

Eskom Holdings SOC Limited (South Africa)

United Nations Global Compact – Communication on Progress, June 2011

A message from the chairman – Mpho Makwana



Eskom is organising itself to deliver on its mandate for the decades ahead. We believe we have now positioned the organisation's three major components – its managerial infrastructure and plans, its people, and the necessary financial resources – to help build South Africa and southern Africa's exciting future.

At Eskom, we are all acutely aware of its developmental impact, the significance of the utility's performance in terms of the wellbeing of all South Africans as well as southern African societies. We understand that our competitiveness as a nation – ultimately, our most important variable in creating sustainable jobs, exports and growth – greatly depends on the availability and pricing of electricity.

We are a major contributor to the national economy and therefore our financial viability is a fundamental and key focus area in the business. We are by far the largest buyer of coal in South Africa, with Eskom spending almost R25 billion on the procurement of coal this year. We seek to use our expenditure to the best possible advantage of South Africa, both from the capital programme as well as our normal business activities:

- Major developmental elements and targets continue to form part of key deliverables of the capacity expansion contracts. Eskom has over the past few months created a new structure that will develop commercial strategies in support of new small businesses. This entails identifying fledgling suppliers that have the potential to become a supplier into the Eskom supply chain. Subcontracting with local suppliers is key – local content represents 79.6% of contracts placed in the current year and amounts to R9.6 billion

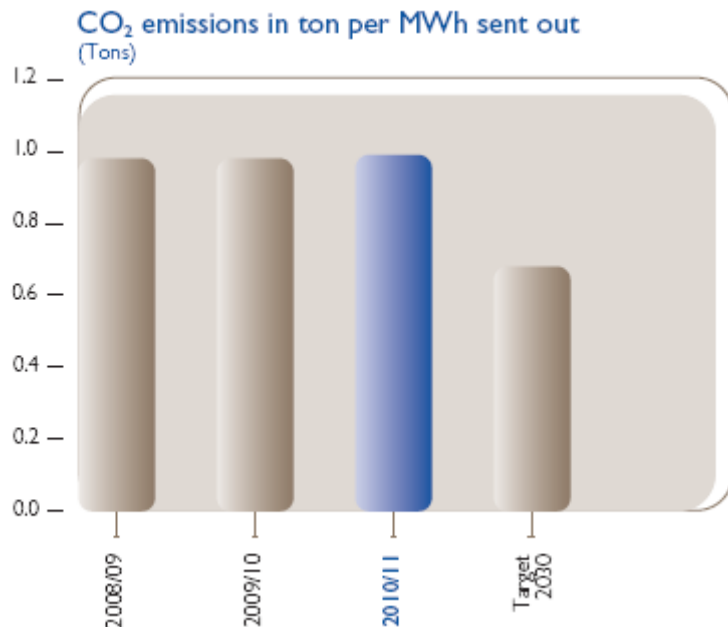
- Generally, Eskom leverages associated activities such as procurement, and its corporate social investment programmes, for the development of communities in need. Through the Eskom Foundation, Eskom has impacted 254 beneficiary organisations with more than 300 000 beneficiaries for the year
- In addition, Eskom acts as a leading indicator of investment and job creation for sectors such as mining and energy-intensive manufacturing, as they depend on the reliable supply of energy
- In his state of the nation address in February 2011, the President of our Republic, President JG Zuma, emphasised the importance of job creation. In response to the government's new growth plan, Eskom has revised its baseline plans to raise its contribution to job creation associated with its capacity expansion programme over the next five years
- Eskom's youth programme will support 5 000 young people to find their way into employment. Overall, we expect that by 2015 approximately 100 000 people will be employed or find employment in Eskom, in the supply chain, or through secondary effects
- Specifically, Eskom has committed to the development of 10 000 learners by 2015. These skills development initiatives will also serve to provide the much needed skills for Eskom. Through our corporate social investment programme, we are making a change in South Africa. Other developmental drives include the electrification of millions of homes, the focus on local content in our build programme that has positive spinoffs and supporting government's free basic electricity programme. Eskom actively supports B-BBEE entities and spent R42 billion on B-BBEE during the year and R3.4 billion with black women-owned businesses.

Climate change and its accompanying sustainability challenges is a global phenomenon. The eyes of the world will be on South Africa during the 17th meeting of the Parties of the United Nations Framework Convention on Climate Change (COP 17), which will be held in Durban from 28 November to 9 December 2011. We are very proud to be a strong supporter of this conference, driving the issues around climate change both nationally and in the international arena. While this builds on our support for previous COPs, we believe the impact of the COP programme is accelerating, and we want to make sure we are as supportive and pro-active as we can be.

With 93% of Eskom's electricity generated from coal-fired stations, this already implies a major environmental footprint. This also means an impact on water – a critical issue for South Africa where water scarcity is an important matter. For this reason the new Medupi and Kusile power stations will use dry cooling technology. Our relative water usage is 1.35 L/kWh sent out and our plan is to reduce this by 10.4% to 1.21L/kWh by 2015/16.

The most topical of the environmental impacts is our carbon footprint. Due to the coal-centric nature of our generation mix, we are not satisfied with our current performance in this regard. Eskom's CO₂ emissions for the period were 230.3Mt, an increase of 2.5% on the previous year's 224.7Mt. We remain committed to reducing our emissions as conveyed in our climate change strategy. Our commitment is to see a reduction by 2030. Subject to the support from the shareholder and the allocation of nuclear and renewables to Eskom, this reduction follows what we anticipate to be our peak at 283Mt in 2022 to 235Mt by 2030. This will see our relative CO₂ emissions at 0.68t/MWh compared to the current 0.99t/MWh. No company takes pride in the negative impacts of its business, and Eskom is no different. One of Eskom's objectives is to become a greener energy company.

In this context, Eskom will contribute through a comprehensive six-step approach that includes supply measures, such as the diversification of the generation mix, as well as demand-side interventions, such as supporting energy efficiency measures to reduce demand. Some are more macro in nature, such as ensuring that we adapt to the impact of climate change by increasing the robustness of infrastructure designs, fostering innovation, investments in the emerging global CO₂ market trading regime and progress through advocacy, partnerships and collaboration with environmental organisations. On all dimensions of this critical global debate, Eskom will seek to contribute and lead where necessary.



One change that we desperately need in South Africa is the more sustainable use of energy. Eskom has taken up the challenge and is leading a campaign to unlock the potential of 49 million South Africans to reduce their energy consumption and think of energy in a sustainable manner. The “49M” movement, launched and endorsed in March 2011 by Mr KP Motlanthe, the Deputy President of our Republic, together with the Ministers of Public Enterprises and Energy, is material to the continued mitigation of an extremely tight situation of supply versus demand. We also value the support from and partnerships with various key customers and organisations for this initiative. It is imperative that we pull together as a nation to harness our collective power in saving energy.

Eskom is busy organising itself to deliver on its mandate for the decades ahead. We believe we have now positioned the organisation’s three major components – its managerial infrastructure and plans, its people, and the necessary financial resources – to help build South Africa and southern Africa’s exciting future.

We believe that our challenges fall roughly into three groups:

- Ensure reliable and affordable energy supply and specifically focus on the balancing of the supply of, and demand for, electricity until 2015
- Deliver the required generation capability for the foreseeable future
- Take a leading role in developing the appropriate response to the environmental challenges that face us all.

All of this happens in an intricate and complex web of relationships between the people at Eskom and the stakeholders around us. We believe we now have the resources in place to face our future challenges with both confidence and excitement.

A message from the chief executive – Brian Dames



South Africa's electricity supply and demand balance will remain tight over the next several years. While addressing the country's electricity challenges can only be done in partnership with all South Africans, Eskom resolves to prevent load shedding, but this resolve will be severely tested.

Eskom alone cannot meet this challenge, but if 49 million South Africans and all companies save 10% of their electricity use, we can close the supply gap.

In 2010, Eskom began transforming its performance, using improved controls and greater organisational discipline. In line with the requirements set out in the shareholder compact by the Department of Public Enterprises, we are making excellent progress in setting up an enterprise performance management system to continually measure performance across the organisation. For example, the chief executive and chairman "dashboards" now provide real-time information on key performance areas, and show true operational performance. Key performance indicators have been identified and aligned throughout the business. Simply put, everyone at Eskom knows what is required of them, and their role in meeting our strategic objectives.

The Group has implemented a new and ambitious employment equity plan for the next three financial years to ensure that diversity becomes the "Eskom way" and we have met our targets for the year. The code of practice for broad-based black economic empowerment sets a target of 50% for procurement spending from black-owned businesses. Eskom as a company is ahead of that target with an attributable black-economic empowerment spend of R41.9 billion, or 52.3% of the total. Work is still needed to raise the proportion of spending directed to businesses owned by black women, which now stands at just over 4% of attributable black economic empowerment spending.

We have revised our robust corporate social investment programme to focus on communities in areas where new power stations are under construction. The Eskom Foundation disbursed R62.3 million during the year on 254 projects, covering a range of economic and social development priorities, from early childhood education, to promoting small business, to rural development.

Since I became chief executive, Eskom has conducted a systematic programme of stakeholder engagements, with the aim of building Eskom's reputation and its credibility by being more transparent and responsive. Our nine cities programme has seen us visiting several provinces, meeting provincial and local government as well as stakeholders, customers, media and staff. We have also made a concerted effort to engage with our large customers and others on a systematic basis.

Eskom has a great impact on the environment – in the way we consume resources, generate electricity and use land. Eskom's water usage has stabilised somewhat. The volume of water used in electricity generation increased slightly from 1.34L/kWh in 2010 to 1.35L/kWh in 2011.

Our coal-fired power stations improved particulate emissions performance from 0.39kg/MWh to 0.33kg/MWh, despite poor coal quality. There has been an increase in the contravention of environmental legislation from the previous year (from 55 to 64). These related to oil and diesel spills, unauthorised releases of water from power stations, particulate emissions and cutting of protected trees without a permit. This is not acceptable and Eskom has a programme in place to remedy the problem.

Eskom is working closely with the government to ensure that the Conference of the Parties of the United Nations Framework Convention on Climate Change (COP 17) in Durban later this year is a success.

I am personally involved in some specific initiatives around the event. Clean electricity is a fundamental solution to the challenge of climate change. Eskom has been working with its partners to develop a global electricity utilities initiative that will cut across political and geographical boundaries. The initiative will highlight the significant contribution that progressive electricity utilities can make, and demonstrate how early action is already having an impact.

Eskom's response to climate change includes initiatives to reduce the carbon intensity of our existing and future plant, and making our energy mix less dependent on coal. The Southern African Development Community region offers significant clean generation capacity and growth opportunities, both for Eskom and for South Africa. These include hydro and wind power, in addition to extensive coal and gas reserves in the region.

Communication on Progress (COP)

Key achievements

- President Jacob Zuma officially opens the Camden power station: the first in the world to be brought back on line after a long period of inactivity, October 2010
- Eskom signs its first Emission Credits Purchase Agreement with European-based bank, BNP Paribas, September 2010
- There has been no load shedding since April 2008
- Eskom has put a funding plan in place for the next seven years
- The Development Bank of Southern Africa approves a R15 billion loan facility that will support Eskom's capacity expansion programme, November 2010
- Contribution to the success of the 2010 FIFA World Cup™.
- Initiated the 49M campaign to educate South Africa about energy savings
- Construction of the Medupi and Ingula projects is progressing well
- Launched operation Khanyisa to combat electricity theft
- Consolidated procurement and supply chain functions into Group Commercial

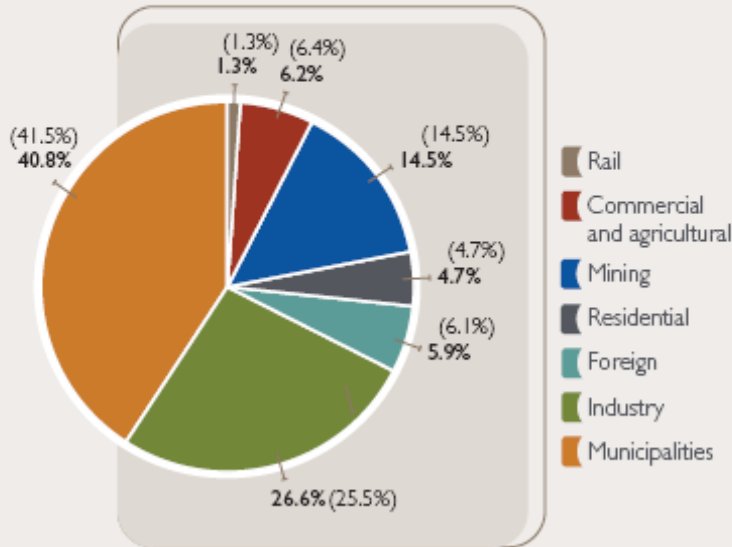
Background

Eskom was established in South Africa in 1923 as the Electricity Supply Commission. In July 2002, it was converted into a public, limited liability company, wholly owned by government. Eskom is one of the top 20 utilities in the world by generation capacity (net maximum self-generated capacity: 41 194MW). Eskom generates approximately 95% of the electricity used in South Africa and approximately 45% of the electricity used in Africa.

