

Integrated Report 2010



On the path to recovery



## 1990 – 2010

Electrification started on a massive scale and the real price of electricity was reduced to stimulate economic growth. In 2001 Eskom received the Global Power Company of the Year Award. Eskom was converted to a company in 2002. Surplus electricity ran out and power shortages became apparent in 2007

## 1970 – 1990

Two hydro stations were commissioned for peak load. The decision was taken to build Koeberg, the first nuclear station in Africa. Gas turbine, coal and pumped storage stations were commissioned. Eskom was renamed to Eskom in 1987 and an Electricity Council replaced the Commission

### 1984

Koeberg, Africa's first Nuclear Power Station is built

### 1950 – 1970

Generation capacity increased by 130%

### 1950

Vaal and Klip power stations built

### 1923

Electricity Supply Commission established

## 1923 – 1929

The Electricity Supply Commission (Eskom) was established. Dr Hendrik van der Bijl was the first Chairman. Witbank, Colenso and Salt River Power Stations were commissioned

## 1930 – 1950

New goldfields on the Witwatersrand and the rise in gold price boosted electricity demand. Vaal and Klip power stations were built and the distribution network was extended

## 1950 – 1970

Soaring growth in the Vaal Triangle and Witwatersrand, Eskom's capacity doubled by extending existing stations and building new ones. R376 million was spent on new plant. Capacity increased by 130%



## CONTENTS

### Profile

	History of Eskom
	Scope of report
1	Key facts
6	Organisational structure
7	Vision, values and strategic objectives

### Sustainability reporting in Eskom

12	Sustainability
13	The application of the GRI principles
14	Stakeholder engagement
17	Eskom reputation and engagement with stakeholders
18	Integrated risk management

### Leadership overview

22	Letter from the acting chairman
26	Board of directors
28	Executive management committee
30	Executive performance overview
34	Performance against the shareholder compact

### Finance division

40	Financial performance overview
43	Capital expenditure
44	Funding gap
45	Credit rating
47	Procurement and supply chain

### Corporate Services division

54	Climate change
56	Internal energy efficiency
57	Managing our environmental impact
59	Safety
65	Research and development
68	Contributing to society

### Human Resources division

78	Skills
80	Training interventions
81	Transformation

### Regulatory and Legal Framework

87	Regulatory affairs function
87	Regulatory and legal framework
90	Multi-year price determination (MYPD 2) and the price increase

### Generation Business

95	Overview
100	Generation division
102	Technical performance
105	Environmental performance
108	Primary Energy division
109	Coal quality and quantity
110	Long-time water strategy
113	Safety – coal transport
114	Nuclear division
116	Nuclear capacity increase
117	Nuclear safety
118	Environmental performance
120	Generation Business Engineering division
124	Enterprises division
125	Capacity expansion programme
129	Benchmarking build costs globally
130	Local content of capacity expansion contracts

### Customer Network Business

135	Overview
140	System Operations and Planning division
142	Status of the power supply system in South Africa
142	Power conservation programme
143	Ten-year transmission development plan
145	Integrated resource plan
146	Transmission division
147	Transmission system performance
150	Contracting with SADC utilities
151	Environmental performance
153	Distribution division
155	Distribution system performance
156	Demand-side management
158	Customer service
158	Tariffs
160	Management of total energy losses
162	Electrification
162	Environmental performance

### Eskom Enterprises (Pty) Ltd

169	Independent assurance report on sustainability information
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### 174 Consolidated group annual financial statements

### Corporate governance and tables

288	Corporate governance
296	Tables
296	Statistical overview
298	Power stations capacities
299	Environmental implications of using/saving one kilowatt-hour of electricity
300	Transmission and distribution equipment in service
301	Sale of electricity and revenue per category of customer
303	Awards
305	Glossary
309	Abbreviations and acronyms
312	GRI index
IBC	Contact details



Research block

Information block

Education block

# Profile

## Scope of report

The annual report for the year ended 31 March 2010 is an integrated financial, economic, environmental and social sustainability report. Eskom Holdings Limited (Eskom) and its subsidiaries aligns itself with international sustainability best reporting practices, including the Global Reporting Initiative (GRI) Sustainability Reporting Guideline, and the AA1000APS (2008) Accountability Principles Standard.

The report considers financial, economic, environmental, social and technical performance and is available in an internet version on the Eskom website ([www.eskom.co.za/annreport10](http://www.eskom.co.za/annreport10)). Additional sustainability information is disclosed in the internet version of the report. The availability of extra web-based information is indicated in the printed report.

## Nature of business, major products and services

Eskom generates approximately 95% of the electricity used in South Africa and approximately 45% of the electricity used in Africa. Eskom generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors. The majority of sales are in South Africa. Other countries of southern Africa account for a small percentage of sales. (Refer page 301).

Additional power stations and major power lines are being built to meet rising electricity demand in South Africa.

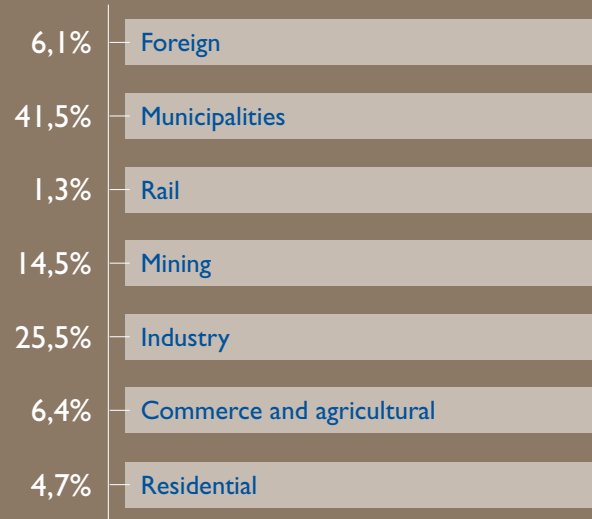
Eskom buys electricity from and sells electricity to the countries of the Southern African Development Community (SADC). The future involvement in African markets outside South Africa (that is the SADC countries connected to the South African grid and the rest of Africa) is currently limited to those projects that have a direct impact on ensuring a secure supply of electricity for South Africa.

Eskom is regulated under subject licences granted by the National Energy Regulator of South Africa (NERSA), originally under the Electricity Act (41 of 1987) – and more recently under the Electricity Regulation Act (4 of 2006) – and by the National Nuclear Regulator in terms of the National Nuclear Regulatory Act (47 of 1999).

## Subsidiaries

The Eskom Enterprises (Pty) Limited group (Eskom Enterprises), a wholly owned subsidiary of Eskom Holdings, provides lifecycle support and plant maintenance, network protection and support for the capacity expansion programme for all divisions of Eskom Holdings Limited. (See organisational structure on page 6).

## Eskom electricity sales



The core business of Eskom Finance Company (Pty) Limited (EFC) is the granting of employee home loans, while that of Escap Limited is the management and insurance of business risk.

Eskom's corporate social investment is channelled principally through the Eskom Development Foundation, a wholly owned subsidiary of Eskom Holdings and a section 21 company.

## Role in South Africa

Eskom, as a state-owned enterprise, has a greater role to play in addition to the supply of electricity. Eskom also supports South Africa's growth and development aspirations. Eskom's value proposition to the country can be summarised as follows:

- providing electricity to all South Africans
- having mutually beneficial arrangements with support industries such as the coal mining sector and related industries
- driving transformation through our procurement strategy
- creating jobs and new industries through our local content drive associated with our massive capacity expansion programme
- continually improving environmental performance including climate change mitigation

## Countries in which operations are located

Eskom's head office is in Johannesburg and its operations are spread throughout the country. In December 2008, Eskom also opened a small office in London in the United Kingdom, primarily to exercise quality control for the equipment being manufactured in Europe for our capacity expansion programme.

Eskom Enterprises operates primarily in South Africa. It has two subsidiaries that operate electricity generation concessions in the African countries of Mali, Senegal, Mauritania and Uganda.

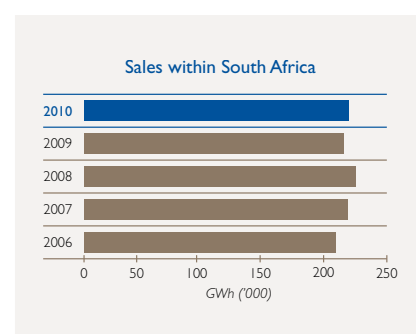
## Key facts

RA – Reasonable assurance provided by the independent assurance provider (refer page 169)

LA – Limited assurance provided by the independent assurance provider (refer page 169)

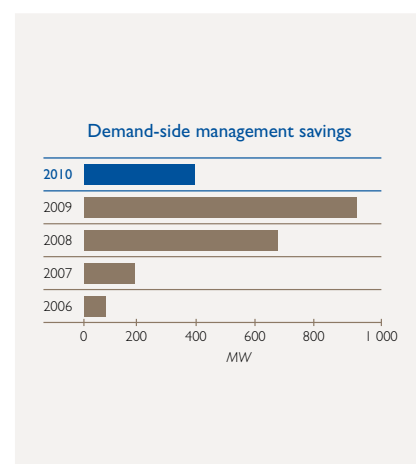
### Electricity sales

	2010	2009	2008	2007	2006
Sales within South Africa (GWh)	<b>205 364</b>	202 202	210 458	204 531	194 799
International sales (GWh)	<b>13 227</b>	12 648	13 908	13 589	13 122
Total sales (GWh)	<b>218 591</b>	214 850	224 366	218 120	207 921
Growth in GWh sales (%)	<b>1,7</b>	(4,2)	2,9	4,9	(18,9) <sup>1</sup>
Revenue within South Africa (Rm)	<b>66 970</b>	50 766	41 585	37 874	34 071
International revenue (Rm)	<b>2 972</b>	2 334	1 971	1 515	1 290
Total revenue (Rm) <sup>2</sup>	<b>69 942</b>	53 100	43 556	39 389	35 361
Growth in revenue (%)	<b>31,7</b>	21,9	10,6	11,4	(14,2) <sup>1</sup>
Customers (number)	<b>4 463 301</b>	4 361 007	4 152 312	3 963 164	3 758 506
Peak demand (MW)	<b>35 850</b>	35 959	36 513	34 807	33 461



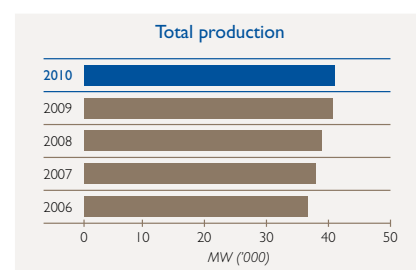
### Electricity production by own stations

	2010	2009	2008	2007	2006
Coal-fired (GWh)	<b>215 940</b>	211 941	222 908	215 211	206 606
Hydro-electric (GWh)	<b>1 274</b>	1 082	751	2 443	1 141
Pumped storage (GWh)	<b>2 742</b>	2 772	2 979	2 947	2 867
Gas turbine (GWh)	<b>49</b>	143	1 153	62	78
Nuclear (GWh)	<b>12 806</b>	13 004	11 317	11 780	11 293
Wind energy (GWh) <sup>3</sup>	<b>1</b>	2	1	2	3
Total production (GWh)	<b>232 812</b>	228 944	239 109	232 445	221 988
Electricity purchased by Eskom					
• Foreign imports (GWh) <sup>4</sup>	<b>10 047</b>	9 162	10 998	10 624	9 318
• Local IPP and co-generation, (GWh)	<b>0</b>	0	0	0	0
Reserve margin (including imports) (%)	<b>16,4</b>	10,6	5,6	7,8	12,7
Demand-side management Savings (MW)	<b>372<sup>RA</sup></b>	916 <sup>RA</sup>	650	170	72



### Power station net maximum capacity (own)

	2010	2009	2008	2007	2006
Coal-fired (MW)	<b>34 658</b>	34 294	33 566	33 036	32 256
Hydro-electric (MW)	<b>600</b>	600	600	600	600
Pumped storage (MW)	<b>1 400</b>	1 400	1 400	1 400	1 400
Gas turbine (MW)	<b>2 409</b>	2 409	1 378	925	342
Nuclear (MW)	<b>1 800</b>	1 800	1 800	1 800	1 800
Wind energy (MW)	<b>3</b>	3	3	3	3
Total production (MW)	<b>40 870</b>	40 506	38 747	37 764	36 401



1. Actual sales growth or revenue growth when compared to the 12 months from 1 April 2004 to 31 March 2005.

2. Total revenue including the EDI and environmental levies.

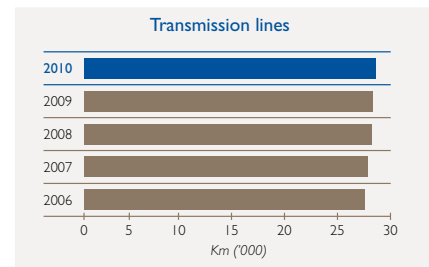
3. Wind energy facility commissioned in 2008.

4. Foreign imports exclude wheeling of electricity.

## Key facts continued

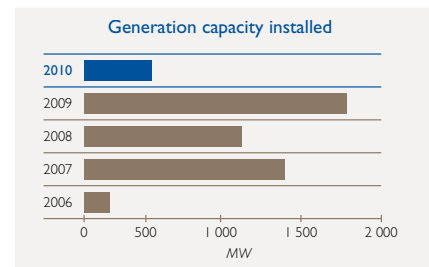
### Transmission and distribution equipment

	2010	2009	2008	2007	2006
Transmission lines (km)	<b>28 482</b>	28 243	28 164	27 619	27 406
Distribution lines (km)	<b>46 018</b>	45 302	44 680	44 044	43 330
Reticulation lines (km)	<b>305 151</b>	297 783	293 424	288 040	282 361
Underground cables (km)	<b>10 687</b>	10 379	9 921	8 622	8 031
Transformer capacity (MVA)					
• Transmission	<b>123 990</b>	122 860	122 180	120 745	118 445
• Distribution	<b>99 408</b>	96 372	93 956	90 184	87 217



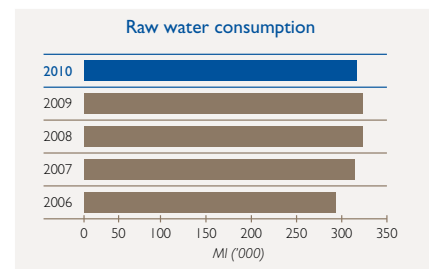
### Capacity expansion

	2010	2009	2008	2007	2006
Generation capacity installed and commissioned (MW)	<b>452<sup>RA</sup></b>	1 770 <sup>RA</sup>	1 061	1 351	170
Transmission lines installed (km)	<b>600<sup>RA</sup></b>	418 <sup>RA</sup>	246	430	237
Transmission transformer capacity installed (MVA)	<b>1 630<sup>RA</sup></b>	1 255 <sup>RA</sup>	1 295	1 000	1 090
Distribution lines installed (km)	<b>8 392</b>	5 439	7 319	6 984	5 944
Distribution transformer capacity installed (MVA)	<b>3 036</b>	2 776	3 412	2 967	1 866



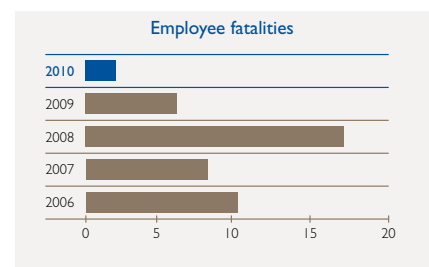
### Environmental information

	2010	2009	2008	2007	2006
Coal burnt in power stations (Mt)	<b>122,7</b>	121,2	125,3	119,1	112,1
Specific water consumption by power stations (ℓ/kWh sent out)	<b>1,34<sup>RA</sup></b>	1,35 <sup>RA</sup>	1,32	1,35	1,32
Net raw water consumption (Mℓ)	<b>316 202</b>	323 190	322 666	313 064	291 516
Relative particulate emissions (kg/MWh sent out)	<b>0,39<sup>RA</sup></b>	0,27 <sup>RA</sup>	0,21	0,20	0,21
Carbon dioxide emissions (CO <sub>2</sub> ) (Mt)	<b>224,7<sup>RA</sup></b>	221,7 <sup>RA</sup>	223,6	208,9	203,7
Radiation release (mSv)	<b>0,0040</b>	0,0045	0,0047	0,0034	0,0049



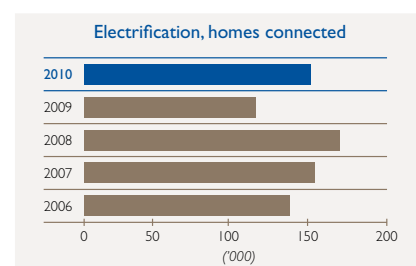
### Safety information

	2010	2009	2008	2007	2006
Employee fatalities	<b>2<sup>RA</sup></b>	6 <sup>RA</sup>	17	8	10
Contractor fatalities	<b>14<sup>RA</sup></b>	21 <sup>RA</sup>	12	18	13
Lost-time incident rate	<b>0,54<sup>RA</sup></b>	0,50 <sup>RA</sup>	0,46	0,35	0,40
Public fatalities	<b>41</b>	28	42	41	34



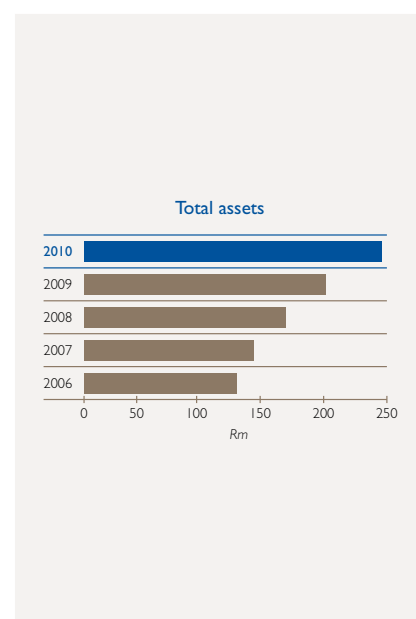
## Developmental initiatives

	2010	2009	2008	2007	2006
B-BBEE attributable spend (Rbn) <sup>1</sup>	<b>20,8<sup>LA</sup></b>	46,3	–	–	–
B-BBEE attributable spend (%) <sup>1</sup>	<b>28,65</b>	63,17	–	–	–
BEE spend	–	35 209	25 447	16 557	11 681
Electrification, homes connected	<b>149 901</b>	112 965	168 538	152 125	135 903
Corporate social investment (Rm)	<b>58,7<sup>RA</sup></b>	79,5 <sup>RA</sup>	69,8	74,7	83,6
Jobs created through capital expansion projects cumulative <sup>2</sup>	<b>15 707</b>	–	–	–	–
Eskom trainees/bursars (pipeline)	<b>5 255<sup>RA</sup></b>	5 907	5 368	5 136	2 163



