology under the recovery programme (which only excludes coal stock at Medupi and Kusile, as well as units in cold reserve), coal stock days stood at 36 days at year end, in line with target.

A total of 41 new coal contracts have been concluded since January 2018, leading to an increase in coal stock levels at all of the affected power stations. Nevertheless, coal quality remains a concern, which is receiving attention under the recovery programme. Likewise, the fact that more than half of our coal supply (by value) comes from short-term contracts remains cause for concern, given the significant increase of 14.1% in the average coal price witnessed over the past year.

While we are working on resolving various challenges, I am confident that this upward trend in operational performance will continue.

New build progress

At a time when the national grid is experiencing severe supply constraints due to the ageing fleet of power stations, the new plant at Ingula, Medupi and Kusile Power Stations have not achieved the desired levels of performance and reliability due to a combination of plant design deficiencies and operational and maintenance inefficiencies.

A new plant defect correction plan was introduced in December 2018, as part of the Generation nine-point recovery programme. The plan is being executed and closely monitored to effectively resolve all major plant defects, and improve inefficiencies in the operation and maintenance of the new units. The current estimate to execute the plan is R7.2 billion. The resolution of defects has resulted in a steady improvement in plant availability, and the Ingula defect has an agreed technical solution that needs to be implemented and tested.

The commissioning of new generation capacity has been deferred to the coming financial year. Nevertheless, these units have been contributing intermittently to the grid, and have provided some relief during periods of system constraints. Of note is the synchronisation of Medupi Unit 2 to the national grid on 7 October 2018, and Kusile Unit 3 on 14 April 2019. We are also pleased to announce the commercial operation of Medupi Unit 3 on 5 July 2019. The immediate focus is on the correction of design defects at Medupi, Kusile and Ingula Power Stations.

Despite various challenges, we have no intention of stopping the new build programme, and remain confident that the programme will be completed by 2022/23, barring delays due to contractor performance, industrial action or other issues outside our control.

Despite further strengthening of our high-voltage network, the construction of transmission lines did not achieve target, with 378.7km lines constructed against a target of 475km (March 2018: 722.3km). The target of 540MVA for installing new transformer capacity was met, with the commissioning of 540MVA (March 2018: 2 510MVA).

Environmental performance

The particulate (ash) emissions performance for the year was 0.47kg/MWhSO, significantly worse than both the target of 0.33kg/MWhSO and the prior year performance (March 2018: 0.27kg/MWhSO). Kendal Power Station was the single biggest contributor to the poor performance, and is implementing a recovery plan to address this.

Various air emissions abatement projects to address our environmental performance are in different stages of development. We are also engaging the relevant Government departments to ensure the implementation of responsible, efficient and socio-economically feasible solutions.

Water usage related to power station operations for the year was 1.41ℓ/kWhSO, also worse than the annual target of 1.36ℓ/kWhSO and the previous year's performance (March 2018: 1.30ℓ/kWhSO). Improving our water performance remains an area of focus.

Engineering work on the second phase of the Lesotho Highlands Water Project, which is scheduled to be commissioned by 2025, has commenced. Until then, water availability in the Vaal River system will remain at risk, with dam levels in the Vaal River system declining. Nevertheless, water supply to our coal-fired stations is not deemed to be at risk over the short to medium term.

The current integrated schedule for the flue gas desulphurisation (FGD) project anticipates unit completion dates later than the World Bank's funding requirement to complete the FGD retrofit within six years of commercial operation date. Schedule optimisation discussions to ensure adherence to the World Bank's requirements continue. The FGD retrofit at Medupi Power Station requires additional water from the Mokolo Crocodile Water Augmentation Project Phase 2 project (MCWAP) by the revised date of June 2026, which takes account of the rework required at Medupi. The estimated water delivery from MCWAP has moved out by more than a year to April 2025.

People and safety

While our focus has been on stabilising the organisation and developing a turnaround strategy, our people, their morale and wellbeing are at the top of our agenda.

We acknowledge that there is uncertainty around the impact of the proposed restructuring. Furthermore, due to our financial challenges we have not been able to pay incentive bonuses or implement the second phase of the income differential adjustments. We also understand the impact that the challenges facing the business has had on our staff. All of this has led to low levels of staff morale.

The state of our industrial relations is also of concern, given the severe impact of the industrial action experienced during the past year, both on our operations and the country as a whole. Without the commitment of those employees who worked together to limit the impact, the results could have been much worse. We are truly grateful for their efforts.

The group headcount decreased to 46 665 at year end (March 2018: 48 628). The decrease would have been greater, had it not been for the permanent appointment of temporary workers in Eskom Rotek Industries in terms of the Labour Relations Act, 1995. Although our intake of new learners as required by the shareholder did not meet the target, our total learner pipeline is considered more than adequate.

During the year, the Board approved a process to streamline our executive structure, in line with our objective of becoming a more efficient, cost effective and sustainable organisation. We embarked on a section 189 process under the Labour Relations Act, 1995 and approved by the Board, which included reviewing our top structure as well as the regrading of all F-band, or top executive, roles. The number of F-Band positions was reduced from 21 to nine by way of regrading or combining roles. As a result of the process, eight senior executives accepted separation packages – I extend my gratitude to them for their many years of loyal service to Eskom.

At senior management level, neither the racial equity nor the gender equity target were achieved, although both continued to improve. At middle management/professionally qualified level, both racial equity and gender equity exceeded target, also improving against the prior year. At supervisory and lower levels, gender and racial equity have been achieved. The progression against racial and gender equity targets are hampered by cost containment efforts, such as the freeze on external recruitment and a limit on internal promotions.

Disability equity is above target, although we are still concerned that the majority of people with disabilities are represented at lower occupational levels, and that the total number of employees with disabilities has declined. The implementation of disability toolkits for managers, disability culture surveys and disability management plans are key focus areas for the future to ensure the reasonable accommodation and safety of our staff living with disabilities.

Sadly, the group experienced three employee and three contractor fatalities during the year (March 2018: three employees and 11 contractors). Furthermore, the group lost-time injury rate (including occupational diseases) has declined to 0.31, partly due to an increase in reported occupational diseases (March 2018: 0.24).

Our heartfelt condolences go to the family, friends and colleagues of those who lost their lives in Eskom's service.

Societal impact

During the year, only the targets for procurement spend with black women-owned and black youth-owned suppliers, as well as exempted micro enterprises, have been achieved at group level, largely due to suppliers being rated at lower levels under the new B-BBEE Codes. Overall attributable spend, as well as spend with black-owned suppliers, qualifying small enterprises and suppliers owned by black people living with disabilities, performed below target.

We completed 191 585 connections under DoE's electrification programme (March 2018: 215 519), achieving our target, despite not reaching the levels of the year before.

Corporate social investment spend of R132.4 million was committed to 195 projects during the year, impacting a total of 933 139 beneficiaries (March 2018: R192 million benefitting 1 116 044 beneficiaries).

Outlook

When viewed as a whole, our performance over the past year did not come close to meeting the expectations of our shareholder, our investors, our customers or the broader public. That said, we know where the challenges lie, and we are working on addressing them – we have already made notable strides in achieving our targets.

Our immediate focus is on recovery, after which it will move to the longer term. Nevertheless, many of our immediate actions are ultimately aimed at improving long-term sustainability.

We remain guided by our mandate of decreasing the cost of doing business in South Africa, enabling economic growth and providing a stable and sustainable electricity supply, not only in South Africa, but also in the region. It is therefore imperative that all four pillars of our strategic turnaround plan are executed with the utmost discipline.

We need to remain laser-focused on the immediate next steps required to guard against financial and operational breakdown. In this regard, we cannot overemphasise the importance of financial support from our shareholder, and are grateful for the support already committed. We will continue working with Government and other stakeholders to seek out permanent and structural solutions to our predicament. It is likely that any structural solution will require at least a five-year commitment, with full dedication from Eskom, Government and other key stakeholders.

Some of the key assumptions around tariff increases and Government financial support in our turnaround plan have not realised as planned. However, the additional support announced by the President in the most recent SONA will go some way towards alleviating our plight. Furthermore, we remain highly reliant on debt, which is exacerbated by our declining revenue, high operational costs and growing municipal and other arrear debt. This has a knock-on effect on our liquidity, as our CFO has discussed in detail.

Many of the operational risks referred to in the prior year remain, or have already materialised. These include rising primary energy input costs at reducing quality, escalating municipal and Soweto debt and instability at Eskom sites caused by disgruntled employees or members of the community. Strategic risks include the possibility of Eskom saturating its borrowing capacity, declining levels of long-term profitability, a lack of adequate, available and affordable skills, the shifting shape of the load profile and increasing competition for end users.

Our inability to develop new markets remains a significant risk. Significant volumes of rotational loadshedding experienced over the past year have already impacted our revenue, and we may continue to lose customers looking for alternative sources of energy. Improving our Generation plant performance through the nine-point recovery programme is critical to stem the tide.

In addition, we have to find ways of growing demand for electricity while ensuring sustainable revenue collection, with collection of municipal arrear debt still one of our key challenges. We continue to enlist the support of Government to address the systemic causes of the arrear debt problem.

We have units totalling 1 389MW in reserve storage and 760MW in extended inoperability. However, before Hendrina, Grootvlei and Komati Power Stations are shut down permanently, we will consider factors such as the impact on employees and communities, the cost related to engagements with affected parties and the impact on jobs. Shutdown dates are largely dependent on the overall plant availability achieved by Generation, with 78% plant availability being targeted before we make any irreversible decisions. We also need to deliver the remaining 6 382MW at Medupi and Kusile over the next four years. In the meantime, the challenge is deciding on how much to invest in these stations.

Ageing network infrastructure and inadequate capital investment in our transmission and distribution networks are emerging risks due to a lack of systems strengthening over recent years. The earlier deferral of Transmission's N–1 compliance, which impacts on redundancy, means that Transmission's maintenance plan must be strictly adhered to in order to mitigate the risk.

It is important to remember that our employees are the engine of our business. Due to the current financial constraints, existing controls aimed at the retention of core, critical or scarce skills have been weakened. The risk of a breakdown in relations with recognised organised labour has already materialised, as previously discussed. Furthermore, there has been mobilisation of middle management who form part of our contingency plan during industrial action. Labour instability is also a high risk in the new build construction sites. Effective consultation and buy-in from organised labour remains key to executing our turnaround plan.

Additionally, many employees have been acting in higher positions for extended periods of time with little recognition. Combined with the uncertainty regarding the section 189 process undertaken at Exco level, the redeployment of critical staff from units in cold reserve and fears regarding the unbundling of Generation, Distribution and Transmission, staff morale has been greatly affected.

There is a risk that the non-payment of a short-term incentive bonus for 2018/19 due to the three qualifiers, one of which is profitability, not being met, could again lead to industrial action by the bargaining unit, which may be supported by middle management.

As part of our turnaround strategy we are working on developing a human resources strategy that aligns with our current business challenges, future world-of-work trends and the energy industry. The focus is on driving a culture of engagement, teamwork, performance, accountability and performance management which includes incentives, rewards, recognition and consequence management, in order to build critical capabilities and improve staff morale. We are engaging Exco and Board on this matter and will share further details in due course.

Optimisation of our workforce is also a key focus area going forward. It is imperative that we ensure that we have the right people in the right positions and that we retain a skilled workforce in critical areas of our business.

The Board has also recommended that in future, the incentive scheme not only focuses on financial performance, but takes account of performance against operational goals to ensure engaged and inspired employees working towards a common goal. We appreciate the efforts of our employees through these trying times and remain committed to ensuring that we meet our commitments.

Conclusion

I am proud to launch the Eskom Factor 2.0 report, which follows the first Eskom Factor report released in 2011. The latest report provides a comprehensive external assessment of our direct and indirect economic, social and environmental impact on the country, both positive and negative, for the period 2012 to 2018. The project was led by a dedicated Eskom team, under my personal guidance and with input from Exco. A team from The Boston Consulting Group provided external expertise and independent support for assessment of Eskom's footprint.

As I say goodbye to this great organisation and its Guardians, I am humbled and grateful to have been a member of an organisation that is critical to our economy. I am particularly grateful to the Board, Exco and all our employees for their resilience and support during this journey.

Lastly, I want to personally thank every single Guardian for your ongoing contribution to our organisation – I appreciate the sacrifices made by you and your families. We need all hands on deck to steer the ship out of the storm.

You are the engine room of this great institution, and each and every one has a role to play in turning the situation around. After the dust has settled, Eskom will still be standing – it may not look the same as it does today, but it will still be here.

Everyone has a duty and responsibility to ensure that the Eskom we have inherited is looked after and preserved for our children and our children's children.

South Africa relies on a viable and sustainable Eskom.

Phakamani Hadebe
Group Chief Executive

OUR INFRASTRUCTURE

Highlights

- Energy supplied by IPPs helped to avoid or minimise the impact of rotational loadshedding
- Solid transmission system reliability enabled the achievement of the system minutes <1 target
- Kusile Unit 2, synchronised to the grid in March 2018, achieved full load of 800MW in January 2019
- Medupi Unit 2 was synchronised to the grid on 7 October 2018, while Unit 3 achieved commercial operation on 5 July 2019
- Two substations were commissioned during the year, adding 540MVA transformer capacity to the national grid

Improvements

- Coal stock days have improved due to the Generation nine-point recovery programme
- Under the nine-point recovery programme, some progress was made clearing partial load losses against a target of 1 567MW between November 2018 and March 2019
- Kusile Unit 3 was synchronised to the grid in April 2019

Challenges

- Implementing the Generation nine-point recovery programme, which includes the plan to correct major design and construction defects at new stations
- The weighted average IPP purchase cost amounted to 235c/kWh, compared to our average selling price of 90c/kWh
- The risk associated with ageing transmission and distribution assets remains a concern
- Contractors with financial or cash flow problems are affecting progress on various new build projects

Lowlights

- Significant deterioration in Generation plant availability due to record levels of unplanned maintenance
- Major design and construction defects at Medupi, Kusile and Ingula Power Stations affecting plant performance
- Extensive use of both Eskom- and IPP-owned OCGTs during the year at a combined cost (excluding capacity charges) of R6.5 billion
- Rotational loadshedding implemented on 30 days during the year, at great cost to the country

Our infrastructure, which constitutes our manufactured capital, comprises our Generation fleet and transmission and distribution networks, supplemented by capacity provided by IPPs. Furthermore, it includes the new power stations and high-voltage transmission lines being constructed as part of our new build programme.

Our focus in operating our infrastructure is ensuring security of electricity supply, as well as balancing the supply and demand of electricity to ensure the stability of the national grid.

We are executing the largest capital expansion programme in Africa, as well as projects to strengthen transmission capacity, deliver customer and IPP connections, ensure environmental compliance, and refurbish existing assets.

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 as close as possible to 50Hz in real time, enabling us to supply electricity to our customers in accordance with our mandate. The various defence systems in place are tested frequently to ensure effective response capability to prevent a major system event, such as a regional or national blackout.

Refer to the information block on pages 50 to 51 on how our system defences are designed to prevent a blackout

No new generation capacity was commissioned this year – expected commissioning of 800MW of new generation capacity has been deferred to the coming financial year, due to challenges which are discussed later in this section. The immediate focus is on the correction of design defects at Ingula, Medupi and Kusile Power Stations.

A further 760MW of capacity is out of service for extended periods, requiring major repairs. In addition, 1 389MW relating to 10 units at Hendrina, Grootvlei and Komati Power Stations – three of our older stations – have been removed from our installed base and placed in reserve storage, as they have become uneconomical to run.

As a result of the poor generation availability, with high levels of planned and unplanned maintenance being carried out, extensive use was made of both Eskom- and IPP-owned OCGTs, as well as our pumped storage stations to meet demand. These stations, which are designed for short-term use during peak hours, are expensive to run due to high input costs such as fuel. Their usage is further limited by the availability of diesel for the OCGTs and water in the upper dams of the pumped storage stations.

Renewable generation supplied mainly by IPPs continued to support the power system, with a pattern of high wind generation over evening peak periods in the summer.

The latest projections show an average of one additional unit each from Medupi and Kusile Power Stations being placed in commercial operation, resulting in the last Medupi unit becoming commercial in 2020/21 and the last Kusile unit in 2022/23. At that time, it is anticipated that we will return to an operating surplus capacity, depending on electricity demand and the performance of older stations.

Rotational loadshedding implemented during the year

Rotational loadshedding is generally implemented as a last resort to maintain the supply/demand balance, or to ensure sufficient reserve capacity to respond to significant unplanned breakdowns or disruptions to supply. This occurs typically during periods of low diesel fuel levels at OCGT stations or low water levels at pumped storage stations.

Rotational loadshedding was implemented in stages 1 and 2 from 14 to 16 June 2018, after wage negotiations broke down and resulted in industrial action, which led to acts of intimidation and obstruction of access of both personnel and coal deliveries by road. The fact that no performance bonus was to be paid for 2017/18 also resulted in industrial action impacting operations at power stations, resulting in stage 1 loadshedding on 31 July 2018.

After that, it was necessary to implement rotational loadshedding in stages 1 and 2 on 11 days from 18 November to 8 December 2018 to maintain the supply/demand balance and manage emergency diesel and water resources. The rotational loadshedding was required due to poor generating plant performance, mainly as a result of significant levels of unplanned full and partial load losses, and was not due to low coal stockpiles, as was generally believed at the time. Furthermore, supply from Hidroelèctrica de Cahora Bassa (HCB) was lost during November 2018, when part of the transmission line collapsed after prolonged rain.

During February and March 2019, rotational loadshedding was again required to stabilise the power system due to poor generation availability, as well as periods of low diesel fuel levels at OCGT stations and low water levels at pumped storage stations. From 10 to 14 February 2019 it was necessary to implement rotational loadshedding every day in stages 2 to 4. From 14 to 23 March 2019, rotational loadshedding was again implemented in stages 2 to 4. It included six consecutive days of stage 4 and eight days of around-the-clock rotational loadshedding, generally with stage 4 during the day and stage 2 during the night. The situation in March was exacerbated by the loss of supply of approximately 1 000MW from HCB due to the impact of Cyclone Idai.

In total, rotational loadshedding was required on 30 days over the past year. We have committed in our winter plan to implement rotational loadshedding on no more than 26 days during the coming winter, with the aim to limit rotational loadshedding to stage 1.

Generation performance

We aim to optimally operate and maintain our electricity generating assets for the duration of their economic life. We are committed to accomplishing the overarching goal of meeting the country's electricity demand by providing reliable electricity at a reasonable price. To do this, we operate 30 base-load, mid-merit, peaking and renewable power stations, with a total nominal capacity of 44 172MW. The average age of our coal-fired stations is approaching 40 years.

Detailed information on the installed and nominal capacity of each of our power stations, as well as IPP capacity, is set out in the fact sheet on pages 177 to 178

As detailed earlier, rotational loadshedding had to be implemented on numerous occasions during the year, as a result of decreased plant availability at our ageing coal-fired stations due to planned and unplanned outages. This necessitated extensive use of Eskom- and IPP-owned OCGTs as well as pumped storage stations to meet demand.

Technical performance

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Energy availability factor (EAF), %[SC]	73.50	71.50	78.00	**69.95**	78.00	77.30	■
Planned capability loss factor (PCLF), %[SC]	9.00	9.50	9.00	**10.18**	10.35	12.14	●
Unplanned capability loss factor (UCLF), %	16.00	17.50	11.90	**18.31**	10.18	9.90	■
Other capability loss factor (OCLF), %	1.50	1.50	1.10	**1.56**	1.47	0.66	■

The Generation fleet performance, with plant availability measured by the energy availability factor (EAF), is currently significantly below aspiration. From the late 1990s, where EAF was consistently above 90%, this has declined to the current EAF of just below 70%. The reasons are complex and there are numerous contributing factors, but the root cause goes back to the late 1990s when Eskom was not allowed to build new capacity. When this decision was eventually overturned, it was too late and the planning process for the new build stations was rushed, resulting in construction delays and design issues. This also meant that in order to avoid rotational loadshedding, the plant had to be operated far outside acceptable norms – as evidenced in the high utilisation factor discussed below – leading to the high level of unplanned breakdowns.

The Generation energy utilisation factor (EUF) has increased significantly compared to the previous year, with the stress being placed on units impacting their reliability, resulting in an increase in both unplanned (UCLF and OCLF) and planned maintenance (PCLF) compared to the prior year. The high average fleet EUF was largely due to coal stations running at an average of 90.23%, with eight of the 15 coal stations with an EUF greater than 90%, which is significantly higher than the international industry standard.

A graph showing Eskom's EUF compared to the international VGB industry benchmark is set out in the fact sheet on page 180

The Board has considered revised shutdown dates for Hendrina, Grootvlei and Komati Power Stations, taking into consideration the impact on employees and communities, the cost related to engagements with affected parties and the impact on jobs. The revised dates are hugely dependent on the overall Generation plant availability, and shutdowns are likely to only take place in the 2020/21 financial year and beyond.

Koeberg performance

Koeberg Unit 1 returned from a refuelling and maintenance outage on 19 June 2018 and has remained online since. Koeberg Unit 2 has been online since returning from a refuelling and maintenance outage on 26 December 2018.

Regarding the Koeberg steam generator replacement project, manufacturing is progressing according to plan in time for installation during the refuelling outages scheduled for March 2021 and September 2021. The assembly of the steam generators is progressing well at the SENPEC facility in Shanghai, China. The first lower assembly was completed in January 2019; heat treatment is currently in progress and the first steam generator upper assembly is nearing completion. Site facilities for the receipt and installation of the steam generators are being procured.

Update on Duvha Unit 3 over-pressurisation incident

Subsequent to the court judgment in June 2017, which interdicted Eskom and Dongfang from executing the contract, the procurement and construction of the boiler remains suspended. Demolition works and the detailed engineering design have been completed.

Use of open-cycle gas turbines

As mentioned previously, the poor technical performance of Eskom's generation fleet resulted in extensive use of the Eskom-owned open-cycle gas turbines (OCGTs) during the year. Load factors of 5.69% were recorded during the year (March 2018: 0.56%), against a target of 1%.

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
OCGT production, GWh[1]	3 710	2 174	211	**1 202**	118	29	■
OCGT diesel usage, R million[1, 2]	12 526	6 975	666	**3 768**	320	340	■

1. The 2021/22 target is the cumulative target over the next three years.
2. The OCGT cost includes diesel storage and demurrage costs of R51 million (2018/19), R52 million (2017/18) and R281 million (2016/17), incurred as a result of not utilising the OCGTs.

In addition, the two IPP-owned OCGTs were also used extensively this year, producing 552GWh (March 2018: 105GWh) at a cost to Eskom of R4.4 billion (March 2018: R2.3 billion), which includes a fixed capacity charge of R1.7 billion (March 2018: R2 billion).

Benchmarking

Coal-fired power stations

Generation Division benchmarks the performance of its coal-fired 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. When interpreting the results of the benchmarking study, it must be borne in mind that the operating regimes of other utilities contributing to the VGB database may not be the same as those of Eskom.

For graphs relating to the benchmarking of our coal-fired and nuclear power stations, refer to the fact sheet on pages 180 to 181

The graphs in the fact sheet illustrate the results of the benchmarking for the 2013 to 2017 calendar years, as the VGB results for 2018 are not yet available:

- The EUF graph clearly illustrates how the Eskom coal-fired stations have been running higher than the benchmark for many years. In particular, since 2011, even the lowest Eskom quartile was higher than the highest VGB quartile. This "running in the red zone" for an extended period, associated with related deferred and delayed maintenance, especially mid-life refurbishments, are the major contributors to the accelerated decline in plant condition and availability
- The UCLF graph illustrates how unplanned failures increased significantly over the comparison period, as a direct result of operating the plant at such high levels

Koeberg Nuclear Power Station

Eskom is affiliated to the World Association of Nuclear Operators (WANO) and the Institute of Nuclear Power Operations (INPO), and 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 also train personnel at our nuclear power station.

A routine WANO peer review of Koeberg was carried out in March 2019. Some areas were identified for improvement based on global best practice; these areas are receiving the necessary attention.

Through INPO, we have maintained our accreditation from the National Nuclear Training Academy in the United States for our systematic approach to training 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's performance has generally been below the median for the range of WANO performance indicators. This is due to the extended refuelling outages that were necessary to enable plant modifications to both units, which reduced plant availability.

Generation nine-point recovery programme

The nine-point Generation recovery programme, announced in November 2018, will allow for fast-tracked improvement in Generation plant availability and performance. Implementation of the programme is being effected by a dedicated team, and progress is reported to the entire organisation every two weeks. Immediate and short-term requirements have been identified and prioritised. As the programme gains momentum, funding and additional requirements will be confirmed.

The nine-point programme is detailed below:

1. *Address major design and construction defects at new stations*

   The new plant at Medupi, Kusile and Ingula Power Stations have not achieved the desired levels of performance and reliability due to a combination of plant design deficiencies and operational and maintenance inefficiencies.

   While minor defects are typical on any new plant, major defects contribute significantly to the risk of increased load losses as well as power stations not meeting their availability factors. Major defects are more difficult to resolve, as resolution usually requires equipment redesign, manufacturing and installation, which can require extended plant outages. Resolution of these defects is time consuming and may require specialist resources. In total, six major defects have been identified at Medupi Power Station, six at Kusile, and one at Ingula.

   International engineering best practice for plant performance indicates that it typically takes anything between three to seven years to achieve the optimum plant design performance and reliability levels in new units of this technical complexity and magnitude.

More detail of the design and construction defects, as well as the status of the plant defect correction plan for Medupi, Kusile and Ingula, are set out on page 118

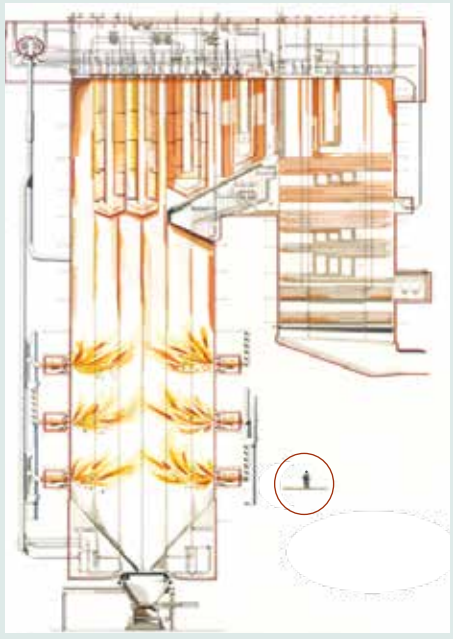
2. *Reduce the incidence of trips and full load losses to improve reliability of coal-fired power stations*

   Unit trips remain a key area of concern due to their contribution to poor system performance and the associated cost of restarting the units in order to supply load to the grid. The four power stations with the most trips – Duvha, Kriel, Majuba and Tutuka – are finalising detailed implementation plans on how to address the matter. At the same time, a trip reduction and management programme is driving performance from both a functional and power station perspective.

Explaining boiler tube leaks

How does a boiler work?

During coal-fired power generation, water is heated and converted into superheated steam. The superheated steam is then used to rotate a turbine connected to a generator. The generator converts this mechanical energy into electrical energy. In simple terms, the boiler is like a kettle but on a gigantic scale. After the high-pressure steam rotates the turbine, the exhaust steam is cooled into liquid water in the cooling towers, and this water is recirculated through the boiler. This process is necessary as steam cannot be pumped.



Above is a diagram of a typical coal-fired boiler in Eskom. Note the relative size of the person in comparison to the boiler. Eskom boilers are about 25 to 30 storeys high.

Pulverised coal is blown into the lower section of the boiler under pressure, where the coal is then burnt. The heat from the furnace – with temperatures of up to 1 600°C – rises and heats the water in the tubes through the processes of convection, conduction and radiation. The waste from the combustion of coal is ash, which typically equates to approximately 30% of the volume of coal burnt. The heavier ash particles fall to the bottom of the boiler, where they are collected and transferred to ash dumps. The lighter ash particles are carried with the exhaust gas, called flue gas, and collected at the flue gas cleaning plant, after which it is also transferred to the ash dumps.

What are boiler tube leaks?

A boiler tube leak occurs when the tubes transporting the steam and water develop a hole, due to a variety of reasons. When a hole develops in any of these tubes, the steam or water sprays out from the tube into the area of the boiler where there is combustion. This water or steam spraying from the leak is at such a high pressure and so erosive that it causes damage to other tubes in the vicinity. This leads to a large area of damaged tubes which then causes starvation in the tube, resulting in the tube overheating and then rupturing.

When a boiler tube leak occurs, it is generally not possible to operate the boiler for much longer and the unit needs to be shut down to access the boiler. The average duration to repair a boiler tube leak is four days, which includes approximately 12 hours to cool the boiler to a safe temperature. However, the actual duration is determined by numerous factors, including how long the unit was operated with a leak, the ease of access to the failed tube and the extent of the consequential damage to adjacent tubes.

Eskom has 79 coal-fired boilers in commercial operation, and each boiler has over 500km of tubes. Therefore, the probability of having multiple boiler tube leaks is very high. In 2008, Eskom developed a Boiler Tube Failure Reduction Programme to reduce the number of boiler tube leaks. The programme has proven to deliver excellent performance; continued compliance to the requirements of the programme is essential.

The pictures below show boiler tubes being inspected for potential damage during planned outages, and a ruptured tube which caused a unit to be shut down.

Visit http://bit.ly/2IwoEoe for further information on boiler tube leaks at Eskom coal-fired stations

3. *Accelerate the return to service of units on long-term forced outages*

   The long-term outages are due to major incidents requiring extensive repair work, with the procurement process and equipment lead times adding to the length of outages:

   - Duvha Unit 4 was returned to service early in February 2019, having been out of service on and off since August 2017, due to a generator gas leak
   - Kriel Unit 2 was out of service since May 2018 due to a stator earth fault, and was returned to service on 30 April 2019
   - Lethabo Unit 5 has been out of service since October 2018, after a high-pressure steam pipe failure. Completion of this project is a priority as Lethabo is one of the cheaper stations in the merit order. National Treasury approval has been obtained for a commercial process to expedite the replacement of the high-pressure pipework
   - Grootvlei Unit 2 was returned in December 2018
   - Matla Unit 5, shut down on 5 February 2019, returned to service on 24 May 2019
   - Rebuilding of the Duvha Unit 3 boiler, out of service since March 2014, cannot start, pending the legal case against the awarding of the contract

4. *Decrease partial load losses and boiler tube leaks that prevent units from operating at full capacity*

   Some progress was made clearing partial load losses against a target of 1 567MW between November 2018 and March 2019. The success of clearing load losses through scheduled philosophy-based outages depends on effective planning, outage readiness, execution of the full scope of the outage and quality of work during execution. This will be addressed through the outage stream (discussed in point 5 below). Though some work can be executed while units are operating, additional outages are required to sustainably address partial load losses. However, as the system remains constrained, the granting of additional outages remains a challenge.