Eskom directly provides electricity to about 45% of all end-users in South Africa. The other 55% is resold by redistributors (including municipalities).

Eskom electricity sales for the year ended 31 March 2011 (31 March 2010)

Electricity sales



Eskom generates, transmits and distributes electricity to customers in the industrial, mining, commercial, agricultural and residential sectors, and to redistributors. Eskom sells electricity directly to about 3 000 industrial customers, 1 000 mining customers, 49 000 commercial customers, 84 000 agricultural customers and more than four million residential customers (of whom the majority are pre-paid customers).

Eskom's business model – a vertically integrated utility



Most of the sales are in South Africa, with other southern African countries accounting for a small percentage.

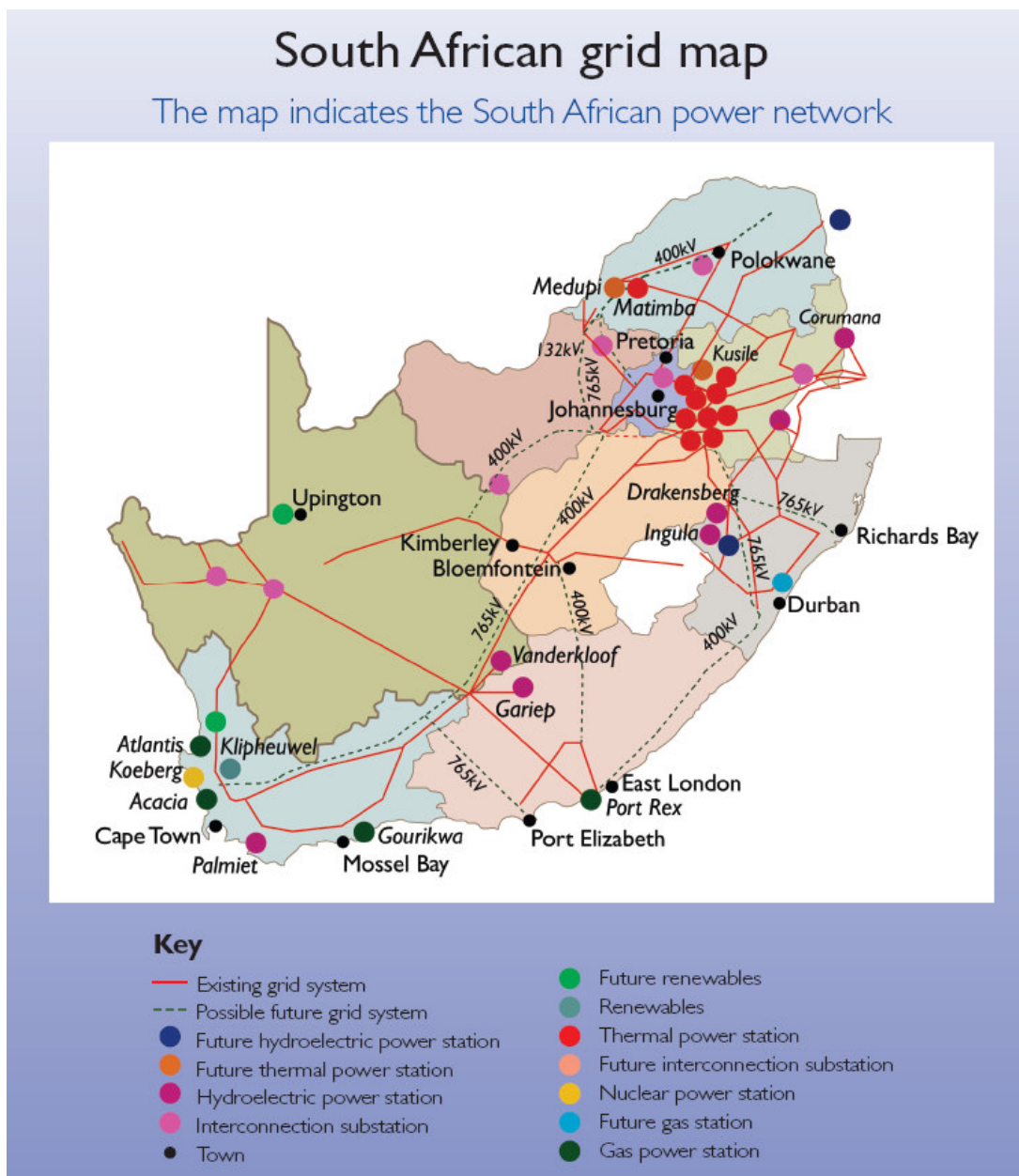
Eskom buys and sells electricity in the countries of the Southern African Development Community (SADC). The future involvement in African markets beyond South Africa¹ is currently limited to projects that have a direct impact on ensuring a secure supply of electricity for South Africa itself. However, Eskom is investigating additional opportunities in the Southern African Development Community region.

¹ Southern African Development Community countries connected to the South African grid, and countries in the rest of Africa.

Much of Eskom's strategy and many of its future projects are aligned with government's Integrated Resource Plan 2010, which sets out a long-term electricity plan for South Africa.

Eskom is regulated under licences granted by the National Energy Regulator of South Africa² (NERSA) and the National Nuclear Regulator³. Eskom's operations are also subject to authorisations issued by other relevant authorities, such as the departments of Environmental Affairs and provincial and local government. These are to protect the public interest and the environment. The group's facilities and operations are subject to environmental legislation and regulations to protect the public interest and ensure effective environmental control. In addition, much of the group's strategy and many of its future priorities are set to be aligned with government's Integrated Resource Plan 2010, which sets out a long-term electricity plan for South Africa. The National Energy Regulator of South Africa determines the price of electricity in South Africa. The approach is a cost recovery plus reasonable return on investment type, with annual revenues and tariff levels referenced to Eskom's four main cost elements: fuel cost (primary energy); non-fuel operating and maintenance cost; depreciation; and return on assets (based on depreciated replacement value).

Eskom's head office is in Johannesburg and its operations are spread across South Africa. In December 2008, a small office was opened in London, primarily for quality control over the equipment being manufactured in Europe for the capacity expansion programme.



² Originally under the Electricity Act (41 of 1987) and more recently under the Electricity Regulation Act (4 of 2006).

³ Under the National Nuclear Regulatory Act (47 of 1999).

Eskom Enterprises operates primarily in South Africa, but it has two subsidiaries that have an interest in electricity operation and maintenance concessions in Mali, Senegal, Mauritania and Uganda.

Reporting: The annual report for the year ended 31 March 2011 is an integrated report, presenting not only the financial but also the economic, environmental, social, sustainability and technical aspects of Eskom's business and performance. Eskom aspires to be the leader in such integrated reporting.

Eskom and its subsidiaries⁴ are aligned with international sustainability best reporting practices, including the Global Reporting Initiative (GRI) Sustainability Reporting Guideline, and the 2008 AA1000 Accountability Principles Standard. Eskom is also a member of the working group of the Integrated Reporting Committee of South Africa. The committee's recently published discussion document, Framework for Integrated Reporting and the Integrated Report, has guided this report.

The annual report and additional information is available on the Eskom website, at: www.eskom.co.za/annreport11

Eskom's developmental role

Providing reliable and affordable electricity is not only a commercial undertaking – it is also critical to the hopes and dreams of South Africa. Government introduced its new growth path in October 2010, outlining its strategic and economic objectives for the next decade.

As a state-owned enterprise, Eskom plays a central developmental role: as an enabler of government's vision and as a supporter of economic growth in South Africa. Furthermore, South Africa's growing international stature and its rising participation in various global forums must be supported by a sound domestic economy.

In December 2010, Eskom's chief executive, Brian Dames, was appointed to the executive committee of the World Business Council for Sustainable Development. This is important not only for South Africa's own economic prosperity but also for Africa as a continent and southern Africa in particular. For example, the invitation for South Africa to join the BRIC countries (Brazil, Russia, India, China) from April 2011 puts additional responsibilities on South Africa to meet both global and African developmental objectives – and consequently on energy supply.

Support for governmental priorities

- Improving education: Eskom will train 5 000 per annum and provide apprenticeships to 10 000 young people by 2015
- Improving healthcare: Eskom is rolling out HIV/AIDS initiatives and providing effective psycho-social support
- Creating decent work: Eskom will provide 100 000 employment opportunities by 2015 and secure 50% local content in the capacity expansion programme
- Fighting crime and corruption: Eskom has introduced anti-fraud and anti-corruption initiatives and the assurance and forensic team is proactively involved in major projects
- Rural development and land reform: Eskom electrifies rural areas and is investing R24 billion to reduce the backlog by 984 000 connections until 2016/17.

⁴ Eskom Holdings Limited has the following directly owned operating subsidiaries: Eskom Enterprises (Pty) Limited, Escap Limited, Eskom Finance Company (Pty) Limited and Eskom Development Foundation (section 21 company).

The business model and the strategic review process need to balance three aspects

Socio-economic aspects, e.g.

- ▶ Skills development beyond own need
- ▶ Implementation of electrification



Commercial aspects, e.g.

- ▶ Being customer-centric
- ▶ Ensuring financial sustainability
- ▶ Adding value to shareholder

Environmental aspects, e.g.