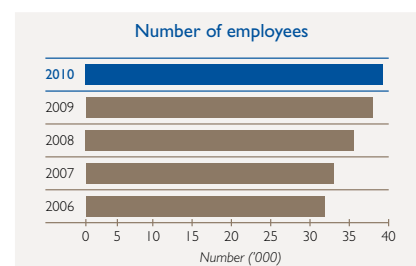
## Group financial performance

	2010	2009	2008	2007	2006
EBIT (before profit/loss on embedded derivatives) (Rm)	<b>4 805</b>	(2 115)	3 215	6 452	7 032
Net profit for the year (Rm)	<b>3 620</b>	(9 668)	(168)	7 220	4 447
Total assets (Rm)	<b>246 135</b>	199 302	166 170	139 838	125 716
Total equity (Rm)	<b>70 222</b>	59 578	61 129	55 890	48 670
Net cash from operating activities (Rm)	<b>11 646</b>	11 764	(1 912)	13 954	12 346
Net cash used in investing activities (Rm)	<b>(48 934)</b>	(42 945)	(22 930)	(16 908)	(9 003)
Net cash from financing activities (Rm)	<b>34 382</b>	38 871	26 193	2 267	(1 368)
Funds from operations (FFO) (Rm)	<b>10 531</b>	2 803	7 499	11 161	11 594
Electricity revenue/kWh (total) (cents)	<b>31,9</b>	24,7	19,9	18,0	16,2
Electricity operating costs per kWh (including depreciation and amortisation) (cents)	<b>28,2</b>	25,9	18,6	15,7	13,8
Interest cover	<b>0,57<sup>RA</sup></b>	(0,80)	2,50	9,11	6,80
Debt:equity ratio	<b>1,55<sup>RA</sup></b>	1,22	0,40	(0,21)	0,19
Debt service cover ratio	<b>0,86</b>	(0,55)	(0,17)	0,44	0,56



## Employees

	2010	2009	2008	2007	2006
Employees (number)	<b>39 222</b>	37 857	35 404	32 674	31 548
Training cost (Rm)	<b>758</b>	823	784	748	543



1. Net measured prior to 2009.

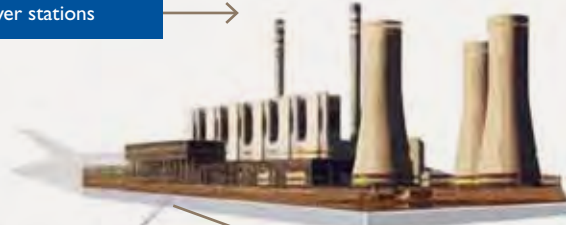
2. Non-skilled, semi-skilled and skilled jobs, of which some are very short term (such as site clearance). Prior to 2008, this programme was in the preparation phase.

# Electricity: from power station to customer

**Input:**

Coal<sup>1</sup> 122,7Mt  
Water 316 202Mℓ  
Liquid fuels (diesel and kerosene) 16,1Mℓ

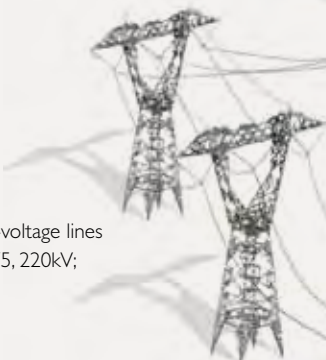
**Power stations**



**Output:**

Total electricity produced by Eskom stations – 232 812GWh  
Total electricity sold 218 591GWh  
Carbon dioxide 224,7Mt  
Nitrogen oxide 959kt  
Nitrous oxide 2 825t  
Sulphur dioxide 1 856kt  
Particulate emissions 88,27kt  
Ash produced 36,01Mt  
Radiation releases 0,0040mSv

Transmission high-voltage lines  
(AC – 765, 400, 275, 220kV;  
DC – 533kV)



**Transmission substations**

Municipalities high-voltage lines  
(132, 88, 66, 44, 33kV)

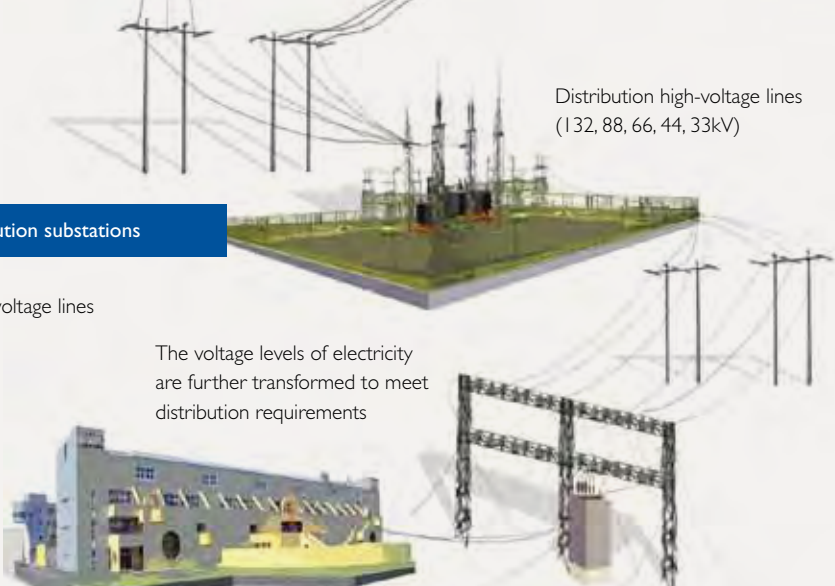


Distribution high-voltage lines  
(132, 88, 66, 44, 33kV)

**Distribution substations**

Reticulation high-voltage lines  
(22, 11, 6,6, 3,3kV)

The voltage levels of electricity  
are further transformed to meet  
distribution requirements



**Customers**

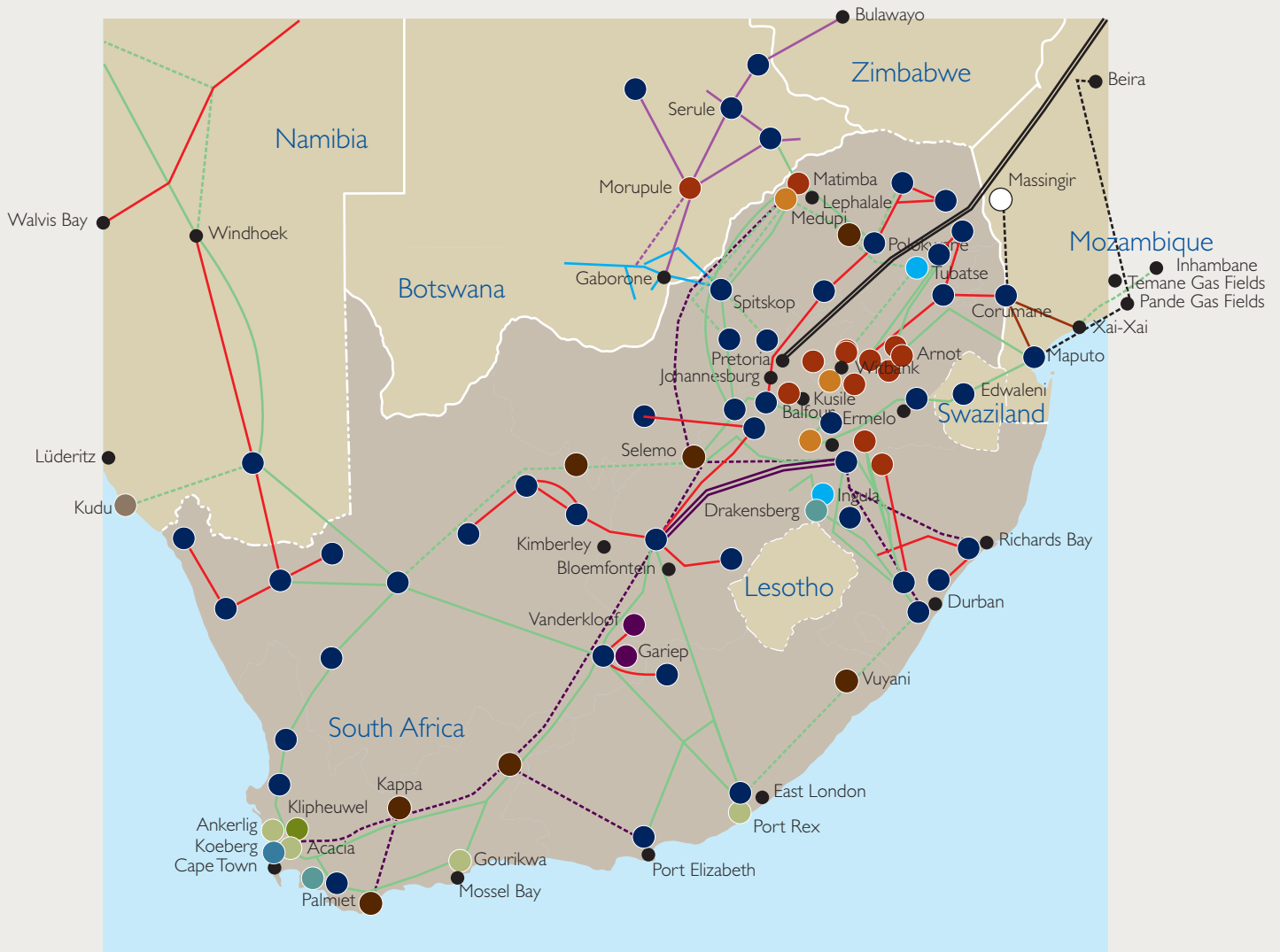
Reticulation low-voltage lines  
(380, 220V)



<sup>1</sup> 88% of electricity sold is produced from coal.



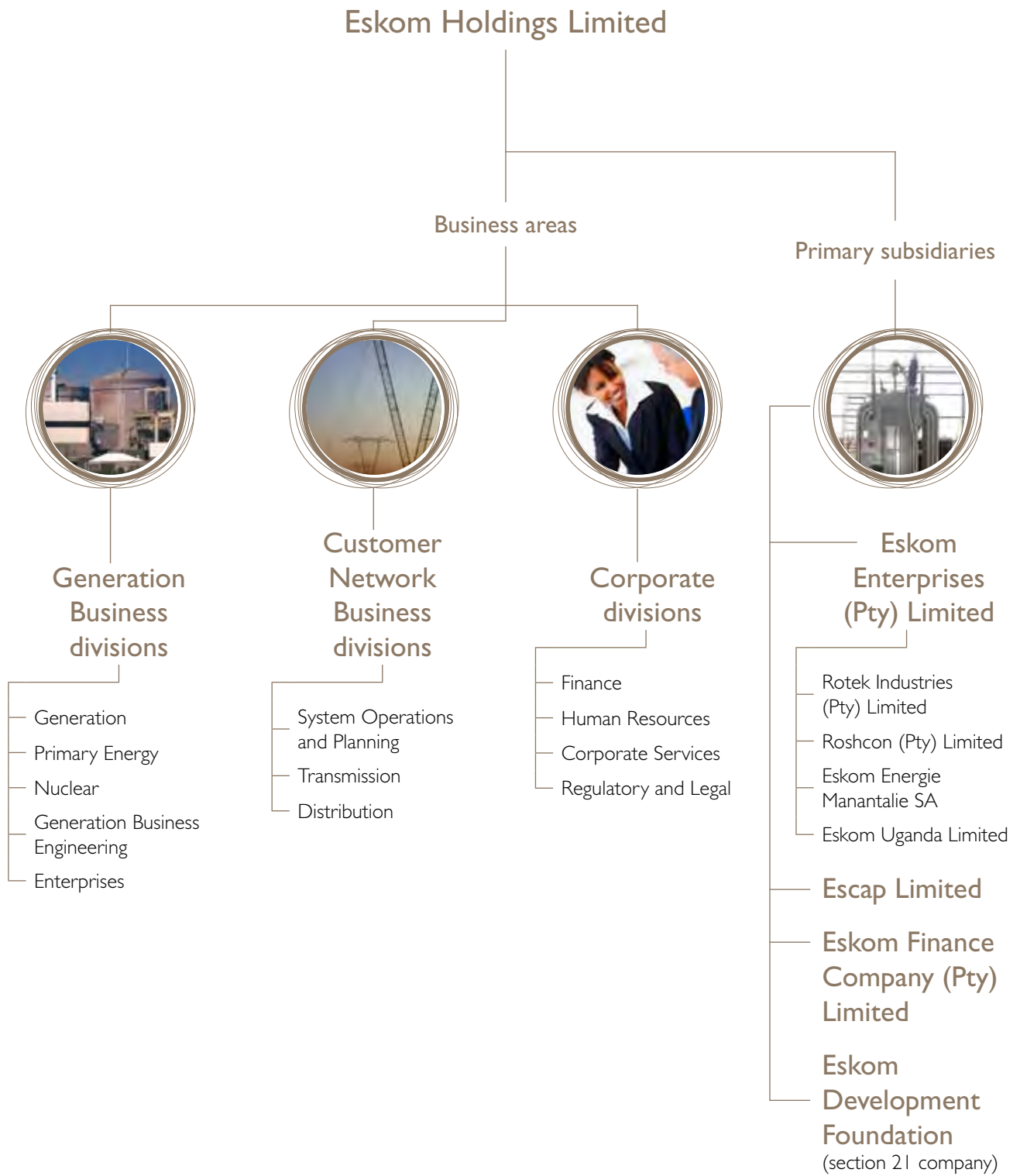
# Southern Africa grid map



- KEY**
- Existing grid system – 132kV
  - Existing grid system – 220kV
  - Existing grid system – 275kV
  - Existing grid system – 400kV
  - - - Possible future grid system – 400kV
  - Existing grid system – 765kV
  - - - Possible future grid system – 765kV
  - Future hydro-electric power station
  - Future coal-fired power station
  - Hydro-electric power station
  - Interconnection substation
  - Future gas station
  - Future pumped storage station
  - Coal-fired power station
  - Future interconnection substation
  - Nuclear power station
  - Pumped storage station
  - Gas power station
  - Renewable energy
  - Town

The map indicates the South African power network and some interconnections with neighbouring countries.

# Organisational structure



## Vision

Together building the powerbase for sustainable growth and development

## Values

Excellence, innovation, customer satisfaction and integrity

## Strategic objectives

Ensuring reliable supply of electricity to all South Africans

Ensuring adequate future electricity supply for South Africa

Supporting the developmental objectives of South Africa

Ensuring business sustainability of Eskom

### Strategic thrusts and initiatives

Electricity is the essential component of all economic activity, and for realising national socioeconomic objectives. Eskom must therefore ensure that it operates its system in such a way that it provides reliable supply of electricity to the country at appropriate costs ie, migrate to cost-reflective tariffs in line with the electricity pricing policy (EPP).

South Africa needs to build 40 000MW of new generation capacity by 2025, of which 12 476MW, is already under construction (mainly Medupi, Kusile, return-to-service stations and Ingula). Of these, 4 906MW have already been commissioned. Eskom will also facilitate the implementation of independent power producers (IPPs) within the industry while taking every care to ensure that associated risks are managed.

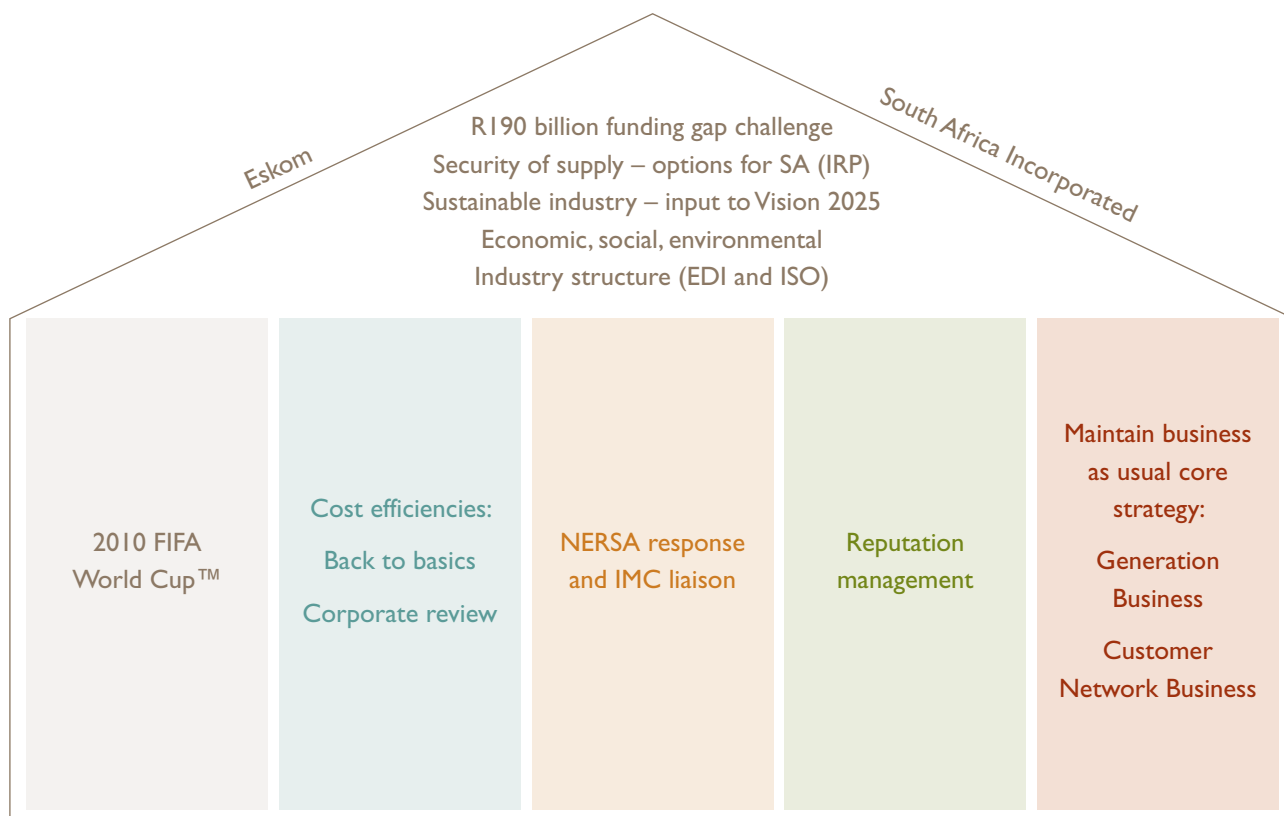
Eskom will continue to support the electricity supply and value chain of the economy by driving affirmative procurement and creating new jobs and industries through the capacity expansion programme which will be measured through progress made on the competitive supplier development plan (CSDP).