   Stations are undergoing an annual compliance review as part of the boiler tube leak reduction programme. Boiler tube failure performance and the results of the review will be used to develop detailed plans, specifically for Kriel, Majuba and Lethabo Power Stations.

5. *Reduce outage due date slips and duration*

   Outage due date slips can be reduced by improving the planning and execution of planned outages to enable them to be successfully completed on time. Board approved the funding required for the philosophy-based maintenance outage plan in the 2019/20 financial year. Detailed mechanisms are being implemented to monitor outage readiness, focusing on spares and resource availability. In addition, contracts with original equipment manufacturers are being secured to improve spares availability.

   Although post-outage UCLF has improved compared to the prior year, it is still above the 12% target for 2018/19, mainly due to high unplanned losses incurred after the Medupi Unit 6, Duvha Unit 2, Tutuka Unit 6 and Kriel Unit 5 outages.

6. *Fill critical staff vacancies and enable the training of key staff*

   The appointment of the Group Executive: Generation from 1 July 2019 has been announced. The final round of interviews for the vacant power station general manager positions has been completed and final decisions are expected soon. In addition, motivations for filling the first layer of vacancies below the power station general manager have been completed and are awaiting approval. This is expected to bring more stability by providing clear direction to employees, and also to improve morale and productivity.

7. *Maintain sufficient diesel stocks to enable the open-cycle gas turbines to perform for extended periods*

   Although the average diesel stock levels remained above 50% for the year, there were instances where short-term diesel shortages during March 2019 prevented the use of OCGTs, which was partly responsible for rotational loadshedding.

   Plans are being put in place to prevent a recurrence of the diesel shortages. Diesel supply logistics were not set up for excessive use, and attention must be given to more accurately predicting diesel usage to ensure timely delivery of diesel at such times. Additional diesel storage capacity is another option. Funding for diesel required by the OCGTs in the 2019/20 financial year was approved by the Board.

8. *Ensure a 14-day buffer of dry coal at power stations during the rainy season*

   There are seven stations that are vulnerable to coal stocks getting wet due to rain. Wet coal can clog up the conveyors and grinding mills at the power stations. For these stations, a target was set to have a buffer of 14 days of dry coal stock in case of emergency, which is stored in such a way that it will not get wet. This dry stock represents a portion of the stations' total coal stock holding. Two of the seven stations remain below the targeted 14-day minimum dry coal stock levels. However, this risk has reduced due to the onset of the drier season.

9. *Rebuild coal stockpiles at power stations*

   The coal stock recovery target was achieved, with 35.6 stock days (as defined for the purposes of the programme) at 31 March 2019, compared to a target of 33 days, and up from 28 days in December 2018. Although coal stockpiles remained below minimum at nine stations at 31 March 2019 – with levels below 20 days at four stations – levels have improved significantly over recent months, with only three stations below minimum at 30 June 2019.

A total of 41 new short- and medium-term coal contracts have been concluded since January 2018. These coal sources have already begun to increase coal stock levels at all of the affected power stations; it is planned that all power stations will be at required levels by the end of the calendar year.

Coal quality issues at Matla Power Station account for a large component of the coal-related OCLF. We are procuring high-quality coal to blend with the existing coal to improve the overall coal quality at Matla.

Refer to "Our interaction with the environment – Securing our coal requirements" on pages 121 to 123 for more information on coal stock days

Although many of the areas included in the nine-point recovery programme are still in the planning phase, notable progress has been made. Nevertheless, significant work is still required to fully recover our generating plant performance.

Energy supplied by IPPs

DoE's RE-IPP programme is derived from ministerial determinations for renewable energy from IPPs. This was supplemented by subsequent determinations for 8 500MW of renewable energy before 2025. The programme currently has 3 976MW in operation.

During the year, the targeted 202MW of renewable IPP capacity was commissioned. We expect a total of 447MW of renewables to be commissioned during the coming year – 32MW of wind and 415MW of solar photovoltaic (PV) energy.

IPP operational capacities by type at 31 March 2019

MW	Total contracted	Total operational
Wind	1 995	**1 980**
Solar PV	1 478	**1 474**
Gas turbines	1 005	**1 005**
Concentrating solar power	500	**500**
Hydro, biomass and landfill	27	**22**
Total	5 005	**4 981**

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 2019.

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Total capacity, MW	6 281	5 428	4 981	**4 981**	4 779	5 027	●
Total energy purchases, GWh[1]	46 338	12 395	11 526	**11 344**	9 584	11 529	▲
Total spent on energy, R million[1]	106 872	30 836	26 659	**26 655**	21 300	21 721	●
IFRIC 4 accounting adjustment, R million[2]	–	–	(2 019)	**(1 703)**	(1 983)	(1 964)	n/a
Total expenditure, R million[1]	106 872	30 836	24 640	**24 952**	19 317	19 757	■
Weighted average cost, c/kWh[3]	231	249	231	**235**	222	171	■

1. The 2021/22 target is the cumulative target over the next three years.
2. For accounting purposes, the capacity charges for the Avon and Dedisa IPP gas peakers were treated as arrangements that contain a lease in terms of IFRIC 4. Refer to note 2.8 in the consolidated annual financial statements for the related accounting policy. This will cease in the coming year, when *IFRS 16: Leases* comes into effect.
3. The weighted average cost is calculated on the total amount spent on energy, before the IFRIC 4 adjustment.

The utilisation of IPP OCGT peakers increased significantly during the year to assist in ensuring system stability to minimise or avoid rotational loadshedding during a shortage of plant capacity. The annual load factor for the IPP OCGT peakers was 6.27% (March 2018: 1.20%), against a target of 1%, while renewable IPPs achieved an average load factor of 32.3% during the year (March 2018: 31.5%).

The weighted average cost of all IPPs (before the IFRIC 4 lease adjustment) amounted to 235c/kWh (March 2018: 222c/kWh).

Cross-border sales and purchases of electricity

The Southern African Power Pool (SAPP) aims to provide reliable and economical electricity supply to each of its members. Nine out of 12 countries are already interconnected, with the remaining three countries targeting to be connected by 2022. Amongst the three countries in the region with electricity access levels above 60%, South Africa remains the highest. The other SAPP countries have electricity access levels below 45%. During the year, electricity trading between countries on the competitive electricity market increased.

International sales and purchases

GWh	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
International sales	38 744	12 936	14 987	**12 461**	15 268	15 093	■
International purchases	25 395	8 481	8 111	**7 355**	7 731	7 418	●
Net sales	13 349	4 455	6 876	**5 106**	7 537	7 675	■

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

International sales volumes for the year were below target, and decreased 18% year-on-year. The main reasons for the lower sales volumes are:

- Botswana has deferred a planned outage to refurbish their Generation plant to 2019, therefore purchasing less electricity from Eskom than originally anticipated
- Satisfactory water levels supported hydroelectric generation in neighbouring countries
- Curtailment of sales to Zimbabwe due to their growing arrear debt
- Eskom's supply constraints resulted in supply to cross-border trading partners being curtailed

Cross-border purchase volumes for the year were below target, also decreasing 5% year-on-year, mainly due to the damage to transmission infrastructure from HCB caused by Cyclone Idai. Supply was interrupted, causing capacity to reduce from 1 150MW to 100MW, from 16 to 21 March 2019. With temporary repairs, this was increased to about 865MW from 22 March 2019. Full supply has since been restored.

Export growth strategy

Our export growth strategy is to maximise cross-border electricity sales through existing transmission infrastructure, as well as by constructing additional transmission lines, which requires the support of regional partners. There is considerable regional demand that cannot currently be met, due to a lack of investment in transmission infrastructure in the key electricity corridors that carry power north of South Africa's borders. In addition, Eskom's current operational challenges are negatively impacting this strategy.

Integrated demand management

Integrated demand management (IDM) plays a key role in assisting Eskom to balance power supply and demand during periods of supply constraints. The demand response programme requires the support of customers by means of interruptible load agreements. It enables the System Operator, during times of generation constraints, to request these customers to reduce load or completely switch off on a scheduled day, in order to maintain the system frequency at 50Hz. The demand response programme achieved an average certified capacity of 1 476MW during the year (March 2018: 1 296MW).

Furthermore, IDM's key role is to shift demand from peak to off-peak periods, in order to create space for future sales growth.

Network performance

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

Detail of our transmission and distribution network power lines and transformers is set out in the fact sheet on page 179

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Number of system minutes lost <1 minute, minutes[SC, 1]	3.53	3.53	3.53	**3.16**	2.09	3.80	●
Number of major incidents >1 minute, number	2	2	2	**3**	–	–	■
System average interruption duration index (SAIDI), hours[SC, 2]	38.0	38.0	38.0	**38.0**	34.9	38.9	●
System average interruption frequency index (SAIFI), events[SC, 2]	19.6	19.6	19.8	**14.9**	17.5	18.9	●
Distribution energy losses, %[SC]	8.00	8.00	7.45	**8.47**	7.73	7.55	■

1. One system minute is equivalent to interrupting the whole of South Africa at maximum demand for one minute.
2. SAIDI and SAIFI are reported after allowing for exclusions defined in the National Regulated Standards adopted from 1 April 2018. Comparatives for 2017/18 have been restated.

The system minutes performance for the transmission network was better than target, although deteriorating since the prior year. Three major incidents occurred at the Sol, Gumeni and Minerva substations, which impacted industrial and mining customers, as well as the City of Johannesburg Metropolitan Municipality.

As alluded to earlier, the following significant events with respect to the high-voltage direct current (HVDC) scheme occurred during the year:

- A tower collapsed on the Apollo-Cahora Bassa line during November 2018, thereby severely constraining energy imports. The line has been successfully normalised
- The HVDC system availability was impacted by the collapse of multiple towers in Mozambique caused by Cyclone Idai in March 2019. Full supply has been restored

Despite the satisfactory performance of the transmission network, performance risks still remain, with ageing assets and vulnerabilities due to network unfirmness, which will need to be addressed as we progress towards N–1 compliance. The theft of copper and tower steel members continued to impact operations.

The customer experience in terms of frequency of interruptions on the distribution network performed better than target, although the duration of outages has deteriorated significantly. The increase in the duration is attributed to adverse weather conditions experienced during the year and resource constraints, exacerbated by a growing customer base. We are focusing on refurbishment and strengthening projects to improve performance.

Energy losses

Eskom's overall energy losses have increased to 9.71% (March 2018: 9.15%). A major factor is the increase in distribution losses, as discussed below:

- IPPs deliver energy directly to the distribution network, thereby reducing the load on higher capability transmission lines, thus reducing transmission losses, while increasing distribution losses
- The non-technical component of losses (theft) has increased, most likely due to prevailing economic conditions. Contrary to popular belief, theft is not limited to the residential customer sector, and has increased across all sectors of the customer base
- The ageing nature of networks, which are often constrained and overloaded, contributes to technical losses

Our non-technical revenue losses for the year are estimated at R1 741 million (March 2018: R1 390 million). These relate to meter tampering, faulty or vandalised metering installations, or customers being loaded incorrectly on the system.

We use a combination of analytical methods to target metering points for audits and data correction to enhance losses reduction and revenue recovery. During the year, 704 706 meter audits were conducted, leading to:

- Historically unbilled revenue of R399 million being billed to large and small power customers (March 2018: R368 million)
- Tamper fines of approximately R19 million being recovered from prepaid customers who had tampered with their electricity meters (March 2018: R21 million)

Initiatives to improve revenue recovery from residential customers continue. These include:

- Installing split smart and/or prepaid meters within protective enclosures to prevent tampering
- Converting customers from post-paid to prepaid supply
- Removing illegal connections, conducting meter audits, repairing faulty or tampered meters, and limiting ghost vending of prepaid electricity

Equipment theft

Equipment theft severely impacts local network performance and causes loss of revenue to Eskom, but more significantly, leads to loss of life or injury to the public and employees. Theft and vandalism of network equipment is still driven by external socio-economic conditions, with conductor theft constituting the highest number of incidents.

Losses due to conductor theft, cabling and related equipment totalled R105 million for the year (March 2018: R46 million), involving 5 150 incidents (March 2018: 5 152 incidents). Actions to combat these losses are managed by the Eskom Network Equipment Crime Committee, in collaboration with the South African Police Service and other affected state-owned enterprises. The combined effort resulted in 119 arrests (March 2018: 216) and recovery of R2 million worth of stolen material (March 2018: R3 million).

We aim to improve the security of the network through the early detection of potential threats using surveillance technology, in conjunction with a national guarding strategy, which is in the final stages of the procurement process.

Delivering capacity expansion

The capacity expansion programme to build new power stations and reinstate mothballed stations, as well as increase high-voltage transmission power lines and transformer capacity, started in 2005 and is expected to be completed by 2022/23. The programme aims to increase installed generation capacity by 17 384MW, transmission lines by 9 756km and transmission substation capacity by 42 470MVA.

Since inception to 31 March 2019, we have increased installed generation capacity by 10 750MW, transmission lines by 7 848km and substation capacity by 37 440MVA. Excluding capitalised borrowing costs, the programme has cost R383.4 billion to date (March 2018: R363.8 billion).

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Generation capacity installed and commissioned (commercial operation), MW[SC]	5 582	1 588	800	–	2 387	1 332	■
Transmission lines installed, km[SC]	838.0	155.0	475.0	**378.7**	722.3	585.4	■
Transmission transformer capacity installed and commissioned, MVA[SC]	2 250	250	540	**540**	2 510	2 300	●

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

No new generation capacity was commissioned this year – the 800MW of new generation capacity expected this financial year has been deferred to the coming financial year. The immediate focus is on the correction of design defects at Medupi, Kusile and Ingula Power Stations.

The target for the installation of transmission lines was not achieved, mainly due to community stability issues in the KwaZulu-Natal area, combined with poor contractor performance due to various reasons.

Project performance

Medupi Unit 3 achieved the 72-hour test run and the 30-day reliability run milestones in January and February 2019 respectively. Unit 2 was synchronised and produced first power on 7 October 2018, making it the fifth of six units to be synchronised to the national grid. Unit 2 is ready for control and instrumentation optimisation, followed by grid code, standby and capability tests, as well as the 72-hour test run and 30-day reliability run. Commercial operation for both units is forecast for the coming financial year; Unit 3 achieved commercial operation on 5 July 2019. The entire project is expected to be completed in 2020/21.

Kusile Unit 2 achieved full load of 800MW in January 2019. Unit 3 achieved first synchronisation on 14 April 2019. Based on current progress, commercial operation for both units is forecast for the coming financial year. The project is expected to be completed in 2022/23.

The Medupi wet flue gas desulphurisation (FGD) technology project is in the final stages of project development, in accordance with World Bank requirements, with handover to the project execution team under way. The current integrated schedule for the FGD project anticipates unit completion dates which are later than the World Bank's funding requirement of completing the FGD retrofit within six years of commercial operation date. The main driver is the duration of Eskom's procurement and governance processes. Nevertheless, schedule optimisation discussions continue to ensure adherence with the World Bank's funding requirements. Anticipated FGD costs are in line with established benchmarks.

Although the availability of water to operate all the FGD units remains a risk, current indications are that adequate water supply will be available. Nevertheless, efforts to ensure security of water supply remain ongoing. In order to compensate for the delays of the Mokolo Crocodile Water Augmentation Project (MCWAP) Phase 2 water supply project, the possibility of additional allocation of available water from MCWAP Phase 1 is being investigated by the Department of Water and Sanitation (DWS).

Refer to "Our interaction with the environment – Securing our water requirements" on page 123 for further information

The distributed battery storage project is to be situated at remote sites with limited access to our distribution networks, but close to renewable IPP plant. The project, funded by the World Bank, is in the final stages of project development.

Group funded capital expenditure (excluding capitalised borrowing costs) per division

Division, R million	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17
Group Capital	28 102	**19 613**	29 278	35 458
Generation	7 866	**8 704**	9 746	14 376
Transmission	840	**782**	807	940
Distribution	3 937	**3 810**	5 170	5 220
Subtotal	40 745	**32 909**	45 001	55 994
Future fuel	1 837	**550**	1 226	114
Eskom Enterprises	807	**137**	476	1 107
Other areas including intergroup eliminations	1 280	**314**	1 300	2 817
Total Eskom group funded capital expenditure	44 669	**33 910**	48 003	60 032

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

The underspend against the target is largely due to the impact of the savings drive during the past year, combined with delays in projects, such as the Koeberg steam generator replacement, the battery storage project and the new build projects. Spend in Group Capital was also reduced by the net income (being revenue less the associated primary energy cost) on electricity generated by units after synchronisation to the grid but before being commissioned.

For information on future new build projects, refer to "Our know-how – Investing in appropriate technologies" on pages 146 to 150

Correcting major design and construction defects at Medupi, Kusile and Ingula Power Stations

There are unacceptably high load loss factors at the five units at Medupi and two units at Kusile which have been synchronised to the grid, as well as the four units commissioned at Ingula Power Station. This is due to major defects which are the result of a combination of plant design deficiencies and operational and maintenance inefficiencies, thereby leading to decreased plant availability and reliability. These major defects could only be identified after plant commissioning and operation.

The resolution of defects, which includes enhanced planned maintenance, has resulted in a steady improvement in plant availability. The liable contractors are being held to account, within the provisions of the contract, to correct the major plant design deficiencies at their expense, within the contractual defect correction period.

Since December 2018, a plant defect correction plan is being executed and closely monitored to resolve all the major plant defects and reduce the inefficiencies in the operation and maintenance of the new units. The current estimated total budget to execute the plan is R7.2 billion over the next five years. We are making steady progress in identifying and developing effective solutions to the major defects at Medupi, Kusile and Ingula Power Stations. Progress on the major plant defect correction plan is:

Six major defects affecting seven units at Medupi and Kusile (these are common to both power stations)

- *Pulse jet fabric filter plant:* We agreed with the contractor to redesign the pulsing and flow distribution system
- *Coal mill:* The modifications received for throats, idlers and reject box are being implemented
- *Dust handling plant, ash silos and conditioning plant:* The contractor has placed contracts for repair, maintenance and supply of spares. The plant conditioning has improved significantly as a result
- *Furnace exit gas temperatures and reheater spray flows/ gas air heater/boiler erosion:* The approach on coupling these defects has been discussed with the contractor
- *Control and instrumentation repeated distributed control system:* Technical specifications are being prepared, and are expected during the first quarter of the new financial year
- *Kusile western fill water treatment plant laboratory and demineralised water storage tanks:* The task order for monitoring ground movement of tanks is in place

One major defect affecting all four Ingula units

- *Dual load rejection:* The technical solution has been agreed with the contractor

Future focus areas

- The Generation nine-point recovery programme remains a key enabler to improve plant performance
- Focus on cost savings through business improvement initiatives, including equipment reliability through an effective maintenance strategy, which is expected to result in business efficiencies and improve plant availability
- Manage the consequences of the revised shutdown dates for Grootvlei, Komati and Hendrina
- Increase international electricity sales growth and retention, as well as collecting debt from international customers
- Continue to strengthen the transmission backbone towards the attainment of N–1 compliance, as well as the distribution networks to support customer growth
- Reduce the frequency of unplanned outages on the distribution network by focusing on planned maintenance of high-impact networks, combined with focused investment in strengthening and refurbishment to improve network reliability, and improve maintenance efficiencies by leveraging new line inspection technologies
- Gain efficiencies in revenue management and improvement in network performance through the use of technologies such as smart grids and smart meters
- Complete the Medupi and Kusile new build projects, and also improve the performance and reliability of new build units by implementing the new plant defect correction plan at Medupi, Kusile and Ingula
- Finalise project development activities and approvals for the battery storage and Medupi FGD projects, and commence with construction

Feasibility of continuing or stopping construction at Medupi and Kusile

A cost-benefit analysis was undertaken to determine the prudency of continuing or stopping the construction of the last three units at Kusile and the last unit at Medupi Power Station. The analysis carefully considered the engineering, technical, commercial, financial, legal, social and national grid implications. It also considered the economics of feasible alternatives, such as renewables or nuclear.

The conclusion was that it is not feasible to suspend all or even part of the work at Medupi and Kusile, for the following reasons.

The total cumulative cost of stopping Medupi and Kusile is estimated at R140 billion, made up of:

- The combined direct cost of deferring and/or stopping Medupi and Kusile projects is nearly R40 billion, relating to claims and penalties
- A further R100 billion will be incurred for impairing the asset in the regulatory asset base; the associated loan of R100 billion would need to be paid back to the lenders immediately, which would significantly impact Eskom's equity, our gearing ratio and all key financial metrics

To date, Medupi has spent 89% of its R145 billion budget, and construction is 95% complete. Kusile has spent 87% of its R161 billion budget, and construction is 87% complete.

The negative socio-economic impact of stopping the projects will create significant risk of instability in local communities, both in terms of direct employment and business opportunities.

Economically, it is more prudent to prioritise the effective completion of Medupi and Kusile, at a cumulative remaining approved project budget of R36 billion. Four of the eight remaining units at Medupi and Kusile (3 188MW) are expected to be commercially operational by the end of the 2019/20 financial year. The last units of Medupi and Kusile will be commercially operational by the 2020/21 and 2022/23 financial years, respectively.

With the above costs, alternative Eskom investment paths and replacement technologies are not deemed feasible in terms of either cost or time.

Furthermore, the priority is to fix the six major plant defects at the two projects at an estimated cost of R7.2 billion – some of which will be recoverable from liable contractors – and to apply these fixes to the remaining units.

Based on our medium-term system plan, 14 existing generation units totalling 4 772MW are due for shutdown in the next five years as they reach the end of their useful lives. This means that we urgently need additional generation capacity to meet the supply/demand requirements, as well as to relieve the strain on our ageing units to allow for critical maintenance. If the remaining units at Medupi and Kusile are completed, a total of 6 382MW will be connected to the grid.

Based on the abovementioned considerations, the Board has approved the continuation and completion of both projects.

OUR INTERACTION WITH THE ENVIRONMENT

Highlights

- Approval of the Eskom coal strategy, which favours dedicated long-term coal contracts with coal delivered by conveyor to ensure security of supply to our coal-fired stations
- Matimba, Kriel, Kusile, Grootvlei and Komati Power Stations have recorded consistently good emissions performance

Challenges

- Coal prices have increased as a result of our demand for additional coal, rising mining costs and the influence of export prices on the domestic market
- Postponement applications for minimum emission standards submitted to enable the majority of our stations to meet emissions requirements
- Declining water levels in the integrated Vaal River system which could lead to constrained water supply to our power stations
- Modifications to our power lines to prevent bird collisions remains significantly behind target, despite some progress

Improvements

- Coal volumes required to 2019/20 have been secured
- Koeberg continued to reduce its already limited water use footprint during the past year
- Duvha repaired two of its electrostatic precipitator units, resulting in improved emissions performance toward the end of the year under review

Lowlights

- Particulate emission performance is the worst in 20 years
- Kendal Power Station is non-compliant with its particulate emissions limits on most of its units
- Poor water management practices leading to excessive water usage at power stations, and resulting in 13 legal contraventions during the year

Our operations affect the environment more negatively than positively, and our activities rely heavily on the use of mainly non-renewable resources including coal, water, nuclear and liquid fuels, as well as diesel to power our generation fleet, whilst also impacting the land and air, thereby effectively destroying natural capital in order to create value for stakeholders.

We also impact the environment through emissions from our power stations and the generation of waste in the form of ash and nuclear waste, as well as other impacts related to environmental contraventions and biodiversity.

We strive to reduce our environmental footprint, for example, through the use of renewable energy. Environmental performance is considered a key strategic thrust, which will enable us to retain our licence to operate and support security of electricity supply, and also to achieve our values, specifically the value of Zero Harm to our people and the environment.

Securing our resource requirements

We aim to safely and sustainably source, procure and deliver the necessary amounts of primary energy – coal, nuclear fuel (uranium), liquid fuels, diesel, gas, limestone (used in FGDs) and water – of the required quality to our power stations, at the right time and at optimal cost.

Securing our coal requirements

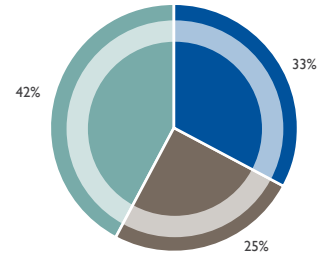
Coal supply strategy

A number of dynamics, such as rising coal costs, policy and political uncertainty, have resulted in reduced private investment, and even divestment, in the overall mining industry over recent years, thereby limiting the coal supply in the market. Furthermore, we have been impacted by competition from the export market for Eskom-grade coal.

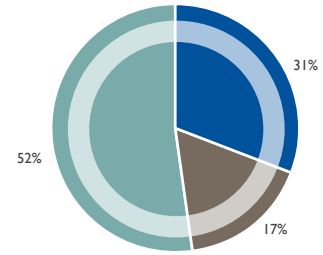
To deal with the various coal shortfall challenges, we reviewed our coal strategy to achieve an optimal coal cost and to ensure security of coal supply. The long-term coal strategy reverts to favouring dedicated long-term coal contracts, with a preference for coal delivered by conveyor. We have already formulated a long-term coal procurement strategy for the supply of coal to Kendal, Kriel, Majuba, Matla and Tutuka for the life of these power stations. The procurement strategy is earmarked for approval by Board in the near future.

The volumes and value of coal purchased over the past year were made up as follows:

Coal purchases by volume



Coal purchases by value



- Cost-plus
- Fixed price
- Short/medium-term contracts

Both in terms of volumes and value, coal from short- and medium-term contracts has increased slightly as a proportion of the total against the prior year, but overall, the split between the various categories is in line with the previous year.

Coal volumes required up to 2019/20 have been secured. We have also contracted adequate coal supply to 2020/21 to meet estimated coal burn requirements and also to maintain healthy coal stock levels at all stations. This gives us an opportunity to implement our long-term coal strategy to source 1.3 billion tons of uncontracted coal to cover the life of all coal-fired power stations.

Our top 10 coal suppliers have remained largely the same as the prior year.

Supplier	Contract type
Exxaro Coal	Mix of cost-plus and fixed price
Seriti Coal	Cost-plus
South32	Mix of cost-plus and fixed price
African Exploration Mining (new)	Fixed price
Universal Coal	Fixed price
Iyanga Mining	Fixed price
Keaton Mining	Fixed price
Shanduka Coal: Graspan Colliery (new)	Fixed price
Umsimbithi Mining	Fixed price
Tshedza Mining Resources	Fixed price

Coal quality

Our newer coal supply agreements contain rigorous quality clauses to provide us with greater recourse in the event of poor quality coal being supplied. We continue to evaluate the feasibility of a number of cost-effective technologies to improve coal quality, such as de-stoning, washing and screening of coal.

Determining coal quality at the point of delivery remains our long-term goal. Our research unit is evaluating the design of real-time processes and systems to sample and analyse coal consignments upon arrival at power stations, prior to offloading, by using coal DNA characterisation.

Investment in cost-plus mines

The majority of the cost-plus mines still require significant investment or recapitalisation in order to increase production and/or maintain existing production. Until the collieries can be recapitalised, lower production could be expected from these mines.

Nevertheless, recapitalisation will only be considered for those mines where long-term benefits can be demonstrated. Increased volumes of acceptable quality coal will reduce our overall coal spend by limiting the amount of coal required on short- and medium-term contracts. We will also consider financing expansion at cost-plus mines to access remaining contracted reserves, in order to increase production and support contract extensions.

Initial investments for the Matla Colliery have been approved; negotiations are commencing for the extension of the Matla coal supply agreement (CSA) that expires in 2023. The initial investment for the opening of new coal blocks at the Kriel Colliery is in the final stages of approval; negotiations for the extension of the Kriel Colliery CSA which expires at the end of 2019 are at an advanced stage. However, the benefits from these investments will only be realised in a few years when the collieries again reach full production.

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Coal burnt, Mt[1, 2]	n/a	n/a	117.10	**113.76**	115.49	113.74	n/a
Coal purchased, Mt[1]	n/a	n/a	122.97	**118.25**	115.25	120.25	n/a
Coal purchase R/ton, % increase[SC]	9.0	20.0	9.0	**14.1**	3.8	3.5	■
Coal stock days[1]	n/a	n/a	37	**67**	68	74	●
Normalised coal stock days[1]	n/a	n/a	37	**26**	28	38	■
Road-to-rail migration (additional tonnage transported on rail), Mt[SC, 3]	37.1	10.6	11.5	**8.2**	11.6	13.2	■

1. Future targets shown as n/a are dependent on system requirements.
2. The current year coal burnt figure excludes 3 085kt burnt during the commissioning of Medupi Units 3 and 2 and Kusile Unit 2 (March 2018: 1 901kt for pre-commissioning burn).
3. The 2021/22 road-to-rail target is the cumulative target over the next three years.

Technical performance

The average coal purchase price percentage increase far exceeded the target, due to high volumes of short- and medium-term contract coal being purchased to address low coal stock levels at numerous stations, as well as lower production at certain cost-plus mines. Our demand for additional coal and the increased export market price for Eskom-quality coal have driven up the short-term coal price.

Overall, coal stock days remained significantly higher than target largely due to more coal than needed being delivered to Medupi, Kusile and Lethabo Power Stations. Due to the delays in the commissioning of units at Medupi and Kusile, coal requirements are lower than originally anticipated, although we continue to receive coal in terms of the take-or-pay coal supply contract. Lethabo is supplied by a cost-plus mine, where there is no financial benefit to reducing coal production. Furthermore, it is neither practical nor economical to transport coal from Medupi to other Mpumalanga stations.

Normalised coal stock days above have been determined by excluding coal stock at Medupi and Kusile Power Stations, as well as the excess stockholding at Lethabo. More recently, a decision was taken to change the basis for reporting normalising stock to only exclude stockholding at Medupi and Kusile, as these are the only stations not fully commissioned, and also to exclude the requirements of the units at Hendrina, Grootvlei and Komati which have been placed in reserve storage. In the coming financial year, the revised method will be reported. Using the new basis, the stock holding at 31 March 2019 stood at 36 days.

The improvement in coal stock days is mainly due to the recovery plan put in place to improve the low coal stock at certain stations. A total of 41 new coal contracts have been concluded since January 2018, which have already begun to increase coal stock levels at all of the affected power stations; it is planned that all power stations will be at expected levels by the end of the 2019 calendar year.

