



United Nations Advanced Communication on Progress

A message from the chairman – Zola Tsotsi



Our mandate is to “provide sustainable electricity solutions to grow the economy and improve the quality of life of the people of South Africa and the region”.

At a time when global economic uncertainty is forcing many companies to curtail operations and limit growth, Eskom is hard at work on one of the largest capital expansion programmes in South Africa’s history. This R340 billion programme, which commenced in 2005, will have added 17GW of much-needed electricity-generating capacity to the national grid by 2018/19.

Eskom faces several challenges during the transition to increased generating capacity. The first new generating unit – unit 6 at Medupi power station in Limpopo – is expected to come online in 2013. Until then, the supply/demand balance will remain tight. If we want to ensure a stable power system, all of us – households and businesses – will have to reduce demand and use energy efficiently. To keep the lights on, Eskom counts on the support of all South Africans.

Eskom’s objectives are not limited to commercial concerns. We are a state owned company and our performance is also measured by the overall value we add to the lives of the public. Our developmental responsibilities range from building and maintaining power plants and networks, to supplying households, schools and factories with electricity, supporting local industries, and stimulating skills and job creation.

Our mandate, as outlined by the Department of Public Enterprises, to which we are accountable, is to “provide sustainable electricity solutions to grow the economy and improve the quality of life of the people of South Africa and the region”.

We are working to reduce our environmental footprint, diversify our energy mix and lower carbon emissions, as endorsed by President Jacob Zuma at COP 17 in Durban in 2011. In addition to reducing our carbon emissions in a manner consistent with South Africa’s economic growth objectives, we are also committed to planning for the impact of climate change.

In the months ahead, several critical policy decisions need to be taken that will shape the future of the electricity industry. The government has adopted the Integrated Resource Plan 2010, which represents a major step forward in identifying South Africa’s energy options. Urgent decisions are required concerning how the plan will be implemented, how it will be funded and what role Eskom, as the country’s primary electricity utility, will play. Delays in key decisions can have negative consequences for the planning of capital expenditure, construction and engineering.

Zola Tsotsi
Chairperson

A message from the chief executive – Brian Dames



At all major turning points in the life of an economy, companies face a difficult choice: how to meet present demand while ensuring that they are investing to safeguard the future. Eskom is achieving this balance. We are keeping the lights on and we are building the power stations and transmission infrastructure needed to power South African businesses and households well into the 21st century.

Doing so has not been easy and, as this report describes, the road ahead is strewn with obstacles. But we are confident that we are setting the utility up for success; that our organisation is becoming financially sustainable; and that as a result of initiatives now under way, we will in time become the high-performance organisation that South Africa needs to grow its economy and create jobs.

Our goal is to provide South Africa with secure, affordable, accessible and cleaner power in the decades to come. This report charts our progress along this path. It sets out, in a concise manner, the range of material concerns affecting our business.

Beyond our financial bottom line, it addresses issues of governance, remuneration, risk and sustainability, and explains how these factors interact and affect our ability to create and maintain value. Eskom has been a leader in integrated reporting for a number of years. This report is the first in a new, more focused format, in response to new international initiatives that are leading the way towards improved reporting. We welcome your comments and suggestions on both the content and the format of this report.

The global challenges of energy supply South Africa is not alone, particularly among developing countries, in facing the challenges of energy supply. Around the world, electricity utilities are grappling with how to provide energy to growing populations and economies in a safe and sustainable way. Doing so requires long term planning that takes into account the complex interplay of economic growth, demographic shifts, a finite supply of primary energy resources (and countries' specific allocation of those resources), transmission requirements, protection of the environment, and cost recovery.

In Eskom's case, these challenges are underlined by the company's developmental mandate. Providing reliable and affordable electricity is not only a commercial undertaking; it is also about creating a foundation on which South Africa can grow, helping to transform the lives of the large percentage of the population that lives in poverty.

As a state-owned company, Eskom is an enabler of the government's vision and a supporter of economic growth in our country and the southern African region. Eskom buys and sells electricity in the countries of the Southern African Development Community (SADC). Eskom is investigating additional opportunities in SADC that have a direct impact on ensuring a secure supply of electricity for South Africa.

Beyond our financial bottom line, it addresses issues of governance, remuneration, risk and sustainability, and explains how these factors interact and affect our ability to create and maintain value.

The business case for sustainability is getting stronger and we are committed to embedding sustainability into our business culture and operations. We remain committed to supporting the UN Global Compact, including the associated LEAD initiative – which aims to improve sustainability performance – as well as the CEO Water Mandate¹ and Caring for Climate. The UN has declared 2012 the “international year of sustainable energy for all”. The UN secretary-general launched the Sustainable Energy for All initiative in September 2011 and I am personally involved in the high-level advisory group for this project.

We strengthened our commitments to environmental protection and mitigating the effects of climate change. Eskom supported the government in hosting the successful COP 17 meeting in Durban. We expect construction of the Sere renewable energy wind project in the Western Cape to begin during 2012. We installed solar panels at Kendal and Lethabo power stations to supplement auxiliary power consumption at these stations – the start of a programme that will be rolled out across our fleet of coal-fired stations. We have improved performances regarding relative particulate emissions, water usage and contraventions of legislation, compared to 2010/11.

We have expanded our social investment commitments, including taking responsibility for the way operations affect the environment and promoting the objectives of the government's New Growth Path. Eskom believes its social responsibility goes beyond allocating funds to development projects through corporate social investment. It is also about incorporating an ethic of social responsibility into its business model, taking into account the ways its decisions will affect all its stakeholders.

Brian Dames
Chief executive

¹ United National Global Compact's CEO Water Mandate is a unique public-private initiative designed to assist companies in the development, implementation and disclosure of water sustainability policies and practices.

ESKOM HOLDINGS SOC LIMITED: REPORTING ON PROGRESS – UNITED NATIONS ADVANCED COMMUNICATION ON PROGRESS

Eskom has been signatory to the UN Global Compact since 2000 and has continued to communicate on progress. Since then, Eskom has been committed to the ten principles of the UN Global Compact. This has led to Eskom being invited in 2010 to be one of the few Global Compact LEAD members. This is a call to recognize Eskom for its extraordinary leadership in issues of the Global Compact.

Eskom is currently an “Active Member” of the UN Global Compact and strives towards being a Global Compact Advanced Member as part of our role as a LEAD member. In March 2012 Eskom became a member of the LEAD Steering Committee for 2012.

In September 2011 the UN secretary-general launched the Sustainable Energy for All initiative. Eskom’s chief executive is personally involved in the high-level advisory group for this project.

The Global Compact Advanced level aims to create a higher standard for corporate sustainability performance and disclosure. Eskom therefore sets out to demonstrate that it has adopted and report a range of Global Compact strategy, governance and management practices.

Eskom has combined sustainability and financial reporting for a number of years, but this year that an integrated report (see www.eskom.co.za/ir2012/) has been produced that aligns with the principles contained in discussion papers published by the International Integrated Report Committee and the Integrated Reporting Committee of South Africa. Integrated reporting is a new international initiative that has emerged in response to the shortcomings of traditional reporting, which emphasises financial results without taking account of the broader context in which companies operate, and fails to weave together different reporting strands.

Integrated reporting allows for reporting on financial results, governance, sustainability and other material factors in an interdependent manner. It addresses the challenges that companies face, the advantages they enjoy, the external factors that influence them and the way they in turn influence the external environment.

To support this new approach to reporting, Eskom formed an integrated reporting steering committee² to ensure alignment with other reporting processes. This demonstrates that the management of the business and internal reporting is closely aligned to the requirements for the year end integrated report.

The integrated reporting pilot programme

Eskom is a member of the International Integrated Report Committee’s pilot programme (<http://www.theiirc.org/>). All annual reports published by the more than 60 programme members worldwide in the period October 2011 to September 2012 (including this report) will be reviewed and analysed for their strengths and weaknesses. Lessons learnt during this cycle will contribute to a global standard for integrated reporting.

Eskom has applied the principles of inclusivity, materiality and responsiveness in compiling its Integrated Report. These principles ensure that the company incorporates the views of its stakeholders, as well as internal planning reporting and risk-management processes.

Eskom has declared a B+ report in terms of the Global Reporting Initiative (GRI). The list of relevant GRI indicators is available online at (www.eskom.co.za/ir2012/). KPMG has provided assurance on selected sustainability information in that report. Eskom follows a combined assurance approach.

² The steering committee is a subcommittee of Eskom’s executive management committee, and is responsible for the coordination of the integrated report for Eskom Holdings SOC Ltd.

Eskom's reports are also prepared with due consideration of the King Report on Corporate Governance (King III). This Advanced Communication on Progress is based on extract from Eskom's integrated report.

1. ESKOM'S COMMUNICATION ON PROGRESS IN RELATION TO UNITED NATIONS GLOBAL COMPACT ADVANCED LEVEL

Eskom is committed to entrenching sustainability principles into the essence of our business culture and operations and working with its stakeholders through advancing the Global Compact principles.

The then United Nations (UN) General Secretary General Kofi Annan met with leaders in business, civil society and key UN agencies to measure progress and plan the next steps of the Global Compact. This followed the 1999 Davos World Economic Forum – Kofi Annan called business leaders to join a Global Compact with the UN.

Published in our 2000 Annual Report's Chief Executive's Report we stated: *"At the launch of the United Nations Compact in July 2000, Eskom's Chief Executive, at the invitation of the Secretary-General, Kofi Annan, became a participant in the Global Compact. The Compact is a voluntary initiative that seeks to provide a global framework to promote sustainable growth and good citizenship through committed and creative corporate leadership. The Global Compact brings companies together with the United Nations, international labour and human rights organisations, together with NGOs to foster partnerships and to build a more inclusive and equitable global marketplace. Business is being called on to support and enact the nine principles in the areas of labour standards, human rights and environmental practice".*

Below is Eskom's Communication on Progress (COP) how it is striving to meet the 24 Global Compact Advanced Criteria:

Strategy, Governance and Engagement

1. Criterion 1: The COP describes key aspects of the company's *high-level sustainability strategy* in line with Global Compact principles

Eskom's purpose, values and strategic objectives:



2. Criterion 2: The COP describes effective *decision-making processes and systems of governance* for corporate sustainability

Eskom's corporate governance focuses on effective ethical leadership to integrate strategy, governance and sustainability. Eskom takes its strategic direction from its board of directors.

The executive management committee is responsible for putting decisions made at board level into effect and overseeing the company's day-to-day operations.

Corporate governance Board of directors

Eskom has a unitary board structure with a majority of independent non-executive directors. The company's memorandum of incorporation stipulates that the shareholder will appoint a chairperson, chief executive, finance director and non-executive directors after consulting the board.

The directors are drawn from diverse backgrounds and bring a wide range of experience and professional skills to the board, supplemented at committee level by external members.

The performance of the board and individual directors is evaluated each year. The term of office of non-executive directors is three years, subject to review at the annual general meeting. Retiring directors are eligible for reappointment. The shareholder reconstituted the board in June 2011.

Delegation of authority

The board has the authority to delegate its power to executive structures and board committees. A delegation-of-authority framework is in place to facilitate this delegation without diluting the board's accountability. This framework is undergoing an extensive review process.

Board committees exercise their delegated authority in accordance with board approved policies. Each board committee comprises a majority of independent nonexecutive directors and each is chaired by an independent non-executive director. The board delegates management of day-to-day operations to the chief executive.

The chief executive is assisted by the executive management committee and its subcommittees.

Corporate governance structure



Corporate citizenship and sustainability

The board and its committees guide the strategy and set performance targets for Eskom's broad approach to corporate citizenship. This includes the following:

- A social, ethics and sustainability committee that focuses on sustainability and corporate citizenship.
- A tender committee that ensures that transformation, including skills development and empowerment, is encouraged through Eskom's procurement activities.
- An executive management committee assesses occupational health, safety and environmental performance and reviews major incidents to ensure that corrective action is taken.
- The Eskom Development Foundation runs development programmes for disadvantaged communities.

- The board works to align its decision making with the government's New Growth Path.
- A subsidiary governance framework is in place to facilitate the flow of information between the holding company and its subsidiary companies, which ensures that sustainability goals are aligned across the organisation.

3. Criterion 3: The COP describes engagement with all important *stakeholders*

Eskom's stakeholders include employees and unions; the government and Parliament; lenders, analysts and investors; customers and regulators; industry experts, academics and the media; business groups, civil society and non-governmental organisations (NGOs); and suppliers and contractors.

Eskom's stakeholder engagement is based on the AA1000 Stakeholder Engagement Standard³. Eskom is committed to the AA1000 AccountAbility Principles of inclusivity, materiality and responsiveness. The process is also influenced by Eskom's commitment to the United Nations Global Compact and King III.

Operational highlights

- Promoted public safety and the dangers of electricity by holding 645 engagements in five regions (Visited about 800 000 people during public safety-awareness campaigns in Cape Town, Limpopo, KwaZulu-Natal and the Free State.)
- During electricity Safety Week there were 217 school visits and 174 community events
- The quarterly "state of the system" address allowed Eskom to share information and increase its voice in the media.
- Secured 32 supporter partnerships through the 49M campaign.
- Highlighted energy efficiency and promoted science, innovation and technology through Eskom's Expo for Young Scientists and the eta Awards.
- Successfully hosted 49M Charity Golf Day, raising R1 million for eight charities.

Operational challenges

- Continued negative media coverage regarding the country's reliance on coal and future tariff increases.
- Sustaining a behavioural and attitudinal change towards energy efficiency.