Eskom will work towards sustainability in the short, medium and long term, which means embracing all areas of sustainability. This implies the necessary balance and trade-offs that will have to be made between the various sustainability criteria, eg, financial health versus the additional costs incurred for climate change mitigation, with the consequent impact on performance in these areas.



Cross-cutting enablers

## Eskom priorities



**2010 FIFA World Cup™:** Significant work has been undertaken to ensure that Eskom plays its part in this global event.

**Back to basics project:** Integration and prioritisation of the many financial and human resource initiatives. This includes the standardisation of transaction processing, reporting, policies and procedures, controls and associated training across the business. This will ultimately result in a SAP upgrade and provide improved, quicker management information.

**Corporate review:** This project will analyse corporate divisional functions, benchmark then against similar institutions and identify activities for rationalisation within existing operations. Potential duplications will be identified. This project aims to create the urgency for rationalisation and improve the effectiveness and efficiency of corporate functions.

**Reputation management:** Stem the flow of negative media coverage in the short term and recover and turn around Eskom image and reputation in the long term, while at the same time, gearing Eskom's corporate communication strategy.

**Generation Business:** Add new capacity, manage existing plant, strive for cost efficiencies, focus on operational excellence and safety.

**Customer Network Business:** Integrate demand management across Eskom, improve revenue management, sign power purchase agreements, and facilitate the national integrated resource plan.

**Participation in subcommittee of Inter-Ministerial Committee (IMC) on Energy:** A number of regulatory and policy issues need to be addressed now to position the electricity industry for success into the future. Government has established the Inter-Ministerial Committee on Energy to address the key challenges and to facilitate progress towards an optimal regulatory and policy environment – one that is credible, predictable, legitimate and transparent. Eskom needs to provide input and support into this important process.



*Apollo substation in Gauteng is the main interconnection to Cahora Bassa in Mozambique.*



# Sustainability reporting in Eskom

- 12 Sustainability
- 13 The application of the GRI principles
- 14 Stakeholder engagement
- 17 Eskom reputation and engagement with stakeholders
- 18 Integrated risk management

## Sustainability

### What sustainability means to us

Our long-term drive for sustainable development is inherent in the long-term nature of our business. While we are responding to the demand for electricity by building new capacity, ensuring financial stability and driving energy efficiency we understand that the long-term nature of our business has an impact on environmental sustainability into the future. Therefore we continue to strive for a balance between the different legs of sustainability. Bearing this in mind, our long-term planning processes take into account a lower carbon future for South Africa, while ensuring that we uphold our definition of sustainability – providing affordable energy and related services through the integration and consideration of economic development, environmental quality and social equity into business practices in order to continually improve performance and underpin development. Eskom integrates sustainability criteria into its decision-making process in order to ensure that this aspiration for sustainable development is continuously achieved.

An important part of our sustainability drive is increasing consumer awareness of the implications of electricity generation – the resources consumed, the cost, and the impacts on the environment – as well as the benefits of using electricity. Sustainable development requires that every person in South Africa starts thinking about energy – how we generate it, what we pay for it, how we use it and how sustainable it is. Collectively we can make national decisions to ensure a sustainable electricity system for South Africa.

### Sustainability governance

The directors of Eskom regard corporate governance as vitally important to the success of the business and are unreservedly committed to applying the principles necessary to ensure that good governance is practised, and that the company remains a sustainable and viable business, of global stature. The board sustainability committee deals with integrated sustainability issues and approves or recommends policies, strategies and guidelines, particularly related to safety, health, environment, quality and nuclear issues.

The executive management sustainability and safety subcommittee guides Eskom's strategy on sustainability including environmental management, development issues and occupational health and safety matters. Sustainability strategies are reviewed by this committee for consideration by the sustainability committee of the board.

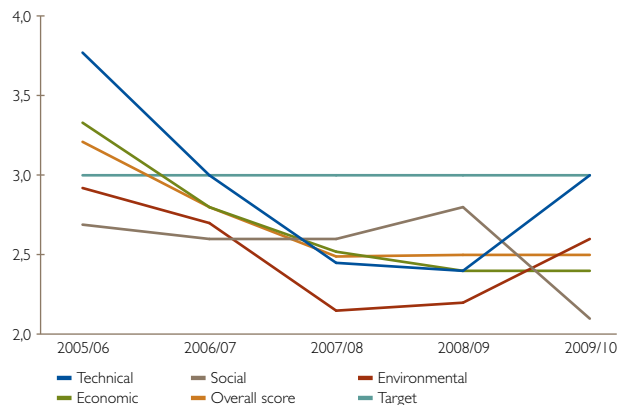
### Sustainability performance index

Our internally developed sustainability performance index has now been in place for five years and provides a view of our long-term sustainability status. This is achieved through the use of economic (including financial), environmental, social and technical indicators for our operations.

The index has 20 indicators and each indicator is allocated a relative weighting and further modified with regard to the relative contribution of each of the four areas of economic, environmental, technical and social aspects. The overall performance is considered sustainable if the score is equal to or greater than three on a five-point scale.

Our overall performance was 2,5 (2009: 2,5) with sector scores as follows:

Sustainability performance index



After five years of measurement we have seen an initial three years of decline and a subsequent stabilisation of sustainability performance during the last two reporting periods. The performance was the result of improvements in the areas of staff commitment, electrification connections, HIV/Aids strategy and return to profitability. Areas contributing to the score being low, are staff and contractor fatalities, our reserve margin, productivity, equity and B-BBEE spend.

The index will be re-looked at during the next financial year based on a revised sustainability strategy.



## The application of the GRI principles

We make use of the Global Reporting Initiative (GRI) guideline as a reporting framework for this report and have declared a GRI B+<sup>LA</sup> application level. We aim for an A+ application level in the future using the GRI Electric Utility Sector Supplement.

In terms of providing assurance around the sustainability issues in this report, our assurance provider was requested to provide assurance for certain non-financial/sustainability measures against the International Standard on Assurance Engagements 3000: Assurance Engagements other than Audits or Reviews of Historical Information and the AA1000AS (2008) Assurance Standard – Requirements for independent assurance on disclosed information regarding non-financial/sustainability and sustainability performance. This report is presented on page 169.

Our understanding of sustainable development in our specific context is set out on page 12. The Eskom sustainability performance index on page 12, together with the performance areas and indicators in this report, reflect the opportunities and constraints we face in executing our sustainable development strategy.

This report has been structured around the different areas of our business, namely: Finance, Corporate Services, Human Resources, Regulatory and Legal Framework, Generation Business, Customer Network Business and subsidiaries. Each of these areas has reported on their business performance around the material issues, highlights, lowlights and forward-looking strategies and commitments, where relevant.

In Eskom's previous annual report there were certain shortcomings relating to our stakeholder engagement process and the way in which stakeholders influence our reporting of material issues. The diagram on page 15 depicts the internal governance structure used during this reporting period to co-ordinate the integrated report process. This also sets out the process for determining material issues to be reported on in this report. Stakeholders' issues and concerns are integrated into the process through our stakeholder engagement working group. See section on the next page for more information on stakeholder engagement for the annual report. The sustainability reporting process allows for a "bottom-up" and "top-down" approach in determining the material issues for reporting.

The following AA1000APS principles have been applied in the compilation of this integrated sustainability report:

- **Inclusivity:** the results of our stakeholder engagement processes, as set out in sections on stakeholder engagement, regulatory framework and Eskom reputation on pages 14, 17 and 87 of the profile are used to inform the structure and, more importantly, the issues reported on. This is in addition to our internal process of business planning, setting of objectives and performance targets as well as integrated risk management. We acknowledge that our existing process around stakeholder engagement is not optimised through a centrally co-ordinated approach. This is reflected in the corporate risk register relating to "broad reputation damage caused by inconsistent and uncontrollable communication" – see page 18.
- **Materiality:** the main areas covered in this report in terms of both current and future issues are based on what our stakeholders have communicated to us. In addition, our business focus areas and priorities have influenced the material issues reported on as shown on page 16 covering our vision, values and strategic objectives. This has been strengthened through a group-wide integrated risk management process. This is disclosed in the risk profiles of the divisional sections within this report. The process of identifying material issues to be reported on is depicted in the diagram on page 15.
- **Responsiveness:** our intention is to ensure that we have provided the information our stakeholders have requested relating to sustainable development. This has been indicated by way of cross-references within the table on page 16. Eskom aims to improve the reporting on the issues most material to our stakeholders by responding to their specific needs (through the integrated report process as well as our other stakeholder engagement mechanisms) and provide them with sufficient details.

## Stakeholder engagement

### Understanding our stakeholders

We define stakeholders as a person, group, or organisation that has a direct stake in our business because they can affect or be affected by our activities, objectives and policies. In this sense, among our key stakeholders are our shareholder, civil society, the public, and land owners affected by our operations, customers, Eskom (board of directors and employees), lending institutions and investors, government, regulators, industry, suppliers, media, organised business, organised labour, parliamentary portfolio committees and select committees and regulators.

### How we engage with our stakeholders

At Eskom we view the participation of internal and external stakeholders as an essential part of our decision-making process. Our stakeholder engagement practices are based on the AA1000 Stakeholder Engagement Standard (SES) principles of materiality, completeness and responsiveness. The process is influenced by our commitment as a signatory to the United Nations Global Compact and alignment with King III.

We had a range of stakeholder engagements within the business driven by different portfolios, divisions and functional areas throughout the year. The material issues reported on in this integrated report are based on these engagements.

Our internal Guardian programme (refer to page 17 for more details) was designed and used as a tool to facilitate continual internal dialogues with employees to empower them to be ambassadors for Eskom. Added to this was customer feedback through focus groups, forums, committees and other methods. Input was also gathered through stakeholder dialogues, reports from lending institutions and investors, the shareholder, non-governmental organisations, suppliers, media and industry.

### Stakeholders and materiality issues

To identify the key material issues to be reported on, we first compiled information on economic, environmental, governance and social issues that were relevant to Eskom's business and stakeholders. To this end, we reviewed numerous sources, including:

- Eskom shareholder compact
- shareholder resolutions and other feedback received through ongoing dialogue with shareholders
- Eskom corporate plans, objectives and strategies and performance
- risks
- policies and initiatives related to our business
- employee surveys and other inputs from employees
- customer feedback obtained through focus groups, forums, committees and other methods

- input gathered through stakeholder dialogues
- input from investors and investor groups committed to sustainable investing
- partners, non-governmental organisations, suppliers and other stakeholders
- media coverage
- industry benchmarking
- the Global Reporting Initiative (GRI), the UN Global Compact principles

Engagements with key internal stakeholders from across all our portfolios, divisions and functional areas of the business were held to identify and prioritise material issues for Eskom. The principal purpose of the engagements was to establish stakeholders' and the organisation's material concerns that Eskom should report on. The material issues were defined through a number of activities in Eskom:

- feedback from the executive management
- engagement with employees
- internal and independent reviews of Eskom's 2009 Annual Report
- engagement with external stakeholders
- queries, reviews and assessments from investors and rating agencies
- trend-spotting of issues of relevance to Eskom's business
- review of media coverage of Eskom and public agenda issues

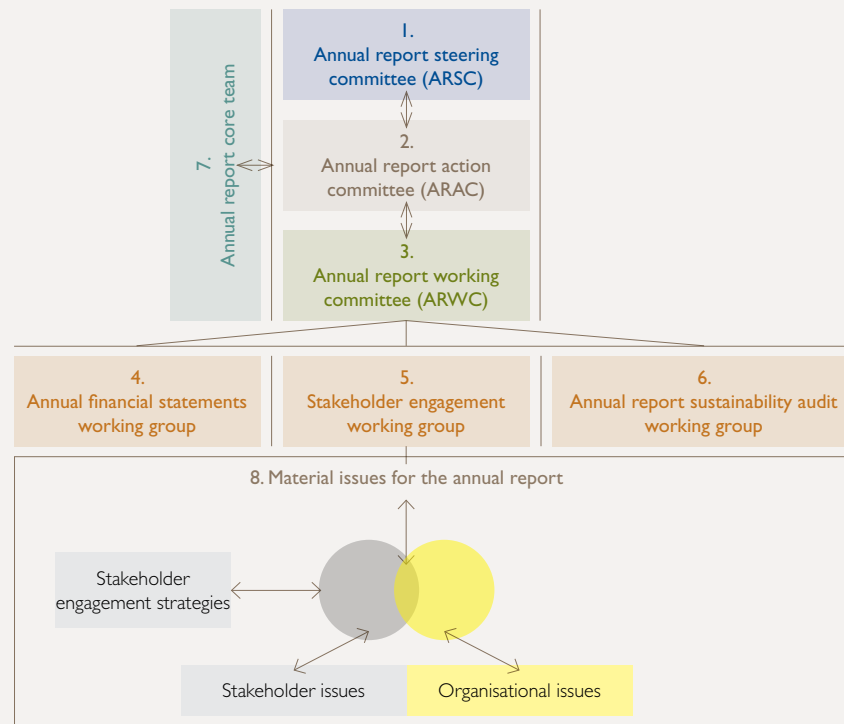
The table on page 16 provides a summary (full table available on internet) of material issues from the stakeholders that were identified and prioritised for the purposes of the integrated report. We recognise the importance of issues that may not be within our mandate but influence the operations of Eskom. In these areas, we believe that we can, however, influence how progress is made in addressing these issues, particularly through public policy and regulation through engagement with those that have the mandate – see the Regulatory and Legal Framework section on page 86.

### Method for selecting materiality issues

Materiality is determining the relevance and significance of an issue to Eskom and our stakeholders. An issue or concern is considered material if it influences or is likely to influence the decisions, actions and behaviour of stakeholders and/or Eskom. Accountability's five-part materiality test was used to help to define the materiality of issues. Issues were ranked as being of high, medium, or low materiality in the following:

- the impact on Eskom's ability to achieve its business strategy
- level of concern to external stakeholders and
- the degree to which Eskom can control and influence the issue

### Process used to determine material issues to be reported in the integrated report



1. This is an executive management level committee to give strategic direction and focus on the theme, material issues and key messaging of the report (top-down).
2. This is a general manager level committee to review input into the report and facilitate the key messaging from the ARSC to the ARWC and inform the ARSC of the “bottom-up” material issues from the ARWC.
3. This is a technical and management level committee that is tasked to manage and co-ordinate the input from the three working groups and to inform the ARAC.
4. This group co-ordinates all the financial input into the annual report (including managing the financial audit process).
5. This group co-ordinates and collates the various stakeholder issues, and informs the material issues for reporting for the annual report.
6. This group co-ordinates the sustainability (non-financial) audit process.
7. This group acts as an overall facilitator to the annual report process to ensure that all components of the annual report are achieved timeously.
8. This diagram depicts how the material issues for the annual report are determined, also recognising that there are other processes for stakeholder engagement that respond to stakeholder concerns.

### Using information obtained from stakeholder engagements

We have obtained valuable insight from engagements with our stakeholders and this information has the potential to bring about a significant shift in the way we do business. Some stakeholder concerns raised can be addressed fairly easily while others have the potential to bring about significant process changes within the organisation.

The fundamental issue at present is therefore to prioritise resolution or incorporation of stakeholder interests of an immediate nature, while making a sincere attempt to respond to stakeholder concerns that require longer-term interventions. To build trust, Eskom will continue to create platforms for meaningful input and discussion with the broadest spectrum of stakeholders, and to provide meaningful

feedback to stakeholders on the substance and progress made regarding the issues tabled at these engagements.

Eskom recognises the diverse range of material issues from our stakeholders. However, it was critical to address specific material issues they have raised during this reporting period. These have been addressed through management responses in the form of questions and answers in those divisional sections mandated to respond to those material issues. Further insight into those material issues is addressed in the divisional sections.

### Looking forward

Eskom will continue to improve on the effectiveness of our existing stakeholder engagement practices through alignment with the AA1000 Stakeholder Engagement Standard.

## Stakeholder engagement continued

### Key stakeholders and their material issues

<b>Stakeholders</b>	<ul style="list-style-type: none"> <li>• Civil society (general public, communities land owners and farmers, NGOs)</li> <li>• Customers</li> <li>• Employees</li> <li>• Financial markets and investors</li> <li>• Industry, including independent power producers; Energy Intensive User Group; Amalgamated Municipal Electricity Undertakers; South African Wind Energy Association, etc</li> <li>• Government</li> <li>• Suppliers</li> <li>• Media</li> <li>• Organised business</li> <li>• Organised labour</li> <li>• Parliamentary portfolio committees and select committees</li> <li>• Regulators</li> <li>• Previous recipients of our annual report</li> </ul>
<b>Engagement methods</b>	<ul style="list-style-type: none"> <li>• Focus groups</li> <li>• Forums and committees</li> <li>• One-on-one meetings</li> <li>• National Energy Regulator of South Africa's public hearings on Eskom's multi-year price determination (MYPD 2)</li> <li>• Online – emails and internet and intranet</li> <li>• Public participation as part of environmental impact assessments</li> <li>• Road shows</li> <li>• Surveys</li> </ul>

	<b>Page</b>
<b>Material issues</b>	38 to 46
• Financial sustainability of Eskom including tariff and funding	38 to 46
• Employees: safety, recruiting skills, retaining skills and involving staff in the business (organisational resilience)	76 to 83
• Energy efficiency and demand-side management	156 to 157
• Eskom's operational efficiencies, including the costs and supply of primary energy (coal and water), the collection of bad debt, optimal spending on maintenance for the ageing fleet	102, 109, 203
• Leadership and management commitment	22 to 25
• Managing large capital expansion programme while tightening the anti-corruption and fraud prevention mechanisms	67, 125
• Policy and regulatory environment including:	110, 158
– Pricing policy – long-term tariff stability and funding of the capacity expansion programme as well as fuel and water policy – adequacy of long-term coal and water supply	87
– Energy policy – market structure, regulation – enabling the introduction of Independent Power Producers (IPPs)	87
• Responding to climate change, renewable energy and nuclear	54
• Restoring public confidence, Eskom's image and reputation management	17
• Restructuring of the electricity distribution industry	89
• Security of electricity supply – availability of adequate generation capacity to meet customer demand at any time and a secure and reliable transmission system to deliver power to all regions of the country. Including 2010 FIFA World Cup™	135
• Supporting the developmental objectives of South Africa – electrification, eradication of poverty and unemployment and protecting the poor against the impact of a higher electricity tariff, public safety	69

## Eskom reputation and engagement with stakeholders

Eskom's challenge to satisfy the demand for electricity still remains. This has taken place within the context of poor financial performance and leadership challenges. Environmental lobby groups have also focused worldwide attention on Eskom's coal-based capacity expansion programme. These factors, among others, affect the overall corporate reputation negatively, which makes it difficult for Eskom to operate and source the required funding.