- ▶ Meeting national emissions legislation
- ▶ Supporting government's climate change response strategy

Eskom plays a central role to support the new growth path

Future focus of Eskom



- Availability and reliability of plant
- Portfolio management
- Efficiency of operations
- Capacity
- Environment



- Capacity
- Efficiency of operations
- Availability and reliability of plant
- Regulatory management

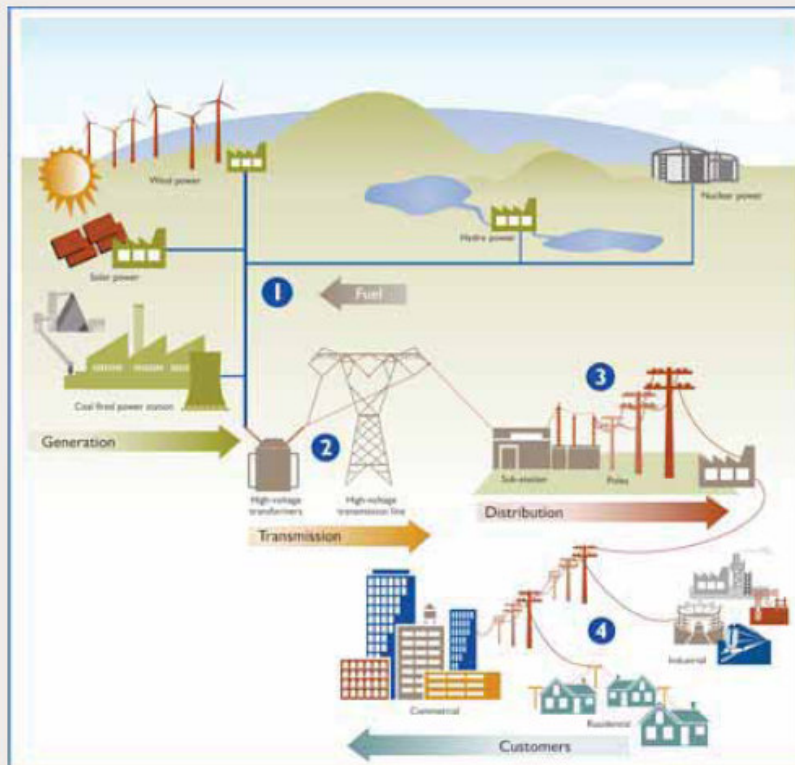


- Customer segmentation
- Sales channels
- Customer satisfaction
- Efficiency and cost to serve customers
- Reputation



- Cost reduction
- Value maximisation
- Procurement
- Capacity
- Back2Basics

Electricity: from power station to customer



Electricity flow – from power station to customer

Input		2011	2010	2009
Coal	Mt	124.7	122.7	121.2
Water	ML	327 252	316 202	323 190
Liquid fuels (diesel and kerosene)	ML	63.6 ^{RA}	16.1 ^{RA}	28.9 ^{LA}
Output				
Total electricity produced by Eskom	GWh	237 430	232 812	228 944
Total electricity sold	GWh	224 446	218 591	214 850
Carbon dioxide	Mt	230.3 ^{RA}	224.7 ^{RA}	221.7 ^{RA}
Nitrogen oxide (NO _x)	kt	977 ^{RA}	959 ^{RA}	957 ^{LA}
Nitrous oxides	t	2 906	2 825	2 801
Sulphur dioxide	kt	1 810 ^{RA}	1 856 ^{RA}	1 874 ^{RA}
Particulate emissions	kt	75.8 ^{RA}	88.2 ^{RA}	55.6 ^{RA}
Ash produced	Mt	36.2 ^{RA}	36.0 ^{RA}	36.7 ^{LA}
Calculated public effective radiation dose	mSv	0.0043	0.0040	0.0045

RA – Reasonable assurance provided by the independent assurance provider. (Refer page 200).

LA – Limited assurance provided by the independent assurance provider. (Refer page 200).

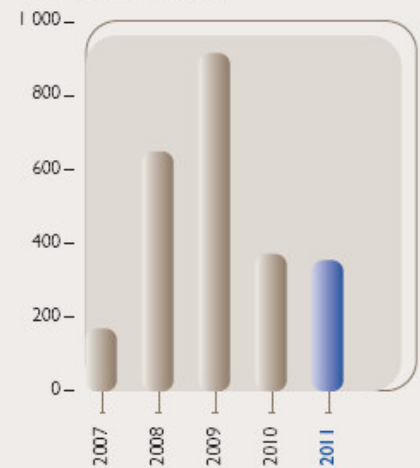
Electricity production by own stations and electricity purchased by Eskom

	2011	2010	2009	2008	2007
Coal-fired (GWh)	220 219	215 940	211 941	222 908	215 211
Hydro-electric (GWh)	1 960	1 274	1 082	751	2 443
Pumped storage (GWh)	2 953	2 742	2 772	2 979	2 947
Gas turbine (GWh)	197	49	143	1 153	62
Nuclear (GWh)	12 099	12 806	13 004	11 317	11 780
Wind energy (GWh) ⁶	2	1	2	1	2
Total own production (GWh)	237 430	232 812	228 944	239 109	232 445
Electricity purchased by Eskom					
• Foreign purchases (GWh) ¹	13 613	13 754	12 189	11 510	11 483
• Local independent power producers and co-generation (GWh)	1 833	0	0	0	0
Consumed by Eskom pumped storage	(3 962)	(3 695)	(3 816)	(4 136)	(3 937)
Net production and import volumes	248 914	242 871	237 317	246 483	239 991

Environmental information

	2011	2010	2009	2008	2007
Coal burnt in power stations (Mt)	124.7	122.7	121.2	125.3	119.1
Specific water consumption by power stations (L/kWh sent out)	1.35 ^{RA}	1.34 ^{RA}	1.35 ^{RA}	1.32	1.35
Net raw water consumption (ML)	327 252	316 202	323 190	322 666	313 064
Relative particulate emissions (kg/MWh sent out)	0.33 ^{RA}	0.39 ^{RA}	0.27 ^{RA}	0.21	0.20
Carbon dioxide (CO ₂) emissions (Mt)	230.3 ^{RA}	224.7 ^{RA}	221.7 ^{RA}	223.6	208.9
Calculated public effective radiation dose (mSv)	0.0043	0.0040	0.0045	0.0047	0.0034

Demand-side management savings (MW)



Power station net maximum capacity (MW)

What sustainability means to Eskom

South Africa's sustainable economic growth depends on reliable, cost effective energy. Increasingly, the competitiveness of any economy is based largely on the availability of a sustainable energy mix. This is particularly significant, if not critical, for the South African economy – the structure of the economy, its resource base and its beneficiation manufacturing are highly energy-intensive and energy dependent.

Eskom's six-year business plan details a significant increase in generation capacity to unlock economic potential in a wide range of sectors such as mining, manufacturing and agri-business. By diversifying the sources of energy, Eskom will make a meaningful contribution to the sustainability of energy supply and to better environmental management. Eskom is a "leading indicator" of investment and job creation for sectors such as mining and energy intensive manufacturing that depend on a reliable supply of energy.

Climate change

At present, South Africa has no obligations to reduce greenhouse gas emissions, but is committed to sustainable development policies and measures. South Africa must contribute to global efforts to combat climate change, while ensuring the sustainability of its economy and society. Eskom supports this national approach in the form of a six-point climate change plan. This plan centres around diversification into technologies other than coal, energy efficiency initiatives, innovation

through research, demonstration and development, adaptation to the negative impacts of climate change, and investment through carbon market mechanisms.

Eskom needs to balance its economic, financial, operational, environmental and social performance imperatives to stay sustainable. This balance requires alignment between Eskom and its stakeholders, including government as a shareholder, in terms of expectations and a shared vision for Eskom.

Sustainability governance

The board sustainability committee deals with integrated sustainability issues and approves or recommends policies, strategies and guidelines, particularly on climate change, environment, health, nuclear issues, quality and safety.

The executive management committee (Exco) guides the implementation of Eskom's sustainability strategy including environmental management and climate change development issues and occupational health and safety matters. It also reviews sustainability strategies for consideration by the board.

Measuring sustainability performance

Eskom had itself evaluated by SAM Research AG against the Dow Jones sustainability Indices (DJSI) in 2010. The score reflects Eskom's performance across economic, environmental and social criteria compared to its industry average (calculated as the average score of all assessed companies eligible for the DJSI world, regional indices or country indices). The values for the total score, the dimension and the criteria scores are on a scale from 0 to 100%.

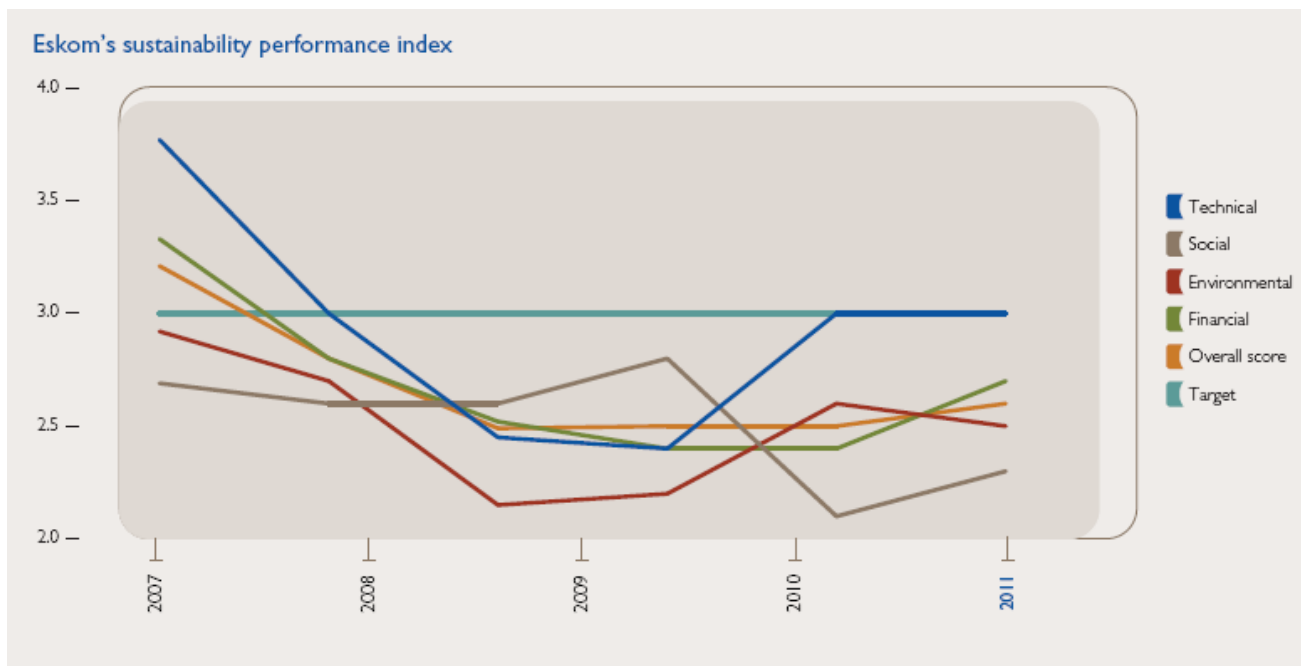
Eskom scored above average with a score of 62 against an average score of 53. The economic dimension scored 67 against the average of 58, while the environmental dimension scored 50 against the average of 46. In the social dimension, Eskom scored 71 against the average of 56. The score for codes of conduct/compliance/corruption and bribery was 88 against an average of 70, and environmental and social reporting scored 93 and 100 against averages of 66 and 61 respectively.

In 2010, Eskom also had itself assessed against the Johannesburg Stock Exchange Socially Responsible Investment index's 2010 sustainability criteria, which range from the environment and society to economic sustainability and good corporate governance. According to the report Eskom "achieved a performance level that not only complies with the minimum requirements for inclusion in the index, but which is also very close to the best performer level in the category for companies with a high environmental impact".

Eskom's own sustainability performance index

Eskom's own sustainability performance index was developed in 2002/2003 through stakeholder meetings with experts. Material issues that affect Eskom's sustainability were identified, and 20 key performance indicators were defined and clustered to capture financial (operating profit before tax and return on average capital employed), environmental (legal compliance), social (broad-based black economic empowerment and electrification) and technical performance (the energy available factor to customer service and the reserve margin).

Eskom's overall performance was 2.6 (2010: 2.5). The index shows three years of declining performance, two years of stabilizing performance and this year a score of 2.6 – DSM targets were achieved, financial performance improved and the total number of system minutes lost also improved. Areas with lower scores were safety, environmental legal compliance, energy availability and the reserve margin.



The centre of excellence for enterprise performance management (part of the Finance and Group Capital division) is taking the sustainability index forward. The centre will ensure the right range and depth of performance indicators to measure whether the corporate strategic objectives for sustainability are being achieved.

Application of GRI Principles

Eskom has followed the Global Reporting Initiative G3 guidelines for this report and has declared a GRI B₊LA application level with the possibility of an A+ rating into the future. In addition to this B+ application, Eskom has applied the GRI Electric Utility Sector Supplement, a tailored version of the guidelines in the preparation of this report. In addition, Eskom's internal guidelines supported the reporting process.

An assurance provider was engaged to provide assurance on selected sustainability information in this report against the International Standard on Assurance Engagements 3000: Assurance Engagements other than Audits or Reviews of Historical Information.