At 30 June 2019, the following three stations had stock below their individual station minimum stockholding levels, indicating an improvement from the nine stations at year end:

- *Arnot*: 20 days against a minimum of 26 (March 2018: 14 days). The transfer of coal from other stations remains problematic due to the station's higher coal quality requirement
- *Kriel*: eight days against a minimum of 33 (March 2018: 29 days). Lower than planned deliveries resulted in the coal stock reducing to six days during the year, but levels have improved due to new contracts being placed
- *Matla*: 18 days against a minimum of 27 (March 2018: 59 days). Coal stock dropped as low as eight days during the year as a result of short supply from the dedicated colliery; levels are improving due to new short-term contracts being put in place

Coal-related load losses for the year were 21% higher than the previous year. The two main contributors were Matla (74%) and Tutuka (13%) Power Stations, which contributed 87% of all coal quality-related load losses for the past year:

- The losses at Matla are due to the poor quality of the Matla Mine 3 coal. This will improve when production from the Matla Mine 3 shortwall is replaced with better quality coal from the Matla Mine 2 shortwall; this is expected early in the new financial year
- Unfavourable coal seam conditions have been experienced at Tutuka's New Denmark Colliery. It is anticipated that the geological mining conditions will improve in the near future
- Both stations are also impacted by poor quality coal from short- and medium-term contracts, suspected to be the result of in-transit delivery fraud. Corrective measures, including site monitoring and tamper-proof seals, are being implemented to address this concern

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

Rail operations to Majuba Power Station were severely affected by cable theft and vandalism. As a result, Transnet Freight Rail (TFR) is currently meeting only 70% of Majuba's coal requirements by rail. TFR has advised that they expect the issues to be resolved before the end of the calendar year. In addition, the 40-day shutdown of the current rail operation at Majuba is planned for September 2019, in preparation for the new heavy-haul line due to come into operation thereafter.

For the coming year, Eskom and TFR have agreed to a target of 10.6Mt of coal transported by rail, to align to each company's proposed shareholder compact with DPE. The ultimate intention is for TFR to provide build, own and operate rail solutions for Eskom, at a cost equal to or lower than the road haulage option, thus allowing us to focus on our core business.

Road logistics unfortunately recorded 21 public fatalities during the year, as well as one contractor fatality. Eskom will continue to promote road safety and participate in road safety awareness campaigns with the Mpumalanga Department of Community, Safety, Security and Liaison.

Securing our water requirements

Water security risks relating to Eskom's existing needs

The Department of Water and Sanitation (DWS) has reported that engineering work has commenced on the Lesotho Highlands Water Project Phase 2, which is now scheduled to be commissioned by 2025. Until then, water availability in the Vaal River system will remain at risk, with dam levels in the Vaal River system declining. DWS is implementing various initiatives to mitigate against future water security risks in the integrated Vaal River system.

To assist with water security in the Vaal River system, we committed last year to use the Drakensberg Pumped Storage Scheme to pump water from the Thukela River into the Sterkfontein Dam, which feeds into the Vaal River system. However, due to DWS infrastructure challenges this could not occur during the year. Nevertheless, we will continue to make the Drakensberg Pumped Storage Scheme available to allow for this when needed.

Deteriorating raw water quality requires collective action by DWS and water users, including Eskom, to protect water resources and deal with polluters. If not resolved, it will require us to increase our water purification capability.

Mokolo Crocodile Water Augmentation Project (MCWAP) Phase 2

Medupi Power Station's FGD retrofit requires additional water from the MCWAP project by the revised date of June 2026, which takes account of the rework required at Medupi. The estimated water delivery from MCWAP has moved out to April 2025.

Refer to "Our infrastructure – Delivering capacity expansion" on pages 116 to 118 for further information

Water for future power stations

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

For a discussion of our water usage, refer to "Reducing water consumption" on page 126 in this section

Securing our nuclear fuel requirements

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 2024/25. Existing contracts for enriched uranium, which is used as feed for these fuel fabrications, provide for almost all of our demand until the end of 2020. New contracts for enriched uranium have been concluded and awarded for our anticipated requirements from 2020 to 2028.

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

Reducing our environmental footprint

We assess our environmental performance through several key performance indicators. These include relative particulate emissions, specific water consumption and the number of reported legal contraventions. We also monitor the number of red data bird mortalities, together with proactive and reactive mitigation programmes to prevent mortalities.

Refer to the fact sheet on page 176 for information on the environmental implications of using or saving electricity

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Relative particulate emissions, kg/MWh sent out[SC, 1]	0.31	0.33	0.33	**0.47**	0.27	0.30	■
Specific water consumption, ℓ/kWh sent out[SC, 1]	1.33	1.35	1.36	**1.41**	1.30	1.42	■
Net raw water consumption, Mℓ	n/a	n/a	n/a	**292 344**	276 335	307 269	n/a
Environmental legal contraventions in terms of the Operational Health Dashboard, number[2]	1	1	1	**2**	2	–	■
Carbon dioxide (CO_2), Mt	n/a	n/a	n/a	**220.9**	205.5	211.1	n/a
Sulphur dioxide (SO_2), kt[3]	n/a	n/a	n/a	**1 853**	1 802	1 766	n/a
Nitrogen oxide (NO_x as NO_2), kt[4]	n/a	n/a	n/a	**890**	859	885	n/a

1. Relative particulate emissions values and specific water consumption include Medupi Units 4, 5 and 6 as well as Kusile Unit 1, but exclude units synchronised but not yet in commercial operation. Units are only included in calculations one year after achieving commercial operation.
2. 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.
3. Our sulphur dioxide performance figures are calculated based on coal characteristics and power station design parameters using coal analysis and coal burnt tonnages. Figures include coal-fired and gas turbine power stations, as well as oil consumed during power station start-ups. For carbon dioxide emissions, it also includes the underground coal gasification plant.
4. NO_x reported as NO_2 is calculated using average station-specific emission factors (which are measured intermittently) and tonnages of coal burnt.

Particulate and gaseous emissions

The burning of coal to produce electricity results in the emission of four major pollutants: particulate matter, carbon dioxide (CO_2), sulphur dioxide (SO_2) and nitrogen oxides (NO_x). Historically, the Atmospheric Pollution Prevention Act, 1965 focused on particulate matter and required industry to install technology to reduce emissions. We started implementing pollution reduction technology in the early 1980s and successfully reduced particulate matter emissions by more than 84%. Unfortunately, particulate emission performance over the past year was the worst in 20 years, with total ash emitted almost doubling from the previous financial year, primarily as a result of challenges experienced at Kendal Power Station.

Further details of particulate and gaseous emissions are available in the technical statistics table on pages 168 to 171

Relative particulate emissions

The relative particulate emissions performance was significantly worse than target, representing a significant decline compared to the previous financial year and the worst performance in 20 years.

Kendal Power Station was the primary contributor to the poor relative particulate emissions performance, due to a lack of maintenance of the emission reduction equipment and ashing system earlier in the financial year, which was exacerbated by the strike action experienced during June 2018 and the need at the time to continue operating to avoid rotational loadshedding, thereby limiting opportunities to conduct required maintenance. Kendal is implementing a recovery plan, which includes additional scope of work during planned outages and several short-term outages to repair dust handling plant and electrostatic precipitators to reduce emissions. Although the station made commitments to comply by the end of March 2019, this was not achieved, and their particulate emissions performance continued to decline. The power station remains committed to continuous improvement as soon as possible.

Other contributors to the poor performance are:

- Damaged fabric filter bags at Camden, Arnot, Medupi and Majuba Power Stations
- Malfunctioning of the ash conveyance systems at Tutuka and Matla Power Stations, leading to the accumulating ash damaging the precipitators, resulting in high particulate emissions
- Poor quality coal at Matla, Kriel and Tutuka Power Stations have caused an increase in particulate emissions

Emission standards

Minimum emission standards (MES) were published in 2010, and stipulated emission limits which required Eskom to reduce sulphur dioxide and nitrogen oxides gaseous emissions, in addition to particulate matter. We had to comply with existing plant standards by April 2015, while more stringent limits must be met by April 2020.

Compliance with the new plant standards requires all coal-fired power stations to implement emission reduction technologies, such as fabric filter plant (FFP), low NO_x burners or flue gas desulphurisation (FGD). The total capital expenditure required to retrofit our active coal-fired units with emission reduction technologies to fully comply with strict new plant emission standards is estimated at R187 billion, based on overnight cost excluding interest. Given the associated costs and other impacts such as increased waste and water use, we have submitted an application to postpone compliance with these standards for some pollutants.

For our minimum emission standard postponement application, refer to http://bit.ly/2Ycyrda

We consider the remaining life of power stations in our fleet and their impact on ambient air quality in our approach to reduce emissions. In cases where it is not possible for power stations to comply with the MES within the compliance timeframe or before they are decommissioned, we have submitted a postponement application.

We have installed FGD at Kusile Power Station, with Medupi being scheduled to retrofit FGD on its six units during the coming years. Both Kusile and Medupi have had low NO_x burners installed during construction. Our air quality implementation plan is being executed, and several other power stations have begun installing technology to further reduce particulate matter and NO_x emissions.

The Department of Environmental Affairs (DEA) granted us previous postponements, some until 2020 and others until 2025, on condition that we implement committed improvements at several power stations, and develop and implement an environmental offset programme to improve ambient air quality in communities close to our power stations.

We note the recent court action by groundWork and Vukani, represented by the Centre for Environmental Rights, claiming that Government has violated the constitutional right to a healthy environment for people living and working in the Highveld Priority Area in Mpumalanga. Despite highlighting emissions caused by Eskom and other industries, Eskom is not a formal respondent in the case. We agree that the level of pollution in the Mpumalanga area requires urgent attention. In addition to emissions from industry, other activities in the area – such as domestic coal burning, traffic, dust blowing from various sources including mining and agriculture – contribute to pollution. We are committed to finding the best combination of mitigation options to reduce exposure to the many sources of pollution.

Offset programmes

In accordance with our minimum emission standards postponement commitment, an air quality offset plan to improve ambient air quality – especially particulate matter levels – in communities close to our power stations was approved by DEA and the affected district municipalities in September 2016. The offset plan has a nominal cost in excess of R4 billion over nine years.

The focus of the offset interventions is on switching households from using coal to using electricity in combination with liquid petroleum gas (LPG), and to address the burning of waste as a source of local air pollution. Rollouts of air quality offsets were planned in KwaZamokuhle, Ezamokuhle and Sharpeville for 2018/19, but there have been significant delays due to challenges with commercial processes. The lack of capacity of the Sharpeville Local Authority to support any interventions is also hampering the identification of sustainable solutions.

Engagements with the South African Medical Research Council (SAMRC) on the planned health assessment contract have been concluded; work to obtain the necessary research approvals for the study has started.

Compliance with atmospheric emission licences

Eskom's power stations generally comply with station-specific atmospheric emission licence (AEL) conditions, with a few exceptions. A total of 84 non-compliance incidents were reported in terms of section 30 of the National Environmental Management Act (NEMA), 1998 during the past year (March 2018: 22). Power stations have operated under conditions where section 30 is triggered for 1.31% of the time during the year (March 2018: 0.88%).

Kendal Power Station recorded 47 emergency incidents under NEMA section 30. Of these, the DEA has rejected 14 as not being emergency incidents, and therefore regarded as non-compliances to its licence. Eskom is engaging the licensing authority in this regard.

Tutuka Power Station had to comply with a more stringent licence limit of 200mg/Nm³ for particulate matter from 1 January 2019. A variation of the postponement application for an emission limit of 300mg/Nm³ was submitted in November 2018; while the application is being processed, the station reports on exceedances of its limits.

Design issues at Medupi Power Station are impacting the ability of the station to meet its particulate emission limits when operating at higher loads. Correction of these issues form part of the new build defect correction plan, discussed earlier.

Gaseous emissions

SO_2 emission limits

There have been many exceedances of allowed SO_2 emissions during the year. Matimba and Medupi Power Stations contributed 65 and 15 of these respectively, as a result of the generally higher sulphur content of the Waterberg coal. In September 2018, postponement decisions were granted for these stations, allowing for monthly instead of daily SO_2 emission limits, which enable these power stations to comply with their limits.

NO_x emission limits

There have been 304 exceedances of allowed NO_x emissions recorded by coal-fired power stations during 2018/19. Lethabo Power Station incurred 112, or 37%, of these exceedances. The station has been working to address combustion issues which impact NO_x exceedances; a decrease in the frequency of exceedances was noted towards year end. Camden Power Station contributed 72 exceedances, or 24%.

Emission reduction projects

Eskom remains at risk of not meeting commitments made in previous minimum emission postponement applications due to project delays and constraints on available funding. The consequences of non-compliance could be the withdrawal of licences to operate, DEA not granting further postponements, as well as not meeting specific loan agreement conditions, such as the World Bank's Medupi FGD loan conditions.

The following emission reduction projects are being undertaken:

- Lethabo Power Station is busy with the first phase of a particulate emissions reduction solution through the installation of high-frequency power supply on all six units. The second phase is being developed; this will cover the refurbishment of the electrostatic precipitators, upgrading the SO_2 plant and installing an ammonia injection plant. Lethabo's high-frequency transformer project has experienced delays in the commercial process due to non-responsive bids on two occasions
- Planning for the installation of high-frequency transformers to reduce particulate emissions 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_x burner replacement or retrofits at Tutuka, Majuba and Matla
- Tenders for the Tutuka FFP and dust-handling plant retrofits are being evaluated. An application for postponement of the station's minimum emission standards and atmospheric emission licence limits applicable from 1 January 2019 was submitted to the authorities in November 2018; a decision on the matter is awaited
- The PFMA application for the Kriel FFP retrofit project was rejected in February 2018. The power station has decided to install high-frequency transformers and upgrade the electrostatic precipitators instead. Planning for this is ongoing. However, potential delays are predicted in meeting legally binding commitments made in the Kriel postponement application
- As indicated, the units at Kusile are being constructed with the FGD plant included, while Medupi will be retrofitted with FGD. Delays are expected in delivering the first few units due to challenges in obtaining funding

Ashing facilities and ash utilisation
Our exemption applications requesting a period of four to six years after authorisation to install linings at the Majuba, Kendal, Tutuka and Matimba dry-ashing facilities were all approved.

Ash sold in terms of our ash utilisation strategy increased slightly to 2 785kt in 2018/19 (March 2018: 2 736kt), or just over 8% of total ash produced. We continue to coordinate and support discussions to develop new local and international markets for ash beneficiation in line with Operation Phakisa initiatives to create jobs and new skills, while continuing to ensure responsible environmental management.

Reducing water consumption

Eskom has developed and is implementing a comprehensive water strategy for all coal-fired power stations, which is based on maintaining our strategic user status and complying with applicable legislation. All power stations have developed water strategy implementation plans, focusing on actions to reduce water use and ensure compliance. Unfortunately, the good progress made in the previous year was not realised over the past year, mainly due to both financial and power system constraints.

Specific water usage
Specific water use for the generation of electricity for the year is worse than target, due to:

- Poor water management practices and operational inefficiencies at power stations due to water leaks, water wastage through overflowing tanks, low load factors, several unit trips and boiler filling
- Slow implementation of water strategy action plans aimed at addressing poor water management practices at the stations

Water management cuts across many areas of the plant, and therefore more efficient use of water will be achieved by improved planning, maintenance and operations at all of Eskom's power stations. As Generation implements its nine-point recovery programme, water management and compliance is expected to improve along with other aspects of technical performance.

Reducing environmental legal contraventions

There were two Operational Health Dashboard contraventions (as defined earlier) reported during the year. However, 21 environmental legal contravention incidents were recorded (March 2018: 30). Of these, 13 were water-related incidents, four related to air quality, and one each related to waste, biodiversity, forestry and an environmental impact assessment.

Phasing out polychlorinated biphenyls (PCBs)
In terms of the Stockholm Convention, South Africa is required to phase out PCB-contaminated equipment by 2025. In response, we developed a national inventory of PCBs and a plan to dispose of 152 PCB-contaminated pieces of equipment before 2023. To date, 73 pieces of equipment have been phased out, of which 15 were phased out in 2019. The plan is to phase out the remaining 79 pieces of equipment by 2023.

Information on the disposal of ash, asbestos, PCB-containing material, as well as nuclear waste and used nuclear fuel is set out in the statistical table on pages 168 to 171

Provisions for environmental restoration and rehabilitation

Provision is made for the estimated decommissioning cost of nuclear plant, including rehabilitation of the associated land, as well as the management of spent nuclear fuel assemblies and radioactive waste. We also provide for the decommissioning of other generating plant and rehabilitation of the associated land.

Furthermore, where a constructive or contractual obligation exists to pay coal suppliers from cost-plus mines, we provide 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 in respect of environmental rehabilitation and restoration:

R million	Actual 2018/19	Actual 2017/18	Actual 2016/17
Power station-related environmental restoration – nuclear plant	**17 797**	15 928	17 650
Power station-related environmental restoration – other power plant	**14 460**	13 375	12 643
Mine-related closure, pollution control and rehabilitation	**13 906**	12 737	11 706
Total environmental provisions	**46 163**	42 040	41 999

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

Biodiversity

During the year, 331 red data bird mortalities were recorded on Eskom's infrastructure, an increase on the 256 mortalities recorded last year. Although lines and segments within sensitive areas have been identified, implementation of proactive mitigation actions to ensure that they are made bird-friendly has been slower than anticipated.

Investing in renewable energy

We aim to deliver on our commitment to environmental sustainability and reducing our carbon footprint through 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. However, we await approval of the revised Integrated Resource Plan (IRP) and the allocations contained therein in order to align our investment in renewables with South Africa's future energy mix.

For capacity provided by renewable IPPs, refer to page 114

The Eskom-owned Sere Wind Farm contributed 328GWh to the national grid during the year (March 2018: 331GWh), with an average load factor of 35.69% and an average availability factor of 98.88% (March 2018: 36.05% and 98.77% respectively).

The eight rooftop and ground-mounted PV sites in operation at Eskom facilities produced total energy sent out of 4GWh during the year (March 2018: 4GWh).

Climate change

South Africa's pledge

Under the Paris Agreement, South Africa has pledged that the country's CO_2 emissions will peak by 2025, plateau for another 10 years and then decline from 2035. Historically, electricity accounts for around 42% of national CO_2 emissions. To achieve this target, the country will need to invest in lower or zero-emitting technologies, as and when the current coal-fired electricity generation fleet reaches the end of its life.

A concerted effort is needed to focus on greener technologies such as nuclear, cleaner coal technologies, renewables, gas and large hydro imports. The trade-offs between technologies must however be discussed and rationalised to arrive at an appropriate electricity mix. This will be informed by the revised IRP, to be issued by the newly combined Department of Mineral Resources and Energy.

Eskom's climate change policy
Our climate change policy, which supports the national climate change policy, is being implemented through six strategic initiatives prescribed in our climate change strategy. These include developments on carbon budgeting, national pollution prevention plans, carbon tax, national greenhouse gas reporting, a national adaptation strategy and the national adaptation research agenda.

We continue to work with the Council for Scientific and Industrial Research (CSIR) on climate change forecasts and impacts across all of our assets and logistical routes. Each division is setting up its own plans on how to adapt to the anticipated climate change and its impacts, which is then managed centrally. Additionally, the Steering Committee on Technology is integrating all of the climate change science business intelligence into Eskom's designs, planning and maintenance regimes through technology roadmaps for 2020/21. Due to the climate change impact risk gaining momentum, Eskom will receive more frequent seasonal forecasts on anticipated extreme weather events.

The DEA is pursuing the low-emission development strategy for South Africa and the development of sector job resilience plans. We have been invited to contribute to these studies.

Other initiatives

Task Force on Climate-Related Financial Disclosures (TCFD)
The Financial Stability Board established the TCFD to develop recommendations for consistent climate-related disclosures that could promote more informed investment, lending and insurance underwriting decisions. The recommendations aim to improve the understanding and analysis of climate-related risks and opportunities, and provide information on the financial impact of climate change on an organisation.

Eskom is exposed to climate change risks related to the impact on our business of the transition to a lower carbon economy, as well as risks related to the physical impacts of climate change. Climate-related opportunities for Eskom include resource efficiency, low-emission electricity sources, opportunities in new markets or types of assets, and improved climate resilience.

The key goal of implementing the TCFD recommendations in Eskom is to improve our disclosure of the financial impacts of climate-related risks and opportunities. In order to make informed financial decisions, investors, lenders and insurance underwriters alike need to understand how climate-related risks and opportunities are likely to impact Eskom's future financial position as reflected in the income statement, cash flow statement and statement of financial position. Fundamentally, the financial impacts of climate-related issues are driven by climate-related risks and opportunities to which Eskom is exposed, and our strategic and risk management decisions on managing those risks, whether it be to mitigate, adapt or control.

The task force developed widely adoptable recommendations structured around four core elements: governance, strategy, risk management, as well as metrics and targets. The four overarching recommendations are supported by specific disclosures that supplement the framework with information that will help investors and others understand how organisations assess and manage climate-related risks and opportunities.

While we currently report on climate-related information, we acknowledge that there is a lot more that could be reported regarding the strategies and policies being followed. We will endeavour to provide more information in our next integrated report.

Carbon Pricing Leadership Coalition
Eskom is an active member of the World Bank's Carbon Pricing Leadership Coalition (CPLC), a high-level assembly of private sector leaders, academia and governments, which convenes to discuss concerns regarding effective carbon pricing policies that maintain competitiveness, create jobs, encourage innovation and deliver meaningful emissions reductions. The CPLC drives policy adoption and accelerates implementation through knowledge sharing, technical analysis and public-private dialogues that guide successful carbon pricing.

Momentum is growing among countries and businesses to put a price on carbon pollution as a means of reducing emissions and driving investment into cleaner options. The pricing of carbon includes capturing the external costs of carbon emissions – costs that the public pays for in other ways, such as damage to crops, healthcare costs from heat waves and droughts, damage to property from flooding and rising sea levels – and tie them to their sources through a price on carbon.

We are committed to addressing the challenge of climate change and support carbon pricing as a tool to assist in lowering the cost of reducing emissions. A transition from coal to lower carbon technologies underpins our comprehensive climate change strategy. We have committed to participating in discussions on solutions to ensure the country's transition to a lower carbon future that does not hamper socio-economic development.

Carbon mitigation mechanisms
National Treasury has proposed that a carbon tax be levied on reported greenhouse gas (GHG) emissions, in order to send a price signal to the market to reduce consumption of carbon-intensive products. We are participating in the pilot phase of the carbon budgeting process. Once again, results achieved in 2018 were better than our pilot carbon budget. However, until such time as we are allocated additional lower carbon-emitting technologies in terms of the revised IRP, we remain concerned about our ability to reduce the liability in terms of the pending carbon tax.

The President has signed into law the Carbon Tax Act, 2019, which came into effect from 1 June 2019. For the first phase, to 31 December 2022, the Act provides significant tax-free emission allowances that will in effect nullify the potential impact on electricity tariffs. During phase two, these allowances fall away and the full effect of the carbon tax liability is expected to be passed through to consumers. We object to the proposed curtailment of the renewables premium rebate by 31 December 2022, given that the RE-IPP programme contracts extend as far as 2038. We are preparing to ensure adequate administration is in place to support compliance.

In 2017, the DEA gazetted the National Greenhouse Gas Emission Reporting Regulations, the Declaration of Greenhouse Gases as Priority Pollutants and the National Pollution Prevention Plans Regulations. Furthermore, the Climate Change Bill was published for public comment on 8 June 2018; this will coordinate all climate change legislation under one Bill. As a major emitter, we will be required to comply with all these regulations.

Our carbon footprint
A carbon footprint is a calculation, reported over a period of 12 months, of the total GHG emissions caused directly and indirectly by an organisation. Direct GHG emissions are those from sources that are owned or controlled by the reporting entity. Indirect GHG emissions are emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity (such as flights used by employees travelling on business).

An Eskom carbon footprint study, last conducted in 2008, is being updated. The 2008 study showed that 99% of Eskom's greenhouse gases were as a result of coal combustion at our coal-fired power stations. While we do not expect any significant change, the new study will provide an updated view of our total GHG emissions, give assurance that Eskom is reporting holistically and help identify opportunities for reducing emissions.

Future focus areas

- Reinvest in cost-plus mines to enable contractual supply, extend cost-plus contracts to match power station lives, and utilise dedicated coal reserves for supply to other power stations
- Manage coal costs within agreed parameters, while maintaining security of supply and contracting for coal at acceptable levels of quality, quantity and cost
- Return coal stock at power stations to acceptable levels through the recovery programme
- Strive to transport coal as economically as possible, leaning towards a tied colliery model delivering coal by conveyor. Rail and road transportation are the second and third options
- Ensure functioning processes to measure coal deliveries and test coal quality on site
- Repair dust handling plant and electrostatic precipitators to improve emissions performance at Kendal, as the most significant contributor to poor emissions performance
- Effectively implement the power station water strategy action plans
- Greater focus on risks and mitigating actions regarding climate change

OUR PEOPLE

Highlights

- Approval of a revised executive structure, which provides the basis for the structure of our interim operating model
- Development of a gender policy through the Eskom Gender Office in order to tackle issues of gender equality

Improvements

- Decisions to stabilise and reduce headcount have been successful, with overall headcount reducing due to natural attrition
- Determined ways in which to implement recommendations on headcount, equity and cost savings indicated by our interim operating model
- Digitisation of training and development through the Eskom Academy of Learning (EAL) offers remote technical, managerial and safety learning opportunities

Challenges

- Despite concluding a three-year wage agreement with bargaining unit employees, industrial relations challenges continue to cause uncertainty in our operations
- Ensuring an adequately skilled workforce and meeting our transformation and learner intake targets, given the moratorium on external recruitment
- Achieving disability equity at all levels, and reasonable accommodation of people with disabilities
- The number of serious incidents resulting in injuries and/or fatalities, including public incidents due to illegal connections and tampering, coupled with the escalation in incidences of occupational diseases

Lowlights

- Low employee morale as a result of Eskom's poor reputation, uncertainty around the impact of the proposed restructuring and lack of incentive bonuses
- Managing employee benefit cost drivers, such as headcount, overtime and allowances, to meet our cost containment objectives despite a reduction in headcount
- Due to our financial challenges, the second phase of income differential adjustments has not been implemented
- Despite improvements since the previous year, we continue to experience fatalities of employees, contractors and members of the public

Our people are a critical enabler in ensuring that we are capable of successfully executing our strategy and delivering on our mandate. We need to ensure that we have the right people in the right positions doing the right things at the right time, and that we can recruit and retain a skilled workforce by adequately rewarding our people for their efforts. We achieve this through our recruitment and remuneration policies, maintaining a diversified learner pipeline, developing and training our people, and enabling advancement opportunities.

Our human resources framework relies on three main focus areas:

- Creating a culture of high performance that fosters accountability and authentic leadership
- Ensuring that we have a productive workforce, efficiently organised and appropriately skilled
- Retaining core and critical skills while ensuring that our workforce is engaged

Our core values and leadership brand pillars are crucial to driving a culture of performance and accountability. Effective leadership development, employee engagement, our employee value proposition, consequence management and accountability, are all enablers to nurturing our desired organisational culture and returning to our values.

We continue to embed a culture of Zero Harm in our operations to eliminate incidents, mitigate occupational hygiene and safety risks and promote excellence in safety performance. Our focus on safety is critical to our performance and to providing a safe working environment for our people, as well as protecting members of the public from exposure to the hazards of our operations and infrastructure. We pursue safety initiatives and manage our activities to ensure compliance with statutory requirements and to reduce the number of fatalities and injuries. These include training and awareness interventions, proactive safety assessments and active management of areas requiring improvement.

Our workforce

The group headcount at year end was 46 665 (March 2018: 48 628), including permanent staff and fixed-term contractors, consisting of 39 292 Eskom employees and 7 373 Eskom Rotek Industries (ERI) employees (March 2018: 41 316 and 7 312 respectively). Of these, approximately 85% were covered by collective bargaining agreements.

As a result of our significant financial challenges, a moratorium on external appointments was instituted in May 2018, with the exception of core, critical and scarce skills in essential areas. As a result, the group headcount has declined over the past year due to limited replacement of employees leaving through natural attrition.

Our staff turnover rate during the past year was approximately 5%, with the movement in our headcount shown below.

Number of employees	2018/19	2017/18
Headcount at 1 April	**48 628**	47 658
Add: Appointments	**469**	3 169
Less: Resignations	**(1 135)**	(1 114)
Retirements	**(874)**	(740)
Deaths in service	**(215)**	(190)
Dismissals	**(120)**	(123)
Absconded	**(5)**	(4)
Separation packages	**(8)**	–
Other	**(75)**	(28)
Headcount at 31 March	**46 665**	48 628

The streamlining of Exco, which resulted in the separation packages, is discussed under "Our governance – Exco update" on page 70

Our focus on cost containment and workforce optimisation continues. Progress has been made on reducing headcount through natural attrition, however, initiatives to better manage our manpower cost drivers and employee productivity levels, in order to build a more sustainable organisation, remain ongoing. Our revised executive structure and the regrading or combining of executive roles has assisted in rationalising the managerial span of control and clarifying organisational reporting layers in line with our interim operating model.

Employee benefit costs are the second largest component of our operating costs, constituting about 22% of total operating expenditure (excluding interest, fair value adjustments, depreciation and amortisation), and therefore one of our most significant cost elements. A reduction in employee benefit costs is required to place us on a path to building a more sustainable organisation. Our strategic focus on cost containment requires us to explore the reduction of employee benefit costs – we are pursuing headcount reduction through natural attrition, overtime management and enhanced productivity levels as key levers to achieve this.

For a discussion of employee benefit costs, refer to "Our finances – Other operating costs" on page 100

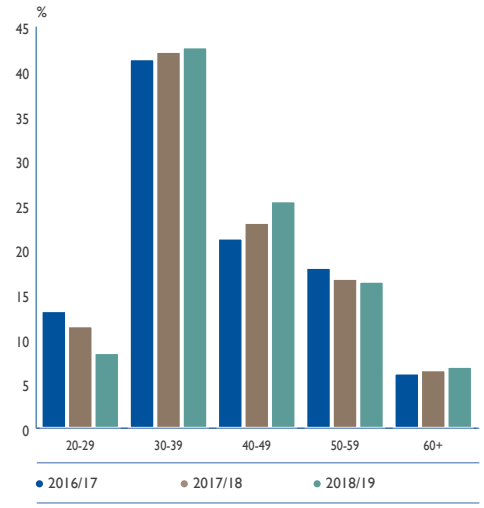
Overtime is regarded as discretionary spend and provides a savings opportunity, however, poor plant performance has perpetuated our reliance on overtime. We are monitoring overtime trends and will be implementing additional system interventions to manage this concern. We are also considering options to reduce headcount through natural attrition, and possibly through future early retirement and voluntary separation packages, whilst optimising our workforce through the retention and limited replacement of core, critical and scarce skills. We are targeting a group headcount of 43 687 by 2021/22.