A number of reputation studies were conducted in partnership with the Reputation Institute to determine the key drivers of Eskom's reputation among employees, stakeholders and the general public. The insights gained from these studies have been used to inform communication strategies and plans aimed at creating breathing space for Eskom in the short term, building credibility in the medium term and repositioning the organisation into the future.

An integrated communication campaign has been implemented to educate residential customers about energy efficiency, public safety and the benefits of the capacity expansion programme. This is supported by media relations and messaging; as well as branding and public relations interventions.

An extensive energy efficiency campaign has been implemented to not only build awareness of saving electricity but also to change the energy consumption behaviour of South Africans. In partnership with a number of suppliers, new product offerings were also introduced to the market such as energy-efficient showerheads, solar water heating, energy-efficient motors, to name a few.

Eskom's public safety campaign continues to create awareness in the market on the safe use of electricity. The campaign culminates in an annual electricity awareness safety week in August.

Energy losses remain a major concern for the business and a targeted social marketing campaign was launched in September 2009. This campaign focuses on non-technical losses such as theft, non-payment and tampering with electricity installations.

Reputation management has been elevated to be among the key strategic imperatives of the business. A cross-functional team has been established to ensure an integrated approach to reputation

management. This consists of members of the executive committee, as well as specialists from key functions such as reputation management, corporate strategy and planning, risk management, human resources, finance, legal and audit departments. This has since culminated in a successful rollout of the Guardian programme – an internal brand ambassador campaign, and the MYPD 2 stakeholder engagement roadshows across the country. The results of these initiatives are leadership visibility, openness and transparency; and an exciting journey towards restoring public confidence in Eskom.

Under the auspices of a major reputation restoration campaign for Eskom, which has been approved for implementation, Eskom will focus on enhancing our culture, educating employees on their role in supporting the South Africa Incorporated brand, delivering a successful 2010 FIFA World Cup™ intensifying stakeholder engagement on key issues that impact on the corporate reputation, pro-active media engagement and mobilising the nation towards power conservation.

### Internal programme

The Guardian programme, introduced towards the end of 2009, is focused on empowering employees to be ambassadors for Eskom. Central to this objective is instilling pride and passion in the Eskom brand and helping employees at all levels to work as teams, dedicated to safeguarding the assets that are vital to the nation's electricity.

Launched by the Acting Chairman Mpho Makwana, the Guardian programme is being introduced to all Eskom regions and power stations in a phased manner. The campaign relies extensively on the use of elements such as roadshows, industrial theatre, roadmaps, websites and audio-visual material, to gain the support of employees. The interactive campaign will continue throughout 2010 and into 2011 to ensure that the Guardian programme becomes an integral part of the lives of all employees.

Staff who embody the values of the Guardian programme through their interactions with colleagues and their dedication to their roles within the company will be used to reinforce the programme with their peers and families.

## Integrated risk management

Eskom values the importance and benefits of having an integrated risk management (IRM) programme and applies best practices as set out in ISO 31000, King III and the Department of Public Enterprises' risk management framework.

Eskom has established one framework for the management of all risks across the whole organisation, achieving an appropriate balance between realising opportunities for gains while minimising adverse impacts. IRM is an integral part of good management practice and an essential element of good corporate governance.

Eskom's approach to IRM looks at risk as exposure to the consequences of uncertainty, or potential deviations from what is planned or expected and is applied to the management of both potential gains and potential losses.

Eskom management is integrating risk management into Eskom's management culture. This means that IRM will be embedded in everything the organisation does – aligning strategy, processes, people, technology and knowledge. This will enable:

- the Board and senior managers to confidently make informed decisions about risk and risk treatment
- the pursuit of strategic growth opportunities and projects with greater speed, robustness and confidence to the benefit of Eskom and its customers and shareholder
- daily business decisions at the operating level within the context of Eskom's capacity to bear risk and the types it prefers
- the organisation to manage the risks to the value of non-tangible assets – customers, partners, intellectual and knowledge capital, brand, processes and systems – just as fully as physical and financial assets

As a result, there will be greater certainty around achieving Eskom's strategic objectives.

### Integrated risk profile

The Board acknowledges its overall accountability to ensure an effective results-driven, IRM process. Exco has implemented a risk control system to enable management to respond appropriately to significant risks that could impact negatively or positively on business objectives.

Risk reviews are conducted continually with input from divisional and functional areas. Risks identified are ranked by divisions and subsidiaries, reviewed, and then assessed by Exco, the Board risk management committee, and the board to determine the priority risks and those risks that may require business continuity plans. The risk profile is finalised only after executive accountability has been assigned for each of the risks, backed by continuous monitoring of the effectiveness of controls and progress against agreed treatment plans.

### Eskom Holdings strategic risks

The current Eskom Holdings high priority risks and initiatives to address them are listed below:

#### Financial sustainability

- The impact of funding shortfalls which could affect plant availability and capacity expansion could lead to load shedding, delayed commissioning of new plant and further damage to Eskom's reputation.
- Increase in bad debts given the impact of the MYPD 2 increases and the impact on the funding shortfall.
- Increased economic growth (above forecast) and the financial impact of having to run the more expensive gas turbine stations.
- To address all of the above, a detailed and robust funding plan has been formulated and is being implemented (see further detail in Finance division report).

#### Brand and reputation

- Brand and reputation damage that may be caused by inconsistent and uncontrolled communication about Eskom both internally and externally. This could spiral into stakeholder activism and give rise to security threats.
- Eskom is currently running internal roadshows and external communication programmes. A review is underway to ensure integrated reporting across Eskom and that there is consistency in all communication with the external environment.

#### Generation and networks

- Overloaded networks leading to Eskom not being able to meet the nation's electricity demand, and thus not achieving regulated service standards. The impact of this can be rolling blackouts and increased safety related threats.

- Eskom has embarked on several initiatives to reduce the demand for electricity such as energy efficiency demand-side management (EEDSM). This has been executed simultaneously with asset management and refurbishment programmes that will allow our existing infrastructure to accommodate the current demand.

### Capacity expansion

- Large-scale overruns on capital projects and overruns on key milestone dates due to uncertainties associated with planning, design, integration and executability of long-term expansion plans.
- Eskom is continually assessing and improving its controls over design planning and execution of capital projects.

### Regulation and legislation

- Environmental legislation affecting existing and future plant and investment decisions.
- Eskom is engaging all relevant regulatory bodies and factoring possible changes into all planning initiatives.

### Skills

- Recruitment and retention of skills impacting Eskom's current and future needs with regard to day-to-day operations, maintenance and capacity expansion activities.
- Eskom is reviewing its processes to streamline and optimise various human resource related functions.

### Climate change

- Agreements related to international climate change negotiations could lead to onerous obligations for the Republic of South Africa and Eskom.
- Climate change has long been an integral part of Eskom's business. We remain committed to the principles and aspirations of our climate change strategy, developed in 2005 and our six-point plan on climate change. During this year we will be revising our climate change strategy taking into account changing international and national circumstances.

### Business continuity management

Business continuity management (BCM) entails risks that may threaten the continuity of business should they occur. All divisions and subsidiaries develop, implement, maintain and review appropriate business continuity plans for their businesses.

### Emerging risks

Trends in the local and international domain that might affect Eskom's strategic business context and which will be continually monitored and assessed:

- Widening global governance gaps as a result of international government decisions taken regarding climate change, international financial policy, etc.
- Global market recovery and South African financial and growth recovery resulting in increased demand for electricity.
- Energy inefficiency in South Africa due to the perceived high cost of energy-saving technology and poor/wasteful behaviour derived from a long period of low cost electricity.
- Protecting the poor from burdensome increases of electricity prices while aiming to have electricity tariffs that reflect the economic cost of electricity production.
- Increasing cost of transporting coal, uncertain long-term supply of coal and deteriorating quality of coal.
- Decreasing availability and quality of water.
- Security threats against Eskom's people and assets, energy theft and vandalism of energy infrastructure.
- Increased non-payment as a way of public protest against the price of electricity.
- Data fraud/loss due to the hacking of networks.
- Introduction of carbon taxes which may have a negative effect on Eskom's financial position.



For detail on Eskom's six-point climate change strategy go to [www.eskom.co.za/annreport10/001.html](http://www.eskom.co.za/annreport10/001.html)







# On the path to recovery

## Leadership overview

22	Letter from the acting chairman
26	Board of directors
28	Executive management committee
30	Executive performance overview
34	Performance against the shareholder compact

## Letter from the acting chairman

Mpho Makwana, Acting Chairman



**1,7%**

sales volume growth

**R57,0 billion**

capital expenditure

**452MW**

generation capacity added

Dear Stakeholders

It is a privilege to have been asked to serve Eskom and South Africa as Acting Chairman of this important utility. I wish to thank the Board of Directors and the shareholder, the Honourable Ms Barbara Hogan (MP), for the confidence she placed in me. The biggest challenge was to execute this mandate with deep humility, ensuring that such confidence is not misplaced. I am reporting on the 2010 annual results as Acting Chairman following the resignation of both the Chairman of the Board, Bobby Godsell, in November 2009 and the Chief Executive, Jacob Maroga in October 2009. I was tasked to focus on recovery and, more importantly, to heal the people of Eskom following these unsettling leadership challenges.

Tumultuous as the end of their tenure has been, as we move on and turn over a new leaf in a new chapter in the history of Eskom, I wish to thank them on behalf of the Eskom family for the contribution they made to our journey as a state-owned enterprise.

Last year, when Eskom recorded a loss, we committed to return Eskom back to financial health and ensure that it will remain a going concern. I'm pleased to report back on that promise and that we are posting a profit. We have now removed the majority of the embedded derivatives from our balance sheet. The vacancies in our executive management committee, a worry last year for both the board and the entire community of stakeholders, have all been filled. We will soon announce the name of the new chief executive.

We believe that we are slowly returning to the status we've always had: a great place to work, a great place to invest for financiers, a great customer for some of the world's leading technology suppliers and a great source of pride for all South Africans. We are pleased to report back at this point on the progress we've made over the past 12 months, and what still needs to be done.

Last year we defined our objective as regaining the trust from our local and regional markets and customers, the global financial markets, our regulator and government stakeholders. While this is a work in progress, I believe we're well on our way to recovery.

### Our past

Since 1923, Eskom has been an integral part of South Africa: Eskom's story is South Africa's story in so many ways. Eskom matters, and it matters to all of us:

- our 40 870MW net maximum installed capacity makes us one of the world's top utilities, when measured in terms of generation capacity
- we generate 95% of all electricity consumed in South Africa, indeed, that's 45% of all electricity consumed in Africa
- we serve more than four million customers, across southern Africa, every day
- our infrastructure includes 390 000km of power lines: end-to-end, that's almost 10 times around the globe
- we employ 39 222 people in the group to serve the nation who are driven by our central asset – which I believe is our value system

That's what makes our recent history so painful, while it makes our long history a source of pride. We are, I believe, on the way

to recovering that proud status: a partner and enabler in southern Africa's development. I believe that the 2010 FIFA World Cup™ will be one of the steps along that road for us. However, I fully appreciate that we will have to earn the trust of our stakeholders again.

We have enough reason to believe that we'll overcome the recent challenges – our list of recent achievements stands proud for all to see:

- In 1994, 30% of all South Africans had access to electricity. That now stands at 70%, with an addition of 149 901 connections this year. We have extended electricity to tens of millions of people since 1994, with 3 901 054 homes electrified since the inception of the electrification programme in 1991.
- Eskom has been recognised by the Department of Public Works for creating tens of thousands of jobs under the expanded public works programme.
- We run a massive skills development programme, training thousands of people every year, as well as run schools initiatives such as the Eskom energy and sustainability programme – a long-standing partnership between Eskom and the Wildlife and Environment Society of South Africa (WESSA) – and the Eskom Expo for Young Scientists.
- From the late 1980s until the mid 1990s we allowed the price of electricity to reduce – too much, as it happens – but in the process, we released in excess of R40 billion to customers between 1988 and 1999, in a time when the economy needed this kind of support.
- During that time and, we believe, partly as a result of our efforts, South Africa won the confidence of investors and foreign businesses. Our reputation as a world-class utility, confirmed in 2001 when Eskom was chosen as the Global Power Company of the Year, served us, and served South Africa, during tough times.
- We spend billions of rand in South Africa every year, supporting local business and industry. Our procurement processes have been instrumental in the establishment of numerous local businesses and the empowerment of thousands of previously disadvantaged South Africans.

### Our assets and challenges

We managed to do that with the people that make the Eskom family. They are South Africans from all walks of life, and without their special dedication, South Africa would be the poorer. Service tenures of 30 or 40 years are not uncommon. They are truly representative

## Letter from the acting chairman *continued*

of our nation, comprising a skills base arguably unmatched anywhere else in South Africa. With the changes we have seen in our racial and gender mix since 1994, we now tap the entire skills pool of South Africa.

They are also the reason I believe we will overcome our current, and future challenges, significant as these are:

- While the deliberate under-pricing in the early nineties, referred to above, needed to stimulate the South African economy and investments as it was coming out of the apartheid era at the time, it is now clear that it was extended too far, and too long, and that this needs to be recovered.
- After more than 80 years of delivering the lifeblood of our economy, we have let the country down through supply shortages and other operational issues.
- Our capacity expansion programme is enormous: the three projects currently underway are among the biggest in the world, with a single project such as Medupi power station being bigger than all the 2010 FIFA World Cup™ investments and Gautrain combined.
- We are partnering with the South African government in working through the challenges of developing a sustainable supply of electricity, increasing the energy efficiency of the South African economy, while facing the requirements of climate change obligations, for instance through large-scale solar and wind power projects.
- We have to continue our commitment to numerous programmes that invest in social development. These include projects run under the auspices of the Eskom Development Foundation, and focus on the empowerment of women and children in rural communities.

I believe we are currently staring down the challenges ahead of us, which I see as supply challenges, associated funding challenges, managing the large capital investment programme, and regaining the trust of our customers and other stakeholders. The reason I believe we will emerge from this challenging phase of our history stronger and with pride is unambiguous – because of the special people we have, and the special organisation I have the privilege of stewarding, and the extraordinary support we have experienced from all our stakeholders.

We will continue to leverage our investments to the benefit of the South African economy – our capacity expansion programme has already created tens of thousands of jobs locally and has catalysed several new industries which will add value to the economy for years to come – and all this through a major recession. It is noteworthy

that Eskom's projects have been major anchors as the economy weathered the storm of recession.

As a massive business, with the kind of projects we undertake, and under the kind of pressure we operate, we have to continue to live our values, and be guided by a clear sense of ethics in all our endeavours. We believe it is essential that the integrity of our people, processes and practices are beyond reproach. As founding signatories to the United Nation's Global Compact (which includes an anti-corruption clause) and the World Economic Forum's Partnership Against Corruption Initiative, we are proud of our long record of integrity in this regard.

Our procurement practices are world class – as is evidenced by the outcomes of numerous third-party reviews which are undertaken in parallel with every major order we place. This includes the controversial placement of the Medupi and Kusile boiler contract with Hitachi South Africa. The process relating to this contract has been exhaustively reviewed for any improper conduct and emerged intact. The outcomes of the third-party review report of this process have already been made public.

### Road to recovery

Our recent history, though, is one of several significant crises, such as the Western Cape crisis of 2006, the nationwide load shedding of 2007 and 2008, the financial crisis of 2009 and most recently the leadership crisis of 2009.

We have let our customers down – and we have in the process disappointed and angered South Africa and ourselves. But even in these crises there is a silver lining. Earlier in this letter, I praised the people of Eskom and I shall close in the same vein – it is this huge team that has pulled us through these crises. In particular the recovery from the load shedding in the first quarter of 2008 – and the subsequent absence of load shedding – has been nothing short of commendable.

At the same time we must recognise that the crises are far from gone. We will be running out of capacity in the near future (as early as 2011 onwards) and there is therefore a need to urgently proceed with the current Eskom capacity expansion programme. This includes the Medupi, Kusile and Ingula projects and to return the mothballed power stations to service, and introduce independent power producers in terms of the medium-term power purchase programme.

Eskom and South Africa still have to face emission reduction targets, water shortages, massive funding requirements and many more challenges – all of this while recovering from the recession and investing in new infrastructure at a rate unprecedented in our country's history.

I believe that there is a need for a national dialogue on our energy future, while we focus on the completion of Kusile in 2017. This involves making choices as a country regarding the capacity needs for the future, the capacity mix, who will build the required capacity, what it will cost and how it will be funded. There has been a call for greater engagement and broader dialogue – we wholeheartedly welcome this in line with our own call for a national compact on electricity supply. Eskom welcomes an open and transparent engagement with stakeholders.

### Sustainability

Eskom is a leader in sustainability reporting – focusing transparently on reporting our financial, technical, environmental and social impact performance. We include full disclosure of our compact with our shareholder as well as against the norms of the Global Reporting Initiative (GRI) and strive to continually improve our performance in this regard.

Eskom is also a trend setter in this regard – as reflected in the deep respect we show for our value of innovation. In 1990 we were applying the principles of managing our business in terms of the triple bottom line – committed to maximise the economic, environmental and social returns of our business.

We acknowledge that 2010 is declared by the United Nations as the international year of biodiversity and continue to work with our partners and stakeholders to control our impacts on ecosystems and seek opportunities to contribute to the South African biodiversity strategy.

### Acknowledgements

I have already made special mention of the women and men of Eskom who managed to prevent further load shedding over the past year.

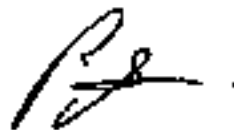
I would also like to thank my fellow board members for their counsel and am glad that we can continue to rely on their guidance and assurance for this important national asset. They have spent an enormous amount of additional time in special board meetings this year, to address the various challenges and I thank them for their invaluable time.

We bid farewell to Mr Allen Morgan who resigned as a non-executive director in March 2010 after serving on the board for nine years. Ms Sonia Sebotsa, an external committee member, resigned in February 2010. I thank them for their tangible contribution to the organisation in terms of strategic guidance.

A word of welcome to our new board members, Dr BL Fanaroff and Dr B Mehlomakulu. I would like to make special mention of Mr Paul O'Flaherty who was appointed as the Finance Director in January 2010. He has in this short space of time already left an indelible mark on the Eskom business.