Future focus areas

- Focus on safety communication and awareness with employees and the public.
- Implement a permanent nerve centre (see "emergency communication and nerve centre" below).
- Continue the momentum of the 49M campaign.
- Further enhance stakeholder relations governance by developing stakeholder relations policy and standards as well as the supporting tools.
- Focus on leading and coordinating integrated, well-researched and effective solutions.

³ AA1000 Accountability Stakeholder Engagement standard is an international standard that guides a company's approach to stakeholder engagement through the application of principles and best practice guidelines.

Method of interaction	
Employees and unions	Provincial employee engagement, policies, collective bargaining practices, pre and post interim and annual results, regular meetings.
Government, Parliament and regulators	One-on-one meetings, website, monthly, quarterly and annual reports, annual general meeting, industry associations and task teams, site visits, public hearings.
Lenders, analysts, and investors	Road shows, meetings, annual and interim reports, results presentations, webcast sessions, annual general meetings, site visits, internet sites, teleconference.
Customers	Formal presentation website, road shows, company announcements and reports, site visits, quarterly forums.

UN Goals and Issues

4. Criterion 4: The COP describes actions taken in support of *broader UN goals and issues*

The business case for sustainability is getting stronger and Eskom acknowledges its role in taking action and demonstrating business leadership. As such we have signed the Global Compact since 2000, with specific focus on:

Global Compact LEAD (signed in June 2010)

At a global level, we are participating in the Caring for Climate Initiative and the CEO Water Mandate issues specific working groups and task forces on Measuring Sustainability, Water and Peace, and Environmental and Social Governance Investor Briefings (including principles of responsible investment). We are also working with organisations such as the International Chamber of Commerce, the World Business Council for Sustainable Development and the Business Action for Sustainable Development to further the principles and action on sustainable development.

At a local level, we are actively involved in local business associations such as Business Leadership South Africa (BLSA), the National Business Initiative (NBI) and Business Unity South Africa. We are also involved in specific initiatives such as the Industry Task Team on Climate Change, the Industry Water Task Team of South Africa, the NBI's Energy Efficiency Technical Committee and its Advisory Committee on Climate Change.

At a regional level, we participate in the Southern African Power Pool (SAPP) whose aim is to provide reliable and economical electricity supply to the consumers of each of the members the SAPP, consistent with the reasonable utilisation of natural resources and the effect on the environment. Our participation includes sharing experiences, providing technical expertise and assisting in developing regional capacity through capacity building and training interventions especially in the areas of environmental management and energy efficiency.

CEO Water Mandate (signed in February 2011)

We are in the process of finalising our input into a specific document to be submitted by CEOs to Government heads attending Rio+20 and are actively involved in relevant working groups including the CEO Water Mandate's Collective Engagement Working Group.

Caring for Climate Initiative (C4C)

We are actively involved in the C4C Steering Committee and are currently engaging on potential secondment opportunities of mutual benefit to both the company and the UN. The company would benefit through the individual obtaining experience, knowledge and an understanding of the UN and the UN would benefit through the individual assisting in implementing the initiatives work programme.

Secretary Generals High Level Group on Sustainable Energy for All

Involved in this initiative assisting in achieving the three interlinked objectives relating to energy access, renewable energy and energy efficiency. All these are already key priorities in Eskom.

Being a signatory to the Global Compacts Women Empowerment principles

Human Rights Implementation

5. Criterion 5: The COP describes robust *commitments, strategies or policies* in the area of human rights

Eskom implemented an employment-equity plan supported by a long-term target-setting strategy (Equity 2020) to drive its transformational agenda for the three financial years leading up to 2012/13. The employment-equity plan seeks to create a workplace and workforce profile that is diverse and inclusive, and to ensure that diversity becomes the "Eskom way".

In November 2010 Eskom participated in the Department of Labour's director-general review process. In February 2012 the department confirmed that Eskom has the necessary transformation interventions in place and the key indicators show that there has been a generally positive trend in racial and gender equity representation at every level.

6. Criterion 6: The COP describes effective *management systems* to integrate the human rights principles

Eskom's integrated health and wellness programme promotes a safe and healthy working environment to ensure its employees are healthy, productive, resilient and engaged throughout their time at Eskom.

Eskom chief executive Mr Brian Dames launched the "Road to a Safe and Healthy Lifestyle" campaign as part of expanding the scope to other diseases impacting on the business. The campaign is a move from our traditional workplace programmes that focused on raising awareness and prevention of HIV infection and access to treatment care and support. The focus is now on addressing other disease conditions, as well as workplace related factors that put employees at risk of ill health.

Eskom as a company is committed to forge strategic partnerships that are aimed at enhancing effectiveness in the handling of community issues. It is in this respect that Eskom pledged to support government to achieve its HCT campaign objectives to test 15 million South Africans.

Eskom's HIV counselling and testing campaign has been nominated as a finalist in GBC Health's Business Action on Health Awards, to be held in New York in May 2012.

On 10 – 12 October 2011, the Department of Health in partnership (Collective Action) with Eskom launched the HCT at Komati power station, Mpumalanga province, where 1 600 workers were tested.

During March 2012, Deputy President Kgalema Motlanthe and Health Minister Aaron Motsoaledi encouraged 5 000 workers at Eskom's Kusile power station in Mpumalanga to test for HIV. An estimated 77% of Eskom permanent employees now know their HIV status.

7. Criterion 7: The COP describes effective *monitoring and evaluation mechanisms* of human rights integration

Human resources sustainability

Human resources (HR) is responsible for measuring and monitoring critical factors relating to the sustainability of Eskom's human resources. A human resources sustainability index is used to measure the following key aspects: employee satisfaction, employee competence, and employee health and wellness. The measurements and criteria are reviewed annually to make sure they stay applicable.

The HR Sustainability index (HRSI) has also reflected positively in terms of overall HR performance, achieving a year-to-date HRSI score of 82.4% (2010/11: 88.3%) against target of 80. The index weighting of fatalities was increased from 1.5% in 2011 to 4.5% in 2012 and the increase in the turnover of core staff during 2012, influenced the reduction of the total index score.

Training and development costs as a percentage of the wage bill

Eskom's R1 361 million (2010/11: R998 million) investment in training and development is 6.3% of the wage bill. This puts Eskom well within the 75th percentile of United States utility companies (which average 3.3%) and United Kingdom/European utility companies (which average 3.5%) according to a 2010 PriceWaterhouseCoopers report.

Employer of choice

Young engineering professionals rated Eskom the employer of choice out of 60 engineering and technology companies in South Africa for five years running (Ideal Employer Ranking, Magnet Survey, 2011).

Overall staff turnover

Eskom's overall staff turnover was 3.7% for the period 2011/12. This places Eskom favourably below the 25th percentile of South African companies (9.5%). The average turnover in Eskom has been 6.2% per annum over the last two decades. This is beneficial to Eskom as the average cost of separation and replacing scarce and critical skills ranges from 30% to 100% of an incumbent's annual salary.

Turnover due to retirement

Turnover due to retirements is 1.03%. This places Eskom midway between the 50th percentile (0.6%) and 75th percentile (1.2%) of South African companies. Twenty-seven percent of Eskom's staff are 50 years and above and could be considered a retirement risk within the next decade.

8. Criterion 8: The COP describes key *outcomes* of human rights integration

Eskom's Academy of Learning's mandate is to close Eskom's competency gap by addressing, coordinating and integrating all learning needs of employees; as well as enhancing performance throughout Eskom; by focusing on business needs, and catering for all facets of the learning value chain and learning operations

Highlights

During 2011/2012 the EAL devoted a large proportion of its energy to supporting the SAP reimplementation project called Back2Basics (B2B) with the rollout of Classroom-based training and e-learning courses for the B2B processes and systems. More than 1200 Eskom employees were trained as B2B facilitators and a total of 106 556 course attendees underwent the B2B training courses.

The EAL did not allow the focus on B2B to subvert it from addressing the normal training demands of the business and even managed to initiate a number of new training programmes. In March 2012 the EAL, in partnership with Group Technology launched the Welding School of Excellence. Forty welding apprentices were developed during 2011/12 as part of the pilot programme that preceded the launch.

The Engineering Centre of Excellence commissioned a state of the art training facility that includes a power plant steam turbine simulator to train power plant engineers.

A new Government Certificate of Competency Programme was implemented to prepare candidates to become certified engineers. In addition, the Engineering Centre of Excellence implemented the Distribution Clerk of Works training curriculum to improve the quality of workmanship on the construction of overhead lines.

An ETAPro training programme is being launched to train power station engineers to optimise Power Station performance.

In January 2012 the Eskom Power Plant Engineering Institute (EPPEI) was launched as a partnership with South African Universities to:

- Increase the number of Power Plant MSC and PhD graduates;
- Ensure South African universities participate fully in the localisation of new technologies currently being offered to Eskom by Original Equipment Manufacturers (OEMs);
- Ensure South African universities play an active role in transferring and establishing these new technologies in the country;
- Ensure South African universities are actively involved in solving Eskom specific engineering problems; and
- Leverage the expertise and experience of international universities and utilities

The Project Management Training Centre of Excellence built up relationships with Academic Institutions for the development and improved professionalism of Project Management staff through-out Eskom. A Project and Construction Management School will be launched in the next year to ensure that an adequate pipeline of skills are available for the continued Eskom built environment.

The EAL, in partnership with Group Customer Services set-out to establish a School of Customer Services within the Professional Services Centre of Excellence. This School will become fully operational in the next financial year.

Total training investment per year

	Year	2011/12	2010/11	2009/10	2008/9
Training Expenditure	Rm	1 361	998	758	823

Labour Principles Implementation

9. Criterion 9: The COP describes robust *commitments, strategies or policies* in the area of labour

Eskom's employee-engagement model builds employee participation and involves employees and executives in conversations around strategy, performance and people. Eskom has also built more productive and sustainable relationships with organised labour through a partnering model to guide these interactions.

Eskom maintains direct lines of communication with recognised trade unions. The wage negotiations during the year deadlocked, resulting in threats of (illegal) strike action by certain of the trade unions representing employees in the Eskom bargaining unit.

However, the dispute was resolved by arbitration and a two-year salary and conditions-of-service agreement was concluded with trade unions.

10. Criterion 10: The COP describes effective *management systems* to integrate the labour principles

Some examples are given below:

Remuneration philosophy

Eskom's approach to remuneration and benefits is designed to position the company as a preferred employer. Eskom aims to attract and retain skilled, high-performing employees. To achieve this, Eskom has established the following remuneration principles:

- Ensure that business requirements determine market positioning. Provide market-related remuneration structures, benefits and conditions of service.
- Maintain external competitiveness to attract and retain key skills.
- Ensure internal equity through defensible differentials in pay and benefits.
- Remunerate employees in accordance with their job grade and at least at the minimum of the applicable salary scale
- Follow a lead-lag market approach.
- Eskom's remuneration structures fall into three categories, set out below.

Bargaining unit

Bargaining-unit employees (all those below middle management) receive a basic salary and benefits. Major benefits include membership of the pension and provident fund, medical aid and an annual bonus (13th cheque). Basic salaries and conditions of service are reviewed annually through a collective bargaining process. Bargaining unit employees also participate in the annual short-incentive scheme.

Managerial level

Managerial-level employees are remunerated on a cost-to-company/package basis. The package includes pensionable earnings, compulsory benefits and a residual cash component. Managerial employees also participate in the annual short-term incentive scheme.

Executive remuneration

Executive remuneration links remuneration to the performance of the organisation and the individual's contribution. Basic salary is augmented by short- and long-term incentives. International and local benchmarks are considered in determining remuneration. The remuneration strategy is aligned with the shareholder guidelines.

Non-executive directors: remuneration is paid in accordance with the approval of the shareholder and consists of a fixed monthly fee. Executives are reimbursed for company-related expenses.

Executive management committee members: the board approves the remuneration of the chief executive and group executives. The chief executive's remuneration is approved by the

shareholder. Factors taken into account include level of skill, experience, contribution to organisational performance and success of the group.

The balance between fixed and variable remuneration and short- and long-term incentives is reviewed annually.

The chief executive, finance director and group executives have permanent employment contracts based on Eskom's standard conditions of service.

11. Criterion 11: The COP describes effective *monitoring and evaluation mechanisms of labour principles integration*

The board committees held the following number of meetings during the year:

- Audit and risk committee: five
- Investment and finance committee: four
- Tender committee: nine
- Social ethics and sustainability committee: five
- People and governance committee: four.

Employment equity: Eskom implemented an employment-equity plan supported by a long-term target-setting strategy (Equity 2020) to drive its transformational agenda for the three financial years leading up to 2012/13. The employment-equity plan seeks to create a workplace and workforce profile that is diverse and inclusive, and to ensure that diversity becomes the Eskom way.

In November 2010 Eskom participated in the Department of Labour's director-general review process. In February 2012 the department confirmed that Eskom has the necessary transformation interventions in place.

12. Criterion 12: The COP describes key *outcomes of integration of the labour principles*

Industrial action has the potential to cause employee safety incidents through vandalism or intimidation. Industrial action at Eskom's capacity expansion projects during the year was addressed through project labour agreements (at Medupi and Kusile) and strong industrial relations policies (Ingula).

The wage negotiations during the year deadlocked, resulting in threats of (illegal) strike action by certain of the trade unions representing employees in the Eskom bargaining unit. However, the dispute was resolved by arbitration and a two-year salary and conditions-of-service agreement was concluded with trade unions.