The composition of our employee benefit costs is set out in note 35 of the consolidated annual financial statements

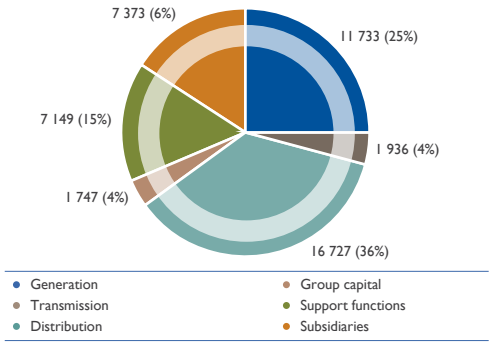
	2005/06	2018/19
GROUP HEADCOUNT	31 458	46 665
NUMBER OF CUSTOMERS	3 758 931 Per employee: 119.5	6 497 372 Per employee 139.2
SALES VOLUMES, GWH	207 921 Per employee: 6.6	208 319 Per employee 4.5
NOMINAL POWER STATION CAPACITY, MW	36 398 Per employee: 1.2	44 072 Per employee 0.9
POWER LINES, KM	361 128 Per employee: 11.5	387 663 Per employee 8.3
TRANSFORMER CAPACITY, MVA	205 662 Per employee: 6.5	297 512 Per employee 6.4
TOTAL ASSETS, R MILLION	128 286 Per employee: 4.1	758 018 Per employee 16.2

In 2005/06, Eskom commenced the new build programme to construct Medupi, Kusile and Ingula with the objective of providing additional generation capacity to the grid by 2021/22. The growth in group headcount experienced from 2005/06 should be considered in this context. Furthermore, we have experienced substantial growth in the size of our network, as well as a near 70% growth in our customer base, increasing the operational demands on the organisation and our resource requirements. Therefore, merely comparing our sales over this period and arguing that our headcount should have remained constant, does not take all the relevant factors into account.

The breakdown of our workforce at 31 March based on age is shown below. Ensuring knowledge transfer from those employees nearing retirement age remains an area of focus.



The divisional breakdown of our workforce at 31 March 2019 is shown below.



This indicates that about 65% of employees are directly involved in the generation, transmission and distribution of electricity to customers, with the balance employed in the new build programme, support functions and our subsidiary ERI, which focuses on supporting the electricity business.

For information on the racial and gender breakdown of our workforce, refer to "Improving internal transformation" on pages 136 to 138

Building and retaining strong skills

In order to sustain our business, we need to recruit, develop and retain appropriately skilled, engaged, committed and accountable employees. Essential to this is attracting and retaining critical skills using a targeted employee value proposition and managing our talent in a sustainable manner, through performance management, learning and development, and advancement opportunities. One way of ensuring this is through our internal talent boards, where we identify high-performing individuals as well as developmental needs, perform succession planning for critical workforce segments, and actively manage talent pools and careers in line with our workforce plan and transformation objectives. Our internal talent pools also aim to reduce external recruitment in an effort to manage employee benefit costs, given the current freeze on recruitment.

Rebuilding critical capabilities by understanding and ensuring effective assessment of our potential skills gap is paramount to guaranteeing that we remain fit for the future. We will develop and implement an overall skills strategy to ensure that, during these challenging times, our strategic workforce planning and learning and development is fit for purpose, both now and into the future.

Skills development is not only required in order to meet our own business needs, but also to contribute to the skills development strategy of the country, in support of the National Development Plan 2030 which aims to eliminate poverty and reduce inequality by 2030. In furtherance of this, we continue to recruit learners and manage a learner pipeline to address the requirements of the business, our shareholder – as set out in our shareholder compact – and those of Government.

Learner pipeline

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Learner intake: Artisans, number[SC]	276	92	92	–	n/a	n/a	■
Learner intake: Engineers, number[SC]	48	16	16	10	n/a	n/a	■
Learner intake: Technicians, number[SC]	33	11	11	3	n/a	n/a	■
Learner intake: Sector-specific, number[SC]	–	–	–	8	n/a	n/a	●
Training spend as % of gross employee benefit costs[SC]	3.75	3.75	3.75	3.85	5.21	4.89	●

1. From 2018/19, learner numbers reflect only new contracts awarded to learners and not the full learner pipeline as was previously presented.
2. The 2021/22 target for learner intake is the cumulative figure targeted over the next three years.

Our learner pipeline currently includes a total of 2 988 learners (March 2018: 4 176), comprising 2 753 in technical disciplines and 235 in non-technical disciplines. The majority of learners are being developed within the Distribution and Generation operating environments, which accounts for 51% of our existing workforce, as indicated earlier. Due to financial constraints, only four new learners were appointed during the year (March 2018: 424). Although no new artisan learners were appointed during the year, our pipeline contains a sufficient number of artisans to meet our future skills requirements.

Our robust learner pipeline currently represents 7.6% of company headcount; it is our intention to reduce the learner pipeline to 6% of headcount by 2020 based on available financial resources. Over the next three years, our learner intake target is 500 new learners per year across the occupational categories of engineers, artisans, technicians and sector-specific positions.

Learning and development

For our people, learning and development consists of both internal and external training opportunities to address identified competency gaps, as well as further study programmes to enable our employees to obtain qualifications that are directly related to their line of work.

Learning and development focuses on improving the competencies of employees and building skills in future sourcing pools, as well as advancing leadership skills. Our training spend of R1.2 billion over the past year constituted 3.85% of gross employee benefit costs (March 2018: R1.4 billion). Training spend was curtailed given our financial challenges.

A number of our learning and development initiatives are delivered through the Eskom Academy of Learning (EAL), our in-house training provider. The EAL operates from 24 venues around the country and delivers content across technical and managerial disciplines. Digitisation of learning content has facilitated remote learning opportunities and has resulted in an approximate 20% increase in course enrolment. Success rates of internally delivered interventions to close competency gaps exceeded 90%, based on participant feedback.

The EAL is collaborating with our Research, Testing & Development (RT&D) Department to strengthen learning implementation opportunities from flagship programmes, as well as conducting registration of programmes that can be registered with professional bodies for continuous professional development (CPD) accreditation.

During the year, a total of 190 employees were assessed in terms of the recognition of prior learning process (March 2018: 361), which considers learning and experience against registered standards and qualification outcomes. Of those, 175 are in the process of developing their portfolio of evidence, while 15 are closing the competency gaps identified.

A total of 854 employees are enrolled with various academic institutions to further their studies and obtain qualifications that are directly related to their line of work (March 2018: 1 502). Approximately 66% of further studies relate to non-technical studies and 34% to technical studies, with around 54% of those enrolled being women. Unfortunately, due to financial constraints, masters and doctoral further studies have been temporarily excluded from learning and development expenditure.

Remuneration and benefits

Our approach to remuneration and benefits is designed to attract and retain skilled, high-performing employees. We aim to remain competitive by providing market-related remuneration structures, benefits and conditions of service, within the guidelines set by the shareholder.

Guaranteed package

Managerial employees receive a guaranteed package, which includes compulsory benefits such as medical aid, pension, dread disease cover, group life and death benefit. The guaranteed amount is reviewed annually, with increases awarded in October each year, to keep remuneration in line with market trends based on an appropriate comparison group. Annual increases are approved by Exco and ratified by the People and Governance Committee (PGC).

Bargaining unit employees receive a basic salary – which includes a thirteenth cheque, also referred to as an annual bonus – as well as other benefits, which include pension, medical aid, death benefit, a housing allowance, cell phone allowance and car allowance (subject to qualifying criteria). Basic salaries and conditions of service are negotiated through the collective bargaining process. Basic salaries are reviewed annually, with increases awarded in July, to keep remuneration in line with market trends based on appropriate comparative groups. Annual increases are approved by Exco and ratified by the PGC.

As a result of the bargaining unit wage dispute with organised labour, national industrial action was instituted by the bargaining unit, which led to rotational loadshedding over three days in June 2018. This was the largest and most complex incident ever managed by our integrated incident command structures. The learnings from this have been documented and our Industrial Action Working Group has since addressed many of the gaps identified.

In August 2018, after approximately four months of wage negotiations at the Central Bargaining Forum (CBF), a three-year wage agreement for bargaining unit employees was concluded with the trade unions. The wage agreement provided for salary increases of 7.5% in 2018/19 and 7% in 2019/20 and 2020/21 for all bargaining unit employees, as well as a once-off after-tax cash payment of R10 000 per employee in 2018/19.

Following this, our trade unions, as well as non-unionised senior management, lodged a dispute with the Council for Conciliation, Mediation and Arbitration (CCMA) regarding Eskom's decision to award no increase to senior management, despite the wage agreement with bargaining unit employees and the inflationary salary increase of 4.7% provided to middle management/ professionally qualified employees. Arbitration on this matter will commence in August 2019.

Executive remuneration is discussed under "Our governance – Executive remuneration and benefits" from page 72

Last year, we reported that unjustifiable race and gender based income differentials had been identified, together with our plans to address these through income differential adjustments. Adjustments for bargaining unit employees and managerial employees were implemented in December 2017 and April 2018 respectively, as part of the first phase of a three-year implementation plan. However, the second phase of income differential adjustments, to be implemented during this year, was not approved given our prevailing financial constraints.

Incentive bonuses

Performance management remains a key focus area in improving employee productivity. Individual performance objectives and targets are determined through performance contracts agreed between an employee's line manager and the employee for the upcoming year. Assessment of individual performance is performed on a quarterly and annual basis in an effort to provide regular performance feedback and identify developmental needs; this is substantively integrated into our talent management through internal talent boards. As we aim to drive a culture of performance and accountability, with emphasis on productivity and operational excellence, performance management improvements will be critical.

Our short-term incentive scheme aims to align individual performance with strategic organisational objectives by applying a performance measurement formula. The formula is weighted based on an employee's contribution to individual, team, divisional and organisational objectives. The short-term incentive scheme rewards performance against predetermined objectives and targets linked to the shareholder compact, subject to the achievement of defined organisational gatekeepers.

As the incentive scheme is self-funding and the net profit target of R500 million was not met, no performance bonus provision was raised for the current year. However, the Board has recommended that in future, the incentive scheme should not only focus on financial performance, but also take account of performance against operational objectives to ensure that employees are suitably engaged and motivated.

NUMSA also lodged a dispute with the CCMA challenging the decision not to pay incentive bonuses to employees based on organisational performance in the 2017/18 financial year. They allege that the decision was unfair on the basis that Eskom had unilaterally changed the performance targets without proper consultation. The matter was arbitrated in May 2019 and will be concluded once all parties have submitted their closing arguments.

Employee engagement

The Employee Relations Department ensures sound relations in the workplace by facilitating discussions between our leadership, our employees and organised labour. Our leaders are integral to supporting meaningful engagement through the Eskom Employee Engagement Programme. In times of uncertainty, clear communication and effective engagement is crucial to ensuring that our people feel a sense of connection and alignment to the business in order to restore and build trust. Our relationship with organised labour is well regulated, with agreements and formalised processes in place.

A number of initiatives are in place to rebuild employee morale and provide employees with a platform to supply feedback to our leadership. These include face-to-face meetings, employee engagement surveys and regular communication to our people, with channels available for all employees to contribute. *The Guardian*, an internal newsletter from the Group Chief Executive to all employees, was launched in February 2019.

Our employee value proposition (EVP) is employee-centred and focuses on the value and benefits provided by the organisation in return for the skills, capabilities and experiences our people bring to the organisation. The EVP will be enhanced through initiatives to identify factors driving attraction, engagement and retention of our people; induction and business awareness to assist our people in establishing a common foundation of knowledge for better understanding of our business; as well as an ambassador programme to publicise the outstanding work and achievements of our people. The Eskom Nkanyezi Programme was recently launched through the EVP; it offers loyalty benefits and discounted rates on products and services to our employees through external partners.

Industrial relations

Our efforts in industrial relations are crucial to maintaining effective and lasting employment relationships with our people and maintaining employee morale. It is our policy to implement and promote sound and fair labour practices and deal with grievances, disciplinary action, disputes and suspensions accordingly.

Targets for grievances resolved and disciplinary action with sanctions were exceeded, with close to 80% of grievances being resolved and in excess of 90% of disciplinary action resulting in sanctions, indicating that employees are not subjected to unwarranted disciplinary measures. Approximately 84% of disputes referred to external institutions, such as the CCMA and Labour Court, were ruled in Eskom's favour, slightly below our target of 90%.

In terms of our disciplinary procedures, when it is suspected that an employee may have committed misconduct and an employee's continued presence at the workplace might cause interference with an investigation to determine the facts, or interfere with the disciplinary process itself, the employee may be suspended. Labour law principles require that precautionary suspensions must be instituted with full pay, pending the outcome of the investigation or disciplinary process.

A total of 158 employees were placed on suspension with pay during the year, of which 56 were still on suspension with pay at year end. Due to prolonged investigations and delays in the disciplinary process, 32 employees (including seven E-band and F-band employees) have been on suspension with pay for a period longer than 90 days.

Follow-ups are ongoing to ensure that investigations and disciplinary processes are expedited.

Executive suspensions and dismissals are discussed under "Ethics and progress on governance clean-up – Action based on allegations of corruption and misconduct" on page 11

In the previous year's report we discussed a number of industrial relations matters involving our recognised trade unions – NUM, NUMSA and Solidarity – that had progressed to the CCMA and had the potential to adversely affect our financial and operational sustainability. The matters which may pose a risk to the organisation are discussed below.

Eskom has instituted a review application to challenge the arbitration award issued by the CCMA in April 2018, which recommended that the existing bargaining unit should be extended to include certain levels of professionals and middle management employees. The review application is pending in the Labour Court.

In August 2018, the CCMA issued an award dismissing the trade unions' claim to end the use of temporary employment services; the matter has been finalised.

The Essential Services Committee held various hearings across the country during 2018 as part of its investigation as to whether the designation declaring the generation, transmission and distribution of power as an essential service should be varied or withdrawn. Eskom participated in initial hearings in March 2019; hearings were also held in June 2019 and will continue in August 2019. If the designation is varied or withdrawn, everyone employed in the generation, transmission and distribution of power could be entitled to embark on industrial action; this would pose a significant risk to the stability of the national grid, as was demonstrated during the industrial action experienced during June and July 2018.

Uncertainty among staff regarding Eskom's proposed unbundling, the section 189 process undertaken at executive level and the non-payment of a short-term incentive bonus for 2017/18 has led to a significant deterioration in staff morale. Non-payment of a short-term incentive bonus for 2018/19 may be met with further industrial action by organised labour, and may be supported by other non-unionised occupational levels which have become increasingly mobilised. As experienced in the past, industrial action may again lead to rotational loadshedding. We are working on actions to improve employee morale.

Our people are critical to delivering on our strategic objectives and mandate. The value of the partnership between Eskom, our people and our trade unions can therefore not be understated.

Health and wellness

In order to maintain a healthier and more productive workforce, we place considerable emphasis on the health and wellness of our people. Our health and wellness strategy seeks to improve work attendance and productivity as well as the health and wellbeing of every employee, through the prevention of occupational diseases and injuries, early detection of occupational and lifestyle diseases (such as hypertension, diabetes and HIV), medical surveillance, fitness for duty assessments and wellness programmes.

Our physical wellness programme utilises sports, recreation and cultural activities as a vehicle to promote employee wellbeing. Our employee assistance programme (EAP) offers counselling, financial wellness and various other psychosocial preventative programmes. The top five problems presented to the EAP were emotional issues, legal matters, trauma, work-related complaints and relationship problems. In response, our focus on mental health and reducing stress has continued, by providing awareness and education programmes to assist employees with counselling and skills to manage their psychosocial challenges. Employees with financial challenges are offered financial awareness support and referral to external resources for assistance with debt management if needed.

Levels of sick leave within the organisation remain a concern. The sick absenteeism frequency rate (SAFR), which measures the number of sickness absences per employee for a 12-month rolling period, of 2.23% for the company (March 2018: 2.35%) is much higher than the target of 2.04% and labour market norms. However, the gross sick absenteeism rate (GSAR), which reflects the days lost due to sickness as a percentage of total potential work days, of 2.75% for the company (March 2018: 2.73%) remains well within the target of 3.50%. All employees with high SAFR and GSAR rates are referred to Eskom clinics for fitness for duty assessments and managed accordingly thereafter. Employees too sick to continue working are advised to apply for ill-health retirement and assisted accordingly.

The current year saw the implementation of a procedure for the management of sick absences, including awareness workshops and courses made available to all employees. These initiatives have resulted in more employees applying and receiving approval for ill-health retirement from the Eskom Pension and Provident Fund (EPPF). Lifestyle diseases remain the main cause for approved ill-health retirement. Targeted wellness programmes have been developed to increase awareness of lifestyle diseases, including early and adequate medical management of all chronic conditions.

Improving internal transformation

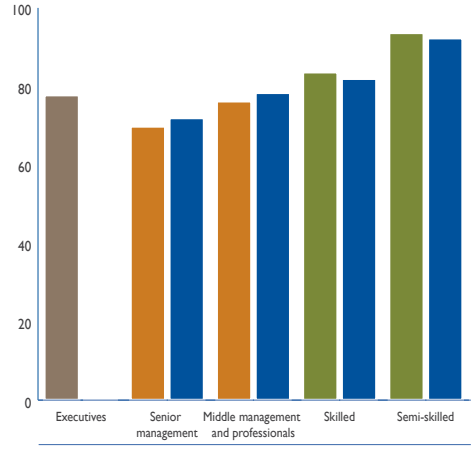
Diversity and inclusion is integrated into our identity and our operations to provide us with access to a wide range of talent to achieve a competitive advantage. To that end, employment equity is a key lever to improving the diversity of the workforce and achieving meaningful transformation.

Our Employment Equity Plan aims to achieve reasonable progress towards employment equity, by achieving equitable representation of our people at all occupational levels that truly reflects the demographics of the country, and also to assist in eliminating unfair discrimination in the workplace. Although we regard transformation as a strategic business imperative, our financial challenges continue to pose a risk to the achievement of our transformation targets and ensuring fair representation of people living with disabilities at all levels.

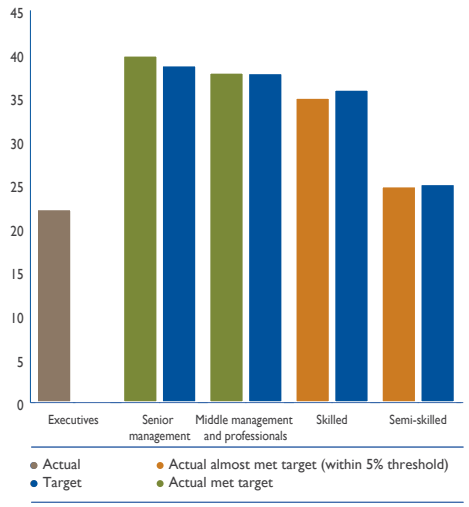
Our group and company employment equity performance at senior management level, as well as at professional and middle management levels, is set out in the non-technical statistical tables on pages 172 to 175

Racial and gender equity at senior management level, as well as middle management/professionally qualified levels, have all improved over the past year. At both occupational levels, gender equity targets were achieved, although racial equity targets were not achieved. Limited recruitment and promotion opportunities, due to our financial challenges, restricted our ability to achieve equity targets.

Racial equity by level of employment



Gender equity by level of employment



While no targets are set at executive level, gender and disability equity at this level are lagging behind other occupational levels.

Our total workforce comprises 68% male and 32% female employees at all occupational levels, unchanged from the prior year. Those opportunities which arise due to natural attrition, will be targeted and reserved for women as far as possible. Funded vacancies will also be ring-fenced for employment equity purposes, as and when such opportunities become available in senior management and middle management/professionally qualified occupational levels.

Gender equality is at the centre of the global agenda and a standalone Sustainable Development Goal on the United Nations' adopted 2030 Agenda for Sustainable Development. Achieving gender equality and the Sustainable Development Goals by 2030 will require stepping up efforts on all fronts, by supporting gender parity and advocacy initiatives such as EWAP, our Eskom Women Advancement Programme. EWAP is a transformation imperative and a holistic plan aimed at breaking the mould of perceptions about women which perpetuate misrepresentation of women in leadership and technical roles.

During the year, EWAP consultation sessions with employees, conducted in partnership with the Commission for Gender Equality (CGE), resulted in the development of the Eskom Gender Policy, in line with United Nations Gender Office guidelines.

EWAP also facilitated a consultative workshop with the CGE on the HeForShe solidarity campaign for gender equality, which provides a systematic approach and targeted platform on which men and boys can engage and become change agents towards the achievement of gender equality. Achieving gender equality in our lifetime will require an innovative, inclusive approach that recognises men and boys as partners for women's rights, and also highlights the ways in which they will benefit from gender equality.

In compliance with legislative requirements and the governance framework on gender equality, EWAP partnered with the University of Witwatersrand to establish a Gender Office in Eskom in December 2017. The role of the Gender Office is to:

- Ensure an innovative approach, and policy and strategy development on gender issues, to ensure that gender mainstreaming is prioritised in Eskom
- Expand the knowledge base on gender equality and continuously produce new research, along with tools and methodologies to advance gender responsive sustainable development goals
- Provide technical support for building capacity and strategy implementation
- Coordinate and conduct gender awareness sessions and audits
- Serve as a help desk on gender-related issues such as sexual harassment and gender diversity matters
- Establish strategic partnerships with relevant stakeholders

The Gender Office continues to address sexual harassment and workplace bullying through round table discussions which have, to date, reached 2 550 of our employees.

Although we have achieved the disability target set by the shareholder, this was mainly due to a reduction in overall headcount, as the number of employees with disabilities decreased slightly during the year.

The proportional representation of employees with disabilities remains a concern, as they are over-represented at lower occupational levels, with inadequate representation at executive, senior management and middle management/professional levels. We continue to manage this through structural interventions such as the Disability Office and Disability Forum, which were established to focus on the advancement of employees with disabilities and to deal with disability issues in the workplace.

During the year, our Disability Policy and related procedures were reviewed and aligned to the White Paper on the Rights of Persons with Disabilities, which was published by the Department of Social Development. Development and implementation of disability toolkits for managers, disability culture surveys and disability management plans are key focus areas for the future to ensure reasonable accommodation of people with disabilities and the safety of our staff living with disabilities.

We acknowledge that not all of our buildings and facilities, whether owned or leased, cater for the needs of people with disabilities. While we regularly conduct evacuation drills, we remain concerned about the evacuation of employees with disabilities in case of an emergency. We are planning evacuation drills specifically for employees with disabilities in order to address our evacuation preparedness.

Focus on safety

Eskom is subject to legal, regulatory and licence conditions surrounding occupational hygiene, safety and environmental compliance. Our safety performance is assessed in terms of 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, as well as the number of fatalities among employees and contractors.

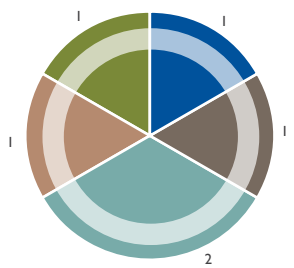
Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Fatalities (employees and contractors), number[1]	–	–	–	**6**	14	10	■
Fatalities (public), number[2]	–	–	–	**22**	26	20	■
Lost-time injury rate, index (including occupational diseases) – group	0.34	0.34	0.34	**0.31**	0.24	0.39	●

1. A security contractor fatality that took place during the prior year was subsequently declared as not work related by the Safety Data Integrity Committee and has been removed from the reported figures.
2. The prior year LTIR figure increased from 0.23 to 0.24 due to an additional eight occupational disease incidents being reported.

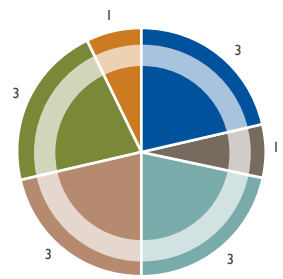
Unfortunately, despite our focus on Zero Harm and commitment to safety, we suffered three employee fatalities (March 2018: three) and three contractor fatalities (March 2018: 11) during the year. The causes of fatalities are shown below:

Similar to the causes of fatalities, the major reasons for lost-time incidents (LTIs) are slips, trips and falls, motor vehicle accidents, incidents related to being struck by or caught between objects, as well as falls from heights.

2018/19



2017/18



A total of 38 occupational diseases have been confirmed for the Eskom group for the year under review (March 2018: 28, restated). These incidents relate mainly to noise-induced hearing loss incidents, which account for approximately 80% of cases.

In memoriam

We extend our heartfelt condolences to the families, friends and colleagues of the following people who lost their lives in service to Eskom and the country:

Employees		
Thabani Mlungisi Danisa	Phumuza Isaac Singwane	Owen Makwela
Contractors		
Joseph Khoza	Antonio Jose Pereira Da Costa	Mboneni Walter Langa

Safety programmes

As motor vehicle accidents are one of the leading causes of both LTIs and fatalities in our organisation, we continue with initiatives to enhance vehicle and driver safety. These initiatives include vehicle safety campaigns, the development of a motor vehicle accident evidence collection course, the implementation of vehicle monitoring systems, as well as the completion of a five-year plan to improve vehicle and driver safety. An emerging risk relating to drivers of construction and specialist equipment not being in possession of the correct licences will be addressed through the revision of the vehicle and driver safety procedure and the driver training standard. A training plan to address the gaps identified has been developed for rollout by the EAL.

Working at heights forms a substantial part of work in Eskom and is regarded as a high-risk activity; as a result, every precaution must be taken to prevent incidents while working at heights. During the year, a workshop aimed at embedding safer working practices was conducted and attended by 60 occupational health and safety practitioners from across the organisation.

We have partnered with the Department of Labour to train their inspectors on the measures taken to ensure statutory compliant operations, maintenance and construction safety, given the hazardous nature of electricity.

The Occupational Health and Safety Assessment Series (OHSAS) 18001 recertification audits for both Generation and Group Capital Divisions were successfully concluded. In February 2019, the Northern Cape and Gauteng operating units of Distribution achieved OHSAS 18001 certification; the remaining operating units are making steady progress towards certification.

In order to address a lack of specialised occupational hygiene employees, a number of employees with the appropriate background qualifications were trained in basic measurement techniques necessary to conduct non-regulated work surveys.

Another key focus area has been to continue conducting safety culture surveys across our line divisions in order to assist management in understanding the perceptions of our safety culture within the organisation and to identify appropriate plans and areas for improvement. Safety leadership conversations have become entrenched in our divisions as a means of proactively identifying ways in which to continuously improve safety performance, thereby supporting our value of Zero Harm.

Public fatalities and public safety programmes are discussed under "Our role in communities – Public safety" on page 144

Contractor management

Contractor safety management remains a priority, due to the vital role that contractors play in our operations. To this end, contractor management awareness initiatives have been undertaken in order to reiterate the importance of supervision of contractor employees. All contractors conducting critical or high-risk activities are required to have written safe work procedures in place for those activities.

We continue to assess all safety-related incidents in order to identify root causes and share learnings on safety best practice. Before being registered as vendors, new contractors are assessed for compliance with SHE requirements. Contractors that have experienced safety-related incidents are required to develop and implement improvement plans. Compliance is monitored through inspections and audits in order to improve our contractor safety.

Future focus areas

- Rebuild critical capabilities by understanding the skills gap and developing a forward-looking skills strategy, encompassing strategic workforce planning and learning and development
- Align divisional resourcing plans to our turnaround initiatives, financial sustainability and interim operating model by rationalising managerial spans of control and implementing measures to ensure optimal headcount aligned to our employment equity plans
- Drive a culture of performance, accountability and consequence management, and increase employee productivity through employee engagement, embedding the employee value proposition, change management initiatives, organisational culture transformation and upholding strong industrial and employee relations
- Identify and implement efficient methods of managing and/or eliminating employee benefit cost drivers, specifically focusing on further reducing overtime spend, allowances and the use of labour brokers
- Analyse and report root causes of incidents as well as near-miss incidents to improve safety performance, communication and training

OUR ROLE IN COMMUNITIES

Highlights

- The Foundation was voted in the top three in the *Sunday Times Top Brands* survey in the community upliftment category
- The Foundation received the International Partnership Network African Gold Award 2018
- The Eskom Expo for Young Scientists continues to provide opportunities for young people and showcase the Eskom brand

Challenges

- Significant reduction in customer satisfaction as measured by CustomerCare over the past year
- Procurement spend with many supplier categories remains below target
- Changes in the supply chain environment necessitated by the newly introduced National Treasury regulations have had an impact on the delivery of CSI programmes

Improvements

- Targets for procurement spend with black women-owned business, black youth-owned suppliers and exempted micro enterprises were achieved
- Electrification of new customers did not reach the levels of previous years, but still exceeded target in all provinces except one

Lowlights

- Eskom's reputation continues to remain at an all-time low based on the RepTrak® score

Our role in communities focuses on our relationships with our direct customers and suppliers, beneficiaries of our CSI activities and electrification efforts, communities in which we operate as well as the public in general, which includes our indirect customers. We continue to work with communities for the mutual benefit of all parties, due to the significant impact of our relationship with our stakeholders. The level of trust in our organisation has a strong influence on our reputation among stakeholders.

Our aim remains to become a customer-centric organisation that delivers world-class customer service across all customer segments. Nevertheless, Eskom's objectives are not limited to commercial concerns. Our worth is also measured by the overall value we add to the lives of ordinary South Africans. Our developmental responsibilities range from building and maintaining power stations and networks to supplying households, schools and industries with electricity, supporting local enterprises and stimulating skills and job creation.

We also play a critical role in skills development and economic empowerment, as mandated by Government, with the goal of transforming society through our supplier development and localisation drive, as well as corporate social investment in community education, health and developmental projects. The rollout of Government's electrification programme still provides our most direct contribution to transforming our society.

Customer service performance

Customer service aims to put the customer at the centre of the business and guide Eskom towards our overall objective of achieving fully satisfied and serviced customers. Our primary objectives in this area are sales growth, revenue collection and customer satisfaction.

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

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Eskom KeyCare, index	80.0	80.0	80.0	**81.7**	79.5	107.0	●
Enhanced MaxiCare, index	75.0	75.0	75.0	**72.7**	72.0	95.8	▲
CustomerCare, index	9.0	9.0	8.2	**8.5**	9.9	9.8	●

1. Since 1 April 2018, Eskom KeyCare and Enhanced MaxiCare ratings have been determined based on a new methodology. Comparative figures for 2017/18 have been restated.

The reporting methodology for Eskom KeyCare and Enhanced MaxiCare has changed, as the previous questionnaire was long and outdated, and the methodology difficult to understand. There was also no differentiation between customers who have had an interaction with Eskom and those who have not. Using the updated survey, it is possible to differentiate respondents by whether they have interacted with Eskom or not, so that the level of perception can be determined. Furthermore, the maximum achievable percentage has been limited to 100%, thereby making results easier to interpret.

Both Eskom KeyCare, which measures the satisfaction of large industrial customers, and CustomerCare, which measures customer satisfaction on a transactional basis, have declined over the period, but remain above target. This was mainly due to customer dissatisfaction with unplanned interruptions and the impact of rotational loadshedding, as well as inadequate staffing levels at call centres impacting the customer experience. Nevertheless, we remain close to our key customers and aim to address any queries or concerns with urgency through daily engagements.

Enhanced MaxiCare, which measures perception among residential, small and medium-sized customers, continues to score below target, due to poor performance on quotes and connections and slow resolution of supply interruptions. The commercial and residential billed segments reported the lowest ratings.