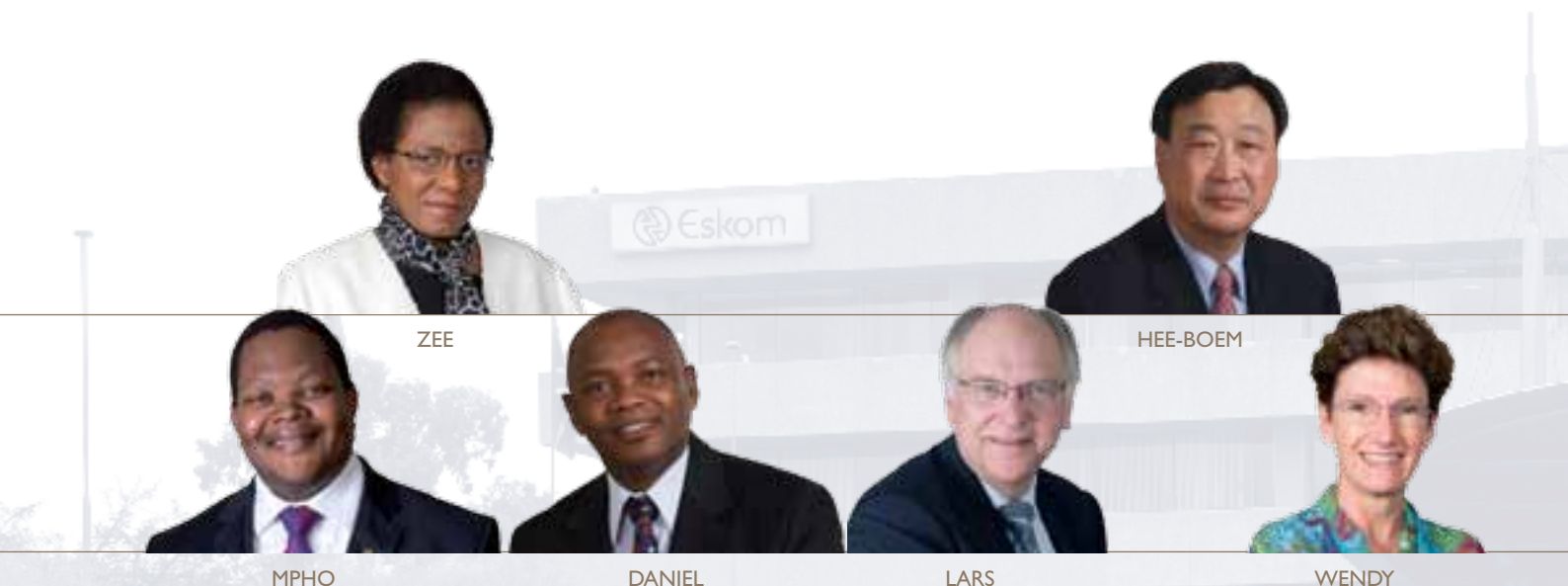
A special word of thanks to Ms Barbara Hogan, Minister of Public Enterprises and Mr Enoch Godongwana, Deputy Minister, for their active interest in and support of Eskom. I must also acknowledge the guidance and strategic direction from Ms Dipuo Peters, Minister of Energy. I would also like to thank Ms Vytjie Mentor and Ms Elisabeth Thabethe, chairpersons of the portfolio committees on public enterprises and energy respectively, as well as Ms Priscilla Themba, chairperson of the select committee on Labour and Public Enterprises for their continued support.

We may make more mistakes in future – but I hope you share my belief that, while the threats and challenges are still out there, the base that makes Eskom special is also still there. Together with the special partnerships we have throughout the South African society we can build on the hard lessons we have learnt in recent years and only go from strength to strength from here on.



Mpho Makwana  
Acting Chairman

## Board of directors



ZEE

HEE-BOEM

MPHO

DANIEL

LARS

WENDY

- 1. Mr PM (Mpho) Makwana (39)**  
Acting Chairman with executive powers  
*B Admin (Hons) (Pretoria), EDP (North Western)*  
Mpho was appointed in July 2002  
**Director:** Epitome Investments  
**Trustee:** Lovelife Trust
- 2. Ms LCZ (Zee) Cele (57)**  
Non-executive director  
*BCom (Fort Hare), PostGrad Dip Tax, MAcc (Natal) Executive Leadership Development Programme (Cambridge, USA)*  
Zee was appointed in August 2005  
**Director:** Hulamin Ltd, Combined Motor Holdings, Sports For All Franchising (Pty) Ltd, Three Cities Investments (Pty) Ltd
- 3. Mr SD (Daniel) Dube (60)**  
Non-executive director  
*Diploma in Management from the University of Leicester*  
Daniel was appointed in July 2008.  
**Chairman:** Self-help and Resource Exchange
- 4. Mr LG (Lars) Josefsson (59) (Swedish)**  
Non-executive director  
*MSc (Applied Physics) (Chalmers, Sweden)*  
Professor, Cottbus University, Germany  
Lars was appointed in July 2002  
**Director:** Robert Bosch Industrie-Treuhand KG, Robert Bosch GmbH, Dynea Oy
- 5. Mr HB (Hee-Beom) Lee (61) (Korean)**  
Non-executive director  
*BA in Electronics Engineering, Seoul National University, Graduate School of Public Administration, Seoul National University, MBA (summa cum laude), George Washington University, Ph.D in Business Management, Kyunghee University, Honorary Doctorate Degree in Public Administration, Hoseo University*  
Hee-Beom was appointed in July 2008.  
**Director:** National Academy of Engineering of Korea, Korean Air, STX Energy Group
- 6. Ms WE (Wendy) Lucas-Bull (56)**  
Non-executive director  
*BSc (Wits)*  
Wendy was appointed in July 2002  
**Director:** Peotona Group Holdings (Pty) Ltd, Dimension Data Holdings PLC, Development Bank of Southern Africa, Nedbank Group Limited, Anglo Platinum Limited



JACOB



ALLEN



JOHN



PAUL



UHURU

7. **Mr J (John) Mirenge** (44) (Rwandan)

Non-executive director

*Bachelor of Law (LLB) from the Makerere University, Kampala and a Post-graduate Diploma in Legal Practice (Law Development Centre, Kampala)*

John was appointed in July 2008

**Director:** Crystal Ventures Ltd, Rwandair Express, RECO/RWASCO (Rwanda)

8. **Mr JRD (Jacob) Modise** (43)

Non-executive director

*BCom, BAcc, CA(SA), MBA (Wits), AMP(Harvard), AMP (Samford)*

Jacob was appointed in July 2002

**Major directorships:** Altron, Batsomi Group, Blue IQ Investment Holdings, Electricity Distribution Industry Holdings, Road Accident Fund

9. **Mr AJ (Allen) Morgan** (62)

Non-executive director

*BSc, BEng (Electrical) (Stellenbosch)*

Allen was appointed in July 2002 and resigned on 31 March 2010

**Director:** Kumba Iron Ore Ltd, Lomold (Pty) Ltd, Lomotek Polymers (Pty) Ltd, Proplas (Pty) Ltd, South African Sustainability Development Company (Pty) Ltd, Bio Therm Energy (Pty) Ltd

10. **Mr PS (Paul) O'Flaherty** (47)

Executive director responsible for finance

*BCom, BAcc, CA (SA)*

Paul was appointed in January 2010

**Director:** Escap (Pty) Ltd

11. **Ms U (Uhuru) Zikalala** (50)

Non-executive director

*MSc (Structural Eng) (Patrice Lumumba, Moscow)*

Uhuru was appointed in August 2005

**Director:** Blue Flame Properties, Ulwazi-Bosch Skills Academy.

**Changes in board composition:**

- Resignation of Jacob Maroga as Chief Executive on 28 October 2009
- Resignation of Bobby Godsell as Chairman on 8 November 2009
- Appointment of Mpho Makwana as Acting Chairman, with executive powers on 12 November 2009
- Appointment of Paul O'Flaherty as Finance Director in January 2010
- Resignation of Allen Morgan on 31 March 2010



## Executive management committee



BHABHALAZI



MPHO



BRIAN

1. **Mr PM (Mpho) Makwana (39)**

Acting Chairman with executive powers  
*B Admin (Hons) (Pretoria), EDP (North Western)*

**Director:** Epitome Investments

**Trustee:** Lovelife Trust

2. **BE (Bhabhalazi) Bulunga (54)**

*Managing director – Human Resources division  
BA (Social Science) (Swaziland)*

Providing human resources strategy, direction, policies and assurance, strategic services including health and wellness, industrial relations, learning, organisational effectiveness and remuneration and benefits. Driving culture change through effective change management and implementation and development of appropriate programmes

3. **BA (Brian) Dames (44)**

Chief officer – Generation business  
*BSc (Hons) (Western Cape)  
MBA and Graduate Diploma in Utility Management  
(Samford, USA)*

**Director:** Rotek Industries (Pty) Limited, Roshcon (Pty) Limited, Eskom Enterprises (Pty) Limited

Operating and maintenance of generation assets throughout the plant lifecycle, nuclear operations and strategic primary energy sourcing. Designing, building and refurbishing electricity assets, leading project development for the Eskom group, being the custodian of the non-regulated businesses and offering strategic and commercial lifecycle services to the divisions.



STEVE



ERICA



PAUL

4. **E (Erica) Johnson** (41)

Chief officer – Customer network business  
*BSc (Electrical Eng) (Cape Town), MSc (Electrical Eng) (Cape Town), MBA (Witwatersrand)*

**Director:** Eskom Enterprises (Pty) Limited

Accountable for the Network and Customer Services Business in Eskom. This entails the planning, operations and maintenance of the Transmission and Distribution network, the management of the customer base, long-term electricity capacity planning and the revenue stream.

5. **Dr SJ (Steve) Lennon** (51)

Managing director – Corporate services division  
*MSc (Phys Metallurgy) and PhD (Witwatersrand)*  
*Professional scientist (Pr. Sci. Nat.)*  
*Fellow of the Academy of Engineering*  
*Fellow of the Royal Society*

**Chairman:** National Advisory Council on Innovation

**Director:** National Advisory Council on Innovation, Electric Power Research Institute, Eskom Enterprises (Pty) Limited

Supporting growth, innovation and sustainability of Eskom group by influencing strategic direction and risk management, ensuring safety, assurance, strategy execution, an optimal portfolio of assets, regulatory compliance, and effective group-wide governance, and providing strategic services in the area of information management, environment, security, insurance and research, demonstration and development to the benefit of the business as a whole.

6. **Mr PS (Paul) O'Flaherty** (47)

*Finance director, BCom, BAcc, CA (SA)*

Paul was appointed in January 2010

**Director:** Eskom Holdings Limited, Escap Limited

Providing financial procurement strategy, policies, assurance and strategic services to the Eskom group.

**Changes in Exco composition:**

- Resignation of Jacob Maroga as Chief Executive on 28 October 2009
- Appointment of Mpho Makwana as Acting Chairman with executive powers
- Appointment of Paul O'Flaherty as Finance Director
- Appointment of Bhabhalazi Bulunga as Managing Director for Human Resources in February 2010

## Executive performance overview

### Economic conditions

The slowdown in economic performance in the past year led to low consumer spending, further slowing down growth and putting the brakes on demand for credit. Spending on retail and wholesale trade sales plummeted to record lows, with the motor vehicle industry experiencing one of its worst years in decades. Government consumption expenditure remained resilient, supported by state-owned enterprises infrastructure programmes including Eskom's capacity expansion programme.

Despite the huge investment drive by state-owned enterprises, real gross fixed domestic investment decelerated sharply in the 2009 calendar year by 2,3% from a strong 11,7% in 2008. It is worth mentioning that Eskom's huge investment drive played a role in keeping fixed domestic investment in positive territory. Although headline inflation averaged 7,1% (above the 6% target) in the 2009 calendar year, indications are that consumer prices may decelerate further in 2010 as a result of the stronger currency and general weak price pressures. This should steer consumer prices lower and even to average below 6% in 2010.

Demand for electricity is already on the increase from a negative 4,2% reduction in 2009 to a positive 1,7% growth in 2010 in line with improving economic conditions.

### Business overview

During the past year Eskom started laying the foundation for its recovery in terms of its people, plant, finances, and reputation. Eskom achieved some notable improvements, the most significant being the group's return to profitability. Our promise was to return the group to financial health and ensure that it remains a sustainable going concern. As part of this, we have been able to remove a large portion of the embedded derivatives from our balance sheet and are also well advanced in finding solutions for our funding gap. The vacancies in our executive committee, a worry last year for both the Board and the entire community of stakeholders, have all been filled, except for the permanent Chief Executive position and the Managing Director in the Enterprises Division.

The National Energy Regulator of South Africa (NERSA), after lengthy deliberations including unprecedented stakeholder engagement announced on 24 February 2010, price increases over the next three years of 24,8% (FY11), 25,8% (FY12) and 25,9% (FY13). This ruling is encouraging as it is a positive move along the

path to ensure that electricity tariffs are cost reflective in the medium term. It has, however, exacerbated the funding challenges we face as we had requested a 35% annual tariff increase over the next three years.

We are working hard to ensure that Eskom once more becomes a reliable supplier of electricity, a great place to work, a great place to invest for financiers, a great customer for some of the world's leading technology suppliers and a great source of pride for all South Africans.

This recovery would not have been possible without the direct continued support of the Government of South Africa who have provided us bridging financial support in terms of a R60 billion (R40 billion drawn down to date) and a R176 billion guarantee for borrowings (R117 billion drawn down to date). Our medium-term goal is to become independently financially stable and the bridging finance provided to us has set us up favourably to achieve this goal.

### Highlights

- Return to profitability.
- Capacity expansion achievements – Ambitious agreed targets for Eskom capacity expansion programme were exceeded. These achievements include: 452MW installed and commissioned, 600km transmission lines built and 1 630MVA installed. Two units at Grootvlei power station were commissioned and we upgraded three units at Arnot power station. The Tabor-Spencer high-voltage line was commissioned. Since 2005 we have completed 4 905,5MW generating capacity, 2 825,4km transmission lines and 11 730MVA transmission capacity.
- No load shedding has taken place since end April 2008.
- Limited usage of the expensive open cycle gas turbine stations.
- Re-negotiation of aluminium contracts to eliminate embedded derivative components are at an advanced stage.
- Electrification connections of 149 901 against a target of 145 615 were achieved.
- Eskom ready for the FIFA 2010 World Cup™.
- World Bank (R28 billion) and African Development Bank (R21 billion) loans granted with drawdowns to commence in the next financial year.
- A 17-year coal supply agreement for Majuba power station was signed.
- Very low staff turnover, highlighting our staff commitment and resilience.
- Solutions to our funding gap well advanced.

## Challenges

- Slower path to desired tariff level.
- Increasing concern about staff security.
- Increasing losses of equipment and electricity through theft affecting plant performance and increasing general cost levels.
- Concerns over safety despite the reduced level of fatalities recorded among employees and contractors.
- Eskom-tied mines are not meeting the budgeted coal deliveries and the impact of excessive rain led to the coal stock days reducing to 37 days (target: 42 days).
- Increase in particulate emissions due to poor coal quality.

Despite these challenges, we have managed to avoid load shedding since the end of April 2008.

Measure	Description	Target	Actual 2010	Actual 2009
<b>Unit capability factor (UCF)</b>	UCF measures the plant availability and indicates how well the plant is operated and maintained	86,50%	<b>85,86%</b>	86,07%
<b>Energy availability factor (EAF)</b>	EAF measures plant availability (UCF above), plus energy losses not under the control of plant management (external) and internal non-engineering constraints	85,50%	<b>85,21%</b>	85,32%
<b>Unplanned capability loss factor (UCLF)</b>	UCLF measures the lost energy due to unplanned production interruptions resulting from equipment failures and other plant conditions	4,50%	<b>5,10%<sup>RA</sup></b>	4,38% <sup>RA</sup>
<b>Generation load factor (GLF)</b>	GLF indicates the extent to which the generation fleet was loaded on average over the year to produce the energy demanded	66,60%	<b>66,20%</b>	67,02%
<b>Planned capability loss factor (PCLF)</b>	PCLF-planned energy loss is energy that was not produced during the period because of planned shutdowns or load reductions due to causes under plant management control	9,00%	<b>9,04%</b>	9,54%
<b>Reserve margin</b>	Difference between net system capability and the system's maximum load requirements (peak load or peak demand) as a percentage of the peak demand	15,00%	<b>16,40%</b>	10,60%

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

The continuous growth in demand for electricity prior to early 2008, and the resurgence in the electricity demand growth towards the end of 2009 and beginning 2010, combined with limited increased electricity generation capacity, has resulted in a significant increase in the production required from existing power stations.

The generation recovery process in 2008/09 resulted in improved availability and reliability of those plant areas given priority. However, other plant areas like coal handling and particulate emissions systems have deteriorated as a result of the demanding operating regime of the coal-fired power stations and variation in coal qualities.

## Technical performance

Some of the power stations are achieving world-class technical performance, but the older stations are under pressure. The increased electricity demand and the low reserve margin over the last number of years have resulted in less time available to do essential maintenance on the power stations. Many of the power stations are in their mid-life and require more maintenance. Given the high load factors and continued challenges with coal quality, we have seen an increase in particulate emissions and unplanned unit trips.

The low reserve margin in the South African electricity supply system has, since 2006, resulted in shorter windows of opportunity to perform essential maintenance on our power stations, as well as less opportunity to schedule the major refurbishments required by the older power stations. The decrease in electricity demand which resulted in a lower load factor experience in 2008 and 2009 in comparison to previous years provided more opportunity for maintenance, resulting in higher PCLF in 2009 and 2010 compared to 2008 and the target.

## Executive performance overview continued

### Transmission and distribution technical performance

Measure (and unit)	Description of measure	Target 2010	Actual 2010	Actual 2009	Comments
Number of major incidents	Records number of incidents with a severity greater than one system minute	≤2	1 <sup>RA</sup>	3 <sup>RA</sup>	Incident initiated by a third party and exacerbated by a transmission breaker failure
System average interruption frequency index (SAIFI)	Reliability of supply index (number per annum)	≤23,50	24,65 <sup>RA</sup>	24,16 <sup>RA</sup>	Target not achieved. See comments for SAIFI and SAIDI below
System average interruption duration index (SAIDI)	Availability of supply index (hours per annum)	≤50,00	54,41 <sup>RA</sup>	51,51 <sup>RA</sup>	Target not achieved. See comments for SAIFI and SAIDI below

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

SAIDI and SAIFI performance have deteriorated from the previous year. Business plan targets have also not been achieved because of the slower than anticipated benefit realisation for the Distribution network performance improvement initiatives, resource constraints, impact of conductor/equipment theft on resources and network performance and adverse weather conditions during the financial year. There has been an increased focus during the year on planned maintenance work.