Being the custodian of people management within Eskom, Human Resources is mandated to partner and empower line to recruit, develop, and retain a skilled, committed, engaged and accountable staff base across Eskom. HR is committed to the building of skills not only internally to Eskom but also for the communities in which Eskom operates. This is done in support of Eskom's aspiration and duty to grow the economy and improve the quality of life of people in South Africa and in the region, as outlined in the New Growth Path.

Operational highlights

- Establishment of the Welding School of Excellence and the Eskom Power Plant Engineering Institute (EPPEI) launched in partnership with South African Universities.
- Project Management Training Centre of Excellence partnered with Academic Institutions for the development and improved professionalism of Project Management staff through-out Eskom.
- The Eskom Leadership Institute, including the supervisory development programme, was launched with the focus of building leadership capacity to build a comprehensive leadership pipeline.

- Eskom awarded the Magnet Student Survey Award for five years in a row for engineering students
- Announced as a finalist 2012's GBCHealth Business Action on Health Awards for the Eskom HIV Counseling and Testing Campaign
- Safety awareness and education facilitated through coaching and training to embed safety culture

Operational challenges

- Eskom is still finalizing its capacity model, which is required to ascertain the right employee profiles employees and skills mix required to execute strategy for the next 5 years
- Inability to sufficiently meet equity targets

Future focus areas

- Eskom to embed high performance culture aligned to strategy through implementation of team-based performance management, ensuring all work-output is linked to strategy
- Eskom to focus on transformation beyond numbers and embedding a culture of country accountability and authentic transformation conversations in line with developmental goals
- ETAPro training programme to be launched to train power station engineers to optimise power station performance.
- Establish a School of Customer Services to fully operational in the next financial year.
- Eskom to implement an integrated Work-place skills plan to address the key training priorities in closing the core and critical competency gaps as tabulated below
- Maintain focus on learner pipe-line as tabulated below

Eskom learner pipeline

All targets have been exceeded including the learner pipe-line, Engineering, Technician, Artisan and a Youth programme of 5 159 for period 2011/12 against a target of 2 100, as tabulated below

	Target	2012	2011	2010
Eskom total learners / bursars	5 735	6 794	5 283	5 255
Engineering Learners	1 800	2 273	1 335	N/A
Technician Learners	700	844	692	N/A
Artisan Learners	2 350	2 598	2 213	N/A
Learners being trained to contribute to the socio-economic development of the country (SYDI)	2 100	5 159	N/A	N/A

Projected growth in Eskom-funded learners

	2012/13	2013/14	2014/15	2015/16
Total learner pipeline	5 907	5 979	5 990	6 100
Engineers	1 949	2 007	2 032	2 035
Technicians	757	780	789	791
Artisans	2 543	2 619	2 651	2 656

Projected engineering / technical skills to replace

Cumulative projected engineering / technical skills to replace	2012	2013	2014	2015	2016
Total engineering / technical skills	17 307	16 578	15 855	15 144	14 449
Engineers and technologists	2 821	2 683	2 549	2 421	2 299
Artisans and trades workers	10 947	10 495	10 042	9 592	9 148
Technicians	3 539	3 400	3 264	3 131	3 002

Engineering / technical skills to replace	0	730	1 452	2 163	2 858
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Environmental Stewardship Implementation

13. Criterion 13: The COP describes robust *commitments, strategies or policies* in the area of environmental stewardship

Zero harm to the environment is entrenched in the Eskom value chain. In 2011/12 there has been improvement in environmental management compared to previous year's performance with relative particulate emissions, water usage improving and a reduction in the number of legal contraventions. Several businesses achieved ISO 14001 certification.

Eskom aims to excel in its environmental management practices; commitment to this was confirmed when several strategic initiatives to reduce the environmental footprint and the following environmental objectives were incorporated into the Eskom Corporate Plan and are material to the Sustainability division.

1. Avoid harming the natural environment and so minimise financial and legal liabilities; this will be achieved through skills development, awareness programmes, achieving ISO 14001 certification, carrying out effective environmental impact assessments and various improvement programmes
2. Reduce the carbon footprint through
3. Reduce the carbon footprint through efficient energy production and by diversifying the energy mix
4. Reduce particulate and gaseous emissions to minimise the impact on human health and comply with regulated emission standards
5. Reduce freshwater usage by using mining water and eliminate liquid effluent discharge to avoid damaging water resources
6. Reduce, reuse and recycle resources Comply with environmental legislation as a minimum requirement in all activities
7. Minimise the impact of Eskom's activities on ecosystems and enhance the value added by natural ecosystems to business by responsible land-management practices.

The material issues and risks covered in this report are those that, in the view of both Eskom's stakeholders and management, have the potential to significantly affect the company's achievement of its strategic objectives.

Reducing the carbon footprint and pursuing low-carbon growth

The way in which Eskom generates, transmits and distributes electricity unavoidably has an impact on the environment. This is particularly true in the case of Kusile and Medupi power stations which, when complete in 2018, will produce 4 800MW and 4 764MW of extra power, making them some of the largest coal-fired power stations in the world. Kusile and Medupi, power stations being built in Mpumalanga and Limpopo provinces respectively, have been the target of some protests because they will be coal-burning facilities. While the protests have not seriously disrupted construction, they have had a negative reputational effect. Although Kusile and Medupi power stations will increase the total carbon footprint, the design and technology of these power stations is more efficient compared with existing coal-fired plants, resulting in a reduction in water usage and carbon dioxide emitted per unit of electricity generated.

Eskom is aware of its impact on the environment and strives to embed a culture of environmentally responsible behaviour and decision making across the business. Eskom works hard to ensure that it operates as a responsible corporate citizen and takes its commitment to environmental responsibility seriously.

The Eskom/Endangered Wildlife Trust (EWT) strategic partnership is in place to avoid or mitigate wildlife interaction with electrical infrastructure. The partnership continues to ensure that Eskom reduces its impact on biodiversity.

Water scarcity

Eskom's power stations depend on a steady, adequate supply of water of a certain quality. Competing resource needs, drought in catchment areas, pollution and poor water supply infrastructure all have the potential to hinder Eskom's access to affordable water.

Involvement in COP 17

Eskom and the South African government demonstrated their commitment to reducing carbon emissions at the COP 17 conference in November and December 2011. Government policy is already in place to determine national carbon budgets to curb South Africa's emissions.

Eskom is working with the government to determine what carbon savings are possible from its side and what resources will be needed to achieve them.

Renewable-energy projects and independent power producers

Eskom is finalising plans for a wind farm at Sere, due for completion in December 2013, and a pilot concentrating solar thermal power plant near Upington, due to start construction in December 2015. Together, these will add 200MW of power to the grid when completed.

Eskom is in the process of installing solar panels at 13 coal-fired power stations, four peaking stations and Megawatt Park to supplement auxiliary electricity consumption. The installations at Kendal and Lethabo power stations have been completed, and the remaining 15 sites will be operational in 2013.

Eskom actively supported the Department of Energy in finalising the request for proposals and power-purchase agreement for the Renewable Energy Independent Power Producer (IPP) programme, formally launched in August 2011. The request for proposals calls for 3 725MW of renewable energy technologies to be in commercial operation between mid-2014 and the end of 2016. Proposals have been received from 28 preferred bidders so far, with the combined potential to provide 1 416MW of power. Eskom is working with government to connect successful IPPs to the grid.

Carbon tax discussions

The National Treasury plans to introduce a carbon tax in 2013/14. Eskom has participated in discussions with the Treasury to identify ways to enhance the effectiveness of the tax and limit any unintended consequences for electricity tariffs and the economy.

Gaseous emissions, water pollution and other environmental issues

Gaseous emissions have increased marginally across the fleet of power stations. The existing fleet does not have technology to reduce gaseous emissions. However Kusile will be commissioned with flue gas desulphurisation (FGD) and plans are in place to retrofit Medupi during the first general overhaul. FGD will remove at least 90% of sulphur emissions. Both power stations will be commissioned with technology to reduce nitrogen oxides. They will also have the most efficient fabric filter technology in Eskom's fleet of power stations, for the removal of particulate emissions.

In future Eskom will not only report on these emissions, but targets will be determined once Medupi and Kusile power stations are online and abatement technologies are retrofitted to existing power stations. Lessons learnt from past environmental legal contraventions were shared with employees and contractors, contributing to a significant decrease in the number of environmental contraventions, from 63⁴ in 2010/11 to 50 in 2011/12.

Eskom formed a task team during the reporting period to reduce particulate emissions and is implementing improvement plans.

A technical plan to eliminate liquid effluent discharge by recycling polluted water for reuse by power plants was developed and projects are under way to improve the water use performance at several power stations. Projects have been initiated to investigate the use of mine water and reduce the reliance on fresh water in the longer term. While Eskom does not utilise groundwater, its activities have the potential to result in groundwater pollution. Monitoring programmes are in place to detect potential pollution and mitigation measures implemented if pollution is detected.

A programme to achieve ISO 14001 certification progressed well this year with several power stations and construction sites achieving certification for the first time.

Compact fluorescent lamp programme

⁴ One environmental legal contravention was registered in March 2011 and, following an investigation, was reclassified as an event. This has resulted in the reported number of environmental legal contraventions for 2010/11 changing from 64 to 63.

Eskom has distributed more than 47 million compact fluorescent lamps (CFLs) throughout South Africa since the inception of the CFL programme in December 2003.

Engagement with civil society

Eskom facilitated a number of meetings with environmental NGOs in the period under review. In particular, a technical workshop was held to share information on Eskom's water strategy and provide an opportunity for NGOs to present their water-related initiatives and views on water management.

Environmental contraventions

Due to the constrained system, there is less opportunity to maintain pollution control technology at power stations. This gives rise to an increased risk of environmental contraventions. Eskom plants could at some stage incur heavy penalties or even lose their operating licences and may have to be decommissioned if there is not an appropriate intervention. This would have a negative effect on Eskom's ability to keep the lights on and on Eskom's reputation, which in turn would influence its ability to raise funding and secure land, servitude and permits for future power stations – all of which would impact its long-term ability to keep the lights on.

Accordingly, Eskom is committed to addressing its environmental impacts. The company is executing a technical plan to eliminate liquid effluent discharges by recycling polluted water for reuse. Groundwater is also monitored for pollution and recommended mitigations are implemented. In addition, in terms of the impact on air quality, Eskom formed a task team during the reporting period to improve particulate emissions' performance and is implementing improvement plans.

14. Criterion 14: The COP describes effective *management systems* to integrate the environmental principles

Progress has been made towards achieving Eskom's set objective of achieving certification to the ISO 14001 environmental management system standard by March 2014. During this reporting period certification was awarded to the major build projects Medupi, Kusile and Ingula as well as the power delivery projects (construction of transmission power lines) and the Group Capital head office. In addition, certification was achieved at nine operational coal-fired power stations, Koeberg nuclear power station and the peaking power stations.

Table 1: Eskom's environmental indicators

	Target 2012	Actual 2012	Actual 2011	Actual 2010
Relative particulate emissions (in kg/MWh)	≤0.3	0.31 ^{RA}	0.33 ^{RA}	0.39 ^{RA}
Specific water usage (in L/kWh)	≤1.35	1.34 ^{RA}	1.35 ^{RA}	1.34 ^{RA}
Carbon dioxide emissions (in Mt) ¹	n/a	231.9 ^{RA}	230.3 ^{RA}	224.7 ^{RA}
Carbon dioxide emissions (relative) (kg/kWh) ¹	n/a	0.99	0.98	0.98
Nitrogen oxide emissions (in kt) ¹	n/a	977 ^{RA}	977 ^{RA}	959 ^{RA}
Sulphur dioxide emissions (in kt) ¹	n/a	1 849 ^{RA}	1 810 ^{RA}	1 856 ^{RA}
Nitrous oxide emissions (in t) ¹	n/a	2 967 ^{RA}	2 906 ^{RA}	2 825 ^{RA}
Environmental legal contraventions (number) ²	48	50 ^{RA}	63 ^{3RA}	55 ^{RA}

Footnotes:

1. Calculated figures based on coal characteristics and the 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.
2. Eskom's continued aspiration is for zero environmental violations. Targets have been set in the business plan to achieve this.
3. One environmental legal contravention was registered in March 2011 and, following an investigation, was reclassified as an event. This has resulted in the reported number of environmental legal contraventions for 2010/11 changing from 64 to 63.

15. Criterion 15: The COP describes effective *monitoring and evaluation mechanisms* for environmental stewardship

The board and its committees guide the strategy and set performance targets for Eskom's broad approach to corporate citizenship. This includes the following:

- A social, ethics and sustainability committee that focuses on sustainability and corporate citizenship.
- A tender committee that ensures that transformation, including skills development and empowerment, is encouraged through Eskom's procurement activities.
- An executive management committee assesses occupational health, safety and environmental performance and reviews major incidents to ensure that corrective action is taken.

Compliance

Through focused attention to the Eskom drive to achieve zero environmental incidents, environmental legal contraventions have reduced from last year, with the majority of contraventions still related to emissions and water-management challenges on site.

There were 50 environmental legal violations during the current year, down from 63 in 2010/11. There were two project specific activities that commenced before receiving the required environmental authorisation, resulting in administrative fines of R1.1 million (2011: R0.4 million).

An analysis of environmental legal contraventions over the past 11 years shows that legal contraventions related to water (40%), atmospheric emissions (18%) and authorisations/records of decision (19%) account for about 80% of Eskom's environmental contraventions. Water-related contraventions, in most cases, are a result of unauthorised releases of water from power stations. The contamination of water with silt or sewage has been the most common incident at construction sites. Air-quality legal contraventions relate to exceeding the particulate matter limits as specified in the air emissions licences.