Our reputation

In recent years, our reputation has shown a steady decline. We review the public's perceptions of Eskom using the South African RepTrak® Pulse reputation study, which measures reputation and demonstrates the strength of the emotional bond between companies and the public. The survey is scored along seven dimensions, namely products and services, performance, leadership, citizenship, governance, workplace and innovation. Results reflect that an organisation's reputation contributes about 69% to the score, with products influencing only 31%. Products and services as well as governance are the main contributors towards the reputation of SOCs.

The 2018 study again ranked Eskom the lowest out of the top 50 companies surveyed, with a score of 26.7 against 33.2 the year before. This confirms that Eskom's reputation continues to decline, which is not surprising given the events of the past year. Rotational loadshedding, tariff increases, the dire financial situation and governance issues have contributed to our poor reputation with the public.

Our immediate focus is to rebuild and strengthen confidence and trust in Eskom. Changing the perception of all stakeholders requires action from Board and Exco to root out poor governance, irregularities and misconduct, and remedying Eskom's dire financial situation, partly through continued Government support.

Although we have experienced many setbacks to our reputation, we still strive to improve our RepTrak® score to 60 (or "moderate") in the medium term.

Our contribution to supplier development

We place particular emphasis on developing local suppliers in line with South Africa's transformation goals, with specific emphasis on local supply sectors important to our industry.

Eskom-wide, a total of 1 159 new contracts worth R61 billion were awarded and commenced during the year under review, of which 91.51% (or R55.8 billion) of the contract value was committed to local content. Included in the new contracts awarded are 84 contracts worth R1.9 billion awarded within the new build programme. Of these, the local content committed amounted to R1.6 billion, representing 81.14% of the value contracted.

Since inception of the new build programme, contracts to the value of R226.6 billion have been awarded and total local content committed by suppliers amounted to R137 billion, representing 61% of the total contracted value. Cumulative local content spend since inception of the new build programme amounts to R164.5 billion, or 73% of the local content contracted.

Our shareholder expected us to achieve a level 4 B-BBEE rating. However, until the previous certificate expired in June 2018, Eskom was rated as level 8, as being state-owned is not considered being black-owned under the new B-BBEE Codes of Good Practice. We are in the process of obtaining a new certificate. However, until the new certificate is issued, Eskom is not in compliance with the requirements of the Broad-Based Black Economic Empowerment Act, 2003.

Our group and company procurement equity performance is set out in the non-technical statistical tables on pages 172 to 175 at the back of the report

Total measured procurement spend (TMPS) for the group amounted to R144.1 billion on all active contracts during the year, of which 64.3% was spent with B-BBEE compliant suppliers.

Eskom's procurement spend with each of the following supplier categories is below target: B-BBEE compliant suppliers, black-owned suppliers, companies owned by black people with disabilities and qualifying small enterprises. The decline results from an increase in previously compliant suppliers who have not renewed their B-BBEE certificates. Furthermore, due to the implementation of the new B-BBEE Codes, most suppliers are now rated at levels lower than in the past.

Another factor affecting performance is that IPP contracts, which were concluded in terms of DoE's RE-IPP programme, are taken into account in these calculations, despite the fact that we had no control over the awarding of those contracts. The overall performance on these indicators would have improved if the IPP expenditure were excluded from TMPS.

Recovery initiatives are monitored through ongoing management involvement in the procurement of goods and services, such as:

- Suppliers' B-BBEE compliance status must be valid when a contract is awarded, as well as for the duration of the contract
- All supplier panels are being utilised to include black-owned qualifying small enterprises (QSE) and exempted micro enterprises (EME) as incubates where possible
- Pre-qualification criteria, in line with Government's Preferential Procurement Policy Framework, are being used to relieve the plight of specific designated groups, in particular for companies owned by black people with disabilities and qualifying small enterprises

The supply chain recovery programme continues to address historical issues leading to the prior year audit modification, together with an increased focus on current compliance.

For an update on the improvement process launched to address the prior year audit modification on the completeness of irregular expenditure, refer to "Ethics and progress on governance clean-up – Improvement process to address irregular expenditure" on pages 12 to 13

Maximising our socio-economic contribution

Measure and unit	Target 2021/22	Target 2019/20	Target 2018/19	Actual 2018/19	Actual 2017/18	Actual 2016/17	Target met?
Total electrification connections, number[1]	481 320	177 000	180 000	**191 585**	215 519	207 436	●
Corporate social investment committed, R million[SC, I]	390.5	132.6	136.0	**132.4**	192.0	225.3	■
Corporate social investment, number of beneficiaries[I]	2 400 000	750 000	1 000 000	**933 139**	1 116 044	841 845	■

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

Electrification

We continue to connect previously disadvantaged households in our licensed areas of supply through the electrification programme funded by DoE. We exceeded the target for the year in all provinces, except the Eastern Cape. Nevertheless, we continue to experience challenges due to delayed contract modifications and approvals, as well as community unrest, business forum demands and criminal activities.

Corporate social investment

The Eskom Development Foundation NPC (the Foundation) is solely funded by Eskom, and is responsible for Eskom's corporate social investment (CSI) initiatives in support of our business objectives; it operates as a subsidiary of Eskom. Our CSI initiatives continue to focus on education, support for small and medium enterprises, farming, community development, as well as energy and environmental projects.

The Foundation runs a number of flagship and national programmes that address specific developmental needs. For the year ended 31 March 2019, the Foundation approved a total of 195 projects, grants and donations to the value of R132.4 million, which impacted 933 139 beneficiaries.

Despite an amount of R132.4 million being committed for CSI projects during the year, a reversal of R138 million relating to projects approved in prior years which have not materialised was effected. These relate mainly to:

- The Bophelong mobile health buses, amounting to R90.1 million
- The Coega project which would have benefited the health sector, totalling R31.1 million

For more information on our CSI initiatives, please refer to the Foundation's report for the 2018/19 year, which is available online

A selection of flagship projects and initiatives are discussed below.

Eskom Business Investment Competition

The Eskom Business Investment Competition (BIC) rewards outstanding work in entrepreneurship, and encourages small and medium enterprises (SMEs) to thrive and lead the country's economic development. The competition is open to South African, black-owned and registered SMEs that have been operating for more than two years in several sectors, such as agriculture and agri-processing, engineering and construction, manufacturing, as well as trade and services.

With prizes worth approximately R1.3 million, the competition supports enterprises in taking their operations to the next level. Over and above the financial rewards, business skills and training are provided to contribute towards the sustainability of small businesses.

Eskom Contractor Academy

The Eskom Contractor Academy supports Government goals of skills and infrastructure development, job creation and poverty alleviation.

Many contractors or suppliers lack the basic skills to successfully manage and sustain their businesses. Research has shown that up to 80% of start-ups fail within the first two years of operation. Against this background, Eskom started the Contractor Academy, which focuses on previously disadvantaged contractors, including black women-owned and youth contractors.

The academy aims to equip emerging contractors with relevant business management competencies to grow sustainable businesses. These competencies include financial, management, leadership, entrepreneurial, technical and legislative skills.

Eskom Expo for Young Scientists

The Eskom Expo for Young Scientists (EEYS), supported by Eskom for a number of years, seeks to engage young people in high-quality scientific research. At the science fair, students are given the opportunity to display projects based on their own scientific investigations. At EEYS, students can discuss their work with judges, teachers and students to increase their awareness of the wonders of science, add to their knowledge and broaden their horizons.

Projects put forward for exhibition are carefully judged in terms of creativity, originality, scientific rigour and presentation. Out of the 35 regional expos, about 500 projects are selected for the final event. A number of winning projects are then selected to participate at various international science fairs, ranging from Asia to North America.

Skills development through our new build projects

The Skills Development Learning Progression Framework Policy was developed and implemented at both the Medupi and Kusile project sites to achieve compliance with skills development required by the Skills Development Act, 1998.

Collaborative efforts with our construction and government partners continue to drive skills development and the transfer of skills. Through skills development committees and audit processes, we ensure that no workforce demobilisation is concluded without proof of upskilling the affected workers. This process has proven effective, as demobilisations that have taken place to date have complied with skills development requirements.

Furthermore, the primary focus of our exit strategies at new build sites is to mitigate the impact of job losses by supporting the towns and local communities surrounding our new build projects. We aim to collaborate with other social partners, in particular local and provincial government structures, to address some of the challenges that these communities face.

Future skills development enablers include the establishment of collaborative relationships with other SOCs and government entities to prioritise skills development and training initiatives on construction projects, to develop the unemployed prior to the initiation of infrastructure projects.

A total of 23 982 people were employed on the capacity expansion programme at the Medupi and Kusile new build sites, and on large transmission projects at 31 March 2019 (March 2018: 38 111). Demobilisation of contractor employees continues as the new build projects progress towards completion. Demobilisation of some contractors at Medupi and Kusile was successfully completed towards the end of the current year.

Public safety

Our public safety programme aims to educate the public on the dangers of electricity and the safe use thereof, to minimise the potential harm to members of the public coming into contact with Eskom's operations, products and/or assets.

There were 22 public fatalities during the year (March 2018: 26), which included 20 incidents due to electrical contact. Despite ongoing initiatives and campaigns, particularly in the Distribution environment, public incidents due to illegal connections and tampering by members of the public continue.

We remain committed to the principle of Zero Harm, and conduct numerous community visits and forums highlighting how to use electricity safely. In addition, ongoing social media notifications, advertisements and media statements are used to educate the public about electricity safety.

Nuclear safety

Koeberg Nuclear Power Station's plant design and assessment of risk to the public continues to be well maintained – within licensing limits and recommended international standards. Governance and nuclear oversight bodies regularly monitor the interaction between oversight organisations and line management; as a result, we have seen a positive impact on nuclear safety and our efficiency. No unacceptable risk to the public exists due to the design or operational practices at Koeberg.

Koeberg's two units continue to be managed and operated safely, with solid technical performance demonstrated by long periods of continuous operation. South Africa's National Nuclear Regulator regulates Koeberg to ensure that it complies with minimum nuclear safety standards.

Future focus areas

- Improve the customer experience
- Increase procurement spend with black women-owned businesses, black youth-owned suppliers, people living with disabilities and exempted micro enterprises
- Strengthen compliance with governance principles surrounding procurement transactions
- Continue to support Government's development initiatives through our activities
- Maintain initiatives to educate the public on safe electricity usage

We conduct outreach campaigns at schools to educate learners on the safe use of electricity.

OUR KNOW-HOW

Highlights

- Our Research, Testing and Development (RT&D) Department successfully piloted a solar-powered rural microgrid installation in the Free State

Challenges

- Financial challenges and approval delays have resulted in limited progress on some high priority research projects, including distributed energy resources and high-voltage direct current test facilities

Improvements

- We have expanded our RT&D focus to developing and commercialising business cases for new products and services

Lowlights

- An approved Integrated Resource Plan remains outstanding, creating uncertainty around our future role in the electricity supply industry

Our know-how encompasses the intellectual capital within Eskom and is embedded into everything that we do. It includes intellectual property, such as patents, copyrights, software, rights and licences; and our institutional knowledge, whether it be tacit knowledge – our people's skills, experience, insights and ideas – or explicit knowledge, comprising our systems, policies, procedures and protocols.

Investing in appropriate technologies

Future new build

The draft Integrated Resource Plan 2018 (IRP) was issued for public comment in August 2018. We submitted comments on the draft IRP to DoE in October 2018.

Subsequent to the public participation process, the draft IRP was updated by DoE to incorporate public comments, after which it was submitted to the National Economic Development and Labour Council for review in March 2019. We will determine the way forward on the future energy mix once an approved IRP has been published and allocations have been determined by the newly combined Department of Mineral Resources and Energy. Until then, plans for a new coal-fired or nuclear power station are on hold; no development work is taking place.

Eskom's comments on the draft IRP

Given the socio-economic challenges facing the country, we support an energy mix based on providing reliable energy to the consumer at a reasonable price. We believe that this should be a practical energy mix, able to meet the energy demands of the country while balancing the grid.

We propose that industry-wide collaboration be undertaken to conduct technical studies on energy security and grid stability as renewable, gas and diesel capacity increases. Furthermore, socio-economic impact studies must be completed in order to understand the effect of a change in the energy and technology mix, which may lead to an increase in the exposure to international market pressures and an adverse impact on the South African coal mining industry, despite the potential for sustainable job creation in industries which support the expansion of renewable and other types of energy.

Included in these studies must be the impact on surrounding communities when the time comes for decommissioning or repurposing existing coal-fired units and stations. We propose that these sites should leverage existing infrastructure for future generation capacity in order to minimise the negative socio-economic impact on communities.

Nuclear new build

All nuclear procurement processes were suspended after the Western Cape High Court set aside the section 34 determination which formed the basis for nuclear procurement. The draft IRP does not include nuclear capacity in the planning window until 2030. We support this on the basis that the earliest plausible commissioning date of any nuclear new build would be between 2032 and 2034, assuming that planning work continues undisturbed.

The absence of clear direction from the IRP and Government forces the earliest likely commissioning date even later. Planning and development work will not continue until clear direction is provided, creating a significant risk that a nuclear option will not be available before 2040.

Gas-fired capacity

Last year, we reported that the scoping report for a greenfield gas-fired station had been approved by the DEA. Since then, an offset study has been concluded; submission of the environmental impact assessment (EIA) application is planned for the coming financial year. Options for gas-fired capacity continue to be investigated, but will ultimately be guided by the approved IRP.

Battery storage

In March 2018, the Board approved the implementation of distributed battery storage with distributed solar PV. This project will meet the requirements for a transformational renewable project that addresses the objectives and conditions of the World Bank funding arrangement. Related loan amendments were signed and came into effect from January 2019.

The battery storage project is in the final stages of project development, with handover to project execution under way. A PFMA application will be resubmitted to DPE and National Treasury in the coming year. A concern was raised by DPE on the supplier development and localisation aspect of the project, requiring that we revise our commitments in this regard to adequately comply with conditions. The procurement and contract strategy was approved in March 2019; a general procurement notice has been finalised and is ready for issue, following PFMA approval. Two proposed sites have been prioritised for market engagement, and bidding documents are being finalised. Constructability reviews on these two sites have been completed, in order to manage issues before construction and development of site-specific designs. Schedule optimisation is ongoing to ensure that the commercial operation date is achieved once regulatory approvals are obtained.

Phase 1 of the project consists of 800MWh of distributed battery storage, which will be implemented at 47 distribution sites in the Western Cape, Northern Cape, Eastern Cape and KwaZulu-Natal. The World Bank has extended the commercial operation date to December 2021.

Research, testing and development

The mandate of our RT&D Department is to research, select and develop next horizon technologies that support our future strategic objectives; demonstrate next horizon technologies by creating new knowledge and applying this knowledge to practical business challenges; and provide specialised technical consulting, testing and inspection services to inform organisational decision-making.

Due to our challenging operating environment, combined with policy and regulatory uncertainty around the long-term nature of the electricity supply industry and lack of clarity about our role within the future industry structure, we have increased our focus on the development and incubation of future revenue streams.

Refer to "How the macro environment affects us" from page 34 and "Risks and opportunities, assurance and controls – Identifying and prioritising opportunities for growth" on pages 56 to 57 for additional information on the broader environment in which we operate and the opportunities we have identified

We also ensure that testing and specialist advisory services are maintained to support our operational line divisions, through accredited laboratories in the fields of applied chemistry and microbiology, petroleum sciences and air quality. Our testing and laboratory facilities are internationally recognised; we are exploring commercialisation of these services to other sectors.

A 3D virtual tour of our laboratories is available at http://bit.ly/2AZu1ag

During the year we spent R443 million, including allocated overhead costs, on Board-approved research projects, testing, development and consulting work (March 2018: R445 million).

Grand Challenges

Our research, testing and development portfolio supports our Grand Challenge focus areas, comprising 70 work packages, all directed at ensuring long-term organisational sustainability as well as early adoption of new technologies and innovative solutions to address our challenges.

During the current year, our Grand Challenges have been expanded to include the digital revolution. The digital revolution is aimed at preparing Eskom to play a role as a digital utility in the evolving energy landscape, amidst the fourth industrial revolution, by merging the physical and digital value chains and placing the customer at the centre of our approach.

Our Grand Challenges

Our Grand Challenges support us in researching and developing solutions to the following questions:

1. What future generation businesses and technology choices should we be leading in order to remain relevant by 2050?
2. How do we support, operate and maintain our existing Generation, Transmission and Distribution businesses in an increasingly constrained environment?
3. How do we adapt our business to survive the immediate threat of alternative technology disruptors and develop new businesses to respond to changing customer needs?

For additional information on our Grand Challenges, please refer to our Research Direction Report (RaDaR) published by Eskom RT&D. The document is available at www.eskom.co.za/OurCompany/SustainableDevelopment/Pages/ResearchDirection.aspx

	Grand challenge	Objective	Expected timeframe of impact
	Future generation mix		
FC NC	Coal	Develop and implement solutions that guarantee the quality of coal in line with system design, whilst ensuring that the price of coal remains competitive relative to other resources	Medium to long term
MC NC	Water	Achieve fleet water security through risk-based analysis, including water cost, climate change and environmental compliance of our entire fleet, including fleet renewal	Medium to long term
FC NC	Clean coal	Provide innovative cost-effective design solutions for low-emission coal options	Medium to long term
MC NC	Gas	Provide gas strategic options and improve business case definitions based on the latest technologies, new applications and trends in the gas market	Short to medium term
MC NC	Nuclear	Develop pressurised water reactor and advanced high-temperature gas-cooled reactor technology options	Medium to long term
MC NC	Renewables	Provide optimised solutions in support of our Corporate Plan and delivery of at least three renewable energy applications	Short to medium term
	Supporting the existing business		
FC MC	Generation asset management and plant performance	Provide greater insight into Generation plant conditions for asset management purposes and demonstrate technology solutions to drive performance towards 80:10:10 generation availability:planned maintenance:unplanned maintenance in a sustainable manner	Medium to long term
FC MC	Transmission asset management and plant performance	Provide greater insight into Transmission plant conditions for asset management purposes and demonstrate technology solutions to improve operations and maintenance under constrained budgets whilst maintaining system minutes performance	Medium to long term

	Grand challenge	Objective	Expected timeframe of impact
FC MC	Transmission build solutions	Provide design solutions for the evacuation of power from new generation capacity, including to/from the SADC region, and plant refurbishment, without customer interruptions, within constrained servitudes and constrained budget	Medium to long term
FC MC	Distribution asset management and plant performance	Improve technical performance to reduce interruption duration (SAIDI) to 10 hours and achieve less frequent interruptions (SAIFI) on a severely constrained budget, and shift to a just-in-time refurbishment strategy for asset management, instead of run-to-failure	Medium to long term
	Focus on new business		
NC SRC	Future customer	Formulate affordable, value-added business products and services for our existing and future customers based on integrated, smart, green, localised and energy-efficient technologies	Short, medium and long term
HC SRC	Flexible operations	Determine how we adapt and operate plant and systems in a real-time market environment	Short, medium and long term
FC HC	Digital revolution	Identify, research and demonstrate digital technologies that will realise savings through step improvements in people, process and technology	Short, medium and long term

Flagship projects

In order to address our Grand Challenges, we have identified five flagship projects for the year, while simultaneously continuing delivery against existing high priority capital projects. These projects are key deliverables on the roadmap towards enhancing our objectives of the future customer, coal, distribution and transmission asset management challenges.

Research project	Our progress
Flagship projects	
eMobility (electric vehicles)	The eMobility business case is in the execution phase, with advocacy, platform and product initiatives on track. A national eMobility workshop in February 2019 was well attended by a wide range of stakeholders
Coal logistics and characterisation	We delivered a new coal quality specification during the year, directed towards improving plant performance by reducing other capability losses (OCLF). A total of 12 combustion tests were successfully completed during the year. We are investigating the technical feasibility of using coal briquettes, made from coal fine (dust) discards, to address our coal shortfall and reduce coal burn costs. Lab tests and a full-scale burn test are planned for the coming year. These initiatives will contribute to increasing coal stockpile days
Distributed energy resources	Due to organisational changes, the project has experienced delays in approving the business case. Project design has continued, with the objective of demonstrating the business model on an industrial, commercial and/or agricultural pilot site
Rural microgrid smart community	A rural off-grid smart community pilot in Wilhelmina, Free State was completed ahead of schedule. The launch was well received by the local municipality and government bodies. The system was commissioned with zero SAIDI and SAIFI events since inception of the project
Business model for technical development of BYO and BWO suppliers	We are targeting development of a business model for the establishment of sustainable BYO and BWO special purpose vehicles (SPVs) that provide technical services which cannot be sustained in-house due to resource and financial constraints. The envisaged structure could see Eskom hold a minority shareholding in the SPVs, with service offerings to numerous sectors, including the electricity supply industry. Partnerships will be sought with the Industrial Development Corporation; two possible pilot structures are already envisaged
Other high priority projects	
High-voltage direct current (HVDC) test facilities	The requirement for National Treasury approval of the contract resulted in significant delays in this project. We are reviewing the critical path and projections for delivery, and exploring opportunities to leverage capital and operational costs through a partnership
Energy storage (battery storage)	We operate the largest large-scale energy storage testing facility in the southern hemisphere. We are exploring bulk energy storage solutions for grid strengthening as well as other operational and financial benefits. We are also focusing on small-scale, behind-the-meter storage solutions for customers to store their own generated power
Robotics and drone line inspection and maintenance	We have prepared a position paper on the use of drones for transmission and distribution live-line inspections. Commercial demonstration of the technology capability has been delayed due to licensing requirements of the Civil Aviation Authority
Commercialisation of the underground coal gasification demonstration plant	Equity partners are being sought to enable the project to move from research and demonstration to commercialisation. The focus will be on local supplier development and opportunities found in the local primary energy market. The project will remain in care and maintenance until March 2021
Smart electricity platform	The project aims to provide a conceptual design of an information technology and operational technology platform to facilitate data analytics, security, communications, performance and business continuity requirements across our business, including the System Operator, Transmission and Distribution. The smart electricity platform is cross-cutting and supports customer-facing use cases for three of our candidate products, namely eMobility, distributed energy resources and energy storage. During the year, architectural approval for a customer platform was obtained and an in-house website interface has been developed

Rural microgrid pilot

Since 1994, our electrification programme has connected a significant number of households. Rural electrification rates in South Africa are typically quite high, at approximately 77% compared to an average of 17% for sub-Saharan Africa. However, there are still an estimated three million people without access to electricity in rural and remote areas in South Africa. Several challenges prevent the electrification of rural parts of the country, including the high cost of extending the transmission network to remote areas, mostly due to difficult terrain, and the low density of rural populations.

Eskom's Smart Grid Centre of Excellence successfully launched a pilot solar-powered rural microgrid at Wilhelmina Farm, Ficksburg, in the Free State in November 2018. Wilhelmina Farm is a primary agricultural cooperative, home to 14 households and approximately 100 community members, including children. The pilot was established in close partnership with the Department of Agriculture, Forestry and Fisheries and the Wilhelmina Farm community. Below is an aerial photograph of the microgrid.

The microgrid plant is housed in shipping containers and harnesses solar energy through solar PV panels and inverters. This energy is used to supply households with standard low-voltage supply in order to power lighting and home appliances, whilst surplus energy is stored in three sets of lithium ion batteries totalling 90kWh. Stored energy is used to supply power to households when low or no sunlight is available for the solar panels. The microgrid is not connected to the national grid and is therefore able to function autonomously. The pilot also incorporates solar-powered street lights and rooftop-mounted solar water heaters.

Many innovative technologies are being successfully demonstrated through this pilot. Advanced metering infrastructure and smart prepaid metering systems – utilising energy balancing, theft and tamper detection – have been incorporated. Load and energy use is actively managed, through appliance control and home automation systems which enable management of non-essential appliances during peak periods, while retaining essential services such as lighting and refrigeration. A hybrid system is used to manage communication between the home systems and the plant, with live information from the site being relayed to the nearest substation and, ultimately, to the Smart Grid Visualisation Control Room. In the control room, live feeds, weather and fire information can be used to predict the performance of the plant, pre-empt threats ahead of time, and manage load remotely.

The pilot project meets our approach to sustainable development through socio-economic development, responding to climate change, universal access to affordable electricity, and facilitating economic growth and poverty eradication. The fit-for-purpose design of rural microgrids allows for the optimal mix of technologies to manage supply and demand in remote areas; we regard microgrid applications as a suitable generation technology where electricity is not provided in remote geographical locations that are difficult and expensive to reach.

Nick Singh, head of the Smart Grid Centre of Excellence in Eskom's RT&D Department, said, "The project symbolises innovation, growth and development and is consistent with Eskom's future strategic objectives, as microgrids incorporating renewable and smart energy technologies will play an important role in the future Eskom".

A video on the rural microgrid project is available at http://bit.ly/2KUozOS

Eskom's eMobility programme

The automotive industry is undergoing an exciting change with the global rise of electric vehicles (EVs). Market analysts are predicting an even higher increase in EV market share in the short to medium term, compared to conventional fuel-based vehicles.

This is driven by a positive shift in consumer perception and choice, through increased awareness of environmental sustainability and the call for a transition to cleaner energy sources. Many countries have shown their support by amending and introducing policies to encourage the uptake of EVs. The rise of the EV market will have a large impact on the global energy sector and related industry, with an increase in the demand for electricity required to power these vehicles, the rollout of charging infrastructure to support adoption and value-added services to enhance the EV owner's experience.

We acknowledge the opportunities that the increased adoption of EVs will provide to Eskom and the South African economy. To this end, we have embarked on the development of an eMobility programme. The programme will create opportunities to unlock new revenue streams by facilitating the supply of electricity to the EV market using innovative solutions.

Our eMobility business model has three primary focus areas, namely advocacy, advanced eMobility solutions and platform-based services, with the objective of assisting us in adapting to the evolving energy landscape and restoring our financial and operational sustainability.

- eMobility advocacy is required to raise awareness and educate vehicle owners on EV benefits, in order to stimulate demand for EVs and related products and services
- Advanced eMobility solutions will allow us to demonstrate our commitment to future electric transportation by including EVs in our own fleet to research and evaluate the performance, infrastructure and related service requirements of EVs in a commercial environment
- eMobility platform-based services will see the implementation of a platform that enhances the overall EV owner experience, by providing incentive schemes aimed at stimulating a culture of off-peak grid charging, allowing customers access to payment and billing options, locations of available charging stations, as well as statistical information on the operation of their EV and home charging infrastructure

The eMobility programme aims to provide value by load levelling through smart charging technologies, monitoring customer usage patterns and increasing responsiveness to customer needs, thereby contributing to reducing national transport-related carbon emissions and noise pollution, as well as skills development and job creation through establishing a new market sector.

Eskom undertook EV research from 2014 to 2016, with a fleet of 10 vehicles. The vehicles were monitored to evaluate usage profiles of consumers in Johannesburg, Gauteng. The general driver experience was noted as very positive; the EV was seen to be an ideal commuting vehicle in and around the greater Johannesburg area. The EV research fleet and charging stations at our Megawatt Park head office is shown below.

There are less than 1 000 electric and hybrid vehicles in South Africa. Our simulation models predict a conservative uptake of around 234 000 electric vehicles by 2040. There is also potential to improve public transportation by introducing electric buses and minibus taxis in the local market. It is envisaged that this would benefit public transport users by lowering the cost of public transport.

Our research indicates that a 3% increase in EV market share in South Africa would increase energy demand by approximately 0.5%. The implementation of incentive schemes and charging credits will aim to limit the impact of this increase to our peak load profile by encouraging off-peak charging.

We are optimistic that we can positively influence the adoption of EVs in South Africa through our eMobility programme. The programme will allow us to understand, quantify and model the macro-economic impacts of EV uptake on the economy; research and demonstrate business models that will support economic development; engage with stakeholders to encourage eMobility manufacturing industry localisation; inform and enable Government policy reforms that will support the uptake of affordable electric transportation across all sectors and income groups; understand and quantify the peripheral benefits associated with eMobility; move towards a customer-centric digital future; and ensure readiness of our grid to facilitate the uptake of mass electric transportation. We further believe that the successful implementation of our eMobility strategy can be replicated elsewhere in the African continent.

A video on eMobility is available at http://bit.ly/2LxIvqm

Knowledge management

We regard knowledge as invaluable intellectual capital for sustained business performance, as access to relevant knowledge is critical to ensuring effective decision-making. We ensure organisational compliance with the international quality management standard, ISO 9001:2015, by managing the knowledge of the organisation, safeguarding loss of knowledge as a result of employee turnover or failure to capture and share information, as well as encouraging knowledge acquisition as a learning organisation through the Eskom Academy of Learning.

Refer to "Our people – Building and retaining strong skills" from page 133 for additional information on improving knowledge through learning and development

One way in which we manage knowledge is through our governance of capital projects. We employ the project lifecycle model (PLCM), which delivers projects from pre-project planning to the concept, design, execution and benefits realisation stages. It includes many interrelated processes ranging from project development and engineering, contracting and procurement, construction, contractor management and commissioning.

Through our new build programme we have identified the need for formal mechanisms to record and disseminate learnings gained throughout the life of our projects. To this end, the knowledge management process is integrated and embedded into project management to ensure that learning occurs systematically across the project lifecycle phases. In our project environment, knowledge management involves the people, processes and tools that support organisational collection, analysis, and implementation of lessons learned, which are a critical component of knowledge management and are captured and shared in various forms throughout the organisation. This is done with a clear purpose to reduce and prevent repeats of mistakes and failures, and to repeat successes and continuously improve delivery and operational performance.

For general knowledge management, we maintain a document and knowledge management platform which provides access to governance and supporting documentation to our employees to perform their duties. These include plans, policies, procedures, process control manuals, guidelines and work instructions. Knowledge management in this form supports standardisation and continuous improvement of our business processes.

Memberships and knowledge transfer

Our national and international memberships, partnerships and agreements provide us with an opportunity to profile our organisation and our know-how, as well as establish relationships with international utilities, professional industry bodies, research and academic institutions, councils and forums. This enables us to effectively identify, manage and benchmark our contribution to value through exchange of intellectual capital, including information, research, knowledge, technology, best practice and expertise, in order to deliver on our strategic objectives. Our cooperation and collaboration with these organisations provide us with an opportunity to leverage intellectual capital to maximise our information and knowledge base and improve the way we operate.

Dr Rob Stephen, Eskom General Manager: Master Specialist, is the President of Conseil International des Grands Réseaux Électriques (CIGRÉ), an international council on large electric systems.

Founded in 1921, CIGRÉ is an international non-profit council which promotes collaboration with experts from around the world by sharing knowledge and state-of-the-art technology, facilitating technical exchanges and informing policy makers and regulators in order to improve electric power systems of today and tomorrow. The council consists of 1 137 collective members and 6 360 individual members. Its activities are divided into 16 study committees which cover issues related to planning, operation and protection of power systems, information systems, telecommunications, as well as design, construction, maintenance and disposal of high-voltage equipment and plants.

Our memberships, partnerships and agreements cover broad disciplines such as business and trade, research, sustainability and the technical energy industry. A select list of our memberships, partnerships and agreements for the exchange of intellectual capital is provided below.