### Energy losses

	Target	Actual 2010	Actual 2009
Total distribution loss	≤6,00%	5,87%	5,46%
Total transmission loss	≤3,30%	3,27%	3,08%
Total Eskom loss	≤8,76%	8,45%	7,94%

Technical performance benchmarks indicate that Transmission is within the top quartile in terms of performance, but Distribution needs to improve their performance. Distribution requires different investment priorities based on mixed urban and rural customer profiles. Unacceptably high levels of theft of equipment and electricity are affecting plant performance and increasing cost.

### Safety performance

Although there has been a reduction in the number of employee and contractor fatalities for the past year as compared to 2009, we remain focused on improving safety. Fatalities are unacceptable. Sadly and regrettably we lost:

- two employees, due to motor vehicle accidents, compared to six in 2009.
- 14 contractors compared to 21 in 2009. Six of the fatalities were attributable to vehicle accidents, three to gunshots, three to being struck by falling objects, one to an electrical contact incident and one passed away due to a fall from height.

- 41 members of the public in 2010 (compared to 28 in 2009), with vehicle accidents and electrical contacts remaining the major causes. An intense public safety campaign is underway to address this.

In addition our lost-time incident rate (LTIR) worsened to 0,54 per 200 000 manhours worked from 0,50 in 2009 and well above our target of 0,31. We are disappointed that we did not meet our target and reaffirm that the safety of our people remains fundamental to our business, and we will not rest until we have achieved our safety goals through collective responsibility, commitment and ongoing focus.

Eskom is working with suppliers, customers and contractors to integrate safety, health and environmental issues into their operations. Contractors working under our supervision or on our premises are expected to comply with Eskom's safety, health and environment (SHE) policy, and support the zero tolerance approach to safety management.

### Environmental performance

Due to the nature and extent of our operations, we impact the environment in terms of our use of resources, the processes required to generate electricity and the physical footprint we have on the land.

Eskom's water usage has stabilised to some extent. The volume of water used as part of the process to generate electricity improved slightly from 1,35L/kWh in 2009 to 1,34L/kWh in 2010.

There has been a deterioration in our particulate emissions performance from our coal-fired power stations from 0,27kg/MWh to 0,39kg/MWh sent out linked to continued poor coal quality and reduced opportunity for maintenance in prior years due to the lower reserve margins.

Eskom obtained environmental authorisations for a number of key Transmission and Distribution projects, including a waste licence for the Medupi power station for its surface ash facility.

## Capacity expansion programme

Although the funding constraints delayed the awarding of certain contracts related to the Medupi and Kusile projects, overall, the capacity expansion programme has shown remarkable progress. The significant number of commissioned projects is evidence of the progress that has been made from inception in 2005 to date: Some 4 905,5MW of generating capacity has been installed, 2 825,4km of high-voltage (400kV and 765kV) transmission lines have been constructed and 11 730MVA transmission capacity has been commissioned through the construction and refurbishment of substations.

(Excluding borrowing cost capitalised)	Target 2010	Actual 2010	Actual 2009
Generation capital expenditure, Rm	43 566	29 467 <sup>RA</sup>	25 984
Transmission capital expenditure, Rm	6 888	4 246 <sup>RA</sup>	4 451
Generation capacity installed, MW	420	452 <sup>RA</sup>	1 770 <sup>RA</sup>
Transmission lines installed, kilometres	428	600 <sup>RA</sup>	418 <sup>RA</sup>
Transformers installed, MVA	1 365	1 630 <sup>RA</sup>	1 255 <sup>RA</sup>

## 2010 FIFA World Cup™ readiness

The successful delivery of a reliable, uninterrupted flow of electricity for the 2010 FIFA World Cup™ has been a major focus for the last three years. A dedicated team has driven Eskom's internal preparations and co-ordinated the broad-based collaborative efforts and partnerships required for an event of this magnitude.

With regards to the Generation Business, preparations for the World Cup have been ongoing throughout the 2010 financial year and included the identification of potential risks to the ability of the power stations to produce electricity and the mitigation actions and timelines to address these risks. Criteria were developed against which the readiness is assessed and have been used by Generation Business leadership during on-site reviews and engagements with the power station and (where applicable) mine management teams.

The Transmission division identified ten project platforms to ensure that the entire electricity supply chain from power station to stadium operates effectively and that all risks are identified and managed.

During the month of the world cup the Distribution division will secure bulk supplies to the municipalities and key world cup installations. A joint Eskom and municipal 2010 regional task team has been established to manage key electrical supply points and substations as well as to ensure effective communication. The Southern African Power Pool has pledged support to supply additional megawatts if required.

## Climate change

Mitigating Eskom's contribution to climate change has long been an integral part of our business. Our climate change strategy, developed in 2005 and our six-point plan on climate change prove our commitment. The six-point plan was detailed over the last two years in our annual reports and we remain committed to the principles and aspirations highlighted therein. Over the last year, we have been driving the climate agenda further through planning, research, pricing studies and training sessions both internally and with our key industrial customers.

The future of renewable energy in South Africa received a major boost, with the inclusion of concentrating solar power (CSP) and wind in the South African Clean Technology Fund application to the World Bank.

Internal energy efficiency targets have been developed for each division for the next three years in order to achieve a saving of 1 billion kWh by 2012 and have been included in relevant compacts. Non-essential consumption savings of 9,6GWh in the year ended March 2010 and 46,7GWh<sup>LA</sup> since the project started in 2003, have been achieved.

The savings from the demand-side management (DSM) programme was 372MW<sup>RA</sup>, against a target of 432MW. This has increased the cumulative saving to 2 372MW since the inception of DSM in 2003. For the 2010 financial year 3 455 rebate claims were processed and settled for qualifying solar water heating systems. Over 4,6 million compact fluorescent lamps were installed in residential houses, realising savings of 237MW for the 2010 financial year.

## Future prospects

Our short- to medium-term focus going forward is to ensure the ongoing security of supply of electricity to all our customers and to ensure that we remain financially sustainable by addressing the significant funding gap.

Operationally we are focused on the successful delivery of the 2010 FIFA World Cup™, significant cost reductions through efficiencies without sacrificing critical expenditure, ongoing interaction with and

LA – Limited assurance provided by the independent assurance provider (refer page 169).

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

## Executive performance overview continued

support for the Inter-Ministerial Committee on Energy, restoring our reputation as a world-class utility and ensuring that in our ongoing operational business we continue to improve and perform at the highest level.

At the same time we must remain aware of the risks facing the business. Volatility in electricity demand, which is heavily dependent on economic growth, coupled with a reserve margin which we

anticipate declining in the medium term, means that operating conditions will be difficult for the foreseeable future. In addition, the uncertainty in the recovery of the global economy means that funding activities could be impacted.

Eskom remains confident that its path to recovery will lay the foundation for a brighter future.

## Performance against the shareholder compact

This is an overview of business performance against the shareholder compact<sup>1</sup> key performance indicators. Refer to page 298 for more detailed information on the shareholder compact.

Key performance indicator	Target	2010	2009	2008	
Generation capacity installed (Megawatts)	420	<b>452<sup>RA</sup></b>	1 770 <sup>RA</sup>	1 061	●
Transmission lines installed (kilometres of line)	428	<b>600<sup>RA</sup></b>	418 <sup>RA</sup>	246	●
Transmission MVA installed	1 365	<b>1 630<sup>RA</sup></b>	1 255 <sup>RA</sup>	1 295	●
National load shedding (Generation induced) or unserved energy (system minutes) <sup>2</sup>	No load shedding	<b>None<sup>RA</sup></b>	641,5	953,6	●
Internal energy efficiency	15% reduction of non essential consumption by 2015 <sup>3</sup>	<b>46,7<sup>LA 4</sup></b>	n/a	n/a	●
Capacity expansion programme budget (R million)	50 454	<b>33 713</b>	30 435	13 398	●
Generation capital expenditure	43 566	<b>29 467<sup>RA</sup></b>	25 984	11 004	●
Transmission capital expenditure	6 888	<b>4 246<sup>RA</sup></b>	4 451	2 394	●
Cost of electricity (rand/megawatt-hour before embedded derivatives)	267,71	<b>255,09<sup>RA</sup></b>	240,82	197,80	●
Debt:equity ratio	1,75	<b>1,68<sup>RA</sup></b>	1,22	0,40	●
Interest cover	0,23	<b>0,45<sup>RA</sup></b>	(1,50)	(0,65)	●
Percentage of local content in capacity expansion contracts placed during the year:	50,0%	<b>73,9%<sup>RA</sup></b>	n/a	n/a	●
<b>Skills development:</b>					
Eskom trainees/bursars (learner pipeline)	4 500	<b>5 255<sup>RA</sup></b>	5 907	5 368	●
Number of engineering trainees/apprentices	3 500	<b>3 780<sup>RA</sup></b>	3 535	4 563	●
Additional number of non-Eskom learners on Eskom-sponsored learning	450 <sup>5</sup>	<b>236<sup>RA</sup></b>	n/a	n/a	●

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

LA – Limited assurance provided by the independent assurance provider (refer page 169).

1. This compact measures the performance of the electricity business (Eskom company).

2. National load shedding was avoided with the help of customers who reduced their consumption throughout the year, as well as customers who provided contractual demand reduction during periods when the system was constrained. Load shedding is recorded when all manual load shedding or curtailment instructed by the National System Operator in response to a national supply-demand constraint – (i) where this is caused by a generation or import constraint, (ii) including where such shedding/curtailment is not strictly rotational – ie, if a load shedding event lasts less than two hours, such load shedding will be reported.

3. The target is aligned to that of the Power Generation Sector, as per the National Energy Efficiency Strategy for South Africa (2005 and 2008). The percentage savings will be determined once the Eskom baseline is completed.

4. Inception to date saving, with some projects initiated prior to 2009 (the year-to-date saving was 9,6GWh<sup>4</sup>).

5. Target is 10% of internal learners.

**Reasons for targets not being met**

***Internal energy efficiency***

Metering and monitoring is still outstanding at some key facilities, hence not all potential savings are yet being reported. Metered information is also required for the development of the Eskom baseline. The targeted savings (percentage savings) will be determined once the Eskom baseline is completed.

***Generation and Transmission capital expenditure***

As a result of funding constraints, the capital expenditure was delayed on a number of projects, which would otherwise have been on target.

***Additional number of non-Eskom learners on Eskom-sponsored learning***

The definition of non-Eskom learners only included the Dr Straszacker and Van der Bijl Eskom sponsored scholarships. The University and

University of Technology – Merit Bursars also sponsored by Eskom, were unintentionally omitted from the definition, but included in the target. Hence the number reported being below target.

For the new year, the definition for this measure will be amended to include all Eskom sponsored scholarships and bursaries for non-Eskom learners:

- Dr Straszacker scholarship
- Van der Bijl scholarship
- Merit University bursary
- Merit University of Technology bursary
- Any non-Eskom learnerships and/or apprenticeships over and above the Eskom business requirements, sponsored by Eskom.



*Members of Eskom's environmental liaison committee and the land and biodiversity task team at the Ingula pumped storage site.*







# Driving financial sustainability

Finance division (corporate)

38	Summary
39	Risk profile
40	Financial performance overview
40	Results of operations
42	Liquidity and capital resources
44	Funding gap
45	Credit rating
46	Understanding Eskom's funding
46	Group value added statement
47	Valuation of assets and impairments
47	Procurement and supply chain
48	Back to basics
49	Escap Limited
49	Eskom Finance Company Limited

## Finance division (corporate)

**Mandate:** Provides financial and procurement strategy, policies, assurance and strategic financial services (including treasury, corporate finance, tax, corporate and regulatory reporting) to the Eskom Group.

### Progress this year

#### Highlights

- Return to profitability
- African Development Bank and World Bank funding secured
- Morzal special pricing agreement renegotiated to eliminate embedded derivatives
- Term sheets have been agreed in the renegotiation of the remainder of the contracts and Eskom is in negotiations with the parties to finalise these
- Launch of “back-to-basics” project to improve internal efficiency

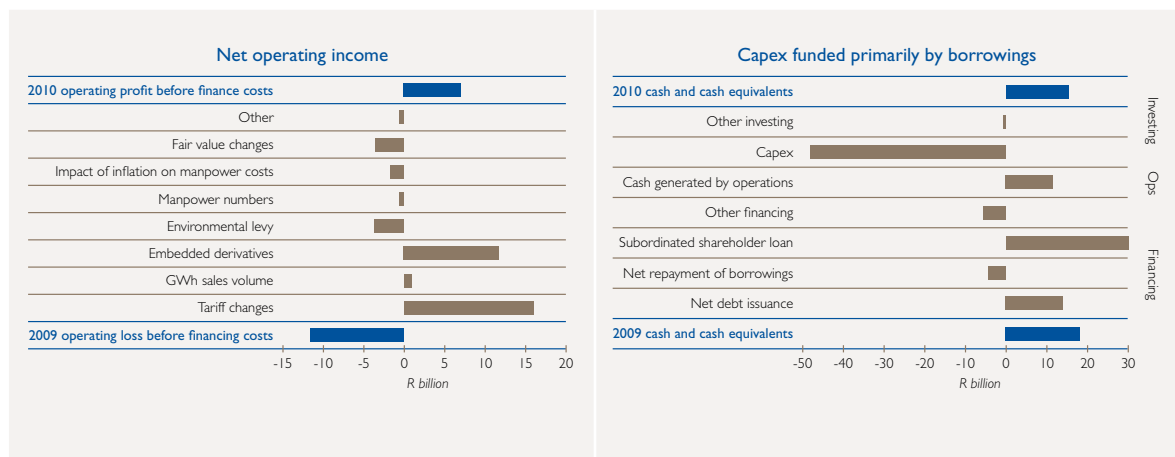
#### Challenges

- Pressure on current capital structure
- Cash flow challenges over the next three to seven years
- Slower path to desired tariff level. The MYPD 2 price increase of 24,8% (FY11), 25,8% (FY12) and 25,9% (FY13) for 2010/11, announced by NERSA in February 2010, was lower than the 35% over three years requested by Eskom

### Future priorities

- Focus on closing the funding gap
- Cost saving drive and efficiencies through “back to basics”
- Winning back financial reputation

### Financial performance



Paul O'Flaherty  
Finance Director



**Q: How do you intend to fund Eskom's funding gap in the short to medium term?**

**A:** To achieve both long-term sustainability and cost efficiency, Eskom needs to find the appropriate balance between three sources of funding, namely equity, debt and regulated revenue net of operating costs.

To assist with funding, the South African government has already made available R60 billion subordinated loan (R40 billion drawdown to date) and R176 billion of guarantees (R117 billion drawdown to date).

The debt options that are available to us in the short to medium term are DFI loans, ECA covered financing, local bond and commercial loan funding. We are currently utilising all these traditional sources of funding but since there are substantial shortfalls in certain years we will have to find innovative funding methods in the medium to long term. Solutions to this have reached an advanced stage and should be approved and implemented shortly.

Ultimately tariffs must cover most of the funding of the capacity expansion programme once completed and over the years that it generates electricity revenues. The central theme in government's electricity pricing policy is that tariffs should be cost reflective. Presently tariffs are set at much lower levels than where they should be.

**Risk profile**

The Finance division is fully aligned with the Eskom Holdings' risk management methodology, which over and above the funding challenge, dealt with on page 18, has led to the identification of the following predominant causes of the division's key risks:

- Differing organisational business processes.
- Inconsistent use of IT systems.
- Multiple disintegrated databases.
- Deteriorating financial control effectiveness.
- Insufficient communication.

In order to address these, the division has initiated a back-to-basics programme across the entire Eskom Group.

## Finance division (corporate) continued

### Financial performance overview | Results of group operations

Key ratios		2010	2009
Current ratio	ratio	<b>0,99</b>	1,02
Debt:equity including long-term provisions	ratio	<b>1,55</b>	1,22
Interest cover	ratio	<b>0,57</b>	(0,80)
Free funds from operations (FFO)	Rm	<b>10 531</b>	2 803
Return on average total assets	%	<b>2,2</b>	(1,2)
Return on average equity	%	<b>5,6</b>	(16,0)
Revenue per kWh (total electricity business)	cents/kWh	<b>31,9</b>	24,7
Operating costs per kWh (total electricity business costs including depreciation and amortisation)	cents/kWh	<b>28,2</b>	25,9
Bad debts as % of revenue	%	<b>0,82</b>	1,54
Average days debtors	days	<b>22</b>	21
Average days coal stock	days	<b>37<sup>RA</sup></b>	41 <sup>LA</sup>

Locally, we experienced the weakest economic performance in the 2009 calendar year since the dawn of the new democracy. Not only did the country experience a recession, but it suffered major job losses as a result. The economy contracted by 1,8% as manufacturing and mining under-performed, costing the economy about 870 000 jobs in the process.

Globally, economic recovery is now underway and the economy is expected to improve trade activity. In mid-2009 we saw commodity prices recovering from the lows of 2008. The notable upturn in commodity prices was largely driven by the increased demand for commodities by the economies of China and India among others. This meant that our key industrial customers had to increase their production of commodities leading to an increase in the demand for electricity locally.

The upturn in the domestic economy was reflected in the demand for electricity which grew by 1,7% from 214 850GWh to 218 591GWh compared to a 4,2% decline in the prior year. The GWh for 2010 is at the levels we achieved in 2007 but not yet near the high of 224 366GWh achieved during 2008.

During the 2010 financial year our aim was to return the company to financial stability and we are pleased to announce that we have achieved a group profit of R3,6 billion (2009: loss of R9,7 billion) and for the company a profit of R3,2 billion (2009: loss of R10,1 billion).

Overall, our electricity revenue per kWh sold improved by 29,5% from 24,7 cents to 31,9 cents and our electricity-related operational costs per kWh increased by 8,8% to 28,2 cents, from 25,9 cents in 2009, reflecting an overall return to operational profitability.

This financial turnaround resulted from the 31,3% (including the environmental levy) interim tariff increase granted by NERSA with effect from 1 July 2009, improved efficiencies and stringent cost cutting as well as the re-negotiation of certain of the special pricing agreements (SPAs) relating to the commodity-linked revenue contracts. Despite the tariff increase, South African household tariffs are still among the lowest electricity tariffs in the world.