Eskom has applied the following AA1000APS principles in compiling this integrated sustainability report:

- **Inclusivity:** The stakeholder engagement processes inform the structure and, more importantly, the issues Eskom reports on. This is in addition to the internal process of business planning, setting objectives and performance targets, and integrated risk management.
- **Materiality:** The main material issues, both current and future, covered in this report were highlighted by stakeholders. Eskom's business focus areas and priorities have also influenced the material issues reported on. This has been strengthened by a group-wide integrated risk management process.
- **Responsiveness:** The intention is to ensure that Eskom has provided the information that stakeholders have requested. Eskom aims to respond to stakeholders' specific needs, both through this integrated reporting process as well as through our other stakeholder engagement mechanisms.

Examples of how Eskom has implemented the United Nations Global Compact Principles

Eskom became one of the first signatories of the UN Global Compact in 1999. As a signatory to the UN Global Compact, Eskom is committed to the ten principles and annually reports on progress on how it supports and promotes compliance to the principles. These ten principles are:

1. Businesses should support and respect the protection of internationally proclaimed human rights within their sphere of influence
2. They should make sure that they are not complicit in human rights abuses
3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining
4. All forms of forced and compulsory labour should be eliminated
5. Child labour should be abolished.
6. Business should eliminate discrimination in respect of employment and occupation
7. Businesses should support a precautionary approach to environmental challenges
8. Greater environmental responsibility must be promoted
9. The development and diffusion of environmentally friendly technologies should be encouraged
10. Business should work against corruption in all its forms, including extortion and bribery

The UN Global Compact requires signatories to annually develop a Communication on Progress (COP) to promote transparency and accountability and showcase best practices.

Following Eskom becoming a signatory to the UN Global Compact, and in addition to the annual reporting on progress against the ten principles, Eskom has been involved in the following key UN Global Compact initiatives:

- 2005: submitted a case study titled “Proactive approach to human rights issues in Eskom – South Africa”.
- 2008: Eskom presented and shared its experience as a signatory to the UN Global Compact - “The Global Compact in Africa, April 2008”.
- June 2010: Eskom signed the “CEO Statement of Support” for the women's empowerment principles. The UN Global Compact made public the first group of companies to sign the CEO Statement of Support for the women's empowerment principles. The list of initial signers was highlighted at the leaders’ summit held in New York in June 2010. The overall aim of the initiative by the UN Global Compact is to further the global need to achieve gender equality and women's empowerment. The UN is therefore striving for broad support for the women's empowerment principles from companies representing all sectors and regions. The principles were developed as a resource for companies dedicated to advancing gender equality.
- 2010: Eskom participated in the carbon disclosure project (CDP) water disclosure project. The South African report, through the National Business Initiative (NBI), was presented at the UN Global Compact's International CEO Water Mandate meeting in Cape Town in November 2010. The South African response to CDP water disclosure has been extremely positive, with all six of the 302 target companies listed on the Johannesburg Stock Exchange submitting responses, and a further six South African companies responding on a purely voluntary basis, including Eskom. CDP water disclosure replicates and builds on the methodology and process that the carbon disclosure project (CDP) has used for carbon and climate change since 2003. The CDP water disclosure questionnaire brings insight into the challenges that this presents to companies by requesting information on their water strategies and management plans, on their water-related risks and opportunities, and on their water use within the context of local scarcity or abundance.

- 2010: Eskom became a signatory of the CEO water mandate and endorsed its principles. As a signatory, Eskom has pledged to undertake the following actions, where appropriate, over time:
 - Conduct a comprehensive water-use assessment to understand the extent to which the company uses water in the direct production of goods and services.
 - Set targets for operations related to water conservation and waste-water treatment, framed in a corporate cleaner production and consumption strategy.
 - Seek to invest in and use new technologies to achieve these goals.
 - Raise awareness around water sustainability within the business.
 - Include water sustainability considerations in business decision-making – e.g., facility siting, due diligence, and production processes.
- 2010: The UN Global Compact invited an exclusive group of participants with a long history of engagement with the Global Compact at local or global level to become members of LEAD. Eskom is one of the participants that were invited. This involved a call to recognise companies that have demonstrated extraordinary leadership within a local network. Eskom was required to make a commitment to implement the blueprint for corporate sustainability leadership and will be expected to share related lessons with the wider UN Global Compact community. Eskom must be a signatory to the UN Global Compact in good standing with “active” status to join Global Compact LEAD, which it currently is.



Ref. www.unglobalcompact.org

Eskom’s continued commitment to the UN Global Compact is in direct support of the new strategic direction. There is alignment between the UN Global Compact ten principles and Eskom’s new nine strategic objectives:

- Low-cost good investment – to be the global benchmark for investment analysts
- A trusted company globally – Eskom is ethical, well governed and builds a trusted relationship with stakeholders and is a trusted advisor
- A green energy company –lower absolute and relative emissions
- Best company to work for –rated as the employer of choice in SA and SADC by employees and prospective employees
- Top 5 performing power utility – Eskom features on the global utility league table and peer benchmarking reports
- Satisfied customers –customers consistently rate Eskom in the top quartile and promote the company
- Electricity for all – it is in Eskom’s business interest to have electricity for all
- Zero harm – zero harm to people and environmentally responsible
- Significant regional player – driving investment in entire value chain and growing customer base

Human rights:

- **Principle 1 - Businesses should support and respect the protection of internationally proclaimed human rights within their sphere of influence**
- **Principle 2 - Make sure that they are not complicit in human rights abuses**

The absence of sufficient competition in the electricity sector in South Africa necessitates economic regulation of the industry to ensure that the interests of customers, licensees and other stakeholders are balanced, while also ensuring the industry's sustainability.

The regulatory, legislative and policy framework in the energy sector has also been evolving. Eskom is also regulated in the broader sense beyond electricity regulation. In 2002 Eskom was converted into a public company in terms of the Eskom Conversion Act (13 of 2001) and as such the legislative framework applicable to any corporate entity in South Africa is applicable to Eskom. These include the Companies Act, the National Environmental Management Act, the competition laws, labour laws and tax legislation, to mention a few. In addition, Eskom is also subject to legislation specifically applicable to state-owned entities – notably the Public Finance Management Act, Promotion of Access to Information Act and the Promotion of Administrative Justice Act.

It is therefore imperative that Eskom operates effectively within the policy, legal and regulatory framework. The compliance framework is being improved to ensure that Eskom implements best practices in this responsibility.

Regulatory framework

Eskom is regulated by the National Energy Regulator of South Africa (NERSA) in accordance with the Electricity Regulation Act (4 of 2006). Key objectives of the Electricity Regulation Act:

- Efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa
- Long-term sustainability of the industry □ Investment in the industry
- Universal access to electricity
- Diverse energy sources and energy efficiency
- Competitiveness and customer choice
- Fair balance between the interests of customers and end users, licensees, investors and the public.

The National Energy Regulator of South Africa's key powers:

- Issues licences for the operation of generation, distribution and transmission facilities
- Regulates imports, exports and the trading of electricity
- Determines and approves electricity prices and tariffs and the conditions under which electricity may be sold.

The National Energy Regulator of South Africa has significant influence and oversight over Eskom's business. Eskom is regulated by separate licences for the generation, transmission and distribution of electricity. It also has a nuclear licence from the National Nuclear Regulator, which regulates the operation of its nuclear power station and all elements of the nuclear value chain.

Interactions with government

In addition, Eskom is subject to direct and indirect oversight by government, as shareholder and policy maker. Eskom needs to interact across all areas of government regarding the regulatory environment in which it operates, and it has the benefit of a number of relationships with various ministries and government departments.

Eskom is committed to managing and mitigating the impact of its operations on the environment. Eskom is subject to a wide array of laws and regulations that ensure that environmental rights, as set out in the South African Constitution, are achieved. These rights relate to preventing pollution and ecological degradation, promoting conservation, and securing ecologically sustainable development.

Various independent authorities, including the National Nuclear Regulator, the Department of Water Affairs and the Department of Environmental Affairs, and the provincial and local emission licensing authorities, monitor Eskom's activities as they impact on the environment. These authorities issue environmental authorisations for infrastructure projects, and permits and licences for emissions, waste management and water use, among others.

Labour standards:

- **Principle 3 - Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining**
- **Principle 4 - The elimination of all forms of forced and compulsory labour**
- **Principle 5 - The effective abolition of child labour**
- **Principle 6 - Eliminate discrimination in respect of employment and occupation**

Eskom has sustained its skills base and even tripled the learner pipeline over the last five years (2007 – 2011). The next planning cycle will be marked by reinforcement of the government's new growth path. In line with this, Eskom endeavours to be a developmental state-owned entity that can meaningfully contribute to skills development and job creation in South Africa. The higher levels of growth and development will put additional pressure on Eskom to maintain and improve its "Employer of Choice" niche in the marketplace through high potential (HiPo) talent management strategies and skills development opportunities for all employees. The roll-out of standardised, simplified policies, processes and systems (B2B programme) will position Human Resources well to play a leading role in the future high-performance utility model.

A talent management business process and procedure has been developed to ensure robust talent contingency planning and the creation of career development opportunities. The identification and categorisation of skills as core, critical or scarce was aligned with the new legislative requirements in the organizing framework for occupations.

A scientific workforce planning process and tool to enable demand and supply management is being implemented to enhance Eskom's ability to identify and plan for medium- and long-term business capacity requirements. Eskom has identified core competencies and translated them into a workforce plan and a medium-term skills plan aligned with government's Integrated Resource Plan. Eskom has also contributed to the energy sector skills plan.

The recruitment process has been optimised to enable the sourcing of the learner pipeline, and to address capacity gaps in the core and critical segments of the workforce skills plan. Internal talent pipelines will be strengthened by recruiting for potential at entry level, enabling and encouraging career progression at least to supervisory level. The Eskom Academy of Learning in partnership with tertiary institutions will be key enablers for skills development. An Eskom Power Plant Engineering Institute (in partnership with a South African university) and a faculty of customer service within the Eskom Academy of Learning will be established to boost skills in these critical areas.

Finally, a planned rotational deployment strategy with other state-owned-enterprises, utilities, original equipment manufacturers and business partners will strengthen workforce flexibility, build strategic competencies and provide career development opportunities for the talent in Eskom.

The recruitment section on the Eskom website (www.eskom.co.za - "A career at Eskom") has been streamlined to make it easy for job seekers to find meaningful work opportunities in the organisation. Additional core, critical and scarce skills must be developed or recruited annually over the next five years to replace losses and cater for Eskom's new build programme. The Eskom learner pipeline has been increased to 5 283_{RA} (2010: 5 255_{RA}) learners with three to four-year learning/bursary contracts to accommodate the new skills requirements and offset normal attrition.

Eskom has had a transformation agenda since the 1980s, before the Employment Equity Act came into being, and has achieved various transformational goals.

Eskom's diversity and inclusion philosophy:

- Diversity and inclusion are strategic business imperatives, essential to making Eskom great
- Transformation is leadership driven and is lived through organisational values
- Eskom embraces, values and leverages off the diversity of its employees and their experiences, backgrounds and expertise
- Transformation is not a programme, but who Eskom is
- Diversity and inclusion underpin all human resources policies and practices, and all dealings with customers, suppliers and stakeholders.

Eskom has implemented a robust and ambitious employment equity plan (EE plan), supported by a long-term target-setting strategy (Equity 2020) to drive the transformational agenda for the next three financial years until 2012/13. The EE plan seeks to create, through various interventions, a workplace and workforce profile that is diverse and inclusive; and to ensure that diversity becomes the "Eskom way".

Eskom's current review of its business strategy will create opportunities to address equitable representation at top and senior management levels. Human resource operational measurements The table below reflects Eskom's performance against internal transformation guidelines, reflecting employee movements and the achievement of targets set for gender and race, as reported to the Department of Labour.