- *Business and trade*: International Chamber of Commerce, Industrial Development Corporation, World Economic Forum, Southern African Power Pool (SAPP)
- *Research*: Electric Power Research Institute (EPRI), Council for Science and Industrial Research (CSIR), South African National Energy Development Institute
- *Sustainability*: World Business Council for Sustainable Development (WBCSD), United Nations Global Compact (UNGC), International Integrated Reporting Council (IIRC), International Sustainable Energy for All, Global Reporting Initiative (GRI)
- *Technical energy industry*: CIGRÉ, World Energy Council, Grid Operators (GO15), South African National Energy Association (SANEA)

Intellectual property

Our management of intellectual property aims to ensure organisational compliance to applicable legislation including the Copyright Act, 1978; the Patent Act, 1978; the Trade Marks Act, 1993; the Intellectual Property Rights from Publically Financed Research and Development Act, 2008; and the Designs Act, 1993.

Our capabilities include identifying, acquiring, developing, protecting and managing intellectual property assets, such as patents, trademarks and designs. Currently, we protect and manage 34 patents and four trademarks across the organisation. We are exploring ways in which to commercialise and develop a revenue model

for our intellectual property assets through the proposed establishment of an Intellectual Property Management Office. It is envisaged that the development of future intellectual property will continue through the technological breakthrough and first applications demonstrated by RT&D, with support from the ideation skills and ideas management platform provided by our Innovation Circuit.

In the past, we have achieved success in commercialising our *Power Series* of technical and managerial publications related to the electricity supply industry, as well as our partnership with the CSIR on commercialisation of the *Corona Camera* for optical detection and measurement of electrical fields around electrical equipment.

Technology transfer
During the year, we acquired intellectual property worth R1.7 million (March 2018: R26.1 million). Funding constraints have resulted in significant delays and limitations to transactions planned for the year, such as the heat recovery steam generator design. There are no plans to acquire intellectual property during the coming financial year.

A total of 42 employees benefited from skills development initiatives related to technology transfer during the year (March 2018: 63). On-the-job training continued in the areas of boilers, risk-based inspection, fabric filter plant design and flue gas desulphurisation.

Our systems and processes

Our operating structure, people and governance structures have to be aligned to systems and processes to enable organisational effectiveness. Our operating structure comprises line divisions, service functions and strategic functions. The organisation is managed through governance documents, such as plans, policies and frameworks, which shape the direction of the organisation as a whole, as well as through supporting documents specific to different functional areas, such as procedures, process control manuals, guidelines, work instructions and other supporting documents, which are aligned to their respective business processes and governance structures and integrated across the organisation.

Refer to "What we do and our impact – Legal and operating structure" on pages 32 to 33 for detail on our operating structure

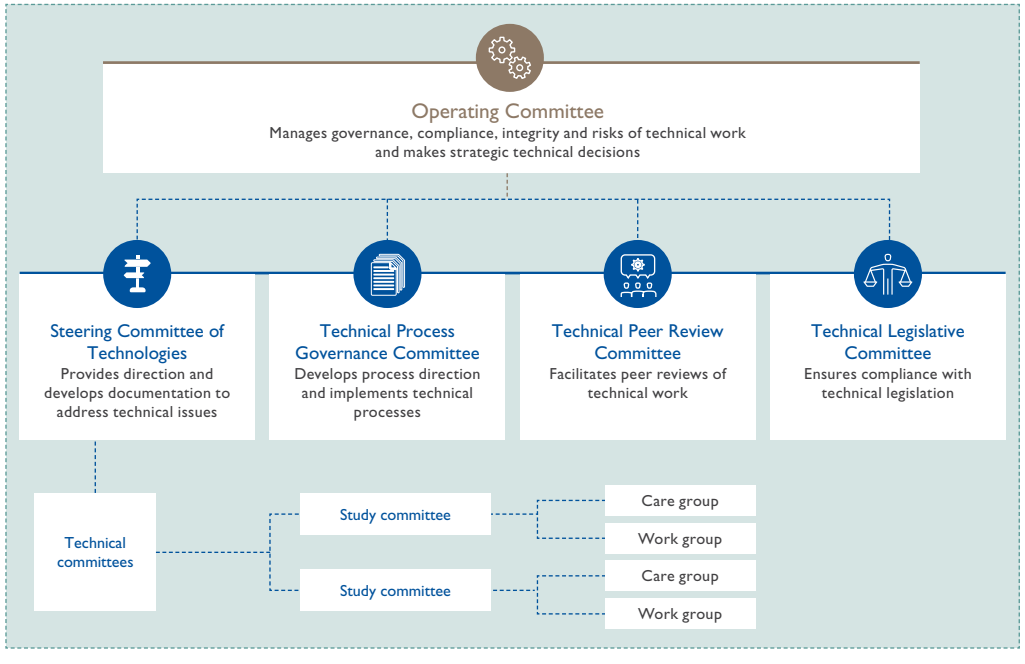
Our commitment to compliance with international standards and best practice is realised through our implementation of business processes to create efficiencies through standardisation, simplification and optimisation of systems and processes to increase overall performance and deliver on our strategic objectives. Our business processes include both technical and non-technical processes.

Technical governance structures

Our governance of intellectual capital provides oversight of the management of technology, information and processes within the organisation and is crucial to ensuring that our intellectual capital supports our current strategy and will prepare us for the future.

Refer to "Risks and opportunities, assurance and controls – Governance of technology and information" on page 58 for detail on our governance of technology and information

Governance of technology and technical processes in Eskom is established through technical governance structures, with the high-level structure illustrated in the diagram below and discussed thereafter.



One of the key activities of Exco's Operating Committee is decision-making around the operation of Generation, Transmission, Distribution and our new build programme. Our operations are complex, integrated and delivered through both routine and non-routine work activities. We manage this operational and technical complexity by documenting our technical knowledge using governance and supporting documentation, as mentioned previously.

Similar technical work activities, such as network planning, design, operating, maintenance and performance assessments of our assets, are performed repeatedly across the organisation and in different geographical locations. This repetition creates an opportunity for standardisation and provides benefits such as reduced training requirements, improved quality, improved safety, reduced need for spares and replacements, reduced engineering time and other economies of scale. When our technical work is documented and standardised we are able to benchmark our performance against best practice and determine whether our manufactured capital is being effectively managed throughout its lifecycle.

The Steering Committee of Technologies (SCOT) was established to assist the Operating Committee in implementing standardisation by developing technical documentation, providing technical direction and facilitating collaboration and knowledge transfer on technical issues across the organisation. The Technical Process Governance Committee (TPGC) further assists through implementation of technical processes, development of strategic technical process direction and monitoring changes of and compliance with our technical processes through procedures, standards and other supporting documentation. The Technical Peer Review Committee (TPRC) facilitates reviews of the integrity of our technical work and long-term health of our infrastructure assets, including assessments of asset creation, operation and maintenance. The peer review process comprises periodic reviews by international utilities and industry peers to measure our technical and operational performance against international benchmarks. The Technical Legislative Committee (TLC) ensures effective monitoring and compliance with legislation that governs the technical work that we perform.

The SCOT and TPGC committees are supported by a structure of technical committees, study committees, care groups and working groups comprised of subject matter experts who assist in undertaking relevant research, developing technical documentation, and recommending operational and technical solutions across multiple disciplines based on an annual programme of work.

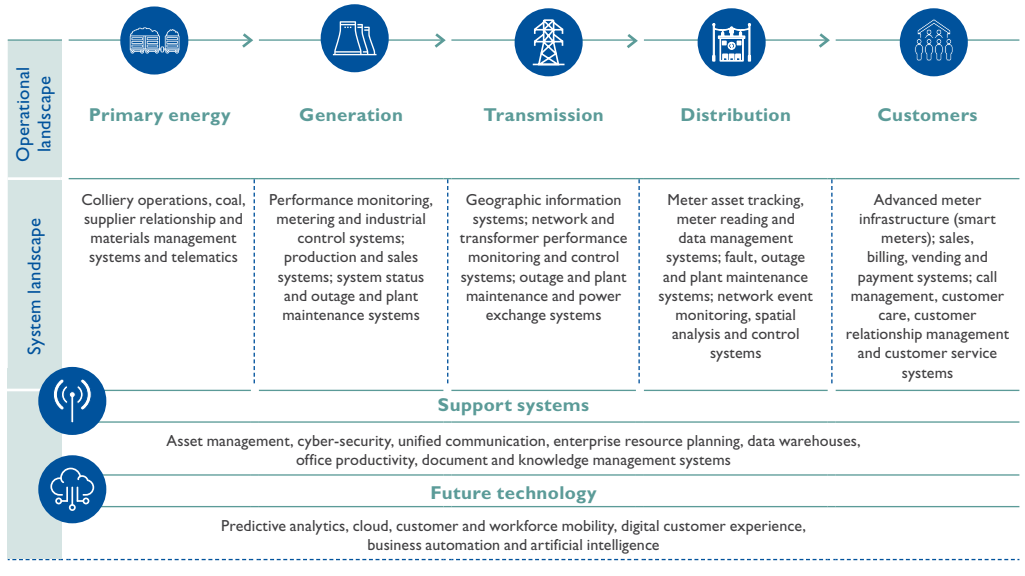
Our technical governance structures are beneficial in pooling our technical resources across the organisation and developing optimal and efficient technical solutions and skills as well as an appropriate selection of technologies.

System architecture landscape

Intellectual capital includes our IT infrastructure, systems and applications which support our people and processes in an increasingly digital and real-time operating environment.

Our system architecture landscape comprises the information systems required to meet our data, operational, management, planning and reporting requirements. It is supported by our technology landscape, including IT infrastructure such as hardware, networks and storage, as well as our application landscape, including software and tools.

Our system architecture landscape is designed around a number of business capabilities which align to our operational needs, supported by an enterprise resource planning solution and related systems. A diagram of our high-level system architecture is shown below.



Our systems architecture landscape is managed and governed in accordance with our IT Charter and policies. Changes to our architecture landscape are predominately driven through operational needs, in response to our evolving operating environment and industry developments, and are assessed, analysed and governed through the relevant structures. Our Enterprise Architecture Review Committee is responsible for managing our architecture landscape, ultimately supporting Exco and ARC in their oversight of technology and information in Eskom, in accordance with King IV™.

IT performance

During the year, we achieved 99% availability of our top nine critical applications. We employ end-to-end monitoring of critical applications to ensure proactive management of any incidents that could result in downtime. Furthermore, no high risk IT security or system incidents and no data loss incidents were experienced during the year. We continue to align our information and technology objectives with our turnaround plan.

In order to deliver on our strategic objectives, the following key IT projects and initiatives were targeted during the year.

Initiatives	Our progress
Digital strategy implementation	We are accelerating our digital transformation through IT platforms and services for both internal and external use. During the year, our focus included two projects, namely an e-auction online platform for competitive procurement bidding as well as an electronic signature service. Both of these projects were successfully piloted during the year and are awaiting approval for implementation
Deliver advanced analytics	The implementation of digital and advanced analytics solutions is targeted to assist us in realising savings, improve operational efficiencies as well as improve employee engagement and productivity. We are exploring analytics to assist us in predictive maintenance, fraud detection and improved customer interaction. During the year, we implemented a metering mart – a single repository of all meter consumption data – for analytical purposes and developed models to understand large customer trends, consumption patterns and impact analysis of time-of-use scenarios
Cyber security protection	A Cyber Security Projects Steering Committee has been established to integrate and streamline cyber security controls across the organisation to identify and protect against cyber security threats. The business requirements specifications for five prioritised cyber security projects are being reviewed
Data leakage protection	During the year, data leakage protection software was rolled out and a Data Protection Office has been set up to monitor and prevent against incidents of data leakage
Transition to hybrid	We implemented our Cloud Policy in order to drive implementation of cloud solutions across our technology landscape as a means of transitioning to a hybrid state of conventional and cloud-based IT. The migration of services to the cloud is expected to commence during the next financial year

Our long-term vision is to migrate to the digital utility model for our future information and technology landscape, which supports our desired state as an end-to-end utility. We will execute our digital strategy with the aim of retaining our market position, reducing the cost of our operations, increasing efficiency, promoting self-service IT solutions and automation of processes, as well as enhancing the customer experience by leveraging enabling technologies.

Future focus areas

- Implement our digital strategy to reduce the cost of our operations, increase efficiencies and enhance the customer experience by leveraging enabling technologies
- Integrate and streamline cyber security controls across the organisation to mitigate against cyber security threats
- Continue to deliver on our flagship and high priority projects by focusing our research and development efforts on addressing our operational efficiency, the evolving energy landscape and incubation of new revenue streams

SUPPLEMENTARY INFORMATION

ABBREVIATIONS

ARC	Audit and Risk Committee
B-BBEE	Broad-based black economic empowerment
CFO	Chief Financial Officer
COGTA	Department of Cooperative Governance and Traditional Affairs
CSI	Corporate social investment
CSP	Concentrating solar power
DEA	Department of Environmental Affairs (to be known as Department of Environment, Forestry and Fisheries in future)
DFI	Development finance institution
DOA	Delegation of Authority
DoE	Department of Energy (to be known as Department of Mineral Resources and Energy in future)
DPE	Department of Public Enterprises
DWS	Department of Water and Sanitation (to be known as Department of Human settlements, Water and Sanitation in future)
EAF	Energy availability factor (see glossary)
EBITDA	Earnings before interest, taxation, depreciation and amortisation and fair value adjustments
ECA	Export credit agency
ERI	Eskom Rotek Industries SOC Ltd
EU	European Union
EUF	Energy utilisation factor (see glossary)
Exco	Executive Management Committee
FGD	Flue gas desulphurisation
GCE	Group Chief Executive
GDP	Gross domestic product
GE	Group executive
GW	Gigawatt = 1 000 megawatts
GWh	Gigawatt-hour = 1 000MWh
IFC	Investment and Finance Committee
IFRS	International Financial Reporting Standards
IPP	Independent power producer (see glossary)
IRP	Integrated Resource Plan
King IV™	King IV Report on Corporate Governance for South Africa, 2016
kℓ	Kilolitre = 1 000 litres
KPI	Key performance indicator
kt	Kiloton = 1 000 tons
kV	Kilovolt
kWh	Kilowatt-hour = 1 000 watt-hours (see glossary)
kWhSO	Kilowatt-hour sent out
LPU	Large power user
LTIR	Lost-time injury rate (see glossary)
Mℓ	Megalitre = 1 million litres
MOI	Memorandum of Incorporation
mSv	Millisievert
Mt	Million tons
MVA	Megavolt-ampere
MW	Megawatt = 1 million watts
MWh	Megawatt-hour = 1 000kWh
MWhSO	Megawatt-hour sent out
MYPD	Multi-year price determination
NDP	National Development Plan
NERSA	National Energy Regulator of South Africa
NNR	National Nuclear Regulator
OCGT	Open-cycle gas turbine (see glossary)
OCLF	Other capability loss factor
OHS	Occupational health and safety
PAIA	Promotion of Access to Information Act, 2000
PAJA	Promotion of Administrative Justice Act, 2000
PCLF	Planned capability loss factor
PFMA	Public Finance Management Act, 1999
PGC	People and Governance Committee
PPA	Power purchase agreement
PV	(Solar) photovoltaic
RCA	Regulatory Clearing Account
RE-IPP	Renewable energy independent power producer
SADC	Southern African Development Community
SAIDI	System average interruption duration index
SAIFI	System average interruption frequency index
SALGA	South African Local Government Association
SAPP	Southern African Power Pool
SES	Social, Ethics and Sustainability Committee
SOC	State-owned company
SPU	Small power user
TMPS	Total measured procurement spend
UAGS	Unplanned automatic grid separations
UCLF	Unplanned capability loss factor (see glossary)
USA	United States of America

GLOSSARY OF TERMS

Base-load plant	Largely coal-fired and nuclear power stations, designed to operate continuously
Cash interest cover (ratio)	Provides a view of the company's ability to satisfy the interest burden on its borrowings by utilising cash generated from operating activities. It is calculated as net cash from operating activities divided by net interest paid (interest paid on financing activities less interest received from financing activities)
Daily peak	Maximum amount of energy demanded by consumers in one day
Debt/equity including long-term provisions	Net financial assets and liabilities plus non-current retirement benefit obligations and non-current provisions divided by total equity
Debt service cover (ratio)	Cash generated from operations divided by (net interest paid from financing activities plus debt securities and borrowings repaid)
Decommission	To remove a facility (e.g. reactor) from service and either store it safely or dismantle it
Demand side management	Planning, implementing and monitoring activities to encourage consumers to use electricity more efficiently, including both the timing and level of demand
EBITDA margin	EBITDA as a percentage of revenue (excluding revenue not recognised due to uncollectability)
Electricity operating costs per MWh	Electricity-related costs (primary energy costs, employee benefit costs plus net impairment loss and other operating expenses, less other income) divided by total electricity sales in GWh multiplied by 1 000
Electricity revenue per kWh	Electricity revenue (including electricity revenue not recognised due to uncollectability) divided by total kWh sales multiplied by 100
Embedded derivative	Financial instrument that causes cash flows that would otherwise be required by modifying a contract according to a specified variable such as currency
Energy availability factor (EAF)	Measure of power station availability, taking account of energy losses not under the control of plant management and internal non-engineering constraints
Energy efficiency	Programmes to reduce energy used by specific end-use devices and systems, typically without affecting services provided
Energy utilisation factor (EUF)	Ratio of actual electrical energy produced during a period of time divided by the total available energy capacity. It is a measure of the degree to which the available energy capacity of an electricity supply network is utilised. Available energy capacity refers to the capacity after all unavailable energy (planned and unplanned energy losses) has been taken into account, and represents the net energy capacity made available to the System Operator or national grid
Fatality	A fatality is an incident occurring at work, or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which or in consequence of which, any person (an employee, contractor, or member of the public) dies, regardless of the time intervening between the injury and/or exposure to the cause and death. The date of the incident will reflect the date on which the incident occurred, irrespective of the date of death
Forced outage	Shutdown of a generating unit, transmission line or other facility for emergency reasons or a condition in which generating equipment is unavailable for load due to unanticipated breakdown
Free basic electricity	Amount of electricity deemed sufficient to provide basic electricity services to a poor household (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	A director who: • Is not a full-time salaried employee of the company or its subsidiary • Is not a shareholder representative • 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 • Is not a professional advisor to the company • Is not a significant supplier or customer of the company • Is not receiving remuneration contingent on the performance of the company
Independent power producer (IPP)	Any entity, other than Eskom, that owns or operates, in whole or in part, one or more independent power generation facilities
Kilowatt-hour (kWh)	Basic unit of electric energy equal to one kilowatt of power supplied to or taken from an electric circuit steadily for one hour
Load	Amount of electric power delivered or required on a system at any specific point
Load curtailment	Typically larger industrial customers reduce their demand by a specified percentage for the duration of a power system emergency. Due to the nature of their business, these customers require two hours' notification before they can reduce demand
Load management	Activities to influence the level and shape of demand for electricity so that demand conforms to the present supply situation, long-term objectives and constraints
Loadshedding	Scheduled and controlled power cuts that rotate available capacity between all customers when demand is greater than supply in order to avoid blackouts. Distribution or municipal control rooms open breakers and interrupt load according to predefined schedules
Lost-time injury (LTI)	A work injury which arises out of and in the course of employment and which renders the injured employee or contractor unable to perform his/her regular/normal work on one or more full calendar days or shifts other than the day or shift on which the injury occurred. It includes occupational diseases
Lost-time injury rate (LTIR)	Proportional representation of the occurrence of lost-time injuries over 12 months per 200 000 working hours. It includes occupational diseases
Major incident	An interruption with a severity ≥1 system minute
Maximum demand	Highest demand of load within a specified period
Occupational disease/illness	Any confirmed disease/illness arising out of, and in the course of, an employee's employment, that is listed in Schedule 3 of the Compensation for Occupational Injuries and Diseases (COID) Act, 1993, or any other condition as determined by an occupational medical practitioner
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 20:00 in summer; and 6:00 to 9:00 as well as 17:00 to 19:00 in winter
Peaking capacity	Generating equipment normally operated only during hours of highest daily, weekly or seasonal loads
Peak-load plant	Gas turbines, hydroelectric or a pumped storage scheme used during periods of peak demand
Primary energy	Energy in natural resources, e.g. coal, liquid fuels, sunlight, wind, uranium and water
Pumped storage scheme	A lower and an upper reservoir with a power station/pumping plant between the two. During off-peak periods the reversible pumps/turbines use electricity to pump water from the lower to the upper reservoir. During periods of peak demand, water runs back into the lower reservoir through the turbines, generating electricity
Reserve margin	Difference between net system capability and the system's maximum load requirements (peak load or peak demand)
Return on assets	EBIT divided by the regulated asset base, which is the sum of property, plant and equipment, trade and other receivables, inventory and future fuel, less trade and other payables and deferred income
System minutes	Global benchmark for measuring the severity of interruptions to customers. One system minute is equivalent to the loss of the entire system for one minute at annual peak. A major incident is an interruption with a severity ≥1 system minute
Technical losses	Naturally occurring losses that depend on the power systems used
Unit capability factor (UCF)	Measure of availability of a generating unit, indicating how well it is operated and maintained
Unplanned capability loss factor (UCLF)	Energy losses due to outages are considered unplanned when a power station unit has to be taken out of service and it is not scheduled at least four weeks in advance
Used nuclear fuel	Nuclear fuel irradiated in and permanently removed from a nuclear reactor. Used nuclear fuel is stored on site in used fuel pools or storage casks
Watt	The watt is the International System of Units' (SI) standard unit of power. It specifies the rate at which electrical energy is dissipated (energy per unit of time)
Working capital ratio	(Inventory plus the current portion of payments made in advance, trade and other receivables and taxation assets) divided by (the current portion of trade and other payables, payments received in advance, provisions, employee benefit obligations and taxation liabilities)

INDEPENDENT SUSTAINABILITY ASSURANCE REPORT

Independent assurance provider's reasonable assurance report on selected key performance indicators to the directors of Eskom

Introduction

We have been engaged to perform an independent assurance engagement for Eskom Holdings SOC Ltd (Eskom) on selected key performance indicators (KPIs) reported in Eskom's integrated report for the year ended 31 March 2019. Our engagement was conducted by a team with relevant experience in sustainability reporting.

Subject matter

We are required to provide reasonable assurance on the following selected sustainability KPIs to be published in the integrated report, which include the indicators contained in 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
Focus on safety				
1.	Lost-time injury rate (LTIR)	Index	Eskom	Occupational Health and Safety Act
Improve operations				
2.	Planned capability loss factor (PCLF)	%	Generation	Eskom's measurement specification
3.	Energy availability factor (EAF)	%	Generation	
4.	System average interruption duration index (SAIDI)	Hours	Distribution	
5.	System average interruption frequency index (SAIFI)	Number	Distribution	
6.	System minutes <1	Minutes	Transmission	
7.	Distribution total energy losses	%	Distribution	
Deliver capital expansion				
8.	Generation capacity installed and commissioned	MW	Generation	Eskom's measurement specification
9.	Transmission lines installed	Km	Transmission	
10.	Transmission transformer capacity installed and commissioned	MVA	Transmission	
Reduce environmental footprint in existing fleet				
11.	Relative particulate emissions	kg/MWh sent out	Generation	Environmental Act
12.	Specific water usage	ℓ/kWh sent out	Generation	Water Act
13.	Carbon dioxide emissions[1]	kg/kWh sent out	Generation	Eskom's measurement specification
Implementing coal haulage and the road-to-rail migration plan				
14.	Migration of coal delivery volume from road to rail	Mt	Generation	Eskom's measurement specification
Ensure financial sustainability				
15.	Value add per employee	R million/ full-time employee	Eskom	Eskom's measurement specification
16.	Cash interest cover	Ratio	Eskom	
17.	Debt equity ratio including long-term provisions	Ratio	Eskom	
18.	Free funds from operations as percentage of gross debt	%	Eskom	
19.	Free funds from operations as percentage of capital expenditure	%	Eskom	
20.	EBITDA margin	%	Eskom	
21.	Arrear debt as % of electricity revenue	%	Eskom	
22.	Average debtors days for municipalities, top customers, LPUs and SPUs (including Soweto)	Days	Eskom	
23.	Coal purchased R/ton, % increase	R/ton % increase	Eskom	

No.	Indicator	Unit of measure	Boundary	Reporting criteria
Human capital				
24.	Training spend as % of gross manpower costs	%	Eskom	Eskom's measurement specification
25.	Learner intake (artisans)[2]	Number	Eskom	
26.	Engineers (bursars/engineers in training) recruited[2]	Number recruited	Eskom	
27.	Technicians in training recruited[2]	Number recruited	Eskom	
28.	Sector-specific new learner operators including graduates in training (non-technical)[2]	Number	Eskom	
29.	Disability equity in total workforce	%	Eskom	
30.	Racial equity in senior management	%	Eskom	
31.	Gender equity in senior management	%	Eskom	
32.	Racial equity in professional and middle management	%	Eskom	
33.	Gender equity in professional and middle management	%	Eskom	
Economic impact				
34.	Local content contracted in new build	%	Eskom	Eskom's measurement specification
35.	Local content contracted (Eskom-wide)	%	Eskom	
36.	Percentage of B-BBEE attributable spend against total measured procurement spend (TMPS)	%	Eskom	B-BBEE amended Codes of Good Practice
37.	Percentage of BO attributable spend against TMPS	%	Eskom	
38.	Percentage of BWO attributable spend against TMPS	%	Eskom	
39.	Percentage of BYO attributable spend against TMPS	%	Eskom	
40.	Percentage of BPwD attributable spend against TMPS	%	Eskom	
41.	Percentage of QSE attributable spend against TMPS	%	Eskom	
42.	Percentage of EME attributable spend against TMPS	%	Eskom	
43.	B-BBEE score level	Number	Eskom	
44.	Technology transfer: acquisition of intellectual property	Number	Eskom	Eskom's measurement specification
45.	Technology transfer: skills development	Number	Eskom	
Electrification				
46.	Department of Energy funded electrification connections[1]	Number	Eskom	Eskom's measurement specification
Socio-economic impact: corporate social investment (CSI)				
47.	CSI committed	R million	Eskom	Eskom's measurement specification

1. Not included in the shareholder compact.
2. Not assured in the prior year.

Directors' responsibilities
The directors are responsible for the selection, preparation and presentation of the sustainability information in accordance with 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 judgements. 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 Grant Thornton Inc applies the International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our responsibility
Our responsibility is to express a reasonable assurance conclusion on the selected KPIs based on the procedures we have performed and the evidence we have obtained. We conducted our reasonable assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board. That standard requires that we plan and perform our engagement to obtain reasonable assurance about whether the selected KPIs are free from material misstatement.

A reasonable assurance engagement in accordance with ISAE 3000 (revised) involves performing procedures to obtain evidence about the quantification of the selected sustainability information and related disclosures. The nature, timing and extent of procedures selected depend on our judgement, including the assessment of the risks of material misstatement, whether due to fraud or error. In making those risk assessments we considered internal control relevant to Eskom's preparation of the selected KPIs. A reasonable assurance engagement also includes:

- Assessing the suitability in the circumstances of Eskom's use of its reporting criteria as the basis for preparing the selected sustainability information
- Evaluating the appropriateness of quantification methods and reporting policies used, and the reasonableness of estimates made by Eskom
- 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 judgements made by the directors in the preparation of the selected sustainability information. We planned and performed our work so as to obtain all the information and explanations that we considered necessary in order to provide us with sufficient evidence on which to base our conclusion in respect of the selected sustainability information.

Our procedures included the understanding of risk assessment procedures, internal control, and the procedures performed in response to the assessed risks. The procedures we performed were based on our professional judgement and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement in performing the procedures listed above, we:

- Interviewed management and senior executives to obtain an understanding of the internal control environment, risk assessment process and information systems relevant to the sustainability reporting process
- Inspected documentation to corroborate the statements obtained from management and senior executives in our interviews
- Reviewed the process that Eskom has in place for determining material selected KPIs 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 KPIs
- Evaluated the reasonableness and appropriateness of significant estimates and judgements made by management in the preparation of the KPIs
- Performed site work at various coal-fired power stations, Transmission operating units and Distribution operating units
- Evaluated whether the selected KPIs 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
We were unable to obtain sufficient appropriate audit evidence to conclude that the reported achievement of R132 million CSI committed spend was complete. This was due to inadequate measurement specifications, and lack of proper performance management systems and processes that predetermined how the achievement would be measured, monitored and reported. Furthermore, we could not confirm that the reported achievement of this indicator was complete by alternative means.

The reported achievement for B-BBEE indicators as listed below was misstated. The evidence provided indicated R50.5 billion related to B-BBEE spend was not included in the actual achievement. Portions of this amount are attributable to each of the KPIs below, however management was unable to allocate the R50.5 billion to the correct KPIs. This resulted in a completeness misstatement, although the extent of the misstatement cannot be quantified. The misstatement was due to B-BBEE spend related to suppliers whose B-BBEE certificate had expired during the year being excluded. In terms of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003), as amended, if a supplier's B-BBEE certificate was valid for any period during the year, all spend with that supplier should be included as B-BBEE spend. The following KPIs could be misstated:

- Percentage of B-BBEE attributable spend against TMPS
- Percentage of BWO attributable spend against TMPS
- Percentage of BO attributable spend against TMPS
- Percentage of BYO attributable spend against TMPS
- Percentage of BPwD attributable spend against TMPS
- Percentage of QSE attributable spend against TMPS
- Percentage of EME attributable spend against TMPS

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 KPIs are presented in accordance with Eskom Holdings SOC Ltd's reporting criteria is, in all material respects, fairly stated.

Other matters
I draw attention to the matters below. Our conclusion is not modified in respect of these matters.

B-BBEE
The Broad-Based Black Economic Empowerment Act, 2013 as amended (the B-BBEE Act), read together with the B-BBEE Regulations, requires that all spheres of government, public entities and organs of state as well as companies listed on the Johannesburg Stock Exchange (JSE) report to the B-BBEE Commission annually on their compliance with broad-based black economic empowerment. Eskom Holdings SOC Ltd has not provided the auditors with proof of submitting a B-BBEE compliance report to the B-BBEE Commission for the 2017/18 financial year ended 31 March 2018. In addition, at year end, nine months after the expiry of the certificate, the verification of Eskom's B-BBEE score level had not been completed.

This compliance subject matter is not within the scope of this engagement and therefore does not affect our conclusion, however, while auditing the KPI for B-BBEE score level this non-compliance became apparent.

Website
The maintenance and integrity of the Eskom website is the responsibility of Eskom management. Our procedures did not involve consideration of these matters and accordingly, we accept no responsibility for any changes to either the information in the report or our independent reasonable assurance report that may have occurred since the initial date of its presentation on the Eskom website.