Relative particulate emissions

Relative particulate emissions improved from 0.33 kg/MWhSO in 2010/11 to 0.31 kg/MWhSO in 2011/12, but the target of 0.30 kg/MWhSO was still not achieved.

A particulate emissions recovery team, chaired by the executive director of Generation, was formed to facilitate implementing solutions for improving emissions performance. Unfortunately, the implementation of the recommendations of the recovery team has been hampered by system constraints. Outages needed for repairs and maintenance are frequently postponed, sometimes by many months. In addition, reducing production of electricity in order to reduce particulate emissions is not always possible, given the high demand for electricity. At some stations, particularly Tutuka and Matla, particulate emissions have been made worse by episodes of poor or variable coal quality.

Nevertheless, several stations – including Matimba, Majuba, Arnot, Hendrina and Camden – have achieved consistent particulate emissions performance in 2011/12.

Eskom aims to reduce particulate and gaseous emissions to minimise the impact on human health and comply with regulated emission standards. The future key performance indicator targets progressively reduce to 0.21kg/MWh by 2017.

Ambient air quality monitoring

Extensive regional air quality monitoring has been undertaken since the late 1970's and has formed part of Eskom's ambient air quality management programme. This extensive ambient air quality network provides key information for future strategic planning processes, compliance with standards and as a guide for research activities.

Monitoring is currently undertaken at 14 ambient air quality monitoring sites measuring a range of pollutants including sulphur dioxide, nitrogen dioxide, fine particulate matter, and ozone amongst others. Meteorological parameters like wind direction, wind speed, wind velocity and temperature are also monitored. Although these sites are influenced by many sources, the majority are located strategically to monitor the level of pollutants at ground level resulting from power station emissions. The sites are therefore located close to power stations, in residential areas and some in remote areas (to measure regional air quality) – depending on the specific objectives of each site.

Ambient air quality is impacted by emissions from a number of sources, including Eskom, and the combined results from all these sources are reflected in the concentrations measured by the network. Our monitoring equipment is calibrated against National Meteorological Laboratory standards in a laboratory accredited by the South African National Accreditation System.

16. Criterion 16: The COP describes key *outcomes* of integration of the environmental principles

Zero harm to the environment is entrenched in the Eskom value chain. In 2011/12 there has been improvement in environmental management compared to previous year's performance with relative particulate emissions, water usage improving and a reduction in the number of legal contraventions. Several businesses achieved ISO 14001 certification.

Operational highlights

- Installed gaseous-emission monitoring systems on one unit of each coal-fired power station to improve Generation's monitoring capability
- Improved particulate emissions from 0.33 kilograms per megawatt hours sent out (kg/MWhSO) in 2010/11 to 0.31 kg/MWhSO in 2011/12. Although the target of 0.30kg/MWhSO was not achieved due to constraints in the system this year, there has been an improvement over the last two years
- Achieved a total peak demand savings of 365MW and annualised energy savings of 1,422GWh. This figure includes verified peak demand savings of 347MW and annualised energy savings of 1 350GWh for NERSA and Department of Energy funded projects. The additional 18MW of demand savings and 72GWh of annualised energy savings have been installed but will only be verified and claimed in the 2013 financial year
- Started the ongoing compact fluorescent lamps (CFLs) clean development mechanism sustainability project
- Introduced new energy-efficient lighting technologies such as light-emitting diodes (LEDs)
- Accelerated the solar water-heating rebate programme. To date 158 175 units have been installed and verified. Promoted skills and job creation, especially through the low-pressure solar water-heating programme
- Power Delivery Projects, Medupi, Ingula and Kusile projects are ISO 14001: 2004 certified
- The overall efficiency in using water has improved from 1.35 L/kWh sent out in 2010/11 to 1.34 in 2011/12

- Construction of Komati Water Scheme on track for completion at the end of 2012; the Department of Water Affairs began construction of Mokolo and Crocodile water augmentation project
- Primary Energy has achieved ISO 9001 certification as at the end of March 2012 and will work towards ISO 14001 and OSHAS 18000 in this coming financial year
- The safety health environment and quality (SHEQ) leadership forum was hosted during the reporting year and was well received by all stakeholders
- COP17 was a specific highlight for the sustainability division, which was responsible for coordinating a diverse range of stakeholders for the event
- Successful completion of the Eskom factor report, which is a comprehensive assessment of Eskom's contribution (both positive and negative) to society, considering the social, economic and environmental impact of Eskom's activities. Refer to the Eskom factor report at www.eskom.co.za/IR2012/043.html
- Establishment of the renewables business within Eskom and 1.5MW of photovoltaic capacity brought online
- Rollout of the total quality value chain – ISO 9000, 14000, 18000 (quality, environment, and safety systems).

Operational challenges

- Poor-quality coal at some stations hampered relative particulate emissions performance and contributed to not achieving the target of 0.30kg/MWhSO
- The tight system, poor coal and underperforming plant resulted in a high number of exemptions against power station air emission licences being requested from authorities (33% of the time operating under exemption)
- Environmental compliance audits at several power stations during 2011/12 found that Eskom was not in full compliance with site permit and licence conditions
- To reduce the number of protected bird species mortalities due to collisions with powerlines.
- Collisions and electrocutions of birds on distribution power lines
- Acquisition of land and servitudes for electricity infrastructure
- The completion of the transmission projects is constantly challenged by access problems, servitude acquisition and unavailability outages due to network constraints Adding power to the grid while minimising the carbon footprint
- Quantifying total environmental liability at cost-plus mines

Future focus areas

- Reduce particulate emissions to 0.21kg/MWh sent out by 2016/17 to minimise the impact on human health and comply with regulated emission standards by inter alia, retrofitting fabric filter plants at power stations with high particulate emissions
- Ensure that there is a suitable level of plant spares available and serviceable
- Complete industry waste-management plans for all coal-fired stations, as required by the National Environmental Management: Waste Act
- Obtain ISO 14001 certification for remainder of power stations by March 2013
- Reduce carbon footprint by improving efficiency of power production and changing the energy mix towards lower carbon emitting technologies
- Focus on safety and environment to achieve zero harm to people and the environment
- Improve the implementation of conditions of environmental authorisations, including environmental management plans
- Obtain ISO 14001 certification by March 2014
- Continue the energy-efficiency drive in the residential market through the recently approved residential mass rollout initiative which involves going door to door to residential homes and installing energy efficient technologies including CFL bulbs, LED lamps, low flow shower heads, flow restrictors, timers and geyser blankets
- Finalise the procurement strategy for Sere wind project
- Obtain servitudes for various Transmission projects
- Refine renewable-energy project methodology and continue pursuing existing renewable-energy projects

- Finalise commitments for second phase of Mokolo and Crocodile water projects
- Ensure coal suppliers have mining, water and environmental authorisations
- Investigate and implement water conservation, water demand management and mine water treatment and reuse at power stations
- Address national water challenges through stewardship and collective action
- Carbon footprint reduction and adaptation strategy
- Environmental recovery (compliance, water, and air quality)
- Delivering on bringing renewable energy capacity through the implementation of Sere, CSP (100MW) and Solar PV with a view to developing even more renewable energy projects
- Development of clean coal technology including UCG
- Participation in international platforms/initiatives like the UN Global Compact LEAD initiatives and the Rio + 20 – Sustainable Energy for All
- Continue the implementation of the total quality value chain – ISO 9000, 14000, 18000 (quality, environment and safety systems).

Water usage

Eskom aims to reduce freshwater usage and eliminate liquid effluent discharge. This is achieved through effective water management processes, water conservation and water-demand practices, and the treatment and potential use of mine water. The future key performance indicator targets progressively reduce to 1.20 L/kWh by 2017.

Eskom continued to facilitate meetings with environmental NGOs. In particular, a technical workshop was held to share information on Eskom's water strategy and to provide an opportunity for NGOs to present their water-related initiatives and views on water management.

The total Eskom water usage (all power stations, including return to service stations (RTS)) was 319 772ML (2011: 327 252ML). Improved water-management systems contributed to reducing water from 1.35 litres per kilowatt hour (L/kWh sent out) in 2010/11 to 1.34 L/kWh sent out (2011/12). The best performing power stations are obviously the dry-cooled stations, Matimba, Kendal and Majuba, (3 of the 6 units) and Koeberg (sea water cooled).

Listed below is a table of water sources affected by withdrawal of water for Eskom's power stations.

Actual Water Use from water catchment area	Total Million cubic metres
Komati (Arnot, Hendrina, Komati, Duvha)	93.92
Usutu (Camden, Kriel Matla)	50.97
Usutu - Vaal (Duvha, Kriel, Tutuka, Matla Kendal)	88.00
Slang (Majuba)	24.75
Mokolo (Matimba)	3.20
Vaal (Lethabo, Grootvlei)	52.41
mine water (Tutuka Lethabo)	5.78
Total	319.04

Table 1: Water source

Water strategy

Eskom's water supply strategy addresses key risks of water scarcity, water security, pollution of water resources, and climate change impacts.

Eskom has set out to meet the water-quality objectives in different catchment areas; manage the impact of future water price increases; actively influence policy, planning, legislation and regulation; and work with stakeholders to develop solutions. The water conservation and demand management

strategy is intended to meet some of the requirements of new and existing power stations by reducing fresh-water intake and reusing effluent water.

During the financial year, Eskom submitted inputs into the Energy Chapter of the National Water Resources Strategy 2 Draft to the Department of Water Affairs in order to secure Eskom's current and future water supplies for power generation and related needs.

Further comments will be provided during the consultation process leading up to the gazetting of the National Water Resources Strategy for public comments. At Eskom's request, the Department of Water Affairs is investigating potential infrastructure bottlenecks in the Vaal River water supply system. Eskom has also worked closely with the Department of Water Affairs to address the backlog of water use licence applications for its power stations, capacity expansion projects and coal suppliers.

The main water-supply infrastructure projects under way that affect Eskom operations are:

- The Mokolo and Crocodile Water Augmentation Project (MCWAP) Phase 1, which will provide sufficient capacity for Medupi's water requirements and associated developments, excluding the planned flue gas desulphurisation process. In the interim, there is adequate water from Matimba power station's water allocation to support Medupi's first three units. The first phase of the MCWAP is on track to be completed by September 2013.
- The Komati Water Scheme Augmentation Project will provide water for Kusile power station and the return to service of Komati power station. The project is on track to be completed by December 2012.

The CEO Water Mandate

United National Global Compact's CEO Water Mandate is a unique public-private initiative designed to assist companies in the development, implementation and disclosure of water sustainability policies and practices. As a signatory to the UN Global Compact, Eskom endorses the CEO Water Mandate and pledged its commitment to the principles and annually reports on progress in supporting and promoting compliance with the principles. Eskom is committed to, and reliant on, water as a primary input and, therefore, has a vested interest in securing control over water sources and services.

Biodiversity

The 2011–2020 United Nations Decade on Biodiversity (UNDB) was launched in December 2011, the ultimate target being to ensure that by 2020 all the people of the world will be aware of biodiversity and its value. Such awareness in Eskom was increased this year when leadership endorsed the Biodiversity Policy and Standard which affirms that 'Eskom shall ensure that in the planning, construction, operation and decommissioning of its activities mitigation measures are in place to limit the impact of its infrastructure, land-use and other resource uses on biodiversity and shall comply with all applicable legislation'.

Complementary strategic partnerships are also mechanisms that Eskom supports to achieve the sustainability priority of "Zero environmental incidents". The long standing Eskom-Endangered Wildlife Trust (EWT) partnership focuses on the management and monitoring of wildlife interactions. Detailed information on wildlife interactions statistics and management fact sheet can be found at www.eskom.co.za/IR2012/048.html.

The Ingula Partnership with conservation Non-Government

Organisations (NGOs), BirdLife South Africa and Middelpunt Wetlands Trust, has proved invaluable towards the conservation of a very important biome ensuring the protection of the critically endangered White-winged Flufftail, Southern Bald ibis, other endangered species and the habitat in which they exist. The Ingula Partnership has also resulted in Eskom leadership endorsing research funding to the Birdlife International Species Champion Programme, whereby Eskom will fulfil the Species Champion role for both the White-winged Flufftail and the Southern Bald Ibis. This initiative promotes the overall protection and conservation of these two bird species.

Environmental expenditure

In 2011/12, R0.6 billion was allocated to environmental capital projects (2010/11: R0.3 billion) and R0.9 billion to environmental operational projects (2010/11: R1.1 billion).

The majority of capital expenditure can be attributed to air quality related projects, as well as other capacity expenditure related to the capacity expansion programme. Similarly, the operational expenditure can also be attributed to the capital expansion programme, as well as specific expenditure related to air quality, water management, water treatment and rehabilitation associated with coal mines.

Anti-Corruption Implementation

17. Criterion 17: The COP describes robust *commitments, strategies or policies* in the area of anti-corruption

Eskom's corporate governance focuses on effective ethical leadership to integrate strategy, governance and sustainability. Eskom takes its strategic direction from its board of directors.

The executive management committee is responsible for putting decisions made at board level into effect and overseeing the company's day-to-day operations.

18. Criterion 18: The COP describes effective *management systems* to integrate the anti-corruption principle

Ethical business conduct: Eskom's board is accountable for the group's ethics-management programme, which is run on an operational level by the executive management committee, assisted by the ethics office. The programme includes the following:

- Assessing the organisational risks and opportunities
- Fostering ethical standards in the form of a code of ethics, conflict of interest policy, including business courtesies and private work
- Raising awareness regarding ethics (training, reporting, advices)
- The ethics helpdesk and whistleblowing hotline.
- Quarterly ethics status reports are used to monitor the progress of this programme.