Eskom company employee profile – Top four occupational levels – (Task grades 9 and above) (%)

Occupational level	Actual/Target	Male				Female				Foreign nationals	
		A	C	I	W	A	C	I	W	Male	Female
EAP		39.20	6.10	1.90	6.70	34.20	5.20	1.10	5.50	0	0
Top management (FAA, FBB)	Mar 2009 Actual	26.32	5.26	21.05	26.32	10.53	5.26	5.26	0.00	0.00	0.00
	Mar 2010 Actual	23.81	4.76	19.05	28.57	9.52	4.76	4.76	4.76	0.00	0.00
	Mar 2011 Target	23.81	4.76	19.05	28.57	9.52	4.76	4.76	4.76	0.00	0.00
	Mar 2011 Actual	28.57	4.76	14.29	33.33	4.76	4.76	4.76	4.76	0.00	0.00
Senior management (EEE, SSE)	Mar 2009 Actual	18.57	3.10	10.00	42.38	9.05	2.38	3.81	5.48	4.52	0.71
	Mar 2010 Actual	17.80	3.04	10.07	42.62	9.37	2.81	4.22	5.15	4.22	0.70
	Mar 2011 Target	19.73	3.40	9.30	39.23	11.56	2.95	3.85	5.22	4.08	0.68
	Mar 2011 Actual	20.62	3.84	10.55	38.85	10.31	2.88	4.32	6.00	2.16	0.48
Professional, specialists and mid-management (M/P14 – M/P18)	Mar 2009 Actual	26.33	5.21	7.78	28.06	17.87	2.03	2.92	6.93	2.22	0.66
	Mar 2010 Actual	26.70	5.22	7.49	26.85	18.61	2.04	2.87	6.73	2.69	0.80
	Mar 2010 Actual	27.78	5.28	6.97	24.96	19.98	2.32	2.71	6.60	2.61	0.77
	Mar 2011 Actual	26.80	5.14	7.38	26.11	19.73	2.09	2.91	6.83	2.4	0.62
Skilled technical, academic qualified workers, junior management, supervisors (T09 – T13)	Mar 2009 Actual	32.45	5.30	2.31	21.91	24.83	2.90	1.69	7.49	0.78	0.33
	Mar 2010 Actual	33.85	5.12	2.41	20.81	25.16	2.80	1.71	7.01	0.78	0.36
	Mar 2011 Target	34.32	5.21	2.36	19.51	25.96	3.02	1.65	6.86	0.75	0.35
	Mar 2011 Actual	34.62	5.16	2.46	19.46	26.05	2.96	1.67	6.72	0.64	0.26

A – African C – Coloured I – Indian W – White
EAP – economically active population

Eskom's employee engagement model builds employee participation and connects 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.

About 30 520 man-hours were lost due to industrial action at Eskom in the last year. Eskom maintains direct lines of communication with managers and professionals and consults in the bargaining unit with recognised trade unions. A one-year salary and conditions of service agreement was concluded with trade unions during the last year.

Central to the negotiations was a review of the housing benefits: Eskom needs to optimise the use of the housing benefit by employees and ensure that housing is available in the areas that Eskom operates in, in line with government's guidelines for sustainable human settlements.

Environment:

- **Principle 7 - Businesses should support a precautionary approach to environmental challenges**
- **Principle 8 - Undertake initiatives to promote greater environmental responsibility**

Environmental compliance

Eskom is committed to managing and mitigating the impact of its operations on the environment. Eskom is subject to a wide array of laws and regulations that ensure that environmental rights, as set out in the South African Constitution, are achieved. These rights relate to preventing pollution and ecological degradation, promoting conservation, and securing ecologically sustainable development.

Various independent authorities, including the National Nuclear Regulator, the Department of Water Affairs and the Department of Environmental Affairs, and the provincial and local emission licensing authorities, monitor Eskom's activities as they impact on the environment. These authorities issue environmental authorisations for infrastructure projects, and permits and licences for emissions, waste management and water use, among others.

Benchmarking

Eskom's sustainability performance has been benchmarked against that of a selected number of other electricity utilities as set out in the table below. In some cases, their technology mix is not completely aligned with Eskom's. All information was sourced from the utilities' annual reports.

	<i>Eskom¹</i> <i>2011</i>	Utility 1 in Europe	Utility 2 in Europe ²	Utility 1 in USA	Utility 3 in Europe	Utility in China	Utility 2 in USA	Utility in Latin America	Utility in the United Kingdom
Utility and country									
Total electricity produced (TWh)	237	225	288	187	159	161	195	185	32
Electricity generation mix:									
Coal-fired power stations (%)	92.8	56.0	27.6	57.0	44.8	81.0	66.0	0.4	35.6
Renewables (%)	0.8	4.0	32.3 ³	4.0	23.3	0.2	6.0	92.9 ⁴	15.5
Pumped storage and other (%)	1.2	1.0	0.0	0.0	0.0	1.2	0.0	0.3	1.2
Gas (%)	0.1	19.0	15.3	16.0	5.7	17.6	22.0	0.0	47.7
Nuclear (%)	5.1	20.0	11.9	23.0	26.2	0.0	6.0	6.4	0.0
Environmental performance									
Water usage [L/kWh SO]	1.35	1.73	0.22	–	–	–	–	–	0.09
CO ₂ [kg/kWh SO]	0.99	0.73	0.74	0.65	0.43	0.83	0.66	0.00	0.49
Particulate emissions [g/kWh SO]	0.33	0.02	0.07	0.00	0.00	0.04	0.00	0.00	–
SO ₂ emissions [g/kWh SO]	7.75	0.29	1.12	2.54	0.36	0.27	2.34	0.00	0.32
NO _x [g/kWh]	4.18	0.58	1.38	0.50	0.31	0.27	0.62	0.00	0.59
Social performance:									
Employee work-related fatalities	6	2 ⁵	3	0	2	0	0	0	0
Contractor fatalities	18	0	17	0	1	0	3	0	0
Employee and contractor fatalities	24	2	20	0	3	0	3	0	0

Performance

Consolidated Eskom environmental performance in terms of non-compliance with environmental legislation, waste disposal and environmental expenditure⁶

	Target	2011	2010	2009	
Number of environmental legal contraventions	0	64 ^{RA}	55 ^{RA}	114 ^{RA}	●
Number of environmental legal contraventions reported in terms of Eskom's operational health dashboard ⁷	0	4	0	12	●
Materials containing asbestos disposed of (tons) ⁸	n/a	611.5 ^{RA}	321.1 ^{RA}	3 590.8 ^{LA}	
Materials containing polychlorinated biphenyls (PCBs) thermally destroyed (tons)	n/a	422.9 ^{RA}	19.1 ^{RA}	505.6 ^{LA}	
Environmental expenditure – (Capex) (Rbn)	n/a	0.3	0.6	1.1	
Environmental expenditure – (Opex) (Rbn)	n/a	1.1	0.9	1.0	

RA – Reasonable assurance provided by the independent assurance provider (refer page 200).

LA – Limited assurance provided by the independent assurance provider (refer page 200).

Environmental and safety performance indicators

	Target	2011	2010	2009	
Water used at power stations (ML) ³	n/a	327 252	316 202	323 190	
Specific water consumption (L/kWh sent out) ⁴	≤1.35	1.35 ^{RA}	1.34 ^{RA}	1.35 ^{RA}	●
Nitrous oxide (N ₂ O) (t) ⁵	n/a	2 906	2 825	2 801	
Carbon dioxide (CO ₂) (Mt) ⁵	n/a	230.3 ^{RA}	224.7 ^{RA}	221.7 ^{RA}	
Sulphur dioxide (SO ₂) (kt) ⁵	n/a	1810 ^{RA}	1 856 ^{RA}	1 874 ^{RA}	
Nitrogen oxide (NO _x) as NO ₂ (kt) ⁵	n/a	977 ^{RA}	959 ^{RA}	957 ^{LA}	
Relative particulate emissions (kg/MWh sent out) ⁶	<0.26	0.33 ^{RA}	0.39 ^{RA}	0.27 ^{RA}	●
Particulate emissions (kt)	n/a	75.84 ^{RA}	88.27 ^{RA}	55.64 ^{RA}	
Ash produced (Mt)	n/a	36.22 ^{RA}	36.01 ^{RA}	36.66 ^{LA}	
Ash sold (Mt)	n/a	2.0 ^{RA}	2.0 ^{RA}	2.1	
Ash recycled	n/a	5.5% ^{RA}	5.6% ^{RA}	5.7%	
Ash disposed of on Eskom ash dumps and dams (Mt)	n/a	34.16 ^{RA}	33.89 ^{RA}	34.56	

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1. Eskom's environmental performance figures are calculated using total electricity generated less that used for pumped storage schemes and all power stations excluding Komati power station.

2. Approximately 13% of electricity generated from other sources other than those listed in table.

3. Includes pumped-storage facilities.

4. Hydro-electric.

5. Includes both employee and contractor fatalities.

6. Additional environmental performance is shown in the divisional sections of the report.

7. Under certain conditions, contraventions of environmental legislation are classified in terms of the Eskom operational health dashboard (OHD) index. These include instances where censure was received from authorities, non-reporting to authorities as may be legally required, non-reporting in Eskom, a repeat legal contravention, or when the contravention was not addressed adequately. Divisional executives can escalate any significant environmental legal contravention to the OHD.

8. Quantities of waste disposed of at registered waste sites.

RA – Reasonable assurance provided by the independent assurance provider (refer page 200).

LA – Limited assurance provided by the independent assurance provider (refer page 200).

3. Includes water used at Koeberg, Camden, Komati and Grootvlei power stations.

Environmental expenditure: Expenditure related to environmental control and protection covered air quality, water management, land rehabilitation, undertaking environmental impact assessments, waste management and eradication of alien vegetation.

Environmental legal contraventions: The number of occasions on which Eskom has failed to fully comply with environmental legislative requirements this financial year was 64 (2010: 55). These related to oil and diesel spills, unauthorised releases of water from power stations, particulate emissions and cutting of protected trees without a permit. Other contraventions related to non-compliance with conditions of authorisations. Four significant legal contraventions were reported during the year. Two were repeat events where a protected tree was cut down without the required permit, and an activity was started before receiving the environmental authorisation, resulting in an administrative fine of R390 000 (2010: R1 000). The last was a repeat of an unauthorised release of water.

During the year certain project sites were inspected by the Department of Environmental Affairs compliance unit. The outcomes of these were responded to resulting in continual improvement in controls and practices and legal compliance. Environmental performance continues to be managed as an integral part of Eskom's governance structures – at board and Exco levels. Environmental managers are accountable for the effective implementation of environmental management systems, in line with the ISO 14001 standard.

Biodiversity: 2010 was the United Nation's International Year of Biodiversity. Globally, there was an increased level of awareness of the importance of biodiversity and the relevant ecosystem services that Eskom relies on. Some of Eskom's operations are located in close proximity to areas of high biodiversity value, namely Majuba, Ingula (currently under construction, ±8 000ha of construction area), Koeberg (±3 000ha) and Palmiet (±250ha within the larger Kogelberg biosphere).

Eskom participated in the World Business Council for Sustainable Development (WBCSD) ecosystems focus area, which has a corporate guide for ecosystem valuations. The intention is to do a more robust valuation study using the guide developed by the WBCSD. During this year the Eskom land and biodiversity task team (represented by all the operating units in Eskom) revised various biodiversity-related procedures, and drafted a biodiversity policy and standard within the framework of the ISO 14001 environmental management system. Funding was made available to BirdLife South Africa for the revision of the *Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland*.

The Ingula partnership between Eskom, BirdLife South Africa and the Middelpunt Wetland Trust was formed at the time of the original Braamhoek (now Ingula) pumped-storage scheme environmental assessment process. The aim was to provide a forum for discussion and management decision-taking on conservation, social and environmental protection during construction and operation. The Ingula partnership has a steering committee that provides oversight, strategic direction and guidance. The steering committee is made up of Eskom senior management, a BirdLife South Africa trustee and a trustee from the Middelpunt Wetlands Trust.

The partnership also initiated the Ingula advisory conservation committee, which consists of Eskom, Birdlife South Africa and Middelpunt Wetlands Trust staff working on the project, and representatives from various local and provincial departments as well as NGOs, the national Department of Agriculture, the KwaZulu-Natal and Free State environmental departments and the

4. Volume of water consumed per unit of generated power from coal-fired power stations sent out, excluding Komati and Grootvlei power stations (these are not in full commercial operation).