The operating profit for the year, before fair value gains and losses and net finance costs for the Eskom Group, was R10,2 billion (2009: loss of R0,3 billion) and for the company R8,4 billion (2009: loss of R2,6 billion):

#### Revenue

Compared to the previous year, the sale of electricity increased by 1,7% (2009: decreased by 4,2%) and this coupled with a 29,5% increase in average sales price resulted in a 31,8% increase in electricity revenue from R53,0 billion to R69,8 billion. Group revenue, which includes a small portion of non-electricity revenue, increased by 31% from R54,2 billion to R71,2 billion.

### Primary energy costs

The primary energy costs (group and company – mainly coal) increased by 16,9% from R24,9 billion in 2009 to R29,1 billion in 2010 inclusive of R3,7 billion for the environmental levy paid in 2010 which was not in effect in the prior financial year. The cost of primary energy as a percentage of electricity revenue decreased from 47% in 2009 to 41,7% in 2010. We were able to secure short-to medium-term coal supplies at lower prices than in the previous financial year and we also made more use of our fixed cost and cost plus contracts. In addition, the more expensive gas and liquid fuel turbine stations were operated at normal levels. However, as noted this was offset by the negative effects of the 2c/kWh environmental levy charge (recoverable through revenue), implemented on 1 July 2009, which resulted in a direct 14,9% increase in primary energy costs from the previous year.

### Operating costs

Group and company operating costs consisted of the following

- Employee benefit expenses: the group manpower numbers increased by a net 1 365 to 39 222 (company by 1 351 to 36 547) resulting, together with salary increases, in a 14,9% increase (company 13,3%) in manpower costs from R15,1 billion to R17,4 billion (company R14,1 billion to R16,0 billion). Eskom's manpower needs will continue to grow to bolster core and critical skills in the context of a capacity expansion programme.
- Group depreciation costs increased to R5,7 billion (2009: R4,9 billion) due to an increase in the level of capitalised property plant and equipment. Company depreciation costs increased to R5,9 billion from R4,7 billion accordingly.
- Other operating expenses, which primarily include repairs and maintenance, remained constant for both group and company due to tight controls exercised over the expenditure as a result of the funding constraints during the year.
- Group bad debt as a percentage of revenue was 0,82% compared to 1,54% last year (company 0,86% compared to 1,60%). Bad debts decreased due to the resolution of doubtful debts relating to some of our large customers.

### Net fair value loss on financial instruments, excluding embedded derivatives

The major portion of this cost is the forward cover costs. Group and company forward cover costs for the year were up by 38% from R2,5 billion to R3,5 billion due to the ongoing progress of the capital

expansion programme and the associated forward cover taken out on foreign imports.

### Profit on embedded derivatives

At 31 March 2010, the embedded derivative assets (group and company) amounted to R0,1 billion (2009: R1,4 billion) and the embedded derivative liabilities (group and company) to R4,7 billion (2009: R8,3 billion). The net impact on the income statement of changes in the fair value of the embedded derivatives for group and company was a fair value gain of R2,3 billion (2009: loss of R9,5 billion). The net liability has been significantly reduced as a result of renegotiating certain special pricing agreements (SPAs) relating to commodity-linked revenue contracts. The negotiations on the balance of the SPAs are expected to be concluded in the next year.

### Net finance cost

The net finance cost after the capitalisation of borrowing cost was R1,2 billion (2009: R1,2 billion) for the group and R1,3 billion (2009: R1,3 billion) for the company.

The amount of borrowing costs capitalised increased from R3,4 billion to R8,2 billion (group and company). This was due to the significant increase in the amount spent on property, plant and equipment as well as more capital expenditure financed by borrowings. This also includes the cost of the re-measurement of the subordinated loan from the shareholder amounting to R4,6 billion.

### Taxation

The net effective tax rate of 35,4% (2009: 29,7%) for the group differs from the statutory rate of 28% (2009: 28%) due primarily to disallowed expenditure and a prior year adjustment following the finalisation of the 2009 tax return. The net effective tax rate for the company was 33,9% (2009: 29,1%) due to the same reasons stated above.

## Finance division (corporate) continued

### Embedded derivatives

Eskom previously entered into four agreements with electricity-intensive customers to supply electricity to them, where the revenue of these contracts was based on commodity prices, foreign currency rates and/or foreign production price indices the present value of which gave rise to differences when compared to the present value of the forecast revenues if the standard megaflex tariff was charged (an embedded derivative). In terms of IFRS the difference needs to be accounted for on the balance sheet as either an asset or liability with the resultant movement being credited or charged to the income statement.

### Original intent

In the early 1990s large electricity contracts with specific pricing arrangements were concluded between Eskom and major clients. A consultative process was followed between government, the customers and Eskom in setting up these contracts. The contracts were approved by the appropriate council governing the industry at the time. The rationale for entering into these contracts was based on the following:

- To stimulate the regional economy.
- To use Eskom's excess capacity.
- To enable the supply of electricity to energy-intensive industries and align with their pricing requirements.
- To align with the government's growth objectives for the SADC region.

### Contract performance

- Since inception up to recently the contracts have delivered revenues in excess of cost and enabled Eskom to use excess capacity.
- However, due to the decrease in the outlook for the aluminium price during 2009 coupled with the 31% increase in tariffs given by NERSA, the valuation of the embedded derivatives at 31 March 2009 resulted in a fair value loss of R9,5 billion..
- As a result of the current negotiations and the expected outcomes of such negotiations the net liability of the embedded derivatives has reduced to R4,6 billion as at 31 March 2010 resulting in a gain in the income statement of R2,3 billion.

### Going forward

- Eskom is renegotiating the contracts in an attempt to remove the commodity-linked pricing element, which will in turn remove the embedded derivative.
- Eskom will not be entering into contracts of this long-term nature going forward.

The pricing arrangements on the contracts may give rise to profits or losses on the fair valuation of embedded derivatives in the future, depending on the final outcome of the negotiations

### Liquidity and capital resources

Group cash and cash equivalents decreased from R18,4 billion (company: R17,9 billion) to R15,5 billion (company R14,9 billion) at 31 March 2010 for the reasons explained below:

### Cash flows from operating activities

The group net cash from operations for the year decreased slightly to R11,6 billion (2009: R11,8 billion) consistent with the decrease in company net cash from operations to R11,0 billion from R12,4 billion in 2009.

The group currently carries sufficient funds each month to meet four months' operational cash flows and interest and debt repayments. The intent is to fund all capital expenditure through additional debt and borrowings over the longer term and also with operational cash surpluses in the medium term as the tariff starts to become more cost reflective.

Compared to the previous year's 41 days, coal stock days were 37 days as at year end. The decline in coal deliveries over the 2009 festive season due to the underperformance of the coal mines supplying Eskom, and the impact of rain resulted in the system coal stock days falling to 37 days, below the target 42 days. Plans have been implemented to facilitate stock day recovery to the targeted levels.

At the end of March 2010 debtor days remained consistent at 22 (2009: 21 days).

### Cash flows used in investing activities

Cash flows used in investing activities increased by 13,9% from R42,9 billion to R48,9 billion for the group and the company from R43,3 billion to R47,3 billion.

Group capital expenditure, (excluding capitalised interest) included in this line item increased by 10,4% (company: 9,4%) from R43,6 billion (company R43,5 billion) to R48,2 billion (company R47,6 billion) due to the progress of the capacity expansion programme. However, this expenditure was still R16,7 billion behind the budget due to a deferral of expenditure as a result of the tight financial constraints experienced by the group during the year.

Eskom exceeded the capacity expansion targets set by Government. Some 452MW of new capacity was added against a target of 420MW. Six hundred kilometres of new transmission lines were built, against a target of 428km. In the case of new transformers we installed 1 630MVA (target: 1 365MVA).

The new coal (Kusile and Medupi) and the peaking capacity expansion project (Ingula) are on track in terms of schedule and cost. The remaining two return-to-service stations are slightly behind schedule.

### Cash flow from financing activities

Cash flow from financing activities for the group decreased by 11,5% (company: 13,9%) from R38,9 billion to R34,4 billion and the company from R38,5 billion to R33,2 billion despite the net increase in debt securities and borrowings. This was primarily due to increased cash outflows to purchase forward exchange contracts to cover the increase in foreign purchases associated with the capacity expansion programme and an increase in net interest paid.

The group debt:equity ratio (including long-term provisions) weakened from 1,22 to 1,55 at the end of the financial year as

additional debt was obtained to fund the capacity expansion programme. The group return on assets for the year was 2,2% as the group returned to profitability compared to a (1,2)% in the previous year.

During the year, R60,1 billion (2009: R54,0 billion) in funding was raised at the group and company level (debt securities issued R16,3 billion, subordinated loan from the shareholder R30,0 billion and R13,8 billion from other borrowings). An amount of R20,4 billion (2009: R23,5 billion) was repaid by the group in respect of debt securities and borrowings.

### Capital expenditure (including interest capitalised)

Our total capital programme, including capacity expansion is firmly underway and since inception of the capacity expansion programme in 2005, we have spent a total of R98,9 billion.

Description of capital expenditure (group)	2010 Rm	2009 Rm	2008 Rm
Generation division	<b>40 484</b>	31 824	15 239
New capacity (R29 467 million relates to capacity expansion projects)	<b>31 343</b>	27 015	11 004
Technical plan projects	<b>5 485</b>	4 515	3 939
Asset purchase and other	<b>3 656</b>	294	296
Transmission division	<b>7 143</b>	6 465	3 553
New strengthening projects (R4 246 million relates to capacity expansion projects)	<b>6 108</b>	5 724	3 027
Land and rights	<b>173</b>	70	87
Capital spares	<b>582</b>	523	346
Asset purchase and other	<b>280</b>	72	93
Distribution division	<b>7 079</b>	6 446	5 605
Direct customers	<b>2 511</b>	1 848	1 771
Strengthening	<b>1 356</b>	1 859	1 589
Refurbishment	<b>558</b>	859	617
Electrification	<b>1 324</b>	861	904
Asset purchase and other	<b>1 330</b>	1 019	724
Other divisions	<b>1 916</b>	1 848	58
Subsidiaries	<b>509</b>	516	530
Elimination of inter-segment transactions	<b>(128)</b>	—	—
<b>Total</b>	<b>57 003</b>	47 099	24 985



## Finance division (corporate) continued

### Capacity expansion programme by project (including interest capitalised)

Project	Total approved project cost Rm	Total inception to date expenditure Rm
Camden	6 061	5 739
Grootvlei	7 803	7 107
Komati	12 965	8 402
Kriel	1 973	1 035
Arnot	1 496	1 233
Matla refurbishment	3 564	689
Duvha	2 450	58
Majuba rail	4 235	238
Ingula	21 800	6 131
OCGT and Gas I	8 762	7 861
Sere	3 356	40
Kusile	141 500	14 697
Medupi	125 500	32 076
Tutuka	185	2
Camden rail	63	9
Transmission projects	26 800	13 623
<b>Total</b>	<b>368 513</b>	<b>98 940</b>

The capital expenditure incurred (excluding interest capitalised) from 2005 to date in relation to these projects is as follows:

Year (R million)	Budget	Actual
2005/6	3 015	<b>2 835</b>
2006/7	7 058	<b>8 226</b>
2007/8	12 112	<b>12 783</b>
2008/9	28 655	<b>30 460</b>
2009/10	50 454	<b>33 713</b>
Cumulative	101 294	<b>88 017</b>

As can be seen from the above table, due to the funding constraints Eskom has experienced, a slowdown in the capital expansion programme has occurred.

### Funding gap

The funding gap over the next seven years based on the plan formulated by Eskom after the multi-year price determination (MYPD 2) tariff ruling and as communicated in the public domain during April and May 2010, indicated that Eskom is facing cumulative cash shortfalls of R115 billion by 2013 and R190 billion by 2017 (the year in which the Kusile power station is fully commissioned).

These amounts, however, include capital expenditure of R144 billion relating to capacity expansion projects beyond Kusile which have as

yet not been approved by either the board or through the Department of Energy's (DoE) Integrated Resource Plan (IRP2) process. This plan also assumes tariff increases of 25% in 2014 and 2015 and inflationary related increases thereafter.

As a result, during the early part of the 2010 calendar year, Eskom secured a mandate from its shareholder to formally pursue a much broader range of potential financing solutions, and we have engaged advisers to evaluate these as well as specific funding opportunities around the Kusile power station that is currently under construction in eMalahleni in Mpumalanga.

This support from Government is in addition to the R60 billion loan committed during the previous financial year (R40 billion received to date) and the R176 billion Government guarantee (R117 billion utilised to date) provided to enable Eskom to raise debt.

The outcome of the exercise to identify additional funding solutions has resulted in the following initiatives by Eskom to date to close the funding gap:

- Eskom expects to fund a significant portion of the capacity expansion programme in various debt markets, notably the bond and loan markets, domestic and, in particular, international.
- These markets offer Eskom access to large pools of competitive, term funding but Eskom will need to maintain a strong investment

grade rating and strong financial ratios to maximise its market access at the least cost to the business.

- Eskom is therefore working with Government to use the existing unutilised Government guarantee in a way that directly strengthens its credit profile. In turn, Eskom will be able to access the debt markets on a stand-alone basis going forward to complete the capacity expansion programme as a strong investment grade borrower.

The above initiatives are expected to result in cash stability over the next seven years (excluding the R144 billion estimated in the period for capacity expansion beyond Kusile).

With regard to capacity expansion projects beyond Kusile, Eskom's position is that once the IRP2 has been published by the DoE later this year, indicating the new capacity requirements, they will need to be prefunded at inception to avoid a repeat of Eskom's current financial position.

Even though this funding plan requires final Government approval and implementation, the Eskom board believes that Eskom is a going concern over the next 18 months as its expected working capital resources, by way of cash generated from operations and existing

cash on hand, together with current undrawn secured facilities are sufficient to meet Eskom's present working capital and capital expenditure needs during that period.

### Credit rating

Currently, Eskom's ability to raise funds beyond the tariff increase is limited by its credit rating as assigned by the various rating agencies (see chart below).

Concerns raised by the rating agencies on Eskom's balance sheet ability to finance the huge infrastructure investment without a cost-reflective tariff adjustment have yet again put the spotlight firmly on Eskom's financials. However, this concern is mitigated by present strong support from the South African government as shareholder.

Should Eskom be downgraded to below investment grade rating in the future, very limited funding will be available. Investors are more willing to lend to a corporate with a higher rating and therefore a lower risk of default. Regaining the current ratings once downgraded could take a considerable financial effort and a very long time. It is therefore, Eskom's number one priority to maintain its current credit rating.

Credit ratings and outlook		2010	2009	2008
<b>Standard and Poor's</b>				
– Foreign currency	Rating	<b>BBB+</b>	BBB+	BBB+
	Outlook	<b>Negative</b>	CreditWatch negative	CreditWatch negative
– Local currency	Rating	<b>A-</b>	A-	A-
	Outlook	<b>Negative</b>	CreditWatch developing	CreditWatch negative
<b>Moody's</b>				
– Foreign currency	Rating	<b>Baa2</b>	Baa2	A2
	Outlook	<b>Negative</b>	Negative	Possible downgrade
– Local currency	Rating	<b>Baa2</b>	Baa2	A1
	Outlook	<b>Negative</b>	Negative	Possible downgrade
<b>FitchRatings</b>				
– National Long-term (zaf)	Rating	<b>AAA</b>	AAA	AAA
	Outlook	<b>Stable</b>	Stable <sup>1</sup>	Negative
– National Short-term (zaf)	Rating	<b>F1+</b>	F1+	F1+
	Outlook	<b>Stable</b>	Stable	Stable

1. Changed from negative to stable on 10 June 2009.

## Finance division (corporate) continued

### Understanding Eskom's funding

New plant is funded from a combination of sources – retained earnings (reserves), new equity, borrowings, and regulated revenue and tariffs.

### Borrowings

Eskom has a borrowing target of approximately R90 billion per year over a three-year period. This borrowing programme is supported by Government guarantees of R176 billion of which R117 billion have been committed to date. Funding from various sources namely local and international debt capital markets, development finance institutions (DFIs) such as the EIB, African Development Bank and World Bank are included in the overall borrowing mix. DFIs generally bring concessionary terms and contract with Eskom on the strength of our shareholder. Access to the debt capital markets depends on an organisation's credit rating.

### Regulated revenue

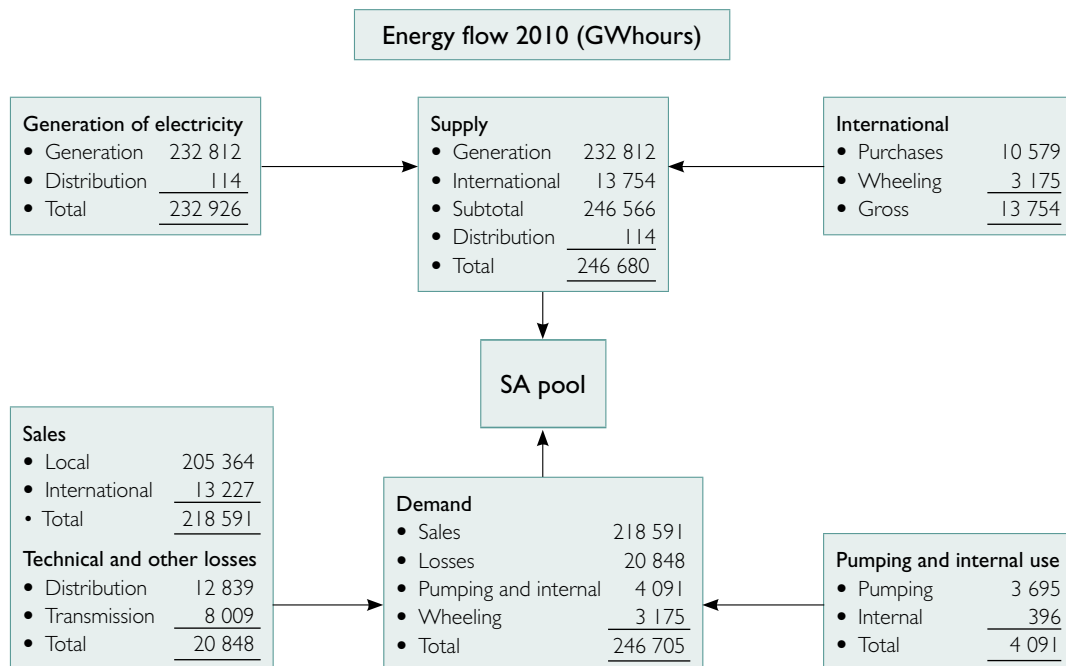
Regulated revenue assists in a move towards achieving sustainable tariffs, it strengthens the organisation's capacity to borrow and it supports an investment grade credit rating. While borrowings and other various forms of funding can be used to finance the capital expenditure ultimately tariffs must cover the cost of operational expenditure and the interest charge.