Eskom is also a signatory to the UN Global Compact, which includes an anticorruption clause, as well as the World Economic Forum's Partnership Against Corruption Initiative.

19. Criterion 19: The COP describes effective *monitoring and evaluation mechanisms* for the integration of anti-corruption

Internal control: The board is responsible for ensuring that internal controls at all levels are effective and has approved the implementation of an integrated framework to systematically evaluate and improve controls across the company.

The internal audit department reviews internal control systems and reports its findings to management and the audit and risk committee. The audit and risk committee monitors and evaluates the responsibilities of management and of internal and external audit to ensure that all major issues reported have been satisfactorily resolved. It reports any unresolved important matters to the board.

20. Criterion 20: The COP describes key *outcomes* of integration of the anti-corruption principle

The assurance and forensic department provides independent and objective assurance, consulting and investigative services to improve the organisation's operations. The department has unrestricted access to all functions, records, property and personnel. The general manager – audit and forensics attends executive management committee meetings.

Eskom's internal forensic capacity will be strengthened through a partnership with the Special Investigating Unit (SIU). A proclamation by the President in the current year formalised the SIU's mandate following an agreement in February 2011.

Value Chain Implementation

21. Criterion 21: The COP describes implementation of the Global Compact principles in the *value chain*

Eskom's spending programmes support the government's economic objectives, including local development, the competitive supplier-development programme, job creation and encouraging the growth of small businesses. During the reporting period, total investment spend in plant by suppliers was R646 million (2011: R608 million). Improvements to the supplier development and localisation functions have better aligned Eskom to deliver on government policy requirements.

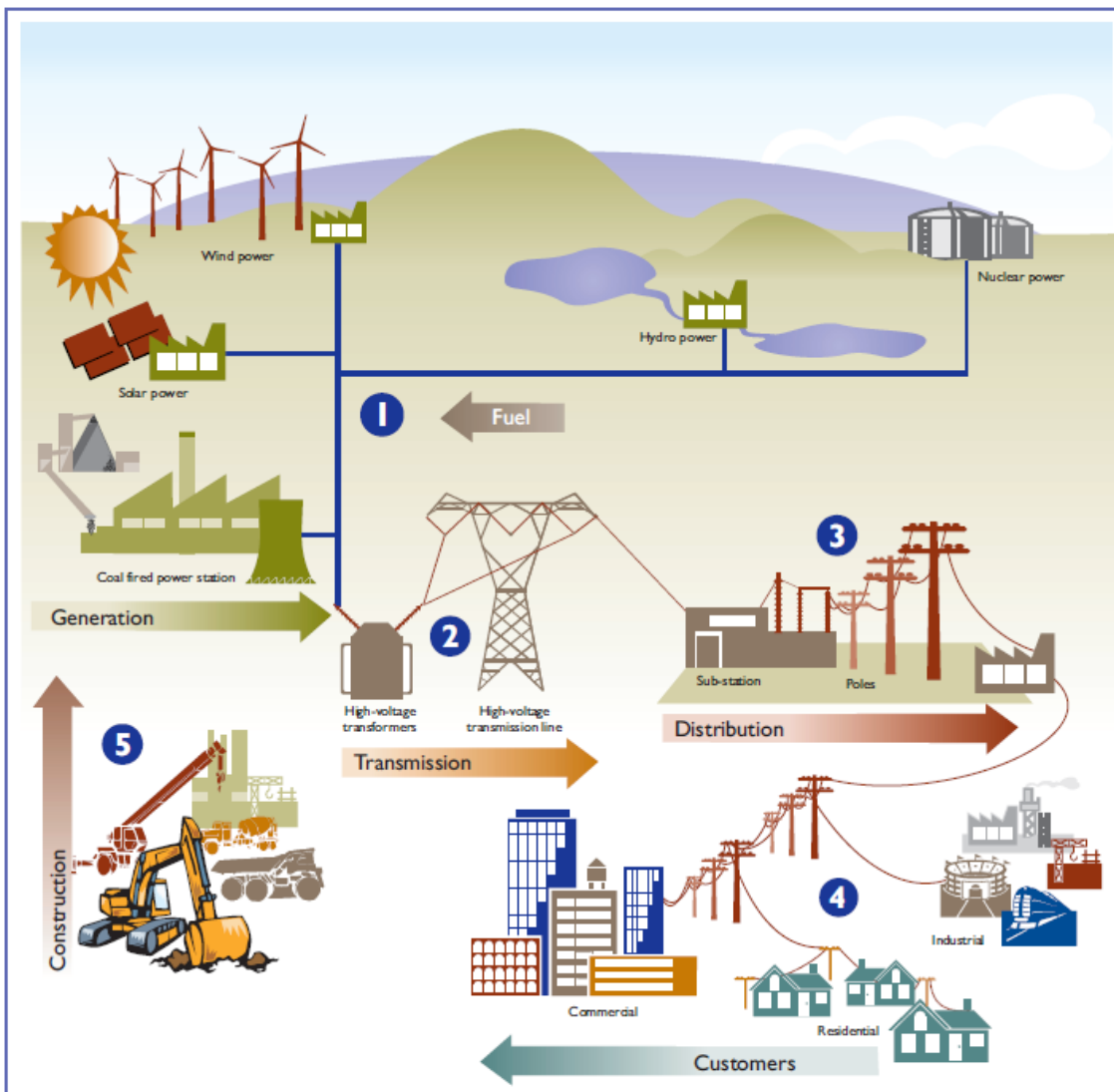
The supplier development and localisation function supports the government's socio-economic development objectives, including Broad-based black economic empowerment (B-BBEE), by maximising local supplier development in a manner that supports Eskom's business plan. The main achievement in the period under review is the organisational adoption of a consistent new tender evaluation criteria that places emphasis on both BEE equity holding and local jobs and skills development and the board adoption of the Competitive Supplier Development Plan 2 to drive Eskom's contribution towards national industrialisation for the next five years.

Transparency and Verification

22. Criterion 22: The COP provides information on the company's *profile and context of operation*

Eskom is South Africa's primary electricity supplier. The company, which is wholly owned by the South African government, generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers, and to municipalities, which in turn redistribute electricity to businesses and households.

Figure 1: Eskom's value chain



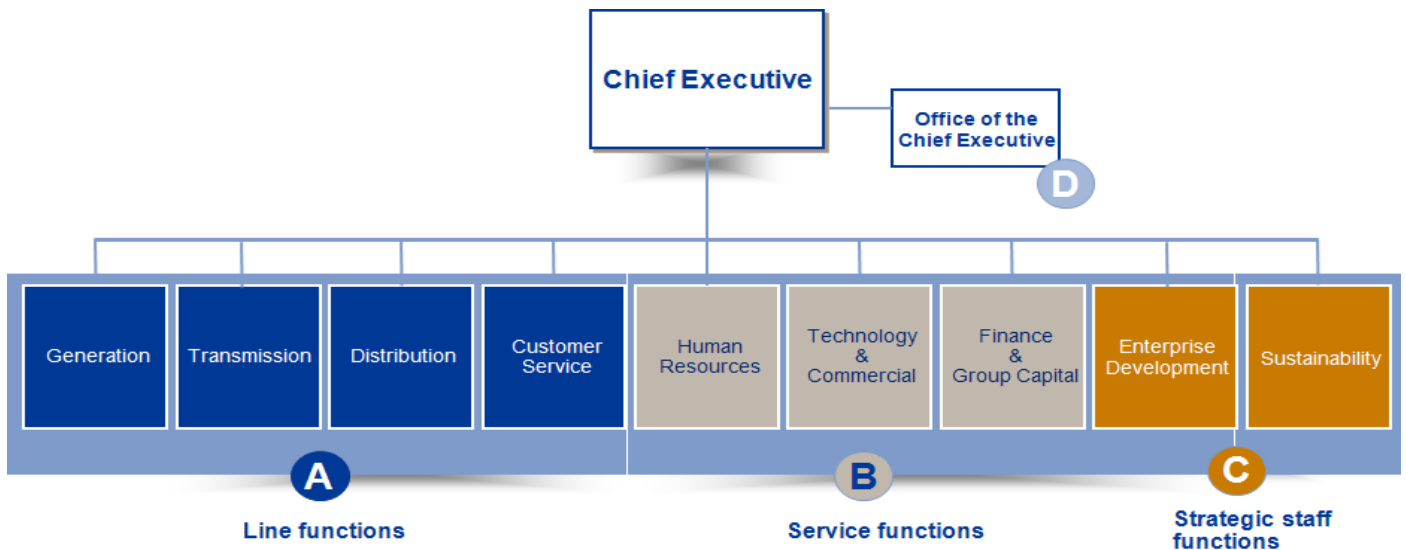
Eskom sells electricity directly to about 3 000 industrial customers, 1 000 mining customers, 50 000 commercial customers and 84 000 agricultural customers. It also supplies electricity to more than 4.7 million residential customers – many of whom are in rural areas – who account for about 40% of all residential customers in the country.

Eskom in Africa

While most of Eskom's business is within South Africa, the company also buys and sells electricity in the SADC region. Eskom's involvement in African markets beyond South Africa is currently limited to projects that have a direct impact on ensuring a secure supply of electricity for South Africa itself. Eskom is investigating additional opportunities in the SADC region.

Eskom Enterprises SOC Ltd has two subsidiaries, Rotek Industries SOC Ltd and Roshcon SOC Ltd, with an interest in electricity operations and maintenance concessions in Mali, Senegal, Mauritania and Uganda.

Figure 2: Eskom line, service and strategic functions



Eskom's new structure

Eskom has restructured its divisions as follows:

- Line functions operate the business and focus on creating value
- Service functions safeguard Eskom's assets, provide expertise on day-to-day standardised services and optimise functions that cut across all aspects of the business
- Strategic staff functions develop the enterprise, bringing about step changes in performance and providing broader strategic support to the group.

The office of the chief executive, which incorporates the delivery unit and the assurance and forensic department, has been expanded.

Eskom has its head office in Johannesburg, with satellite operations across South Africa. It maintains a small office in London, primarily for quality control of the equipment being manufactured for the capital expansion programme. Eskom has several subsidiaries:

- The Eskom Enterprises group provides life-cycle support and plant maintenance, network protection and support for the capital expansion programme for all Eskom Holdings SOC Limited divisions.
- Escap SOC Limited, Eskom's wholly owned captive insurance company, manages and insures Eskom's business risk.
- Eskom Finance Company SOC Limited grants home loans to Eskom employees.
- The Eskom Development Foundation NPC is a wholly owned non-profit company that manages Eskom's corporate social investment.

Values and strategic objectives

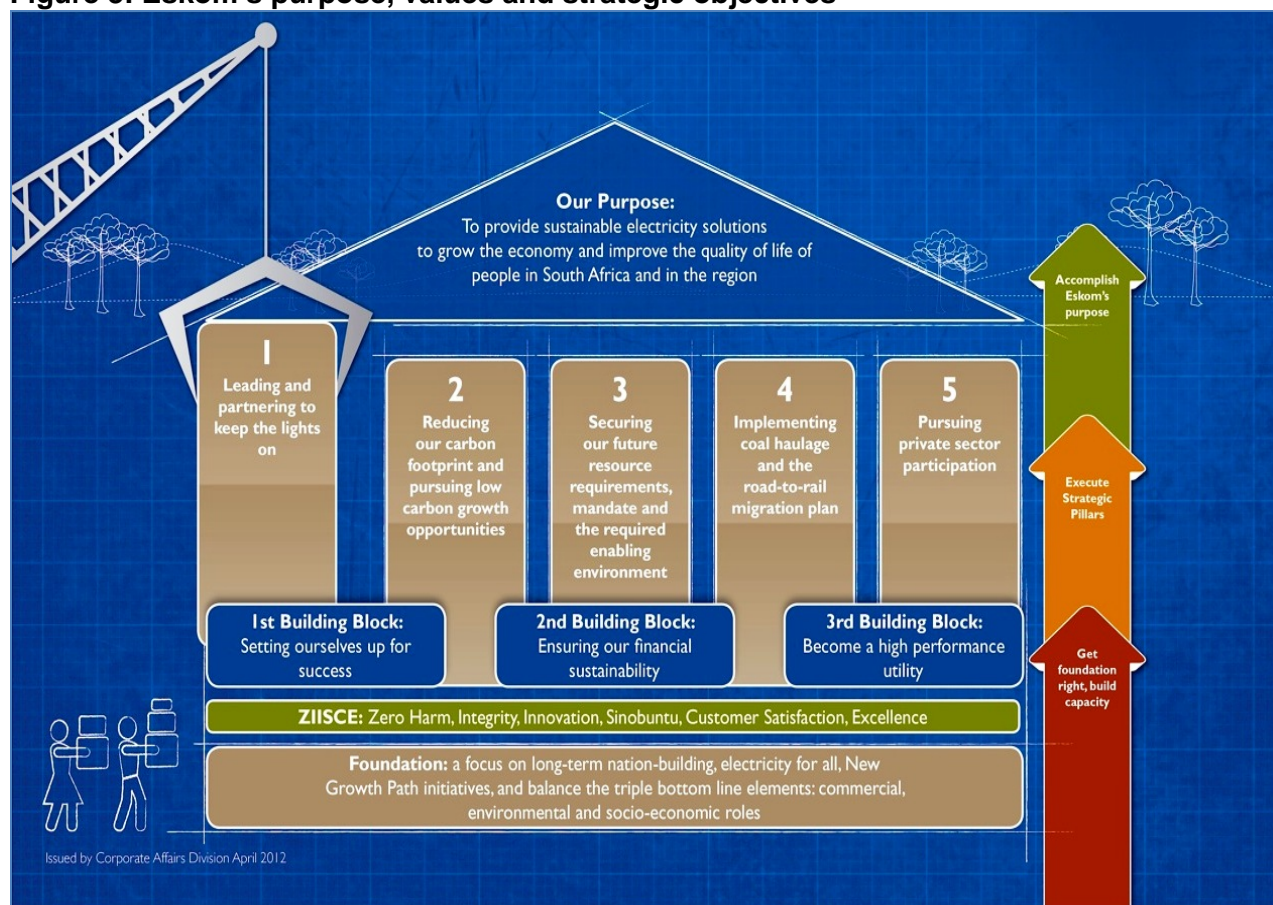
The company's operations are underpinned by six values:

- zero harm
- integrity
- innovation
- *sinobuntu* (caring)

- customer satisfaction
- excellence

In September 2011 the Eskom Board, informed by an extensive strategic review process, approved a six-year corporate plan that identified eight strategic objectives (identified in the figure below as the three building blocks and the five numbered blocks).