5. Calculated figures based on coal characteristics and the power station design parameters. SO₂, CO₂ and NO_x emissions are based on coal analysis and using coal burnt tonnages. For 2010 and 2011, this includes Camden, Grootvlei and Komati and the gas-turbine power stations as well as oil consumed during power station start-ups and for the underground coal gasification pilot (flaring).

6. The overall particulate emission performance figure is based on individual coal-fired power station performance. For certain power stations, emission figures are based on best estimates. Excludes Grootvlei and Komati coal-fired power stations as these are not yet in full commercial operation.

Ekangala Grassland Trust. This committee is very involved with day-to-day operations on site, and feeds back into the partnership steering committee.

The record of decision led to the purchase of a number of farms that will make up a nature reserve around the two storage dams. The “Ingula reserve Bedford wetland conservancy” consists of 8 500 hectares of former agricultural land, scarps, rocky outcrops and wetlands. The pumped storage scheme involves the building of two dams – separated by about 450m of altitude, and the top dam will be built close to several excellent high altitude wetlands.

Details of the work done by the Eskom-Endangered Wildlife Trust (EWT) strategic partnership can be found at www.eskom.co.za/annreport11/005.html

Environmental performance is fundamental to Eskom’s business. The impact of operations on the natural environment and human health must be minimised, while mitigating potential short- and long-term legal and financial liabilities. Therefore, Eskom continues to operate as a responsible corporate citizen in South Africa – the goal being to be recognised as a world-class utility in terms of environmental management practices and environmental duty of care.



Eskom’s strategic environmental objectives:

- Avoiding harm to the natural environment – minimising financial and legal liabilities
- Reducing Eskom’s carbon footprint through efficient production and change of energy mix
- Reducing particulate and gaseous emissions to minimise the impact on human health and comply with regulated emission standards
- Reducing fresh water usage through effective water management processes and the use of mine water
- Improving waste management through reduction, reuse and recycling
- Achieving legal compliance with environmental legislation as a minimum requirement in all activities
- Minimising the impact of activities on land and biodiversity and enhancing responsible land management practices.

Eskom’s environmental commitment is demonstrated through the safety, health, environmental and quality policy, and its international and national participation and representation on environmental forums. Eskom is also a signatory to business and environmental initiatives such as the United Nations Global Compact.

Eskom has signed up with the Global Compact LEAD, and Eskom’s Chairman attended its launch in Davos this year. Eskom is one of 54 companies to make this historical commitment to adopt an ambitious sustainability roadmap and demonstrate leadership in tackling global challenges as a signatory to LEAD.

Eskom’s involvement in the United Nations Global Compact is detailed in the Internet version at www.eskom.co.za/annreport11/004.html

Initiatives during the year:

- Hosted a dialogue session with some environmental NGOs
- Developed a position and standard on biodiversity
- Had parts of its business certified to ISO 14001, and put programmes in place for Generation, Primary Energy, Nuclear, Group Capital and Distribution to achieve ISO 14001 by 2014
- Implemented a water accounting framework to support water conservation and water demand management at the coal-fired power stations
- Put agreements in place for joint initiatives to improve water management practices with coal-mining houses, Department of Water Affairs, CSIR and the Water Research Commission
- Implemented water conservation and water demand management programmes
- Continued strategic partnerships with Endangered Wildlife Trust (EWT), BirdLife South Africa, Middlepunt Wetland Trust, Wildlife and Environmental Society of South Africa (WESSA)
- Initiated the processes to declare a portion of the Eskom-owned property surrounding Ingula pumped-storage scheme as a nature reserve and to apply for the extensive wetlands downstream of the upper reservoir to be declared a Ramsar Site (The Convention on Wetlands of International Importance, called the Ramsar Convention).

Activities that have significant environmental impacts:

- The construction of power stations and transmission and distribution power lines – impact on land use and ecosystems
- The generation of electricity at our coal-fired power stations – use of resources (coal and water), land transformation, gaseous and particulate emissions and waste generation (such as ash)
- The generation of electricity at Eskom's nuclear power station – land transformation, radiation and radioactive waste.

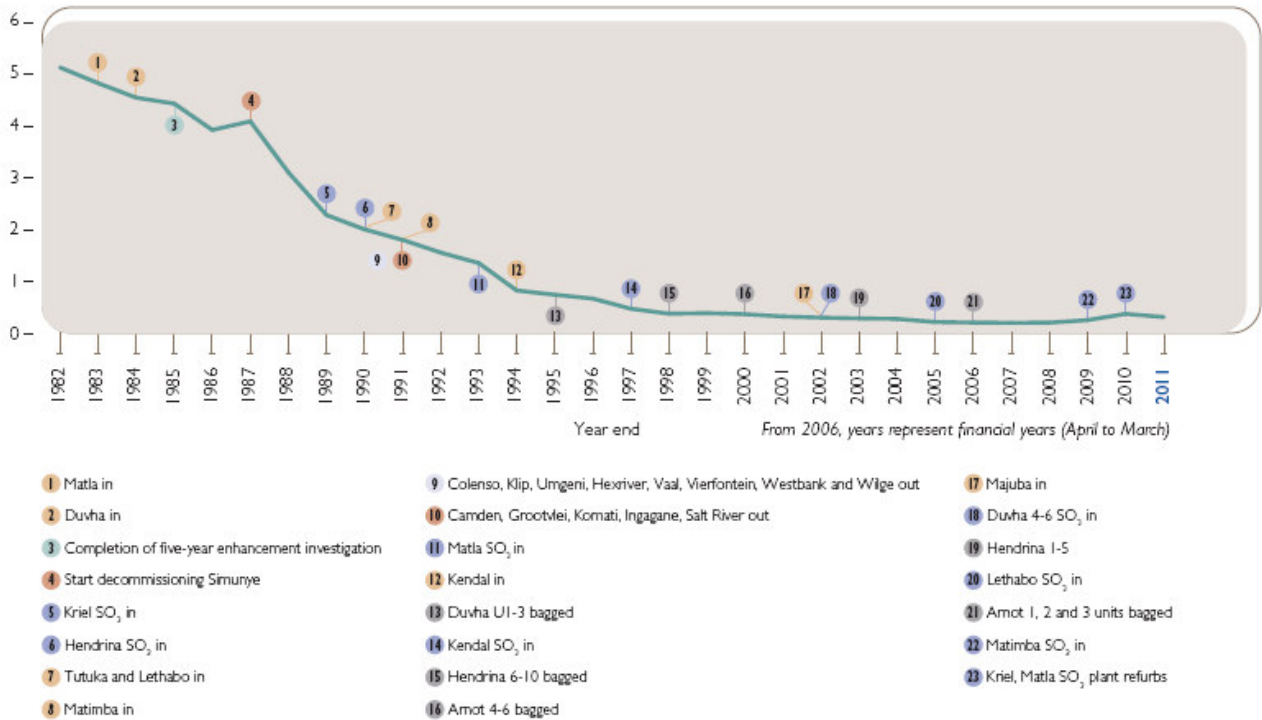
Atmospheric emission

Reducing particulate emissions from coal-fired power station stacks has been a focus in Eskom since the early 1980s. Eskom has achieved significant reductions in the last 30 years through various particulate abatement technologies, such as electrostatic precipitators. Their efficiency has been further enhanced through sulphur trioxide fluegas conditioning, skew-flow technology and modern control systems. Some power stations have been retrofitted with pulse fabric filter equipment.

Relative emissions have been increasing since 2007/8, but the trend reversed in 2010/11 again, with a slight improvement in emissions' performance.

Relative emissions roadmap

kg/MW hour sent out



The relative particulate emissions improved this year to 0.33_{RA}kg/MWh sent out (2010: 0.39_{RA}kg/MWh sent out). The performance does not meet Generation Division's target but is progress resulting from initiatives put in place to improve performance. This was primarily due to lower emissions at Kriel and Matla power stations. In 2010 both of these stations operated without the sulphur trioxide plant which was out for refurbishment for several months. This resulted in very high emissions for that period which impacted on the overall Generation performance. In addition to this refurbishment there has been a focus on the dust-handling plants at Kriel and unit 2 at Matla. Several stations replaced bags and Matimba power station installed a sulphur trioxide plant and continued to perform well in 2011.

Despite all efforts to improve the performance of pollution abatement equipment, poor coal quality, specifically at Matla and Duvha, continues to limit progress. The postponement of outages and reduced opportunity for maintenance adds to the challenge.

Minimum emission standards were published in terms of the National Environmental Management: Air Quality Act (Act No 39 of 2004) on 1 April 2010. These limits are for sulphur dioxide and nitrogen oxide and particulate emissions from power stations. The standards are effective immediately for new plant, and for existing plant in 2015. More stringent limits apply from 2020.

Eskom's air quality strategy details how emissions from power stations will be reduced to ensure compliance with the minimum emission standards, and planning has started for retrofits of abatement technology at some stations. Kusile power station is being constructed with flue-gas desulphurisation which will reduce the SO₂ emissions by approximately 90%.

Ash

Of the approximately 36.2_{RA} million tons (2010: 36.01_{RA}) of ash produced at the coal-fired power stations 5.5%_{RA} (2010: 5.6%_{RA}) was re-used. Some of the ash from Lethabo, Majuba, Matla, Kriel and Kendal is used for the production of cement and bricks. The remaining ash is safely disposed of and managed at ash dams and dumps next to the power stations. These ash disposal sites are continually rehabilitated to ensure the mitigation of fugitive dust.



Nuclear waste management

The low- and intermediate-level radioactive waste from Koeberg is sealed in steel drums and concrete containers and disposed of at Vaalputs, a near-surface disposal site for radioactive waste, licensed by the National Nuclear Regulator.

The National Radioactive Waste Disposal Institute, under the governance of the Department of Energy, is responsible for appointing the operator of Vaalputs. Due to this regulatory change, the Nuclear Energy Corporation of South Africa's mandate to operate Vaalputs lapsed, and the transport of waste to Vaalputs was temporarily suspended. The institute is not fully functional, so the Department of Energy has extended the Nuclear Energy Corporation of South Africa's mandate to accept radioactive waste at Vaalputs. Shipments of lowlevel radioactive waste from Koeberg resumed in March 2011. A further role of the institute is to formulate the national strategy for managing used nuclear fuel. Used fuel from Koeberg is stored at the power station in specially designed fuel pools or used fuel storage casks in accordance with specified regulatory requirements. Strategic approval has been received from the Department of Energy Minister to move and store used nuclear fuel on site in dry casks.

Ambient air quality monitoring

Eskom has monitored ambient air quality regionally since the late 1970s. An extensive monitoring network provides key information for future strategic planning processes, compliance with standards and research activities. Eskom currently operates 14 air quality monitoring stations. Most monitor sulphur dioxide, nitrogen oxide, fine particulate matter and meteorological parameters such as wind direction, wind speed and temperature. Five stations also monitor ozone. Although sites are influenced by many factors, most stations are strategically located to specifically monitor ground level pollutants from power station emissions. The stations are close to power stations, in residential areas and in remote areas to measure regional air quality, depending on the specific objectives of each station. When a new power station is built (Ankerlig, Gourikwa, Medupi, Kusile) or a mothballed power station returned to service (Camden, Grootvlei, Komati), an air quality monitoring station is set up before commissioning the power station so that baseline air quality in the area can be assessed and the impact of the power station on air quality measured. When possible, air quality monitoring stations are sited in populated areas to best assess the impact of emissions on people's health.

See internet report for results www.eskom.co.za/annreport11/007.html

Water use

Water is a scarce resource in South Africa, and it is critical to Eskom's business. Eskom uses about 2% of South Africa's national freshwater resources, which is abstracted largely from government water schemes (dams). Ground water contributes about 15% of the entire volume of water

consumed in South Africa. Although Eskom does not utilise ground water, as a strategic water user and environmental management leader Eskom has to play a leading role in the protection of this valuable resource associated with its activities and therefore continues to implement and improve water and waste management measures to ensure that contamination of groundwater around the power stations is avoided.