Restriction of liability
Our work has been undertaken to enable us to express the conclusions on the selected KPIs to the directors of Eskom in accordance with the terms of our engagement and for no other purpose. We do not accept or assume liability to any party other than Eskom for our work, for this report, or for the conclusion we have reached.

SizweNtsalubaGobodo Grant Thornton Inc
Registered auditors

Per BF Zwane
Chartered Accountant (SA)
Director

26 July 2019

LEADERSHIP QUALIFICATIONS AND DIRECTORSHIPS

Board of Directors

at 31 March 2019

MR JABU (JA) MABUZA (61)
Chairman
Independent non-executive director

Qualifications
Effective Leadership Program (Pennsylvania University)
Executive Development Program (University of California)

Directorships
ABinBev Africa (Pty) Ltd
Blueberryfields Knysna (Pty) Ltd
Break-Red Dance Trading (Pty) Ltd
Business Leadership South Africa
Business Unity South Africa
Casino Association of South Africa
Concordia
Eglin Investments no. 44 (Pty) Ltd
Emma Mabuza JV (Pty) Ltd
Eternity Star 242 CC
Javas Tbos Properties (Pty) Ltd
Jaxson 653 (RF) (Pty) Ltd
Kuncedzana Investment Holdings (Pty) Ltd
Lexshell 627 Investments (Pty) Ltd
Lodge 748, Fancourt (Pty) Ltd
Motema Investments (Pty) Ltd
Oteo Investment Holdings (Pty) Ltd
Petroport N3 Heidelberg (Pty) Ltd
Sumart 005 Property Holdings (Pty) Ltd
Telkom SA SOC Ltd (resigned as Chairman on 31 May 2019)
Teza Investments (Pty) Ltd
Zarara Hydrocarbons Trading Limited

MR PHAKAMANI (PS) HADEBE (51)
Group Chief Executive
Executive director

Qualifications
MA Economics (University of Durban-Westville)
MA Rural Development (Sussex University)
Executive Leadership Program (Wharton Business School)

Directorships
Southern African Power Pool

MR CALIB (C) CASSIM (47)
Chief Financial Officer
Executive director

Qualifications
B Com (University of Natal)
B Accounting Sciences (Unisa)
Chartered Accountant (SA)
Master of Business Leadership (Unisa)

Directorships
Escap SOC Ltd
Eskom Enterprises SOC Ltd
Eskom Finance Company SOC Ltd

DR ROD (RDB) CROMPTON (66)
Independent non-executive director

Qualifications
BA (University of Natal)
Diploma in Higher Education (University of Natal)
BA Hons (University of Natal)
Ph D Humanities (University of Natal)

Directorships
None

MR SIFISO (RSN) DABENGWA (60)
Independent non-executive director

Qualifications
B Sc (Hons) Engingeering (University of Zimbabwe)
MBA (University of Witwatersrand)
Executive Program (University of Michigan)

Directorships
Long Street Property Development (Pty) Ltd
Megapro Holdings (Pty) Ltd
Metal on Gold
Ndlovu Investment Holding Company (Pty) Ltd
Ndlovu Investment Holding One Company
Sea Star Motors (Pty) Ltd
Sigma Capital (Pty) Ltd
Sigma Private Equity Fund Managers (Pty) Ltd

MS SINDI (SN) MABASO-KOYANA (49)
Independent non-executive director

Qualifications
B Com (University of KwaZulu-Natal)
Postgraduate Diploma in Accounting (University of KwaZulu-Natal)
Chartered Accountant (SA)
Diploma in Introduction to Mining (University of Witwatersrand)

Directorships
Adcorp Holdings Ltd
Advanced Fire Fixed System
Advanced Fire Suppresion Technologies
Africa Leadership Initiatives South Africa
AIH Northwind Holdings/AWCA Human Capital
Astra Aircraft Corporation
Atos SA
AWCA Investment Holdings
Bell Equipment Sales South Africa Ltd
Betungwa Investment Holdings
Ide Way Trading
K2017044733 (South Africa RF)
Kenru Fire Protection
LIPOCET
McQuarie Securities (RF) (Pty) Ltd
Movefu LW Trading (Pty) Ltd
MTN Zakhele Futhi (RF) Ltd
Newshelf 472 (Pty) Ltd
Ogwini Alumni (NPO)
Phembani Group (Pty) Ltd
Sibi Capital / Bell Equipment (Pty) Ltd
Side Way Trading
SHL Global Holdings (Pty) Ltd
Toyota South Africa (Pty) Ltd

MS NELISIWE (NVB) MAGUBANE (53)
Independent non-executive director

Qualifications
B Sc Electrical Engineering – Heavy Current (University of Natal)
Postgraduate Diploma in Business Administration (University of West London)
MBA (Milpark Business School)

Directorships
Enerugi 243 Holdings
Inani Infrastructure
Matleng Energy Solutions
Pro Afrika Group
Pro Afrika Power
State Information Technology Agency
Thebe Energy Resources Advisory Council
Trakprops 40

PROF. MALEGAPURU (MW) MAKGOBA (66)
Independent non-executive director

Qualifications
MB ChB (University of Natal)
DPhil (University of Oxford)
Fellowship of the Royal College of Physicians of London
Fellow of the Royal Society of South Africa
Member of the Academy of Science of South Africa
Advanced Management Program (INSEAD)

Directorships
None

DR BANOTHILE (BCE) MAKHUBELA (34)
Independent non-executive director

Qualifications
B Sc (University of Zululand)
B Sc Hons (University of Cape Town)
M Sc (University of Cape Town)
Ph D (University of Cape Town)

Directorships
None

MS BUSISWE (B) MAVUSO (40)
Independent non-executive director

Qualifications
B Compt (Unisa)
Postgraduate Diploma in Management (GIBS)
Master of Business Leadership (Unisa)
Association of Chartered Certified Accountants (ACCA)

Directorships
Black Management Forum Investment
Bukalenyi
Business Leadership of South Africa
Business Unity South Africa (BUSA)
Resultant Finance (Pty) Ltd

DR PULANE (PE) MOLOKWANE (42)
Independent non-executive director

Qualifications
B Sc Physics and Chemistry (University of North West)
Postgraduate Diploma in Applied Radiation Science and Technology (University of North West)
M Sc Applied Radiation Science and Technology (University of North West)
Ph D Chemical Technology (Environmental) (University of Pretoria)

Directorships
Endulo Resources
Litestone Mzansi (Pty) Ltd
Nzuri
Oloenviron
South African Forestry Company
Tinungu

PROF. TSHEPO (TH) MONGALO (45)
Independent non-executive director

Qualifications
B Proc (University of Natal)
LLB (University of Natal)
LLM Commercial Law (University of Cambridge)
Ph D Commercial Law (University of Cape Town)

Directorships
Hope City Investment (Pty) Ltd
Tong-Mongalo Corporate Sevices cc

Ages are shown at 31 March 2019.
Only active directorships are reflected.

Executive Management Committee

at 31 March 2019

MR PHAKAMANI HADEBE (51)
Group Chief Executive

Appointed to Exco in January 2018
1 year in Eskom

Qualifications
MA Economics (University of Durban-Westville)
MA Rural Development (Sussex University)
Executive Leadership Program (Wharton Business School)

Directorships
Southern African Power Pool

MR CALIB CASSIM (47)
Chief Financial Officer

Appointed to Exco in July 2017
17 years in Eskom

Qualifications
B Com (University of Natal)
B Accounting Sciences (Unisa)
Chartered Accountant (SA)
Master of Business Leadership (Unisa)

Directorships
Escap SOC Ltd
Eskom Enterprises SOC Ltd
Eskom Finance Company SOC Ltd

MR JAN OBERHOLZER (60)
Chief Operating Officer

Appointed to Exco in July 2018
26 years Eskom experience (including from 1983 to 2008)

Qualifications
B Sc Electrical Engineering (University of Pretoria)
Master of Business Leadership (Unisa)
Executive Program (University of Michigan)

Directorships
Jafram Projects
Wild Senna Investments

MR BARTLETT HEWU (43)
Acting co-Group Executive: Legal and Compliance

Appointed to Exco in April 2018
1 year in Eskom

Qualifications
B Juris (Unisa)
LLB (University of Pretoria)
LLM Corporate Law (Unisa)
Higher Diploma in Tax (Rand Afrikaans University)
Higher Diploma in International Tax (University of Johannesburg)
Certificate in Advanced Corporate Law and Securities Law (Unisa)

Directorships
Graziglo
Hewu Energy
Hewu Inc trading as Hewu Attorneys
Hewu Resources
NBH Investment Holdings
Nicomate
The Twelve Apostles Church

MR JEROME MTHEMBU (44)
Acting co-Group Executive: Legal and Compliance

Appointed to Exco in April 2018
1 year in Eskom

Qualifications
B Proc (University of KwaZulu-Natal)
LLM (Unisa)
MBA (Henley Business School)
Executive Development Programme Certificate (Unisa)
International Executive Development Programme Certificate (Wits and London Business School)

Directorships
None

MS ELSIE PULE (51)
Group Executive: Human Resources
Appointed to Exco in November 2014
21 years in Eskom

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

Directorships
None

MR SOLOMON TSHITANGANO (57)
General Manager: Procurement

Appointed to Exco in January 2019
<1 year in Eskom

Qualifications
B Com (Hons) (University of Venda)

Directorships
Tshitangano Property Development
Baobab Resources
Riverside Park Extension 8

MS NONDUMISO ZIBI (42)
Acting General Manager: Information Technology

Appointed to Exco in January 2018
19 years in Eskom

Qualifications
National Diploma Electrical Engineering (Eastern Cape Technicon)
B Tech Engineering (Durban University of Technology)
Master of Business Leadership (Unisa)

Directorships
None

Ages are shown at 31 March 2019.
Only active directorships are reflected.

BOARD AND EXCO MEETING ATTENDANCE

Attendance at Board and committee meetings

for the year ended 31 March 2019

Members	Board	Audit and Risk	Investment and Finance	People and Governance	Social, Ethics and Sustainability	Board Tender
Total number of meetings	19	12	7	8	4	8
Current directors						
Non-executive directors						
Mr Jabu Mabuza (Chairman)	17/19*			8/8*		
Dr Rod Crompton	17/19	12/12				
Mr Sifiso Dabengwa	16/19		7/7*			8/8
Ms Sindi Mabaso-Koyana	18/19	12/12*				
Ms Nelisiwe Magubane	14/19					6/8
Prof. Malegapuru Makgoba	14/19	6/12			3/4*	
Dr Banothile Makhubela	14/19				4/4	
Ms Busisiwe Mavuso	17/19		6/7	8/8	4/4	
Dr Pulane Molokwane	18/19					8/8*
Prof. Tshepo Mongalo	16/19		4/7	7/8		
Executive directors						
Mr Phakamani Hadebe	18/19	11/12	4/7	7/8	2/4	6/8
Mr Calib Cassim	18/19	10/12	6/6	3/7		
Previous directors						
Non-executive directors						
Mr Mark Lamberti	0/0					
Ms Jacky Molisane	9/11		2/3			
Mr George Sebulela	10/12	7/8				

Attendance as reflected above refers to directors who were members of that committee during the year to 31 March 2019 and reflects changes in committee composition during the year.
An asterisk denotes the chairmanship of the Board or committee at 31 March 2019.

Attendance at Exco meetings

for the year ended 31 March 2019

Members	Divisional responsibility	Number of meetings attended
Total number of meetings		29
Mr Phakamani Hadebe	Group Chief Executive	29/29
Mr Calib Cassim	Chief Financial Officer	25/29
Mr Jan Oberholzer	Chief Operating Officer	21/22
Mr Bartlett Hewu	Acting co-Group Executive: Legal and Compliance	4/5
Mr Jerome Mthembu	Acting co-Group Executive: Legal and Compliance	4/5
Ms Elsie Pule	Group Executive: Human Resources	24/29
Mr Solomon Tshitangano	General Manager: Procurement	5/5
Ms Nondumiso Zibi	Acting General Manager: Information Technology	25/29

TECHNICAL STATISTICS

Measure and unit	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11	2009/10
Customer statistics										
Arrear debt as % of revenue, %	**4.21**[RA]	2.73[RA]	2.42	1.14	2.17	1.10	0.82	0.53	0.75	0.83
Debtors days – municipalities, average debtors days	**94.3**[RA]	76.6[RA]	53.3[RA]	42.9	47.6	32.7	22.4	–	–	–
Debtors days – large power top customers excluding disputes, average debtors days	**13.5**[RA]	13.9[RA]	15.3[RA]	15.5	16.8	14.5	12.3	14.4	15.5	15.4
Debtors days – other large power users (<100GWh p.a.), average debtors days	**17.2**[RA]	16.6[RA]	16.8[RA]	16.2	17.0	16.9	18.3	–	–	–
Debtors days – small power users (excluding Soweto), average debtors days	**42.6**[RA]	43.4[RA]	48.8[RA]	48.2	49.1	50.2	48.2	42.9	45.1	40.5
Eskom KeyCare, index[1]	**81.7**	79.5	107.0	104.3[RA]	108.7	108.7	105.8	105.9	101.2	98.1
Enhanced MaxiCare[1]	**72.7**	72.0	95.8	96.5[RA]	99.8	92.7	93.2	90.7	89.4	93.0
CustomerCare, index	**8.5**	9.9	9.8	8.4	8.0	8.3	8.4	8.2	8.1	8.2
Sales and revenue										
Total sales, GWh[2]	**208 319**	212 190	214 121	214 487	216 274	217 903	216 561	224 785	224 446	218 591
(Reduction)/growth in GWh sales, %	**(1.8)**	(0.9)	(0.2)	(0.8)	(0.7)	0.6	(3.7)	0.2	2.7	1.7
Electricity revenue, R million	**179 893**	175 041	175 094	161 688	146 268	136 869	126 663	112 999	90 375	69 834
Growth in revenue, %	**2.8**	(0.0)	8.3	10.5	6.9	8.1	12.1	25.0	29.4	31.8
Electricity output										
Power sent out by Eskom stations, GWh (net)	**218 939**	221 936	220 166	219 979	226 300	231 129	232 749	237 289	237 430	232 812
Coal-fired stations, GWh (net)	**200 210**	202 106	200 893	199 888	204 838	209 483	214 807	218 210	220 219	215 940
Hydroelectric stations, GWh (net)	**1 029**	709	579	688	851	1 036	1 077	1 904	1 960	1 274
Pumped storage stations, GWh (net)	**4 590**	4 479	3 294	2 919	3 107	2 881	3 006	2 962	2 953	2 742
Gas turbine stations, GWh (net)	**1 202**	118	29	3 936	3 709	3 621	1 904	709	197	49
Wind energy, GWh (net)	**328**	331	345	311	1	2	1	2	2	1
Nuclear power station, GWh (net)	**11 580**	14 193	15 026	12 237	13 794	14 106	11 954	13 502	12 099	12 806
IPP purchases, GWh	**11 344**	9 584	11 529	9 033	6 022	3 671	3 516	4 107	1 833	–
Wheeling, GWh[3]	**2 750**	2 266	2 910	3 930	3 623	3 353	2 948	3 099	3 423	3 175
Energy imports from SADC countries, GWh[3]	**7 355**	7 731	7 418	9 703	10 731	9 425	7 698	9 939	10 190	10 579
Total electricity available (generated by Eskom and purchased), GWh[2]	**240 388**	241 517	242 023	242 645	246 676	247 578	246 911	254 434	252 876	246 566
Total consumed by Eskom, GWh[4]	**(5 981)**	(6 031)	(4 808)	(4 046)	(4 114)	(3 862)	(4 037)	(3 982)	(3 962)	(3 695)
Total available for distribution, GWh	**234 407**	235 486	237 215	238 599	242 562	243 716	242 874	250 452	248 914	242 871
Supply and demand										
Total Eskom power station capacity – installed, MW	**48 029**	48 039	46 407	45 075	44 281	44 189	44 206	44 115	44 145	44 175
Total Eskom power station capacity – nominal, MW	**44 172**	45 561	44 134	42 810	42 090	41 995	41 919	41 647	41 194	40 870
Total IPP power station capacity – nominal, MW	**4 981**	4 779	5 027	3 392	2 606	1 677	1 135	1 008	803	–
Peak demand on integrated Eskom system, MW	**34 256**	35 301	34 122	33 345	34 768	34 977	35 525	36 212	36 664	35 850
Peak demand on integrated Eskom system, including load reductions and non-Eskom generation, MW	**35 345**	35 613	34 913	34 481	36 170	36 002	36 345	37 065	36 970	35 912
National rotational load shedding	**Yes**	No	No	Yes	Yes	Yes[RA]	No[RA]	No[RA]	No[RA]	No
Demand savings, MW	**15.0**	40.2	236.9	214.9	171.5[RA]	409.6[RA]	595.0[RA]	365.0[RA]	354.1	–
Internal energy efficiency, GWh	**0**	1.4	6.0	1.7[RA]	10.4[RA]	19.4[RA]	28.9[RA]	45.0[RA]	26.2[RA]	–
Asset creation										
Generation capacity installed and commissioned, MW	**0**[RA]	2 387[RA]	1 332[RA]	794[RA]	100[RA]	120[RA]	261[RA]	535[RA]	315[RA]	452
Transmission lines installed, km	**378.7**[RA]	722.3[RA]	585.4[RA]	345.8[RA]	318.6[RA]	810.9[RA]	787.1[RA]	631.3[RA]	443.4[RA]	600.3
Substation capacity installed and commissioned, MVA	**540**[RA]	2 510[RA]	2 300[RA]	2 435[RA]	2 090[RA]	3 790[RA]	3 580[RA]	2 525[RA]	5 940[RA]	1 630
Total capital expenditure – group (excluding capitalised borrowing costs), R billion	**33.9**	48.0	60.0	57.4	53.1[RA]	59.8[RA]	60.1	58.8	47.9	48.7
Safety										
Employee lost-time injury rate (LTIR) – company, index[5, 6, 7]	**0.33**	0.25	0.43	0.29	0.36	0.31[RA]	0.40[RA]	0.41[RA]	0.47[RA]	0.54
Employee lost-time injury rate (LTIR) – group, index[5, 6, 7]	**0.31**[RA]	0.24	0.39	0.30	0.33	0.31	–	–	–	–
Fatalities (employees and contractors), number[8]	**6**	14	10	17	10	23[RA]	19[RA]	24[RA]	25[RA]	17
Employee fatalities, number	**3**	3	4	4	3	5[RA]	3[RA]	13[RA]	7[RA]	2
Contractor fatalities, number[8]	**3**	11	6	13	7	18[RA]	16[RA]	11[RA]	18[RA]	15

1. The basis for calculating the Eskom KeyCare and the Enhanced MaxiCare indices was changed from 1 April 2018. The comparatives for 2017/18 have been restated.
2. The difference between electricity available for distribution and electricity sold is due to energy losses.
3. Prior to 2009/10, wheeling was combined with the total imported for the Eskom system.
4. Used by Eskom for pumped storage facilities and synchronous condenser mode of operation.
5. The employee lost-time injury rate (LTIR) includes occupational diseases.
6. Prior to 2013/14, only company numbers were reported.
7. The LTIR figures for 2017/18 increased due to an additional three occupational disease incidents being reported.
8. A security contractor fatality that took place during 2017/18 was subsequently declared as not work-related by the Safety Data Integrity Committee and has been removed from the reported figures.

RA Reasonable assurance provided by the independent assurance provider. Refer to pages 160 to 163 of the integrated report.

TECHNICAL STATISTICS continued

Measure and unit	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11	2009/10
Primary energy										
Coal stock, days	**67**	68	74	58	51	44[RA]	46[RA]	39[RA]	41[RA]	37
Road-to-rail migration (additional tonnage transported on rail), Mt	**8.2[RA]**	11.6[Q]	13.2[Q]	13.6[RA]	12.6[RA]	11.6[RA]	10.1[RA]	8.5	7.1	5.1
Coal purchased, Mt	**118.3**	115.3	120.3	118.7	121.7	122.0	126.4	124.3	126.2	121.8
Coal burnt, Mt	**113.8**	115.5	113.7	114.8	119.2	122.4	123.0	125.2	124.7	122.7
Average calorific value, MJ/kg	**19.24**	19.81	20.05	19.57	19.68	19.77	19.76	19.61	19.45	19.22
Average ash content, %	**30.98**	30.92	28.62	28.19	27.63	28.56	28.69	28.88	29.03	29.56
Average sulphur content, %	**0.84**	0.87	0.84	1.07	0.80	0.87	0.88	0.79	0.78	0.81
Overall thermal efficiency, %	**31.0**	31.2	31.2	31.1	31.4	31.3	32.0	31.4	32.6	33.1
Diesel and kerosene usage for OCGTs, Mℓ	**385.0**	37.8	10.0	1 247.8	1 178.6	1 148.5[RA]	609.7[RA]	225.5[RA]	63.6[RA]	16.1
Plant performance										
Unplanned capability loss factor (UCLF), %[1]	**18.31**	10.18	9.90	14.91[RA]	15.22[RA]	12.61[RA]	12.12[RA]	7.97[RA]	6.14[RA]	5.10
Planned capability loss factor (PCLF), %[1]	**10.18[RA]**	10.35[RA]	12.14[RA]	12.99	9.91[RA]	10.50[RA]	9.10	9.07	7.98	9.04
Energy availability factor (EAF), %[1]	**69.95[RA]**	78.00[RA]	77.30[RA]	71.07[RA]	73.73[RA]	75.13[RA]	77.65[RA]	81.99[RA]	84.59[RA]	85.21
Unit capability factor (UCF), %[1]	**71.51**	79.47	78.00	72.10	74.87	76.90[RA]	78.80[RA]	83.00[RA]	85.90[RA]	85.90
Generation load factor, %[1]	**54.4**	55.9	57.9	58.8	61.5	62.8	63.6	65.1	66.4	66.2
OCGT load factor trend, %	**5.7**	0.6	0.1	18.6	17.6	19.3[RA]	10.4[RA]	3.9	1.1	0.3
Integrated Eskom system load factor (EUF), %[1]	**77.8**	71.6	75.0	82.7	83.4	83.6	81.9	79.4	78.5	77.7
Network performance										
Total system minutes lost for events <1 minute, minutes	**3.16[RA]**	2.09[RA]	3.80[RA]	2.41[RA]	2.85[RA]	3.05[RA]	3.52[RA]	4.73[RA]	2.63[RA]	4.09
Major incidents, number	**3**	0	0	1	2	0[RA]	3[RA]	1[RA]	0[RA]	1
System average interruption frequency index (SAIFI), events[2]	**14.9[RA]**	17.5[RA]	18.9[RA]	20.5[RA]	19.7[RA]	20.2[RA]	22.2[RA]	23.7[RA]	25.3[RA]	24.7
System average interruption duration index (SAIDI), hours[2]	**38.0[RA]**	34.9[RA]	38.9[RA]	38.6[RA]	36.2[RA]	37.0[RA]	41.9[RA]	45.8[RA]	52.6[RA]	54.4
Total energy losses, %	**9.7**	9.1	8.9	8.6	8.8	8.9	9.1	8.7	8.3	8.5
Transmission energy losses, %	**2.2**	2.0	2.2	2.6	2.5	2.3[RA]	2.8[RA]	3.1[RA]	3.3[RA]	3.3
Distribution energy losses, %	**8.5[RA]**	7.7[RA]	7.6[RA]	6.4	6.8	7.1[RA]	7.1[RA]	6.3[RA]	5.7[RA]	5.9
Environmental statistics										
Emissions										
Relative particulate emissions, kg/MWh sent out[3]	**0.47[RA]**	0.27[RA]	0.30[RA]	0.36[RA]	0.37[RA]	0.35[RA]	0.35[RA]	0.31[RA]	0.33[RA]	0.39
Carbon dioxide (CO_2), Mt[3]	**220.9[RA]**	205.5[RA]	211.1[RA]	215.6[RA]	223.4	233.3[RA]	227.9[RA]	231.9[RA]	230.3[RA]	224.7
Sulphur dioxide (SO_2), kt[3]	**1 853**	1 802	1 766	1 699	1 834	1 975[RA]	1 843[RA]	1 849[RA]	1 810[RA]	1 856
Nitrous oxide (N_2O), t[3]	**2 844**	2 642	2 782	2 757	2 919	2 969	2 980	2 967	2 906	2 825
Nitrogen oxide (NO_x) as NO_2, kt[4]	**890**	859	885	893	937	954[RA]	965[RA]	977[RA]	977[RA]	959
Particulate emissions, kt	**99.87**	57.13	65.13	78.37	82.34	78.92[RA]	80.68[RA]	72.42[RA]	75.84[RA]	88.27
Water										
Specific water consumption, ℓ/kWh sent out[1]	**1.41[RA]**	1.30[RA]	1.42[RA]	1.44[RA]	1.38[RA]	1.35[RA]	1.42[RA]	1.34[RA]	1.35[RA]	1.34
Net raw water consumption, Mℓ[1]	**292 344**	276 335	307 269	314 685	313 078	317 052	334 275	319 772	327 252	316 202
Waste										
Ash produced, Mt	**33.23**	31.65	32.61	32.59	34.41	34.97[RA]	35.30[RA]	36.21[RA]	36.22[RA]	36.01
Ash sold, Mt	**2.8**	2.7	2.8	2.7	2.5	2.4	2.4	2.3	2.0	2.0
Ash (recycled), %	**8.4**	8.6	8.5	8.3	7.3	7.0[RA]	6.8[RA]	6.4[RA]	5.5[RA]	5.6
Asbestos disposed, tons	**464.1**	144.9	383.0	274.5	991.0	458.0	374.6	448.1	611.5	321.4
Material containing polychlorinated biphenyls thermally destroyed, tons	**43.1**	26.3	61.9	59.8	0.0	10.2	0.9	14.3	422.9	19.1
Nuclear										
Public individual radiation exposure due to effluents, mSv[5]	**0.0026**	0.0012	0.0005	0.0006	0.0010	0.0012	0.0019	0.0024	0.0043	0.0040
Low-level radioactive waste generated, cubic metres	**188.3**	164.2	162.9	176.1	164.1	180.7[RA]	188.2[RA]	184.7[RA]	165.3[RA]	137.8
Low-level radioactive waste disposed of, cubic metres	**99.0**	118.8	108.0	213.1	377.6	324.0[RA]	54.0[RA]	53.8[RA]	81.0[RA]	216.0
Intermediate-level radioactive waste generated, cubic metres	**20.8**	20.8	11.4	33.4	27.6	28.7[RA]	35.7[RA]	25.4[RA]	39.3[RA]	47.1
Intermediate-level radioactive waste disposed of, cubic metres	**0**	0	0	0	138	178[RA]	0[RA]	128[RA]	0[RA]	266
Used nuclear fuel, number of elements discharged[6]	**56**	116	60	56	112	48	56	60	112	56
Used nuclear fuel, number of elements discharged, cumulative figure	**2 461**	2 405	2 289	2 229	2 173	2 061	2 013	1 957	1 897	1 785
Legal contraventions										
Environmental legal contraventions	**21**	30	29	20	20	34[RA]	48	50	63	55
Environmental legal contraventions reported in terms of the Operational Health Dashboard, number[7]	**2**	2	0	1	1	2[RA]	2	5	4	0

1. Medupi Units 4 and 5 and Kusile Unit 1, having completed their first year after commissioning, have been included in the calculation of KPIs for 2018/19.
2. SAIDI and SAIFI are reported after allowing for exclusions defined in the National Regulated Standards adopted from 1 April 2018. The comparatives for 2017/18 have been restated.
3. 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.
4. NO_x reported as NO_2 is calculated using average station-specific emission factors (which are measured intermittently) and tonnages of coal burnt.
5. The limit set by the National Nuclear Regulator is ≤0.25mSv.
6. The gross mass of a nuclear fuel element is approximately 670kg, with UO_2 mass typically between 462kg and 464kg.
7. Reported in terms of the 2002 definition of the Operational Health Dashboard, including repeat legal contraventions.

RA Reasonable assurance provided by the independent assurance provider. Refer to pages 160 to 163 of the integrated report.

Q Qualified by the independent assurance provider.

NON-TECHNICAL STATISTICS: GROUP

Measure and unit	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12
Finance[1]								
Electricity revenue per kWh (including environmental levy), c/kWh								
Electricity operating costs, R/MWh	**712.47**	622.41	651.98	617.02	587.97	528.70	495.31	363.30
EBITDA margin, %	**17.51**	25.57	21.19	20.29	16.54	17.23	16.98	29.37
EBITDA, R million	**31 499**	45 359	37 532	32 811	24 186	23 586	21 511	33 183
Cash interest cover, ratio	**0.94**	1.22	1.73	1.73	1.75	2.15	3.84	7.29
Debt service cover, ratio	**0.47**	0.87	1.37	1.14	0.91	1.24	1.93	3.49
Working capital ratio	**1.02**	1.05	0.85	0.83	0.81	0.71	0.68	0.76
Gross debt/EBITDA, ratio	**15.64**	9.71	10.84	10.95	13.60	11.77	10.48	6.07
Debt/equity (including long-term provisions), ratio	**3.10**	2.52	2.11	1.65	2.50	2.00	1.84	1.57
Gearing, %	**76**	72	68	62	71	67	65	61
Free funds from operations, R million	**29 047**	40 022	47 571	39 443	36 179	31 158	25 277	38 180
Free funds from operations after net interest paid, R million	**(5 940)**	9 147	21 148	17 927	20 564	20 139	18 074	32 897
Free funds from operations as % of gross debt, %	**5.89**	9.09	11.69	10.98	11.00	11.22	11.22	18.97
Free funds from operations as % of total capex, %	**79.07**	77.84	75.11	66.23	65.66	52.10	42.04	64.92
Building skills								
Headcount (including fixed-term contractors)	**46 665**	48 628	47 658	47 978	46 491	46 919	47 295	44 432
Transformation								
Socio-economic contribution								
Corporate social investment committed, R million	**132.4** Q	192.0 RA	225.3	103.6	115.5	132.9 RA	194.3 RA	87.9 RA
Corporate social investment, number of beneficiaries	**933 139**	1 116 044	841 845	302 736	323 882	357 443 RA	652 347 RA	531 762
Procurement equity								
B-BBEE attributable expenditure, R billion	**84.5**	102.3	127.7	125.0	116.0	119.4 RA	96.0 RA	–
Black-owned expenditure, R billion	**52.1**	57.6	53.9	52.9	49.4	45.8 RA	–	–
Black women-owned expenditure, R billion	**18.8**	20.9	19.4	30.8	9.3	9.8 RA	6.0 RA	–
Black youth-owned expenditure, R billion	**3.5**	3.9	2.0	1.4	0.9	1.3 RA	–	–
Procurement from B-BBEE compliant suppliers, %	**58.66**	80.25	98.25	81.65	89.39	91.80 RA	82.10 RA	–
Procurement from black-owned (BO) suppliers, %	**36.17**	45.20	41.49	33.61	34.41	35.30 RA	–	–
Procurement from black women-owned (BWO) suppliers, %	**13.07**	16.41	14.92	19.30	6.49	7.50 RA	5.10 RA	–
Procurement from black youth-owned (BYO) suppliers, %	**2.41**	3.05	1.52	0.94	0.63	1.00 RA	–	–
Procurement spend with suppliers owned by black people living with disability (BPwD), % of TMPS	**0.22**	0.20	0.02	0.01	0.00	0.00	–	–
Procurement spend with qualifying small enterprises (QSE), % of TMPS	**5.17**	8.86	8.91	4.62	6.75	15.09	–	–
Procurement spend with exempted micro enterprises (EME), % of TMPS	**14.01**	10.21	11.24	5.89	5.78	–	–	–
Employment equity								
Disabilities, number of employees	**1 416**	1 441	1 396	1 311	1 325	1 305 RA	1 137 RA	1 032 RA
Employment equity – disability, %	**3.03**	2.96	2.93	2.73	2.89	2.77 RA	2.43 RA	2.36 RA
Racial equity in senior management, % black employees	**69.80**	68.31	65.80	61.06	61.70	59.30 RA	58.40	–
Racial equity in professionals and middle management, % black employees	**76.22**	75.27	73.50	71.68	71.77	70.60 RA	69.00	–
Gender equity in senior management, % female employees	**39.85**	38.20	36.58	28.13	29.82	28.80 RA	28.50	–
Gender equity in professionals and middle management, % female employees	**37.89**	37.47	35.98	35.11	35.29	34.90 RA	34.00	–

1. Ratios impacted by the restatements in the consolidated annual financial statements were restated where possible.

RA Reasonable assurance provided by the independent assurance provider. Refer to pages 160 to 163 of the integrated report.