Figure 3: Eskom’s purpose, values and strategic objectives



23. Criterion 23: The COP incorporates high standards of *transparency and disclosure*

Eskom has combined sustainability and financial reporting for a number of years, but this is the first integrated report that aligns with the principles contained in discussion papers published by the International Integrated Report Committee and the Integrated Reporting Committee of South Africa.

Integrated reporting is a new international initiative that has emerged in response to the shortcomings of traditional reporting, which emphasises financial results without taking account of the broader context in which companies operate, and fails to weave together different reporting strands. Integrated reporting allows for reporting on financial results, governance, sustainability and other material factors in an interdependent manner. It addresses the challenges that companies face, the advantages they enjoy, the external factors that influence them and the way they in turn influence the external environment.

To support this new approach to reporting, Eskom formed an integrated reporting steering committee to ensure alignment with other reporting processes. This demonstrates that the management of the business and internal reporting is closely aligned to the requirement for the year-end integrated report Eskom has applied the principles of inclusivity, materiality and

responsiveness in compiling this report. These principles ensure that the company incorporates the views of its stakeholders, as well as internal planning reporting and risk-management processes.

Eskom has declared a B+ report in terms of the Global Reporting Initiative (GRI). The list of relevant GRI indicators is available online at: www.eskom.co.za/IR2012/

Eskom wins top sustainability award

Eskom's Integrated Report 2011 was recognised and awarded 2nd place in the Ernst and Young: Sustainability Reporting Awards event for 2011 held at the Johannesburg Securities Exchange on 19 October 2011. The winner in the 1st place was the Bidvest Group and Anglo Gold Ashanti took the 3rd place. This follows the award for excellent Corporate Reporting received by Eskom on 12 September 2011, also from Ernst and Young of which Eskom was one of only 10 companies regarded as Excellent.

This award distinguishes Eskom as an organisation committed to sustainable development by integrating the financial aspects of its business with open disclosure of sustainability challenges, progress and prioritising Zero Harm for people and the environment.

24. Criterion 24: The COP is *independently verified* by a credible third-party

The information contained in this communication on progress is based on Eskom's 2012 Integrated Report and Divisional Report. Eskom has applied the principles of inclusivity, materiality and responsiveness in compiling those reports. These principles ensure that the company incorporates the views of its stakeholders, as well as internal planning reporting and risk-management processes.

Eskom has declared a B+ report in terms of the 2012 Integrated Report and Divisional Report in terms of the Global Reporting Initiative (GRI). The list of relevant GRI indicators is available online at (www.eskom.co.za/ir2012/). KPMG has provided assurance on selected sustainability information in the 2012 Integrated Report and Divisional Report, from which this communication on progress is made. Eskom follows a combined assurance approach.

UNITED NATIONS CARING FOR CLIMATE REPORTING

As a signatory to the United Nation Caring for Climate we commit to communicate on an annual basis on progress made in implementing the five areas of commitments as outlined in the Caring for Climate Statement as set out below:

- 1. Taking further practical actions to improve continuously the efficiency of energy usage and to reduce the carbon footprint of our products, services and processes, to set voluntary targets for doing so, and to report publicly and annually on the achievement of those targets in our Communication on Progress-Climate.**

Reductions in energy demand achieved:

Eskom runs several demand-reduction programmes to encourage industrial customers, municipalities and households to reduce their energy consumption. This makes more capacity available on the electricity supply system, creating opportunities for maintenance work and reducing the likelihood of load-shedding in the future. These programmes include:

- Power buy-back agreements with industrial customers.

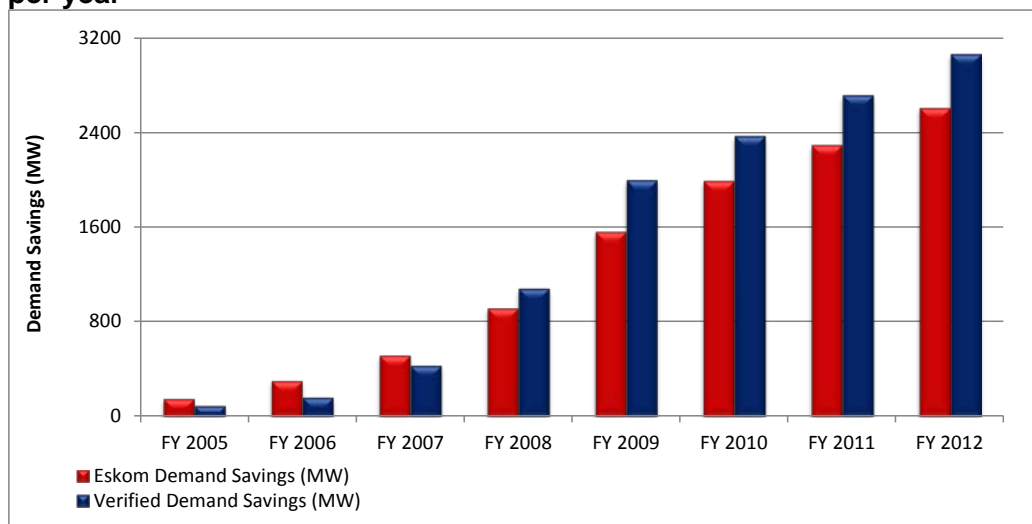
- The Energy Conservation Scheme, which sets energy allocations for the country's 500 largest electricity users. This voluntary scheme may become mandatory in future. To date 96 of Eskom's 135 key industrial customers (using ≥ 100 GWh per year) have signed up.
- Residential power-reduction initiatives (installing low-flow shower heads, LED lights, pool timers, geyser blankets and subsidising solar water-heating systems).
- The Power Alert system, broadcast on television between the hours of 5pm and 9pm, indicates the status of the load on the grid and urges viewers to turn off non-essential appliances in times of excessively high demand.
- The 49M campaign, which aims to encourage energy-efficient attitudes and habits in all consumers, particularly residential users.

Since 2004, when demand-side management projects were initiated and measured, the demand savings in the evening peak (18:00 to 20:00) have risen in line with the growing requirement for demand reduction.

The accumulated verified demand savings for the combined financial years 2005 to 2012, is 3 064 MW. A single power station's generator unit contributes about 600 MW to the national grid. Therefore demand-side management has "freed up" more than five generators (a typical power station has six) in the past four years.

The total evening peak demand savings achieved for the 2011/12 period was 347 MW (2011: 354.1 MW) against the Eskom target of 313 MW.

Figure 4: Verified accumulated demand savings (MW) against the accumulated Eskom target per year



The annualised energy savings for this financial year are 1 422GWh against the target of 1 051GWh. These results were due to implementing the demand management programmes listed below.

Programme category	Savings achieved (MW)
Agriculture	<0.01
CFL Roll Out	215
Compressed Air	12
Demand Reduction	58
Heat Pumps	1
Ind Process Opt	8
Lighting & HVAC	13
Shower Heads	14
SWH	27
Total	348⁵

Demand-side management

Commercial and industrial initiatives

Eskom will continue to engage with customers about balancing supply and demand during periods of generation constraints. Large customers have responded favourably in terms of the demand market participation and already contribute to the stability of the national power system by reducing load through power buy-back agreements and demand-side management initiatives.

Eskom's demand market participation programme is to be extended to small industrial and commercial undertakings through a programme called demand response aggregation. This programme will be piloted for customers consuming more than 500MW.

The proposed Energy Conservation Scheme, if passed into law, will see energy-reduction targets being set for the country's 500 largest electricity users and charges imposed for non-compliance. Eskom has already implemented a voluntary energy conservation scheme and is engaging with the South African Local Government Association and municipalities to help their customers implement energy-conservation measures.

Power Buy-Back initiative

As part of the efforts to create the necessary space to perform essential and critical generation plant maintenance, Eskom has entered into power buy back agreements with certain of its large industrial customers. The power buy back period is typically for 30 days or longer with all current agreements terminating by 31 May 2012. The requirement is that customers reduce their base load demand and this reduction is purchased by Eskom at a rate negotiated with customers. The rate takes into account the customers fixed costs, contractual obligations and various other requirements including the requirement of no permanent job losses.

This initiative has proved to be beneficial in creating the additional space on the power system through base load demand reduction. During this power buy back period, lower than usual commodity prices and surplus stock levels would have had a significant negative impact on the economy, jobs and our customers' business operations. Eskom believes that through the power

⁵ This includes the 1.4MW of internal energy efficiency demand savings.

buy back scheme, customers are in a slightly more favourable position than they would have otherwise been in creating a win-win situation for both parties.

Residential initiatives

A residential mass rollout programme has recently been approved to make households more efficient by installing low-flow shower heads, LED lamps, pool timers and geyser blankets.

There has been a significant increase in solar water-heating system installations, with 158 175 claims (27 149 for high-pressure systems and 131 026 for low-pressure systems) received during the financial year.

Eskom's Power Alert and 5pm to 9pm evening campaigns aim to reduce power demand during the evening peak. The total evening peak demand savings achieved are:

Total evening peak demand and energy savings achieved were:

		Target 2011/12	Actual 2011/12	Actual 2010/11
Evening peak demand savings	MW	313.0	365.4	354.1
Energy savings	GWh	1 051	1 422	1 339

Eskom initiatives

Eskom aims to improve the energy efficiency of plants and offices by conducting energy audits and undertaking efficiency programmes that focus on lighting, heating, ventilation and air-conditioning. The demand savings of 1.4MW^{RA} achieved in 2011/12 translates to energy savings of 45.0GWh^{RA} (2011: 26.2GWh^{RA}) for the year, against a target of 25.5GWh.

Energy Losses Management

Energy losses reflect the difference between the quantity of energy sent out from the power stations and the quantity sold to the various customers at the end of the value chain.

There are two broad categories of energy losses:

- Technical energy losses naturally occur when electrical energy is transferred from one point to another. The medium through which electrical energy is transferred imposes a resistance to the flow and some of the energy is dissipated as heat.
- Non-technical energy losses can be calculated as the difference between total energy losses and technical losses. They are typically caused by theft (illegal connections, meter tampering), errors in data and billing, among others.

In 2011/12, total Distribution energy losses were 6.32%^{RA}, of which non-technical losses are estimated to be between 1.90% and 4.42%. Compared to other utilities globally, Eskom continues to perform well on energy loss management. Distribution has participated in a 2007 benchmarking study, conducted by an independent international consulting group, mainly with South American utilities. The 2007 benchmarking parameters for total distribution losses were 5.60% to 12.07%. Eskom is currently in the first quartile of the top performing distribution utilities.

Even though Eskom compares favourably with other utilities, energy losses management remains a key focus area for the utility. Eskom will therefore continue to research and implement loss reduction initiatives.

Energy losses	Target 2011/12	Actual 2011/12 GWh	Actual 2010/11 GWh	Actual 2009/10 GWh
Total Eskom energy flow		254 300	253 084	246 705
Total distribution network energy flow ¹		226 424	224 328	218 663
Actual loss – distribution		14 312	12 734	12 839
Actual loss – transmission		7 686	8 157	8 009
Total actual loss		21 998	20 891	20 848
NERSA MYPD allowance		22 533	22 535	21 131
Energy loss (%) (12MMA)	%	%	%	%
Total distribution loss	≤6.07	6.32	5.68 ^{RA}	5.87
Total transmission loss	≤3.40	3.08	3.27 ^{RA}	3.27
Total Eskom loss	≤8.75	8.65	8.25	8.45

RA – Reasonable assurance provided by the independent assurance provider

1. Inclusive of energy flows to key customers.

The performance as at end of March 2012 shows an increase in the distribution losses (6.32%) and a decrease in the transmission losses (3.08%) when compared to the performance at the end of March 2011. The actual Eskom total losses results achieved (8.65%) are within the target energy losses (8.75%) allowed by the regulator. Energy Losses Management Programme activities will be intensified going forward to drive the losses downwards.

For internal evaluation purposes the estimated technical losses range between 60% and 75% of total losses in Distribution, while 100% is estimated for the Transmission networks. The actual percentage in Distribution is influenced by factors such as network design, network topology, load distribution on the network and network operations.

Operation Khanyisa

The energy losses management programme has stabilised distribution energy losses at around 6% through audits and corrective measures, conducting energy-balancing of ring-fenced areas, implementing tested technologies and a public awareness campaign called Operation Khanyisa.

Operation Khanyisa, launched in October 2010, promotes legal power usage in South Africa. Although the focus of the campaign is electricity theft, it integrates related issues such as safety, non-payment, energy efficiency and infrastructure theft.