Eskom studies in 2011 have provided clarity on groundwater users and usage in the vicinity of power stations. Hydro-census reports will allow Eskom to assess the importance of ground water in an area and classify aquifers from a user perspective. All the power stations have good waste management procedures, significantly reducing ground water contamination and the pollution of aquifers.

The specific water consumption of 1.35_{RA} L/kWh sent out (2010: 1.34_{RA} L/kWh sent out) (excluding the Grootvlei and Komati return-to-service power stations) was equal to the target of 1.35 L/kWh sent out.

The positive performance was the result of:

- Above normal rainfall which resulted in improved recovery of dirty water
- A power station dispatching programme that favoured water efficient stations
- Maintenance and repair of water leaks
- Improved recovery as a result of reuse and recycling.

Water management and sewerage plant reviews were conducted at all coal-fired power stations to assess the status and effectiveness of water management practices, and to promote water conservation and water demand management. The reviews revealed various opportunities to reduce water consumption.

Long-term water strategy

Water is a scarce resource in South Africa, and it is at the forefront of Eskom's strategic thinking. Concerns include growing water scarcity and the conflicting demands for the right to use water, the lack of access to water to meet basic human needs, depleted environmental flows, growing pollution and the implications of climate change on rainfall patterns.

Eskom, as a strategic water user, must play a leading role in the management of water resources. Water is scarce and deteriorating in key catchments, and important stakeholders – including consumers and investors – have heightened expectations of Eskom. Eskom has responded with an overall water management strategy, which includes a demand management strategy to reduce fresh water intake at power stations and to re-use effluent water.



Key elements of Eskom's water strategy:

- Meet the water requirements for new power stations
- Meet the water requirements for existing power stations
- Develop long-term water plans to ensure security of water supply
- Develop and implement a water conservation and water demand management strategy
- Meet the water quality objectives of the various catchments
- Efficiently manage water cost increases into the future
- Actively influence policy, strategy, planning, legislative and regulatory issues related to water
- Engage stakeholders on water challenges and solutions.

Eskom has engaged with the Department of Water Affairs' national water resources planning directorate to ensure that water resources and infrastructure planning needs are factored into the national water resources strategy. Key water supply infrastructure projects to deliver water to Eskom facilities:

- Vaal River eastern subsystem augmentation project: The project was declared operational by the Department of Water Affairs in June 2009. On Eskom's request, the Department of Water Affairs is investigating potential infrastructure bottlenecks in the Vaal River water supply systems. The department is also planning to mitigate the risk of a water deficit in the Vaal River system up to 2021 by curbing illegal water abstractions and use and enforcing both water conservation and water demand management, as well as mine water treatment and re-use
- Mokolo and Crocodile water augmentation project. Phase 1 is the new water infrastructure to supply Medupi power station. This project will provide sufficient capacity for all Medupi's water requirements and the associated developments, but excludes water for the planned flue gas desulphurisation process. In the interim, there is adequate water from the surplus from Matimba power station's water allocation. The development of Eskom's business case for phase 2 of the project is under way. Eskom will continue to lobby government and the National Energy Regulator of South Africa to fund and build phase 2 of the Mokolo and Crocodile water augmentation project on behalf of Eskom and other water users.
- Komati water scheme augmentation project: Kusile power station and the return-to-service stations will access water from this project. The Trans-Caledon Tunnel Authority has obtained long-term funding for the project, environmental authorisation has been granted, and water delivery is planned by the end of December 2012, ahead of the commissioning of the first units of Kusile power station
- Pilot concentrating solar plant: Negotiations with the Upington municipality around the water supply for the pilot concentrating solar plant are in progress.

Environmental performance highlights

- Incorporated specific environmental criteria into coal contracting protocols to evaluate the various coal suppliers' risk profile before contracting, and adopted the environmental procedure for contracting purposes as a formally constituted internal control procedure
- Addressed most of the care and maintenance risks associated with some of the defunct mines and scheduled some longer-term remedial measures for completion in the new financial year
- Developed closure plans for some defunct mines
- Reviewed the environmental liability assessments of cost-plus mine operations and defunct mines
- Received a positive environmental authorisation for an environmental impact assessment for the railway line to deliver coal to Camden power station, as part of the road-to-rail migration strategy
- Conducted water readiness assessments for 19 cost-plus and medium-term mines, relating specifically to their preparedness for heavy rainfalls
- Implemented environmental and water strategies and plans
- Completed water and waste water management reviews at all coal-fired power stations
- Received approval for the water accounting framework – coal fired power stations are expected to start reporting on it from April 2011.

Further environmental objectives:

- Waste discharge charge system: Eskom has provided inputs into the formation of the waste discharge charge system (WDCS). Eskom is still awaiting finalisation and implementation of the system by government
- Critical water use licences: In order to meet legal requirements regarding water usage, it is critical for Eskom to obtain water licences for both the power stations during construction phase and the operation of new and existing power stations. Eskom has successfully obtained the necessary water licences for the Kusile power plant and is working towards obtaining the water licences for the Medupi and Ingula projects which are still under review by Department of Water Affairs
- Environmental liabilities of cost-plus mines: The assessments of environmental liabilities of cost-plus mine operations have been reviewed. However, more detailed understanding of all the liabilities including water management is sought. This will assist in carrying out full environmental and water liability reviews of cost-plus mines and the tracking of their environmental expenditure against the environmental management plans
- Water readiness assessment of mines: In order to ensure continuity of coal supply to the power stations, Eskom initiated an assessment of the readiness of mines that supply Eskom power stations with coal, in preparation for the rainy season. Integrated solutions have been found, for example, adjustment of environmental rehabilitation plans and infrastructure to prevent rain impacting on coal supply. This will be conducted annually in future
- Closure plans for defunct mines: Eskom has initiated studies to assess the risks associated with the defunct mines, which are currently managed through care and maintenance programmes. Closure plans for some of the mines have been developed and these will be implemented in a phased manner.



Environmental impact assessments

Acquiring land, land rights and environmental authorisation to build electricity infrastructure, particularly transmission lines, is a major challenge for the new build programme. Most delays and cost overruns are related to these activities. There have, however, been significant improvements as a result of various initiatives in previous years.

Key initiatives for securing environmental authorisations and land rights

- Capital expansion stakeholder forums in regions where Eskom has major projects, such as Lephalale
- Strategic environmental assessments

- Enhanced public participation processes
- Annual communication of strategic plans to major stakeholders.

The implementation of Eskom's recently approved environmental impact assessment and land rights strategy will ensure that the related processes are executed effectively.

With the active participation of affected and interested parties and stakeholders, objections to Eskom projects are raised early in the environmental impact assessment process, allowing the environmental team to deal with these issues before the environmental impact report is submitted to the Department of Environmental Affairs for authorisation.

In response to concerns raised by interested and affected parties, Eskom has improved the review process, giving the public enough time to respond. The public uses the time to consult specialist professionals to assist them to make informed contributions. This has benefited both Eskom and the receiving communities.

There are fewer appeals against environmental authorisations. And where there are appeals, they are normally regarded as not having substance. The success rate of projects has been encouraging in 2010/11.

With the exception of one, all environmental authorisations received were uncontested and for those that were contested, the appeals were dismissed.

Expropriation

During negotiations about servitudes and land, Eskom sometimes reaches a deadlock if it cannot meet the landowner's demands. When all possible alternatives have been exhausted, expropriation is still the only tool to resolve such an impasse. This is not the best approach as it:

- Affects the long-term relationship between Eskom and the land owner
- Normally affects project delivery times because it is a long process
- Leaves little room for negotiation, as the decision is made by the State.

The current expropriation process requires Eskom as the applicant to consult with the public and the affected landowners before an application can be lodged with the Department of Public Works.

Data indicates that expropriation applications lodged with the National Energy Regulator of South Africa and the Department of Energy takes not less than two years to be completed. The longest application process so far is four years. Transmission has embarked on a process with the newly delegated ministry, the Department of Public Works, to improve the turnaround time.

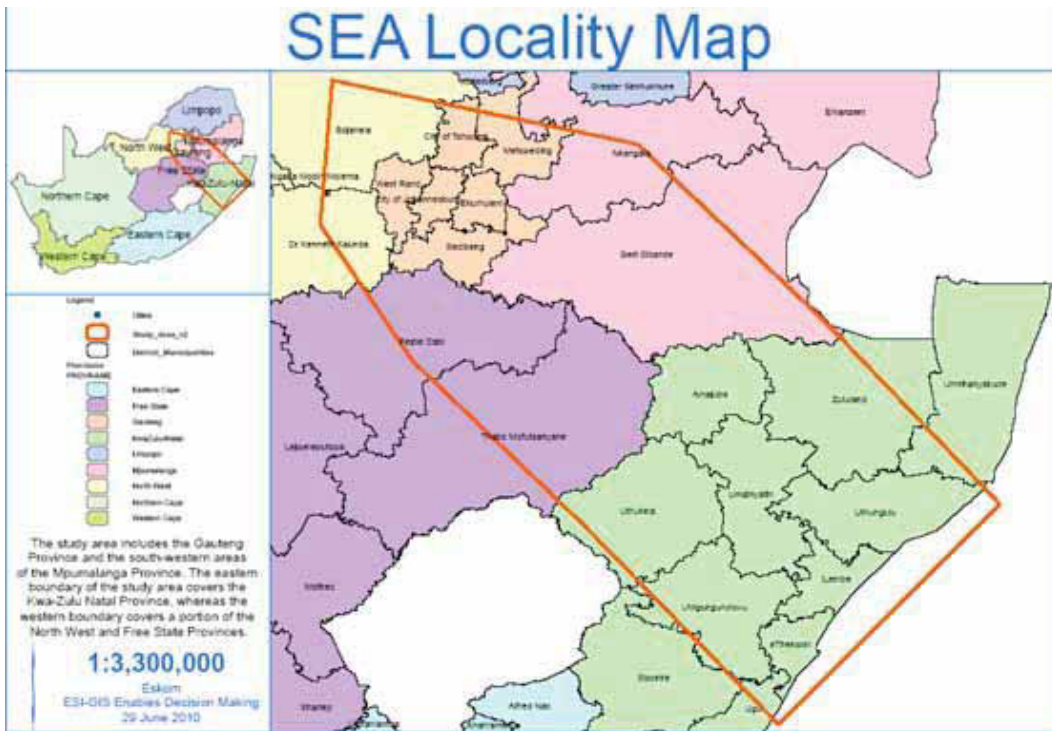
Due to difficulty in acquiring servitudes for certain projects, Eskom has initiated the process of expropriating eight servitudes in 2010. The intention to expropriate these servitudes was communicated with the affected landowners and they were given an opportunity to raise their comments, concerns and objections where necessary.

Despite all these processes, the expropriation still has to be finalized for Eskom to have access to the required servitude in time for construction.

Strategic environmental assessment

A strategic environmental assessment is a process to assess the environmental implications of a proposed strategic decision, policy, plan and programme, piece of legislation or major plan. Transmission embarked on such an assessment in June 2010 to guide Eskom grid planners to develop the 20 to 30-year electrical infrastructure expansion plan. The plan addresses the placement of future electrical infrastructure and the recycling of existing infrastructure.

Although the plan covers the whole of South Africa, the strategic environmental assessment focuses on a priority study area – parts of the North West, Gauteng, Mpumalanga, Free State and KwaZulu-Natal provinces.



Environmental impact assessments play a critical role in informing decision making on Eskom's new build programme and modifications to existing plant, such as waste disposal sites and the extension of ash dams. Environmental authorisations are issued by the Department of Environmental Affairs.

Environmental impact assessments are ongoing for a nuclear power station. In 2011, Generation received several environmental authorisations on other environmental impact assessments, including a brine management project, a landfill site, a general waste disposal site, the closure of a waste disposal site, and infrastructure associated with capacity expansion projects, such as the Kusile rail project, the Medupi landfill site and the cemetery at Ingula.