Q Qualified by the independent assurance provider.

NON-TECHNICAL STATISTICS: COMPANY

Measure and unit	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12
Finance[1]								
Electricity revenue per kWh (including environmental levy), c/kWh	**90.01**	85.06	83.60	76.24	67.91	62.82	58.49	50.27
Electricity operating costs, R/MWh	**728.85**	634.69	662.98	628.00	600.72	535.08	487.92	367.05
EBITDA margin, %	**16.26** RA	24.48	20.32	19.13	16.28	16.15	17.48	28.69
EBITDA, R million	**29 255**	43 428	35 989	30 932	23 811	22 101	22 147	32 414
Cash interest cover, ratio	**0.91** RA	1.18 RA	1.73	1.64	1.62	2.14	3.97	7.36
Debt service cover, ratio	**0.46**	0.84	1.37	1.09	0.82	1.28	1.98	3.52
Working capital ratio	**1.01**	1.06	0.86	0.86	0.82	0.70	0.67	0.76
Gross debt/EBITDA, ratio	**16.99**	10.22	11.39	11.71	13.84	12.59	10.09	6.51
Debt/equity (including long-term provisions), ratio	**3.42** RA	2.70 RA	2.22 RA	1.71	2.67	2.12	1.96 RA	1.69 RA
Gearing, %	**77**	73	69	63	73	68	66	63
Free funds from operations, R million	**27 318**	39 064	46 336	37 954	36 032	29 528	26 124	37 578
Free funds from operations after net interest paid, R million	**(7 897)**	8 017	19 776	16 260	20 343	18 455	19 090	32 343
Free funds from operations as % of gross debt, %	**5.50** RA	8.80 RA	11.30 RA	10.48 RA	10.93	10.61	11.69	18.86
Free funds from operations as % of total capex, %	**74.65** RA	76.68 RA	74.46	64.13	63.83	48.98	43.28	63.82
Building skills								
Headcount (including fixed-term contractors)	**39 292**	41 316	41 940	42 767	41 787	42 923	43 402	41 341
Training spend as % of gross employee benefit costs	**3.85** RA	5.21 RA	4.89 RA	4.45 RA	6.18 RA	7.87 RA	–	–
Total engineering learners in the system, number[2]	**10**	1 241	1 480	895	1 315	1 962 RA	2 144 RA	2 273 RA
Total technician learners in the system, number[2]	**3**	838	1 209	415	826	815 RA	835 RA	844 RA
Total artisan learners in the system, number[2]	**0**	1 815	2 155	1 955	1 752	2 383 RA	2 847 RA	2 598 RA
Learner intake[2]	**21**	726 Q	3 048 Q	1 370	–	–	–	–
Transformation								
Socio-economic contribution								
Job creation on new build projects, number	**23 982**	38 111	39 277	23 169	25 875	25 181 RA	35 759	28 616
Total number of electrification connections, number[3]	**191 585** RA	215 519	207 436	158 312	160 933	202 780	139 881	154 250
Procurement equity								
Local content contracted (Eskom-wide), %	**91.51** RA	87.16 RA	73.37 Q	75.22 Q	25.13	40.80 RA	–	–
Local content contracted (new build), %	**81.14** RA	85.59 RA	85.78 Q	84.04 RA	33.62 LA	54.60 RA	80.20 RA	77.20 RA
B-BBEE attributable expenditure, R billion	**80.3**	97.0	137.3	132.0	120.8	125.4 RA	103.4 RA	72.13 RA
Black-owned expenditure, R billion	**48.8**	53.5	50.4	51.0	47.5	43.6 RA	26.47 RA	14.38 RA
Black women-owned expenditure, R billion	**18.1**	19.7	17.3	30.2	8.9	9.6 RA	5.7 RA	3.3 RA
Black youth-owned expenditure, R billion	**3.1**	3.4	1.7	1.3	0.9	1.3 RA	1.20 RA	–
Procurement from B-BBEE compliant suppliers, %	**54.41** Q	74.24 RA	100.75 RA	83.08 RA	88.89 RA	93.90 RA	86.30 RA	73.20 RA
Procurement from black-owned (BO) suppliers, %	**33.08** Q	40.93 RA	36.98 RA	30.98 RA	34.91	32.70 RA	22.10	14.60
Procurement from black women-owned (BWO) suppliers, %	**12.28** Q	15.08 RA	12.67 RA	17.72 RA	6.61	7.20 RA	4.70 RA	3.30 RA
Procurement from black youth-owned (BYO) suppliers, %	**2.10** Q	2.58 RA	1.25 RA	0.82 RA	0.64 LA	1.00 RA	1.00	–
Procurement spend with suppliers owned by black people living with disability (BPwD), % of TMPS	**0.15** Q	0.11 RA	0.02 RA	0.01 RA	0.00	0.00	–	–
Procurement spend with qualifying small enterprises (QSE), % of TMPS	**4.47** Q	7.80 RA	7.67 RA	4.03 RA	6.74	11.90	–	–
Procurement spend with exempted micro enterprises (EME), % of TMPS	**13.32** Q	9.32 RA	10.15 RA	4.81 RA	5.12	–	–	–
Technology transfer								
Acquisition of intellectual capital, R million	**2** RA	26 RA	31 RA	54 RA	–	–	–	–
Skills development, number of people	**42** RA	63 RA	54 RA	29 RA	–	–	–	–
Employment equity								
Disabilities, number of employees	**1 265**	1 292	1 263	1 271	1 294	1 283 RA	1 126 RA	1 022 RA
Employment equity – disability, %	**3.22** RA	3.13 RA	3.01 RA	2.97 RA	3.12 RA	2.99 RA	2.59 RA	2.49 RA
Racial equity in senior management, % black employees	**69.44** RA	67.97 RA	65.77 RA	60.90 RA	61.58 RA	59.50 RA	58.30 RA	53.90 RA
Racial equity in professionals and middle management, % black employees	**76.25** RA	75.35 RA	73.60 RA	71.98 RA	72.28 RA	71.20 RA	69.60	65.69
Gender equity in senior management, % female employees	**39.90** RA	38.25 RA	36.69 RA	28.07 RA	29.83 RA	28.90 RA	28.20 RA	24.31 RA
Gender equity in professionals and middle management, % female employees	**38.63** RA	38.06 RA	36.65 RA	36.01 RA	36.10 RA	35.80 RA	34.60	32.43

1. Ratios impacted by the restatements in the consolidated annual financial statements were restated where possible.
2. The definition of learners was changed from 1 April 2018, to account for learners only once when they sign up, and not continuously for the duration of their contract.
3. Electrification connections for 2017/18 includes farmworker connections. Comparatives for the previous years have been adjusted to include farmworker connections.

RA Reasonable assurance provided by the independent assurance provider. Refer to pages 160 to 163 of the integrated report.
Q Qualified by the independent assurance provider.
LA Limited assurance provided by the independent assurance provider.

ENVIRONMENTAL IMPLICATIONS OF USING OR SAVING ELECTRICITY

Factor 1
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_2 emissions, divide the quantity of CO_2 emitted by the electricity sales:

220.9Mt of CO_2 ÷ 208 319GWh sales = 1.06 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_2 emissions, divided by (electricity generated less Eskom's electricity consumption):

220.9Mt of CO_2 ÷ (218 939GWh generated less 5 980GWh own consumption) = 1.04 tons per MWh

Figures represent the 12-month period from 1 April 2018 to 31 March 2019.

	Factor 1 (total energy sold)	Factor 2 (total energy generated)	If electricity consumption is measured in:			
			kWh	MWh	GWh	TWh
Coal use	0.55	0.53	kilogram	ton	thousand tons (kt)	million tons (Mt)
Water use[1]	1.40	1.37	litre	kilolitre	megalitre (Mℓ)	thousand megalitres
Ash produced	160	156	gram	kilogram	ton	thousand tons (kt)
Particulate emissions	0.48	0.47	gram	kilogram	ton	thousand tons (kt)
CO_2 emissions[2]	1.06	1.04	kilogram	ton	thousand tons (kt)	million tons (Mt)
SO_x emissions[2]	8.90	8.70	gram	kilogram	ton	thousand tons (kt)
NO_x emissions[3]	4.27	4.18	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_x reported as NO_2 is calculated using average station-specific emission factors, which have been measured intermittently, and tonnages of coal burnt.

Multiply electricity consumption or saving by the relevant factor in the table above to determine the environmental implication.

Example 1: Water consumption	Example 2: CO_2 emissions
Using Factor 1 Used 90MWh of electricity 90 x 1.40 = 126 Therefore 126 kilolitres of water used	**Using Factor 1** Used 90MWh of electricity 90 x 1.06 = 95.4 Therefore 95.4 tons CO_2 emitted
Using Factor 2 Used 90MWh of electricity 90 x 1.37 = 123.3 Therefore 123.3 kilolitres of water used	**Using Factor 2** Used 90MWh of electricity 90 x 1.04 = 93.6 Therefore 93.6 tons CO_2 emitted

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

POWER STATION CAPACITIES
AT 31 MARCH 2019

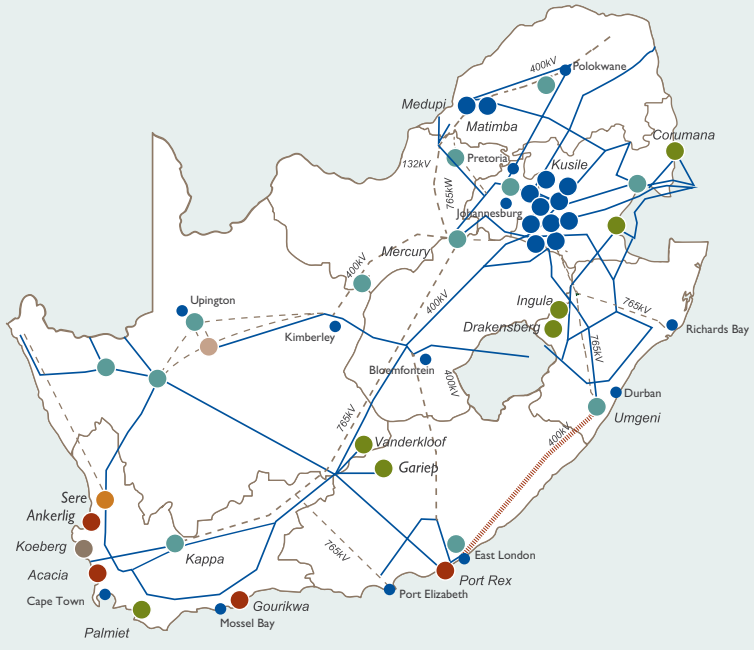
The difference between installed and nominal capacity reflects auxiliary power consumption and reduced capacity caused by the age of plant.

Name of station	Location	Years commissioned, first to last unit	Number and installed capacity of generator sets, MW	Total installed capacity, MW	Total nominal capacity, MW
Base-load stations					
Coal-fired (15)				**40 170**	**36 479**
Arnot	Middelburg	Sep 1971 to Aug 1975	1x370; 1x390; 2x396; 2x400	2 352	2 232
Camden[1]	Ermelo	Mar 2005 to Jun 2008	3x200; 1x196; 2x195; 1x190; 1x185	1 561	1 481
Duvha[2]	Emalahleni	Aug 1980 to Feb 1984	5x600	3 000	2 875
Grootvlei[1, 2]	Balfour	Apr 2008 to Mar 2011	4x200; 2x190	1 180	570
Hendrina[2]	Middelburg	May 1970 to Dec 1976	5x200; 2x195; 1x170; 1x168	1 728	1 293
Kendal[3]	Emalahleni	Oct 1988 to Dec 1992	6x686	4 116	3 840
Komati[1, 2]	Middelburg	Mar 2009 to Oct 2013	4x100; 4x125; 1x90	990	410
Kriel	Bethal	May 1976 to Mar 1979	6x500	3 000	2 850
Kusile[3]	Ogies	Aug 2017	1x799	799	720
		Under construction	5x800	–	–
Lethabo	Vereeniging	Dec 1985 to Dec 1990	6x618	3 708	3 558
Majuba[3]	Volksrust	Apr 1996 to Apr 2001	3x657; 3x713	4 110	3 843
Matimba[3]	Lephalale	Dec 1987 to Oct 1991	6x665	3 990	3 690
Matla	Bethal	Sep 1979 to Jul 1983	6x600	3 600	3 450
Medupi[3]	Lephalale	Aug 2015 to Nov 2017	3x794	2 382	2 157
		Under construction	3x794	–	–
Tutuka	Standerton	Jun 1985 to Jun 1990	6x609	3 654	3 510
Nuclear (1)					
Koeberg	Cape Town	Jul 1984 to Nov 1985	2x970	**1 940**	**1 860**
Peaking stations					
Gas/liquid fuel turbine stations (4)				**2 426**	**2 409**
Acacia	Cape Town	May 1976 to Jul 1976	3x57	171	171
Ankerlig	Atlantis	Mar 2007 to Mar 2009	4x149.2; 5x148.3	1 338	1 327
Gourikwa	Mossel Bay	Jul 2007 to Nov 2008	5x149.2	746	740
Port Rex	East London	Sep 1976 to Oct 1976	3x57	171	171
Pumped storage schemes (3)[4]				**2 732**	**2 724**
Drakensberg	Bergville	Jun 1981 to Apr 1982	4x250	1 000	1 000
Ingula	Ladysmith	Jun 2016 to Feb 2017	4x333	1 332	1 324
Palmiet	Grabouw	Apr 1988 to May 1988	2x200	400	400
Hydroelectric stations (2)[5]				**600**	**600**
Gariep	Norvalspont	Sep 1971 to Mar 1976	4x90	360	360
Vanderkloof	Petrusville	Jan 1977 to Feb 1977	2x120	240	240
Total used for capacity management purposes				**47 868**	**44 072**
Renewable energy					
Wind energy (1)[6]					
Sere	Vredendal	Mar 2015	46x2.2	**100**	**100**
Total capacity including renewable energy				**47 968**	**44 172**
Other hydroelectric stations (4)[6]				**61**	**–**
Colley Wobbles	Mbashe River		3x14	42	–
First Falls	Umtata River		2x3	6	–
Ncora	Ncora River		2x0.4; 1x1.3	2	–
Second Falls	Umtata River		2x5.5	11	–
Total Eskom power station capacities (30)				**48 029**	**44 172**
Available nominal capacity – Eskom-owned					**91.97%**

POWER STATION CAPACITIES continued

Name of station	Total nominal capacity, MW
Nominal capacity of Eskom-owned power stations	**44 172**
Independent power producers (IPP) capacity	**4 981**
Concentrating solar power	500
Gas/liquid fuel	1 005
Hydroelectric	14
Landfill	8
Solar PV energy	1 474
Wind	1 980
Total nominal capacity available to the grid – Eskom and IPPs	**49 153**

1. Former moth-balled power stations that have been returned to service. The original commissioning dates were:
   - Camden was originally commissioned between August 1967 and September 1969
   - Grootvlei was originally commissioned between June 1969 and November 1977
   - Komati was originally commissioned between November 1961 and March 1966
2. Due to technical constraints and economic reasons, the following units have been removed from the nominal base:
   - Duvha Unit 3 (575MW nominal)
   - Grootvlei Units 4, 5 and 6 (550MW nominal)
   - Hendrina Unit 3 (185MW nominal, removed in 2017/18) and Units 1 and 9 (345MW nominal, removed in 2018/19)
   - Komati Units 1, 2, 3, 6 and 8 (485MW nominal)
3. Dry-cooled unit specifications based on design back-pressure and ambient air temperature.
4. Pumped storage facilities are net users of electricity. Water is pumped during off-peak periods so that hydro electricity can be generated during peak periods.
5. Use restricted to periods of peak demand, dependent on the availability of water in the Gariep and Vanderkloof Dams.
6. Installed and operational, but not included for capacity management purposes.



POWER LINES AND SUBSTATIONS IN SERVICE

AT 31 MARCH 2019

Category	2018/19	2017/18	2016/17	2015/16	2014/15
Power lines					
Transmission power lines, km[1]	**32 698**	31 951	32 220	31 957	31 107
765kV	**2 784**	2 784	2 782	2 608	2 235
533kV DC (monopolar)	**1 035**	1 035	1 035	1 035	1 035
400kV	**19 421**	18 804	18 943	18 872	18 377
275kV	**7 218**	7 218	7 358	7 343	7 361
220kV	**1 351**	1 221	1 220	1 217	1 217
132kV	**889**	889	882	882	882
Distribution power lines, km	**45 401**	48 550	48 805	49 210	48 278
132kV and higher	**24 666**	24 646	25 011	25 528	24 929
44 to 88kV[2]	**20 735**	23 904	23 794	23 682	23 349
Reticulation power lines, km	**301 883**	293 324	296 188	288 550	281 510
33kV[2]	**3 420**	–	–	–	–
22kV and lower	**298 463**	293 324	296 188	288 550	281 510
Underground cables, km	**7 651**	7 769	7 499	7 571	7 436
132kV and higher	**86**	79	75	66	65
44 to 88kV[2]	**189**	415	215	375	361
33kV[2]	**4**	–	–	–	–
22kV and lower	**7 372**	7 275	7 209	7 130	7 010
Total all power lines, km	**387 633**	381 594	384 712	377 287	368 332
Total transformer capacity, MVA	**297 512**	285 737	276 583	244 637	239 490
Transmission, MVA[3]	**152 415**	151 105	147 415	143 440	139 610
Distribution and reticulation, MVA	**145 097**	134 632	129 168	101 197	99 880
Total transformers, number	**385 085**	383 284	372 995	342 387	335 242
Transmission, number	**444**	442	433	427	423
Distribution and reticulation, number	**384 641**	382 842	372 562	341 960	334 819

1. Transmission power line lengths are included as per distances from the Geographic Information System.
2. Under NRS048 part 6, 33kV lines have been reclassified from high to medium voltage. Prior year figures have not been restated.
3. Base of definition: transformers rated ≥ 30MVA and primary voltage ≥ 132kV.

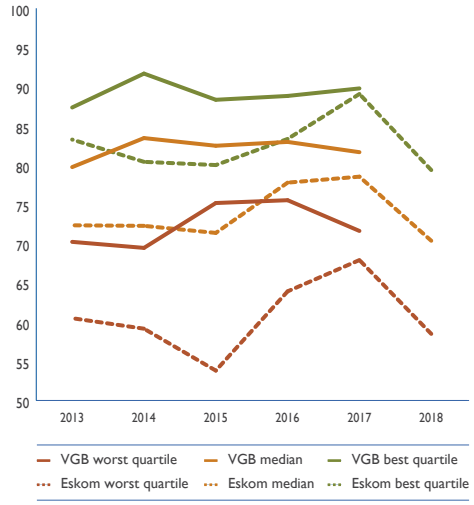
BENCHMARKING INFORMATION

The fact sheet details the benchmarking exercises undertaken by Generation Division.

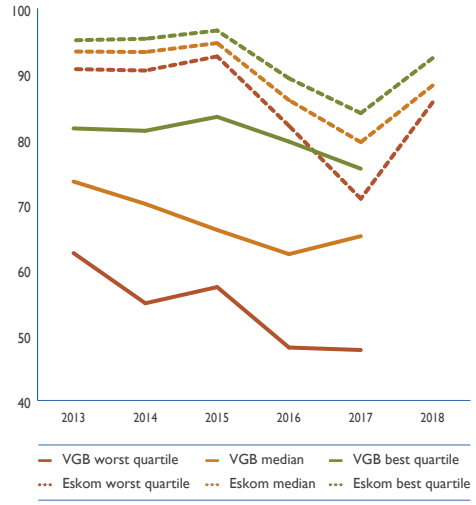
The results of benchmarking of our coal-fired and nuclear stations are set out under "Our infrastructure – Generation performance" on pages 109 to 114

Coal-fired stations

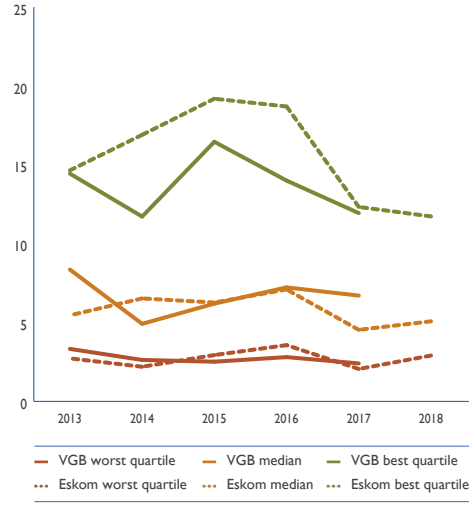
Energy availability factor (EAF), all coal sizes (VGB units exclude Eskom units), %



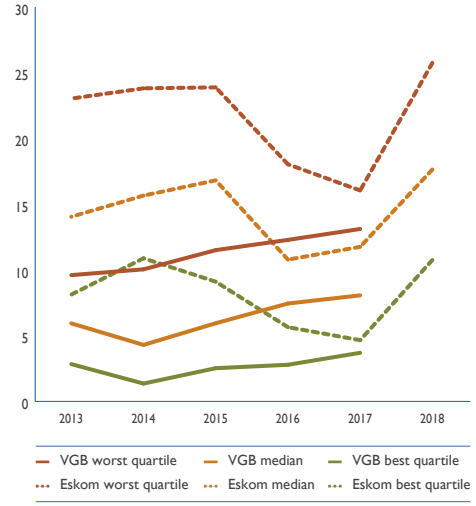
Energy utilisation factor (EUF), all coal sizes (VGB units exclude Eskom units), %



Planned capability loss factor (PCLF), all coal sizes (VGB units exclude Eskom units), %

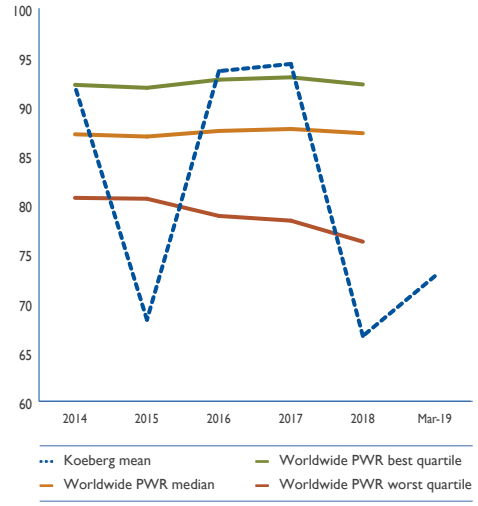


Unplanned capability loss factor (UCLF), all coal sizes (VGB units exclude Eskom units), %

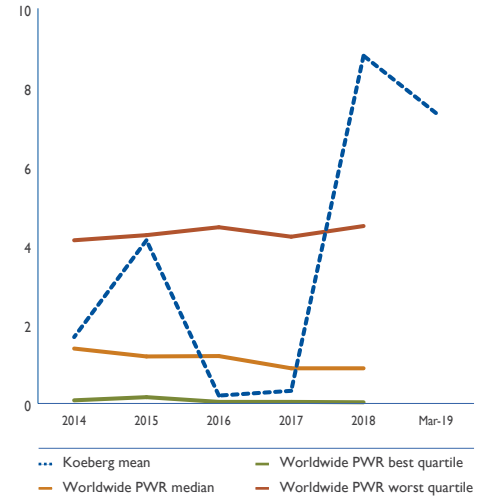


Koeberg Nuclear Power Station

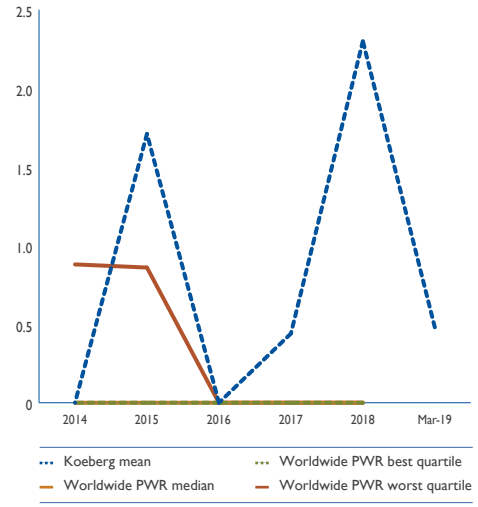
Unit capability factor (UCF) for all pressurised water reactor (PWR) units worldwide, %



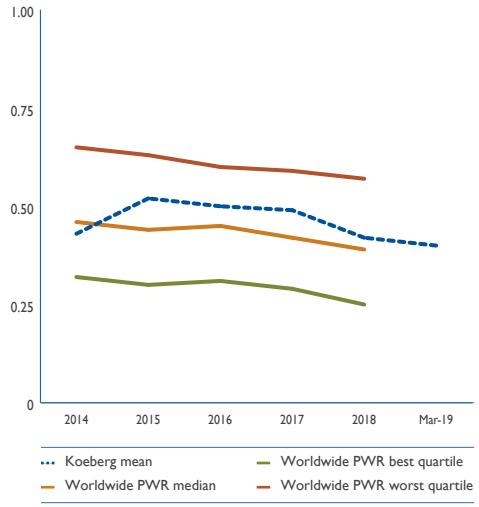
Unplanned capability loss factor (UCLF) for all pressurised water reactor (PWR) units worldwide, %



Unplanned automatic scrams for all pressurised water reactor (PWR) units worldwide, UA7 rate per 7 000 hours



36-month collective radiation exposure (CRE) for all pressurised water reactor (PWR) units worldwide, man-Sieverts per unit



CUSTOMER INFORMATION

Category	2018/19	2017/18	2016/17	2015/16	2014/15
Number of Eskom customers					
Local	**6 497 361**	6 258 605	5 976 546	5 688 629	5 477 591
Distributors	**800**	800	802	801	804
Residential[1]	**6 358 523**	6 120 122	5 838 754	5 550 307	5 338 723
Commercial	**52 556**	51 848	50 956	50 816	50 613
Industrial	**2 705**	2 703	2 706	2 733	2 773
Mining	**981**	993	1 012	1 013	1 034
Agricultural	**81 303**	81 638	81 806	82 450	83 136
Rail	**493**	501	510	509	508
International	**11**	11	11	11	11
Utilities	**8**	8	8	8	8
End users across the border	**3**	3	3	3	3
	6 497 372	6 258 616	5 976 557	5 688 640	5 477 602
Electricity sales per customer category, GWh					
Local	**195 858**	196 922	199 028	201 022	204 274
Distributors	**87 236**	87 133	89 718	89 591	91 090
Residential[1]	**11 748**	12 302	11 863	11 917	11 586
Commercial	**10 558**	10 539	10 339	10 150	9 644
Industrial	**48 717**	47 854	48 295	50 150	53 467
Mining	**28 972**	30 235	30 559	30 629	29 988
Agricultural	**5 796**	5 711	5 405	5 733	5 401
Rail	**2 831**	3 148	2 849	2 852	3 098
International	**12 461**	15 268	15 093	13 465	12 000
Utilities	**3 693**	6 384	5 750	4 018	2 797
End users across the border	**8 768**	8 884	9 342	9 447	9 203
	208 319	212 190	214 121	214 487	216 274

International sales to countries in southern Africa, GWh

	12 461	15 268	15 093	13 465	12 000
Botswana	**247**	147	984	1 099	1 237
Lesotho	**292**	276	252	205	230
Mozambique	**8 339**	8 326	8 120	8 281	8 360
Namibia	**1 518**	2 147	2 089	1 746	924
Swaziland	**766**	839	986	1 044	882
Zambia	**258**	362	352	344	16
Zimbabwe	**456**	2 250	1 743	252	108
Short-term energy market[2]	**585**	921	567	494	243

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	2018/19	2017/18	2016/17	2015/16	2014/15
Electricity revenue per customer category, R million					
Local	**178 906**	170 824	168 325	155 472	140 559
Distributors	**77 231**	72 935	73 009	66 396	60 051
Residential[1]	**14 771**	14 585	14 070	12 884	11 361
Commercial	**12 385**	11 726	11 279	10 157	8 599
Industrial	**36 047**	33 798	33 213	31 925	30 826
Mining	**26 550**	26 277	25 915	23 895	20 848
Agricultural	**8 682**	8 154	7 659	7 349	6 247
Rail	**3 119**	3 151	2 990	2 755	2 591
IPP network charge	**121**	198	190	111	–
International	**8 241**	9 530	10 682	8 055	6 306
Utilities	**4 132**	5 696	6 632	4 163	2 988
End users across the border	**4 109**	3 834	4 050	3 892	3 318
Gross electricity revenue	**187 147**	180 354	179 007	163 527	146 865
Less: Revenue capitalised[2]	**(3 393)**	(2 172)	(717)	(367)	–
Less: Revenue not recognised[3]	**(8 914)**	(3 635)	(3 196)	(1 472)	(597)
Add: Recognised on the cash basis[4]	**2 472**	358	–	–	–
Electricity revenue less capitalised revenue per note 32 in the consolidated annual financial statements	**177 312**	174 905	175 094	161 688	146 268

1. Prepaid electricity and public lighting are included under the residential category.
2. Revenue from the sale of production, while testing generating plant not yet commissioned, is capitalised to plant.
3. The 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 R8 914 million was thus not recognised at 31 March 2019.
4. Under IFRS 15, certain supplies to distributors was recognised on the cash basis, due to uncertainty around collectability at the time of sale.

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Our suite of reports covering our integrated results for 2018/19 is available at www.eskom.co.za/IR2019

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