The theme of the campaign is sustainability for economic growth. Electricity theft contributes to power outages, rising prices, the slowing down of the economy, job losses and fatalities and injuries due to electrocutions. It also affects government's universal access programme.

The core partners of Operation Khanyisa are Proudly South African, Business Against Crime, Business Unity South Africa, the South African Local Government Association and Primedia Crime Line. The campaign is currently active only in Eskom areas of supply, but the intention is to expand into areas serviced by municipalities, hence the partnership with the South African Local Government Association.

Operation Khanyisa is now in full operation and the South African citizens continue to heed the call to report electricity theft and illegal electricity sales.

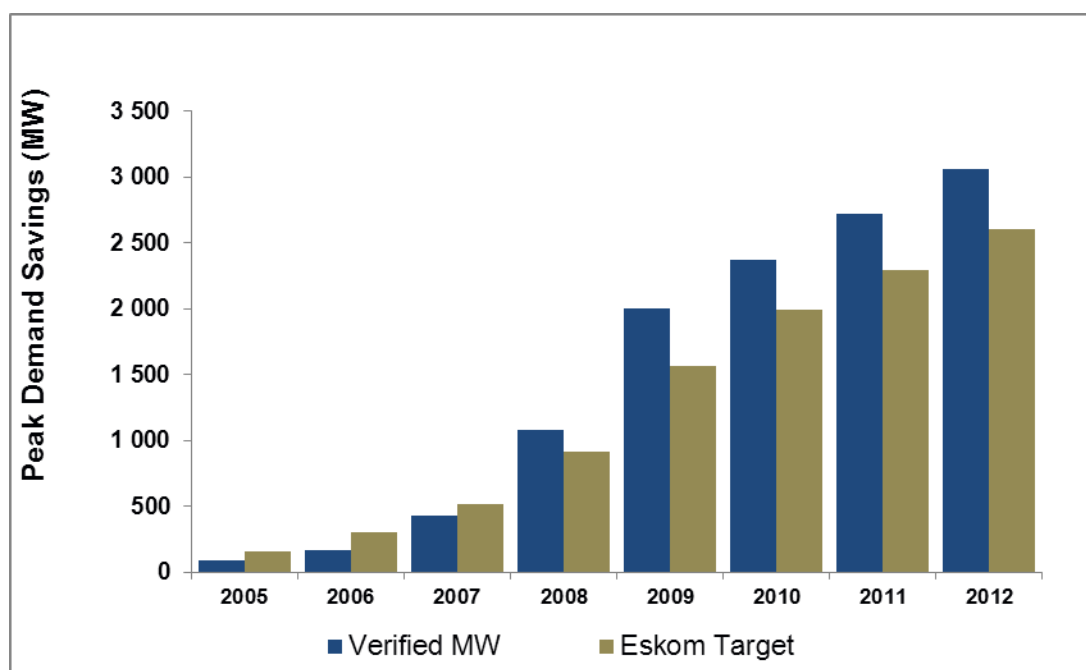
Thermal energy-efficiency programme

Eskom’s planned thermal energy-efficiency programme aims to increase generation efficiency by at least 150MW by the end of 2015. This will equate to about 400kt less coal being used across all coal-fired power stations per year, which translates to a reduction of 1.5Mt of carbon-dioxide emissions a year.

Energy savings for the year under review, based on steps taken at 10 coal-fired stations, amounted to between 31MW and 35MW.

Monthly heat-rate trends – that is, coal energy in megajoules (MJ) consumed per electric energy produced (in kWh) – at the pilot at Majuba power station showed that the station was able to perform better than the agreed 11.3MJ/kWh target for eight months of the year. The thermal energy-efficiency programme was extended to another five coal-fired stations, yielding positive results. The full energy-efficiency programme will be rolled out to the remaining coal-fired stations during 2012/13.

Figure 8: Demand-side management demand savings (cumulative)



2. Building significant capacity within our organizations to understand fully the implications of climate change for our business and to develop a coherent business strategy for minimizing risks and identifying opportunities.

One key material issue Eskom faces is reducing the environmental footprint and pursuing low-carbon growth. This is based on the view of both Eskom’s stakeholders and management and the potential to significantly affect the company’s achievement of its strategic objectives.

The way in which Eskom generates, transmits and distributes electricity unavoidably has an impact on the environment. This is particularly true in the case of Kusile and Medupi power stations which, when complete in 2019, will produce 4 800MW and 4 764MW of extra power, making them some of the largest coal-fired power stations in the world. Kusile and Medupi, power stations being built in Mpumalanga and Limpopo provinces respectively, have been the target of some protests because they will be coal-burning facilities. While the protests have not seriously disrupted construction, they have had a negative reputational effect. While Kusile and Medupi power stations will increase the total carbon footprint, the design and technology of these power stations is more efficient compared with existing coal-fired plants, resulting in a reduction in the water use and carbon dioxide per unit of electricity generated.

Eskom has a comprehensive climate change strategy which is based on six pillars:

1. Diversification of the generation mix to lower carbon emitting technologies
2. Energy efficiency measures to reduce demand and greenhouse gas and other emissions
3. Adaptation to the negative impacts of climate change
4. Innovation through research, demonstration and development
5. Investment through carbon market mechanisms
6. Progress through advocacy, partnerships and collaboration.

Eskom's aspiration is to pursue a more diverse energy mix with the objective of reducing the utility's relative emissions until 2025 and subsequently reducing absolute emissions. Eskom continuously models electricity options for achieving the conflicting goals of affordability and protection of the environment in the most optimum manner. In doing this work Eskom recognises that there is no single technology option that is the panacea for reducing greenhouse gas emissions. Eskom is therefore committed to the principle of an assessment of all options for reducing its emissions.

Renewable energy plays an important role in meeting Eskom's diversification aspirations. Eskom's Renewables Unit has been set up to focus on large power-generation technologies, namely wind, photovoltaic and concentrating solar power. This will play an extremely important role in reducing both the relative (emissions intensity) and absolute emissions.

Government policy on renewable energy

South Africa's white paper on renewable energy policy (2004) sets out government's principles, goals and objectives for renewable energy. It also commits government to a number of enabling actions to ensure that renewable energy becomes a significant part of its energy portfolio.

South Africa is in a strong position to harness vast renewable energy resources. The country has an average solar radiation of about 2 500kWh per square metre per year and large areas along the coast have average wind speeds of more than six metres per second.

Government's target is to contribute 10 000GWh of renewable energy to final energy consumption by 2013, produced mainly from biomass, wind, solar and small-scale hydro.

A large portion of the Integrated Resource Plan has been allocated to renewables and a renewable-energy purchase programme has been introduced (IPP procurement programme).



This year a photovoltaic installation was erected at Lethabo Power Station as part of Eskom's commitment to renewable energy

Eskom's renewable-energy projects

Sere wind farm

- Construction of 100MW wind farm in Western Cape
- 50 turbines of 2MW each
- Commissioning in 2013
- ~220 000 tons of carbon saved per year (based on 0.9 tons of carbon per MWh).

Concentrating solar power pilot plant

Eskom is researching the possibility of a 4km² 100MW concentrating solar thermal power station in the Northern Cape by building a 100MW plant near Upington.

- The assessment focuses on environmental eligibility, technical feasibility and commercial competitiveness
- 450 000 tons of carbon saved per year
- Vital to Eskom's carbon footprint reduction/low-carbon growth strategy.

Photovoltaic installations at power stations

- Installation of two photovoltaic pilot plants at Eskom sites
- Initial installation of one hectare per site adding 1.2MW of capacity
- Photovoltaic produces zero emissions during operation and does not need water
- Photovoltaic is a well-established, safe technology that can be installed quickly at plant site.

Ocean energy

In 2002, Eskom completed a study that concluded that South Africa has a sufficient ocean resource to explore this renewable-energy option. A techno-economic study and technology evaluation are being performed to assess ocean energy conversion technologies to determine which should be researched further for possible application in South Africa.

Biomass

Biomass is a renewable-energy source derived from biological material from living or recently living organisms. It is plant based material used directly or converted into other energy products such as torrefied pellets (moisture removed), biofuel and so on.

As part of Eskom's biomass research programme, a System Johanssen Gasifier was constructed and installed at a rural sawmill in Melalani in the Eastern Cape in conjunction with the University of Fort Hare. It uses wood and other biomass as a fuel source to produce a virtually tar-free gas, which powers an electricity generator.

Eskom is also evaluating other biomass options, such as the use of municipal solid waste as a feedstock for power generation. Municipal solid waste not only represents a continuous source of

energy that can be harnessed for generation, but its use will also significantly decrease the burden on landfill sites and processing facilities.

To reduce greenhouse-gas emissions from its coal-fired power stations, Eskom is exploring the co-firing of biomass fuel. It aims to co-fire biomass to replace 10% of coal usage by weight in coal-fired power stations by 2026. To achieve this goal, a project within Eskom's primary energy division is sourcing suitable biomass within South Africa and sub-Saharan Africa.

The project is divided into phases, namely:

1. Co-firing technology selection – selecting technology between separate milling and co-milling of biomass with coal, and between co-firing white biomass pellets and torrefied biomass pellets (also known as black pellets). Test burns will be conducted at Arnot and Kriel power stations to determine the most suitable technology and biomass fuel. Primary Energy is sourcing the biomass fuel for the test burns and an order has been placed for 2 000 tons of torrefied biomass pellets.
2. Biomass fuel sourcing – sourcing biomass fuel for sustainable application. A contract has been placed with the Council for Scientific and Industrial Research to conduct a biomass fuel supply study. The study addresses the availability of biomass fuel in South Africa and neighbouring countries, including transport, beneficiation, quality, environment

Water

Eskom's water strategy addresses the risks of water scarcity, security and pollution, and the impact of climate change. The strategy's goals are to:

- Ensure long-term water planning
- Develop and implement conservation strategies
- Meet the water requirements of new and existing power stations
- Meet the water-quality objectives of the various catchment areas
- Efficiently manage water costs Influence policy, strategy, planning, legislative and regulatory issues related to water
- Work with stakeholders on water challenges and solutions
- Offer water management assurance, advisory service and support.

Eskom's water supply strategy addresses key risks of water scarcity, water security, pollution of water resources, and climate change impacts.

Eskom has set out to meet the water-quality objectives in different catchment areas; manage the impact of future water price increases; actively influence policy, planning, legislation and regulation; and work with stakeholders to develop solutions. The water conservation and demand management strategy is intended to meet some of the requirements of new and existing power stations by reducing fresh-water intake and reusing effluent water.

During the financial year, Eskom submitted inputs into the Energy Chapter of the National Water Resources Strategy 2 Draft to the Department of Water Affairs in order to secure Eskom's current and future water supplies for power generation and related needs.

Further comments will be provided during the consultation process leading up to the gazetting of the National Water Resources Strategy for public comments. At Eskom's request, the Department of Water Affairs is investigating potential infrastructure bottlenecks in the Vaal River water supply system. Eskom has also worked closely with the Department of Water Affairs to address the backlog of water use licence applications for its power stations, capital expansion projects and coal suppliers.

3. Engaging more actively with our own national governments, inter-governmental organizations and civil society to develop policies and measures to provide an enabling framework for business to contribute effectively to building a low-carbon and climate-resilient economy.

Eskom facilitated a number of meetings with environmental NGOs in the period under review. In particular, a technical workshop was held to share information on Eskom's water strategy and provide an opportunity for NGOs to present their water-related initiatives and views on water management.

The United Nations Global Compact and Rio+20

Rio+20 will take place in June 2012 to secure renewed political commitment for sustainable development, assess progress to date and the remaining gaps in the implementation of the outcomes of major summits on sustainable development, and address new and emerging challenges.

Eskom's desired outcomes from Rio+20 include clear action plans for energy access and electrification, obtaining financing for energy access, energy-efficiency and renewable-energy initiatives. Eskom will participate in Rio+20 through its continued engagement in United Nations activities, including the Global Compact LEAD, Caring for Climate, CEO Water Mandate and Sustainable Energy For All. Eskom will engage and support government and liaise with international business through Business Action for Sustainable Development.

4. Continuing to work collaboratively with other enterprises both nationally and sectorally, and along our value-chains, to set standards and take joint initiatives aimed at reducing climate risks, assisting with adaptation to climate change and enhancing climate-related opportunities.

Corporate Affairs successfully managed the COP17 communications and stakeholder management programme, which showcased Eskom's commitment to climate change, renewable energy and energy efficiency.

A robust internal communication programme included employees committing to changing their personal behaviour towards climate change and an art competition for employees' children, which educated hundreds of children about climate change, energy efficiency and renewable energy.

Eskom participated in various debates, and increased its voice in the media in the run-up to and during COP17. During the event, reporting on renewable energy created favourable coverage and input by Eskom amounted to 16% of total commentary. An interactive exhibition by Eskom and 49M was well received by the public and delegates at COP17.

Corporate Affairs supported Eskom's involvement in the COP17 conference by running campaigns to promote renewable energy in the run-up to the conference (the Green Line television programme, featuring Eskom's good-news stories and energy-saving tips – see www.thegreenlinetv.com for more information) and providing support during the conference itself.

The Department of Environmental Affairs issued a white paper on the national climate change response in November 2011. This document outlines a process, to be concluded within a two-year period, for developing (in consultation) sectoral and company carbon budgets that align with South Africa's pledge at Copenhagen.

The National Treasury continues to engage stakeholders on its carbon tax proposal and a revised policy/proposal is expected to be published in the near future. Eskom and the National Treasury have discussed ways to enhance the effectiveness and limit the unintended negative consequences that such a tax could have on electricity tariff increases and the economy.