Looking forward

The following key milestones are in place to achieve continual improvement in Eskom's environmental management practices and performance:

<i>Financial year</i>	<i>Key milestones</i>
2011/12	<ul style="list-style-type: none"> Roll out process control manuals for reporting of environmental performance Mutually effective NGO stakeholder forums Identification of potential air quality off-sets Waste management plans in place Implementation of avian species-specific action plan to reduce fatalities of specific bird species.
2012/13	<ul style="list-style-type: none"> Usage of SAP environmental, health and safety system to manage, report and track all environment-related incidents Fabric filter plant retrofits of the first units at Tutuka and Matla power stations Reduction of environmental contraventions by 50% against 2011 performance.
2013/14	<ul style="list-style-type: none"> All operational business units ISO 14001 certified First unit at Hendrina power station retrofitted with NO_x reduction technology Reduction of particulate emissions to 0.28 kg/MWh sent out Reduction in water used to 1.30 L/kWh sent out.
2014/15	<ul style="list-style-type: none"> Reduction of environmental contraventions by 70% against 2011 performance Continuous particulate and gaseous emissions monitors installed on combined stacks or units of coal-fired power stations Start of the Medupi flue-gas desulphurisation (FGD) plant retrofit project.
2015/16	<ul style="list-style-type: none"> Reduction of particulate emissions to 0.23 kg/MWh sent out Reduction of water used to 1.21 L/kWh (sent out).
2016/17	<ul style="list-style-type: none"> Complete the Grootvlei power station fabric filter plant retrofit.

Environment:

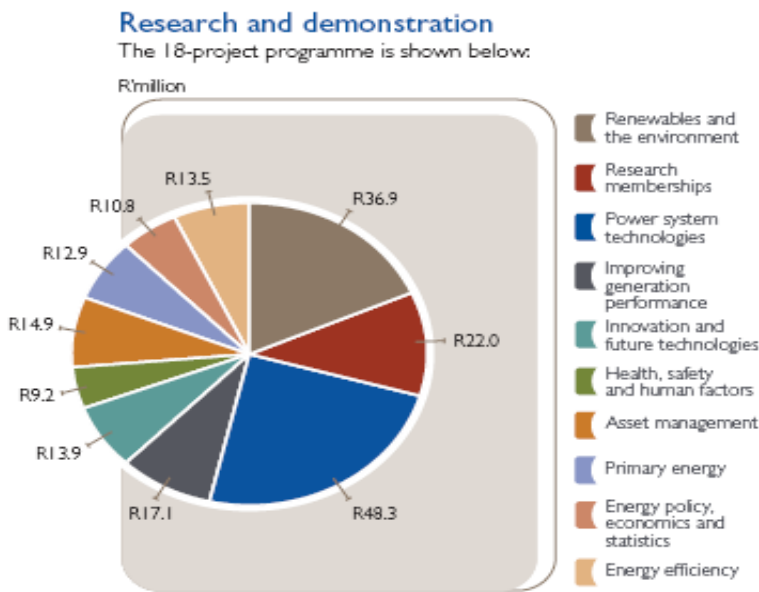
1. Principle 9 - Encourage the development and diffusion of environmentally friendly technologies

Eskom continues to invest strongly in the research and demonstration of new technologies and solutions. The research is focused on the divisions' needs and the strategic challenges faced by the organisation. Research outputs are in line with the strategic and operational needs of Eskom.

Research underpins the technology vision and direction of Eskom and ensures the sustainability of the business through balanced financial, social and environmental decision making while at the same time building and sustaining Eskom's skills and core competencies.

Eskom's investment in research enables the organisation to fully understand emerging technologies and their applicability, so that appropriate management risk and investment decisions can be made. The research process allows Eskom to make the optimum choice of technologies and accelerates their implementation. The most powerful return on this investment in research is optimised asset management, improved performance and a skilled workforce that is equipped to evolve and adapt to the best that technology has to offer.

Research expenditure: Actual research expenditure of R199.5 million was 2% higher than last year in line with budgetary allocations and some growth in the size of the research programme. The increased funding for research was motivated throughout the year as other sources of funding became available. Around R93.6 million (46%) of the total spend was on direct costs related to staff, and the remainder was on general expenses, suppliers and contracted services.



Expenditure per research focus area.

The largest portion of research money is invested in renewable energy research and reducing Eskom's impact on the environment as well as in power systems technologies and solutions to improve the availability and reliability of the Transmission and Distribution grids and intelligent networks. The Generation side of the business also receives significant focus with research into primary energy solutions and alternatives. A six-year budget has been approved that translates into a 20.5% year-on-year growth, culminating in an estimated 0.2% of revenue by 2017 – a significant show of confidence in the need for research in Eskom and a commitment to its future.

The bulk of the capital investment continues to be in concentrating solar power and underground coal-gasification solutions – two projects in particular. The purpose of the demonstration programme is to feed Eskom's infrastructure expansion programme with researched solutions that

improve power quality, reduce cost, increase environmental performance and support the Eskom business model.

It also drives and challenges capital expansion technology choices based on the knowledge gained through demonstration, namely to ensure that key technologies that can fundamentally change Eskom's current technology path and improve performance are well understood and part of the Eskom technology plan.

Structural changes: The research and demonstration programme is under constant review and is changed to align with the changing needs of the organisation. Every annual review begins with an examination of the current portfolio in discussion with internal and external stakeholders. The latest review indicates a need to focus the Eskom researchers into fewer "centers of excellence" that will build specific capacity in a chosen discipline and become a world-class centre for research and development in that field. This approach will be rolled out in 2012.

Innovation circuit

To support one of Eskom's core values of innovation, the division formed the Innovation Circuit (IC).

The IC encourages and nurtures a culture of innovation within Eskom. It conducts "fun shops" where employees are interactively made aware of the advantages of innovation as a company value. The IC website welcomes employees' ideas, and more than 6 000 employees have registered on the website and submitted nearly 2 000 ideas.

In 2011, the open innovation pilot project was launched, which aims to prove the value of sharing needs with outside parties to accelerate the discovery and implementation of innovative solutions. Eskom will collaborate with energy stakeholders and members of the public.

Some 2011 successes

- Several business process ideas were integrated into the Back2Basics project
- A manageable and cost-saving print environment was established
- An ongoing recycling project was established.

Key ongoing innovation research projects

- Safer operating conditions near power lines and low-hanging conductors
- Alternative energy sources
- Innovative ways to conduct line inspections
- Energy efficiency initiatives, including heat recovery, geyser control, and energy-saving incentives.

Demonstration and pilot projects: A demonstration project is a production scale asset that Eskom constructs to allow it to assess technologies for their business and technical risks and their implementation impacts before they are rolled out commercially. Eskom's pilot and demonstration programme feeds its infrastructure expansion programme with researched technological solutions and expands its capital expansion technology choices.

Eskom invested R306.9 million in the demonstration programme in 2011. The bulk of Eskom's investment is in concentrating solar power and underground coal-gasification solutions.

Major demonstration and pilot project expenditure

Project name	Actual expenditure R million
Plant monitor	13.13
Underground coal gasification	248.46
Utility Load Manager	27.70
Concentrating solar power (CSP)	13.61
765kV double-circuit tower development	2.81
Friction stir taper-stud welding platform	1.22
Total	306.93

Concentrating solar power – CSP



Concentrating solar plant to be built near Upington in the Northern Cape.

Concentrating solar power systems use lenses or mirrors and tracking systems to focus a large area of sunlight into a small beam. The concentrated heat is then used as a heat source for a conventional power plant.

Eskom's concentrating solar power (CSP) project has made significant progress since the awarding of the World Bank loan in April 2010. The required land is now owned by Eskom,

water for construction and operations has been secured, and the planning around grid integration has progressed well.

Given the pace of technological developments in CSP and the time taken to finalise funding, Eskom and the World Bank decided that an independent technology assessment was required before concluding the plant specifications. The assessment, conducted by an independent German consultancy, was completed in December 2010. The consultant confirmed Eskom's internal findings that the central receiver (CR) is the preferred technology choice and is suitable for utility scale application. Eskom finalised the plant specifications as follows:

- 100MW central receiver demonstration plant with molten salt as a heat transfer fluid
- Capacity factor greater than 60%
- Two tank storage systems, with molten salt, designed for optimised, levelised energy costs
- The plant will be dry cooled or hybrid cooled – designed to optimise water usage
- All auxiliary power will be sourced from the national grid and backup will be sourced from diesel generators
- Life of plant will be a minimum of 25 years.

Eskom will appoint an owner's engineer in the first half of 2011 for the development and execution of the project. The plant is expected to be commissioned in the first half of 2016.

Utility load manager – ULM: A utility load manager is a system that can control and limit the load available to a home or business when Eskom experiences network and system supply constraints. The system gives households a choice about which appliances to use when, and encourages energy efficiency. Eskom's system has been designed to ensure quick roll out, with minimal impacts on the network design and for use on all existing reticulation network designs. The pilot project has been hugely successful and is ready to be implemented nationally.

Underground coal gasification – UCG: The underground coal-gasification flare stack with Majuba power station in the background (blue flame typical for UCG gas). Underground coal-gasification (UCG) is a clean-coal technology that allows coal to be gasified on site within the coal seam to produce UCG gas that can be used directly as a fuel for power generation.

Eskom is demonstrating the co-firing of UCG gas with coal in an existing power station and the use of UCG gas as a fuel for an open cycle gas-turbine demonstration plant. On 28 October 2010 at 13:22 Eskom's UCG demonstration plant started delivering gas to Unit 4 at Majuba power station

near Volksrust. The gas is being co-fired with coal, and contributes 3MW to the unit's current electricity production of approximately 650MW. This is an historic occasion, as it marks the first production of commercial electricity from UCG gas outside the former Soviet Union.

Eskom highlighted the potential of UCG in a conceptual study in 2002; and this led to a site selection and pre-feasibility study in 2003; a site characterisation study in 2005; the successful commissioning of a pilot plant in the Majuba coalfield in January 2007; and the successful testing of the equipment for co-firing of UCG gas in one of the Majuba power station boilers in October 2010.

Further details of the UCG project are set out in www.eskom.co.za/annreport11/006.html

Underground coal gasification – UCG



The underground coal-gasification flarestack with Majuba power station in the background (blue flame typical for UCG gas).

Anti-corruption:

- **Principle 10 - Business should work against corruption in all its forms, including extortion and bribery.**

Good corporate governance requires an organisation's leadership to "set the tone at the top" and oversee the management of ethics, make ethical decisions and lead by example. Eskom's board is accountable for Eskom's ethics management programme. Operational responsibilities lie with Exco, and all leaders and managers in the organisation.

Assistance and advice is also available from the ethics office, which forms part of the functions of the company secretary. The ethics office assists the chief executive in setting the framework, rules, standards and boundaries for ethical behaviour, and provides ethics training and an advisory service to employees, assisting them in dealing effectively with ethics issues and ethical dilemmas in the workplace.

The Eskom code of ethics, The Way, was revised during the year to reflect two newly approved Eskom values, new Companies Act provisions and the King III requirements. The supplementary ethics code procedure was also revised and approved by the board for implementation. This procedure assists directors and employees to apply the code of ethics in their daily activities and decision making to deal with specific ethics issues in the workplace; and to offer compliance information on other ethics-related policies.

Eskom's conflict of interest policy, the declaration of interest procedure, the electronic declaration form, and declaration monitoring procedure have all been revised in line with the new Companies Act and King III, and approved for implementation. A separate electronic declaration system and procedure for board members has also been implemented to replace the manual process for

declaring interests and business courtesies. Eskom is also a signatory to the UN Global Compact which includes an anti-corruption clause, as well as the World Economic Forum's partnership against corruption initiative.

The board and Exco are kept informed of Eskom's ethical culture and issues of concern through quarterly ethics status reports.

The Forensic and Anti-Corruption department assists Eskom with good corporate governance and prevents, mitigates, detects and responds to fraud, corruption and other forms of economic crime or dishonesty. This is in support of Eskom's commitment as a signatory to the United Nations global compact.

The South African National Anti-Corruption Campaign Eskom is strengthening its commitment to the national anti-corruption campaign. Eskom has entered into a three-year partnership with the Special Investigation Unit (SIU). The partnership will help Eskom to remain ethical, with appropriate fraud detection and prevention measures in place.

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