Eskom manages the national CFL clean development mechanism project within the terms of the emissions reduction purchase agreement signed with BNP Paribas in September 2010.

Climate change and renewable energy

Eskom has an active research programme investigating South Africa’s renewable energy sources for power generation. Until now, Eskom’s history of renewable power generation has focused mainly on hydro power, complemented by an additional push to reduce demand through energy efficiency.

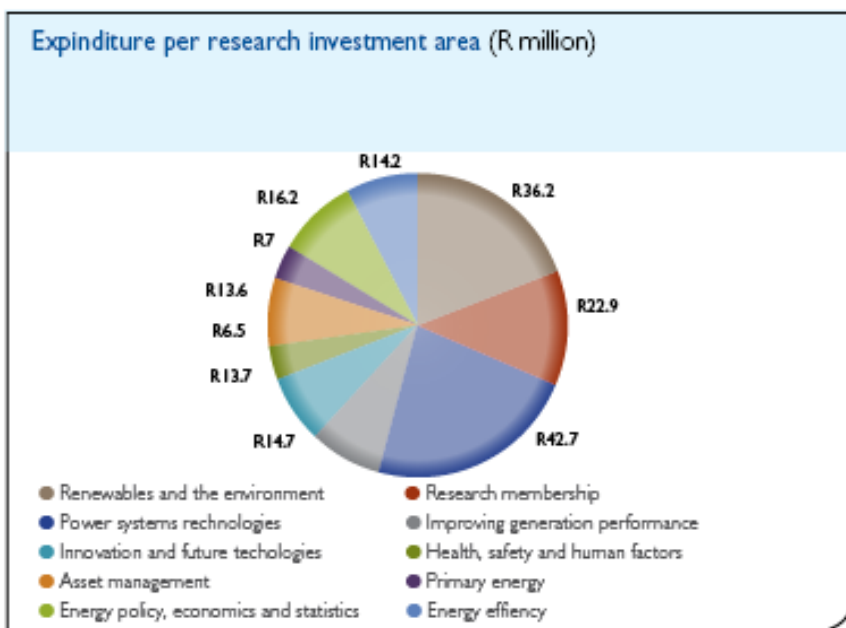


Figure 1: Research investment areas

Some large-scale renewable-energy projects are under way. Eskom is also retrofitting existing facilities with renewable energy sources to ensure energy efficiency and reduce relative carbon emissions.

5. Becoming an active business champion for rapid and extensive climate action, working with our peers, employees, customers, investors and the broader public.

The Global Electricity Utilities Initiative

Eskom successfully spearheaded an initiative called The Global Electricity Utilities Initiative (GEI). This initiative saw us bring 25 global utilities together to work towards a common purpose to reduce emissions, develop cleaner technologies and promote the introduction of renewables to embed global best practice. Eskom's involvement and leadership was positively received. The report shows that significant progress has been made in developed and developing countries in creating sustainable solutions towards clean electricity through progressive decarbonisation of the energy mix, more efficiency throughout the electricity value chain and the promotion of the more efficient end use of electricity. GEI utilities have also made substantial progress in increasing stakeholder engagement, investing in climate change-related projects, conducting research and development into new and advanced technologies and investing in adaptation measures.

COP 17

Eskom was integrally involved in assisting South Africa in hosting an excellent Conference of the Parties in Durban in December 2011. The country outlined its aspiration to move towards a low carbon future and to prepare South Africa for the impacts of climate change. Eskom demonstrated its holistic approach to climate change by discussing both mitigation and adaptation strategies. From a domestic policy and regulation point of view, the Department of Environmental Affairs issued a White paper on the National Climate Change Response in November 2011. This document outlines a process, to be concluded within a two year period, for developing (in consultation) sectoral (and even company) carbon budgets that align with South Africa's pledge at Copenhagen.

National Treasury have also continued to engage stakeholders on their "carbon tax" proposal and a revised policy/proposal is expected to be published later this year. Eskom has engaged with National Treasury in order to identify ways to enhance the effectiveness and limit the unintended negative consequences that such a tax could have on electricity tariff increases and the South African economy. These engagements have included discussions on how the Integrated Resource Plan internalises the cost of carbon through capping carbon dioxide emissions in a certain timeframe and the pursuit of a lower carbon emitting electricity mix.

Power generation from renewable-energy sources was a focus at COP17. The Minister of Energy announced that 28 successful IPPs will contribute about 1 400MW of solar and wind power, to the national grid. Eskom continues to catalyse private-sector participation in the electricity market beyond the conference. The Minister of Public Enterprises, also officially launched Eskom's Sere wind project at a COP17 function. The aim is to commission Sere in 2013 to add 100MW of "green power" to the grid.

The COP created enhanced awareness among South Africans of energy and climate change issues. Eskom is determined to use this momentum to continue to communicate on its efforts to meet both the mitigation and adaptation challenges and especially to further entrench energy efficiency messages.

Eskom will continue to pursue renewable energy and energy efficiency projects. This includes a proposed photovoltaic expansion – 2MW at Megawatt Park by end 2012 and rollout of renewables at power stations. Eskom will build supportive and cooperative relationships with local municipalities to speedily address incidents and emergencies and ensure security of supply.

South Africa is not legally bound to reduce emissions, but will be expected to discuss enforced reductions from 2020. The government has put in place a process to determine carbon budgets to curb the country's emissions. Eskom is engaging the government on the carbon budget based on the 2010 Integrated Resource Plan, including discussions about what is possible and where additional resources are required.

The outcome of COP 17 presents many opportunities. Eskom can:

- Submit robust investment plans to the government to access funding from the Green Climate Fund when it becomes available
- Provide input to the technology mechanism, which is intended to support mitigation and adaptation to climate change, based on Eskom's experience in innovation, research and development, through the Department of Science and Technology
- Provide input to the development of the national adaptation plan through the Department of Environmental Affairs and Department of Energy
- Access additional sources of revenue for new technologies and energy-efficiency programmes through the carbon markets.

Eskom will use the momentum from COP 17 to further entrench its energy efficiency messages and discuss the effort and resources required to diversify the electricity mix.

Renewable-energy projects and independent power producers

Eskom is finalising plans for a wind farm at Sere, due for completion in December 2013, and a concentrating solar thermal power pilot plant near Upington, due to start construction in December 2015. Together, these will add 200MW of power to the grid when completed.

Eskom is in the process of installing solar panels at 13 coal-fired power stations and four peaking stations to supplement their auxiliary electricity consumption. The installations at Kendal and Lethabo power stations have been completed, and the remaining 15 sites will be operational in 2013.

Eskom actively supported the Department of Energy in finalising the request for proposals and power-purchase agreement for the Renewable Energy Independent Power Producer (IPP) programme, formally launched in August 2011. The request for proposals calls for 3 725MW of renewable-energy technologies to be in commercial operation between mid-2014 and the end of 2016. Proposals have been received from 28 preferred bidders, with the combined potential to provide 1 416MW of power. Eskom is examining the cost of connecting these IPPs to the existing grid.

Carbon tax discussions

The National Treasury plans to introduce a carbon tax in 2013/14. Eskom has participated in discussions with the Treasury to identify ways to enhance the effectiveness of the tax and limit any unintended consequences for electricity tariffs and the economy.

THE CEO WATER MANDATE REPORT 2011/12

As a signatory to the UN Global Compact, Eskom endorses the CEO Water Mandate and pledge its commitment to the principles and annually report on progress in supporting and promoting compliance with the principles. Eskom is committed to, and reliant on, water as a primary input to electricity production and, therefore, has a vested interest in securing and managing water resources and services.

1. Direct Operations

Conducting comprehensive water-use assessment to understand the extent to which the company uses water in the direct production of goods and services

- Water management reviews were conducted and action plans agreed with the power stations to address the gaps. Water use license audits were conducted at power stations and action plans agreed with the power stations to address the findings.
- Blue and Green Drop assessments were conducted at power stations in compliance with the Water Services Act to ensure highest standard of water and sanitation provision to neighbouring towns and communities.

Setting targets for our operations related to water conservation and waste-water treatment, framed in a corporate cleaner production and consumption strategy.

- Annual water targets were set for all power stations and the water use performance was measured, monitored and report on a monthly basis
- Eskom achieved the Water Use Performance Target set for Financial Year 2011/12
- The 'Water Accounting Framework' was implemented across all power stations to monitor and account for water usage in a more detailed and frequent manner

Raising awareness of water sustainability within corporate culture

- Progress Report of Eskom's 'Water Strategy', was presented to the Board
- Eskom's Water Management Policy was revised and widely consulted with a key focus on Corporate Water Stewardship
- As part of Eskom's Water Conservation and Water Demand Management Programme, communication and awareness campaigns were launched to make employees aware of water issues facing South Africa and Eskom
- Eskom's Water Conservation and Water Demand Management Programme was initiated with a number of desktop studies concluded and projects in pre-feasibility stage

2. Supply Chain and Watershed Management

Encouraging suppliers to improve their water conservation, quality monitoring, waste-water treatment, and recycling practices.

- Major environmental and water related risks for all Eskom's coal suppliers were monitored and addressed.
- Eskom maintains strict compliance to its Environmental Requirements for Coal Contracting Purposes Procedure.
- Progress was made in the implementation of the Defunct Mines Liability Management Plans

Encouraging and facilitating suppliers in conducting assessments of water usage and impacts.

- Eskom's Cost-plus mines quantified their environmental closure liabilities, with attention to liabilities associated with water management aspects

Address catchment and national water challenges through water stewardship and collective action.

- An Environmental Requirements for Coal Contracting Purposes Procedure has been developed and implemented to ensure that all coal mines supplying Eskom meet the necessary environmental and water legislative requirements.
- Two water supply agreements were concluded between Eskom and the Department of Water Affairs for the construction of water augmentation schemes to supply Eskom's power stations and associated developments. The projects under construction are

theMokolo Crocodile Water Augmentation Project Phase 1 and the Komati Water Scheme Augmentation Project

- Eskom has worked closely with the Department of Water Affairs to ensure water use licences for its power stations, projects and coal suppliers are expedited and awarded.
- A high level study into the potential for mine water resources and re-use in the Olifants Catchment was initiated as part of the Joint Initiative Agreement between Eskom and the major coal mines. Two major mine water reclamation projects were identified and in the pre-feasibility stage.

3. Collective Action

Building closer ties with civil society organizations, especially at the regional and local levels

- Eskom has convened workshops with environmental NGOs to address concerns and issues of mutual benefit including water. Eskom had preliminary discussions with environmental NGOs on potential collaborative efforts to address catchment management challenges and risks.

Working with national, regional and local governments and public authorities to address water sustainability issues and policies, as well as with relevant international institutions

- Eskom entered into a Memorandum of Agreement with the Water Research Commission on water and waste related research and development. A list of priority areas were identified for joint research.
- Eskom through its Memorandum of Understanding with the Department of Water Affairs is implementing its Water Conservation and Water Demand Management programme to reduce its freshwater footprint through various studies, projects and awareness campaigns.
- Eskom through the Joint Initiative Agreement with its coal suppliers has initiated a number of studies and projects to utilize mine water as an alternative to freshwater use for industries, power generation, mining and municipalities.
- Eskom together with Business and Industry has made good progress in the establishment of the Industry Water Task Team of South Africa to coordinate business efforts to shared water risks and challenges
- Eskom joined the South African Strategic Water Partners Network formed by the Department of Water Affairs and the Water Resources Group to develop public-private support structures in the water sector. Eskom is leading the Effluent Partnerships Working Group.
- Eskom has partnered with the Mpumalanga Provincial Government to assist with water related challenges and identify opportunities for water supply to communities. Studies are underway to investigate water supply options to communities adjacent to Eskom's operations in Mpumalanga
- Eskom continues to be a member of the Water Sector Leadership Group which is the highest multi-stakeholder forum that promotes dialogue, collaboration and partnership in the Water Sector. Eskom has participated in a number of national task teams such as the National Water Resources Task Team, the Institutional Re-alignment Task Team and the Water Conservation and Water Demand Management Task Team.

4. Community Engagement

- Eskom is conducting pre-feasibility studies to investigate water supply options to communities and towns neighbouring its power stations in Mpumalanga Province as part of the Eskom-Mpumalanga Forum.

- Eskom facilitated a number of meetings with environmental NGOs in the period under review. In particular, a technical workshop was held to share information on Eskom's water strategy and provide an opportunity for NGOs to present their water-related initiatives and views on water management.

5. Public Policy

Contributing inputs and recommendations in the formulation of government regulation and in the creation of market mechanisms in ways that drive the water sustainability agenda.

- Eskom has drafted substantial inputs and recommendations into the Energy Chapter of the National Water Resources Strategy (National blueprint for water resources management) currently under review by the Department of Water Affairs.
- Eskom continues to sustain its engagement with the Department of Water Affairs and other Government departments in the formulation of water-related policy and regulations.

Undertaking water-resource education and awareness campaigns in partnership with local stakeholders.

- Eskom through its Water Conservation and Water Demand Management programme has communicated key messages and raised awareness around water at COP 17, National Water Week and International World Water Day.

6. Transparency

Be transparent in dealings and conversations with governments and other public authorities on water issues.

- Eskom has disclosed in the Annual Report its Long Term Water Strategy objectives, achievements and priorities along with water use information as per the GRI principles and King III Integrated Sustainability Reporting requirements. Eskom has reported its water use and performance information as part of the Carbon Disclosure Project: Water Disclosure.

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