Refer to [www.eskom.co.za/annreport10/002.html](http://www.eskom.co.za/annreport10/002.html) for a review of Eskom's productivity movement over the past year, as well as a graph of Eskom's competitiveness over 10 years.

### Group value added statement

	2010 Rm	2009 Rm	2008 Rm
<b>Value created</b>			
Revenue	71 209	54 177	44 448
Other income	571	647	445
Less: primary energy and other operating expenses	(41 668)	(46 970)	(28 166)
Value added	30 112	7 854	16 727
Finance income	1 614	3 152	2 933
Wealth created	31 726	11 006	19 660
<b>Value distributed</b>	28 804	23 201	17 072
Benefits to employees	17 390	15 135	11 353
Social spending to communities	59	88	70
Finance costs to lenders	11 085	7 755	5 448
Dividends to shareholder	–	–	–
Taxation to government	270	223	201
<b>Value reinvested in the group to maintain and develop operations</b>	2 922	(12 195)	2 588
Depreciation and amortisation	5 726	4 918	4 284
Borrowing cost capitalised	(8 234)	(3 436)	(727)
Deferred tax	1 810	(4 009)	(801)
Net profit/(loss) after dividend	3 620	(9 668)	(168)
	<b>31 726</b>	<b>11 006</b>	<b>19 660</b>
Revenue per employee (Rm)	1,82	1,43	1,26
Value added per employee (Rm)	0,77	0,21	0,47
Value added per GWh (Rm)	0,14	0,04	0,07
Wealth created per employee (Rm)	0,81	0,29	0,56
Benefits to employees per employee (Rm)	0,45	0,41	0,33
No of employees	39 222	37 857	35 404
GWh	218 591	214 850	224 366



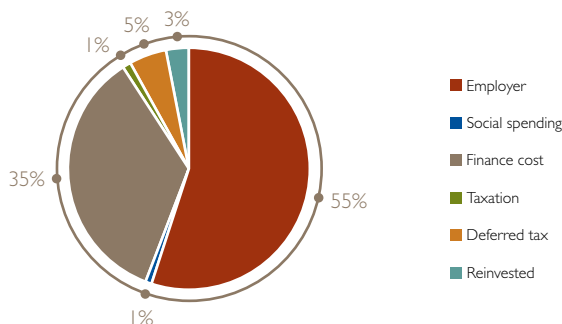
### Valuation of assets and impairments

Eskom does not view each asset in isolation but rather all its assets as a pool. There is tariff cross-subsidisation between certain customer categories (depending on electricity consumption, geographical location and voltage supply) – refer to page 134 of the Customer Network Business report for further details. Eskom recovers all the costs of supplying electricity to its overall customer base and earns a positive return on its assets. On this basis, the directors believe that no impairment adjustment is required to the value of assets relating to any particular customer category in the current period.

### Procurement and supply chain

The objective of procurement and supply chain management is to secure supply while balancing the competing objectives of lowering the total cost of ownership and ensuring the quality, timing and safety of our purchases. At the same time, the objective is to meet Eskom targets in terms of government's AsgiSA programme. These include broad-based black economic empowerment (B-BBEE) targets and the initiation of Competitive Supplier Development Programmes (CSPD). (Refer to page 70 in the Corporate Services division for the AsgiSA objectives.) To deliver this, Eskom has a dual structure with strategic and high value project commodities consumed across the Generation, Transmission and Distribution divisions being secured through initiatives led by the Finance, Primary Energy and Enterprises divisions. The Generation, Transmission and Distribution divisions procure naturally owned commodities for use in that specific division and execute against contracts secured for strategic commodities at the corporate level.

### Group value added statement – 2010



Eskom has established a structured strategic procurement process that effectively enables government's localisation, empowerment, skills, employment and industry development policies, all while maintaining strict governance and control. Through the implementation of strategic and project sourcing, fact-based local content targets are set for each transaction. Governance structures specifically check for CSPD initiatives within each sourcing strategy. This strategy is also fully aligned with the Government Industrial Policy Action Plan (IPAP) that seeks to address the *ad hoc* nature of public procurement which is failing to

## Finance division (corporate) continued

deliver fully on either value for money or key industrial policy objectives. Fundamental changes to procurement legislation, regulations and practice are being proposed at shareholder level so as to enable a more conducive environment for value delivery.

To date, R368 billion of Eskom's investment in capacity expansion has been committed to contracted suppliers. These suppliers are contractually obliged to invest in South Africa in capacity specific to the Eskom supply chain. New South African based supply chains for boiler and turbine parts for the Medupi and Kusile power stations have already been created, benefiting local businesses and addressing South Africa's industrialisation agenda. Refer to page 130 for further discussion in this regard.

Across all major capacity expansion projects, Eskom's localisation content exceeds 50%. This means that for every rand spent by Eskom, more than half remains within the country.

The current capacity expansion programme alone is projected to create approximately 40 000 direct and indirect jobs. A total of 1 837 individuals (of the 5 200 new jobs that suppliers to the capacity expansion programme committed to employ) have started their training interventions. The benefit from these commitments will only be realised over time as the programme is being implemented.

### Eskom's B-BBEE attributable spend performance

This covers the performance of the Eskom company as a purchaser, where we will benefit from the attributable spend, dependent on the B-BBEE certification of our suppliers.

Eskom company	Target	2010	2009 <sup>1</sup>
Measured procurement spend (Rbn)	n/a	<b>72,6</b>	73,3
Attributable spend (Rbn)	n/a	<b>20,8<sup>2LA</sup></b>	46,3
Attributable spend (%)	50,0	<b>28,65</b>	63,17
Attributable BWO spend (Rbn)	n/a	<b>2,5</b>	4,6
BWO as % of attributable spend (%)	15,0	<b>12,02</b>	10,0

<sup>LA</sup> Limited assurance provided by the independent assurance provider (refer page 169)

The attributable spend target is in line with the Codes of Good Practice, which prescribes a minimum of 50% for the first five years since the inception and implementation of the codes.

The 28,65% achieved indicates that many of our top suppliers are not meeting our certification requirements for B-BBEE. Many of these relate to contracts entered into when Eskom still operated

under the old BEE criteria. However, there are some major corporations who have not updated their B-BBEE certification or who have not yet been certified. Procurement and the line divisions are to take a more pro-active role in ensuring that their suppliers obtain certification.

The black women-owned target has not been met, partly due to the small number of BWO companies in our active sourcing sectors.

### Back to basics

Eskom's sustainability requires world class financial and human resources reporting and forecasting to enable effective decision making. However, this is not an easy task for our organisation as we still face a number of challenges, such as different business and system processes employed by divisions and regions.

To mitigate these challenges Eskom has embarked on a Back2Basics programme driven by the Finance, Human Resources and Corporate Services divisions. The objective is to standardise and simplify identified processes, policies, procedures, controls and reporting, ultimately creating a foundation for the consolidation and re-implementation of SAP. The management information we produce through our systems and processes must be complete, accurate, relevant, accessible and timely (CARAT) consistently. These CARAT standards will guide Eskom to efficiency in our business.

The programme scope has been structured on a matrix basis and includes identified finance and human resources business processes, with standardisation streams cutting across all process areas to ensure conformance to standardisation requirements.

The first output of the programme will be process and control manuals, which will outline activities within each process with associated controls, policies and reporting requirements. Extensive training on these standardised processes will be provided to all role players and end users.

Associated with these process changes is a change required in behaviour and leadership for Eskom as a whole. The way we do business will definitely change, for the better, as it will be more efficient. For this reason, change management forms a critical part of the programme.

The Finance, Human Resources and Corporate Services divisions have joined hands in taking the first step towards becoming a world class Eskom. This is evident in the sponsorship of this project, which

1. Eskom converted to the B-BBEE Codes of Good Practice during 2009. The 2009 figures are obtained from the Empowerdex certificates. There are no comparatives for 2008.  
2. The B-BBEE attributable spend has been verified and checked for accuracy from the top 295 suppliers out of 1 1 790 active vendors.

resides with the Finance director; the Managing director: Human Resources and the Managing director: Corporate Services.

### Escap Limited

Eskom's local captive insurance subsidiary company, Escap, continues to provide a full range of customised short-term insurance products to the Eskom Group and manages the insurance needs through a combination of reinsurance with the external insurance market and a level of self insurance. This methodology achieves effective cost solutions for Eskom by balancing risk and the cost of insurance.

Escap's board of directors has overall responsibility for the establishment and oversight of Escap's risk management framework and has a risk committee that is responsible for developing and monitoring its risk management policies. The risk committee meets quarterly to identify and analyse the risks Escap faces, to set appropriate risk mitigation strategies, and to monitor development of risks and adherence to the agreed strategies.

Escap is subject to supervisory and regulatory legislation including the Short-Term Insurance Act, Financial Services Board Regulations, Companies Act, PFMA, Income Tax Act, VAT Act, SARS regulations, Reserve Bank regulations, etc. Ultimate responsibility for compliance resides with Escap's board of directors.

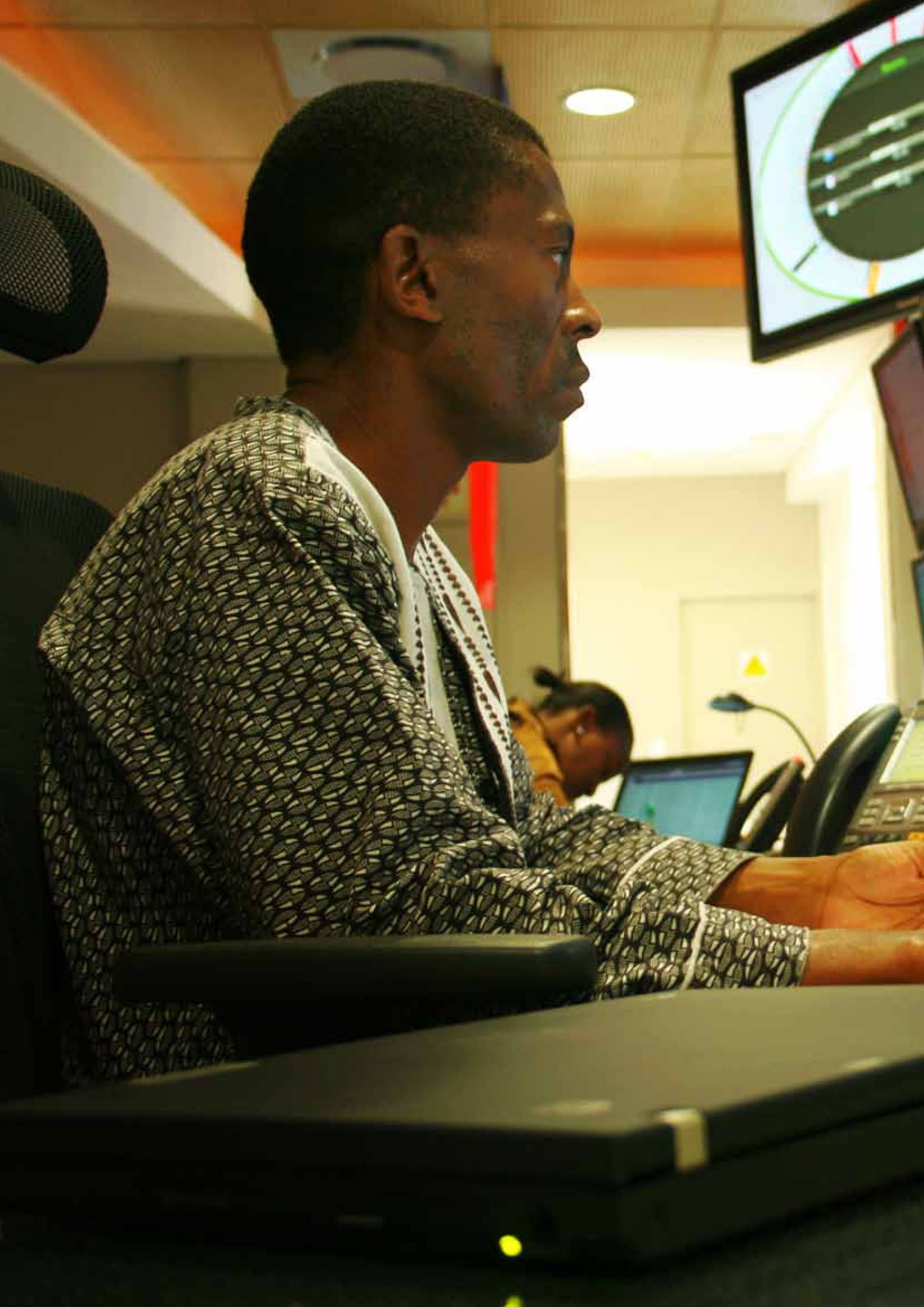
The need for Gallium, as our offshore captive insurance company, was reviewed in terms of our risk financing strategy as Escap is able to cater for the organisation's self-insurance needs. As a result, Gallium was effectively closed down in the prior year and paid Eskom a dividend of R165 million (2009: R30 million).

### Eskom Finance Company Limited

The core business of the Eskom Finance Company (EFC) is the granting of employee home loans which is a key part of Eskom's retention and attraction of key staff strategy. The loan book is funded both through external securitisation and internal funding. Note 3 on page 204 of the financial statements provides further information in this regard.



*Palmiet pumped-storage scheme near Grabouw in the Western Cape.*







# Driving sustainability

Corporate Services division

52	Summary
54	Climate change
56	Internal energy efficiency
57	Managing our environmental impact
59	Safety
63	Quality
65	Research and development
66	Information management
67	Anti-fraud and anti-corruption programmes
68	Contributing to society

## Corporate Services division

**Mandate:** Drives research and innovation and ensures sustainability of the Eskom group, by assuring statutory compliance, assuring effective group-wide corporate governance and legal practice and policies, drives environmental, safety and occupational health programmes while developing and ensuring execution of appropriate business strategies, undertakes research and development, develops and executes Eskom's developmental initiatives, ensures optimal information management, a quality culture, and integrated risk management.

### Progress this year

#### Highlights

- Successful handling of fraud and corruption cases
- Implementation of a new integrated risk management system across divisions
- Integration of climate change considerations in the business and input into various government processes
- Underground coal gasification research project ready for co-firing at Majuba and approvals to continue design of medium-scale power plant
- Utility load manager (ULM) piloted successfully
- Safety cardinal rules rolled out
- Inclusion of solar and wind in the South African Clean Technology Fund application
- Division received ISO 9000 certification
- Received award for practice in promoting openness and setting up systems that promote compliance with the provisions of the Promotion of Access to Information Act (PAIA)
- Completion of full assurance programme
- Execution of security improvement programme
- Award from Department of Public Works for jobs created
- Small Business Expo
- Eskom Expo for Young Scientists
- Record number of entries for *eta* Awards for excellence in energy efficiency

#### Challenges

- Overall poor environmental performance related to particulate emissions and environmental legal compliance
- Increasing concern about staff security
- Conductor and lattice theft increasing
- Fraud and corruption still a concern
- Continuing fatalities

### Future priorities

- Improve IT efficiencies and reduce costs
- Revise climate change strategy in line with recent national and international developments and integrate with IRP2
- Roll out large-scale renewable energy plant
- Step up internal energy efficiency
- Reduce risk profile
- Roll out phase 2 of underground coal gasification project
- Roll out phase 2 of utility load manager project
- Continue improvement in environmental performance
- Implement the King III Report and new Companies Act
- Tap innovation potential internally
- Roll out quality strategy
- Continue drive for improvement in safety performance
- Revise sustainability performance index for Eskom
- Roll out SAP upgrade and back-to-basics programme together with Finance and Human Resources

**Dr Steve Lennon**  
Managing Director: Corporate Services



**Q: What is Eskom doing to increase its renewable energy mix?**

**A:** Eskom remains committed to increasing the share of renewable energy in its mix. However, the reality is that funding for renewables has been a stumbling block. In the last year the negotiations with the World Bank, through our government, has proven fruitful in terms of securing funding for solar and wind projects. This funding will now go a long way in growing both the solar and wind capacity in the country. We see this as the start of a major expansion of renewable investments by Eskom and other players in the power sector, and during 2010/11 we will be developing the details behind these investments.

The following group issues are covered in this section of the report:

- Risk (specific to Corporate Services division)
- Business planning and target setting
- Climate change
- Internal energy efficiency
- Managing our environmental impact
- Safety
- Quality
- Forensic and anti-corruption
- Research and development
- Information management
- Contribution to society

## Corporate Services division continued

Risks related to Corporate Services division (CSD) specifically are:

Risk	Treatment plans
Financial and funding constraints	<ul style="list-style-type: none"> <li>Re-aligning short- and medium-term business requirements in line with reduced budgets. At the same time CSD is refocusing on core business and downscaling on peripheral activities. This is supported by more pro-active cash flow management and cash saving initiatives</li> <li>New emphases on contract review and intensive supplier negotiations</li> <li>Lastly, innovation is actively promoted as being one of our core values through various activities championed by the innovation circuit</li> </ul>
Skills availability, retention and sourcing	<ul style="list-style-type: none"> <li>Implement a localised retention strategy while specific skills are managed through the development of a function-specific succession plan</li> </ul>
Information security, confidentiality, integrity, availability	<ul style="list-style-type: none"> <li>Review of the current information and communications strategy. More stringent web content filtering and vulnerability assessment is done, while a consolidated patch roll-out strategy on IT systems minimises rogue attacks</li> <li>Update information security policy and standards and put in place processes for IT service providers to report on frequency and vulnerability management</li> </ul>

### Business planning and target setting

Eskom's business planning sets the strategic and operational direction for the company and captures the necessary financial, operational and resource plans to support this direction. A secondary purpose is to comply with the requirements of section 52 of the Public Finance Management Act (PFMA) and to support Eskom's policies. The business plan covers a period of three years.

Part of the business plan process is an environmental scan of internal and external environments. Eskom as a business strongly depends on how well it responds to the events unfolding in the political, economic, social, technological, environmental and legal spheres. These are tracked regularly.

Global events in the current environment are very dynamic and largely unpredictable. Rapid technological changes are fast shaping the behaviour of Eskom's key stakeholders such as customers, suppliers and the public. These are then addressed in the business plan objectives and performance targets.

Linked to the business plan is a robust key performance indicator (KPI) management process that includes independent development, review, appraisal and approval of targets at various levels of the organisation. The KPI setting process caters for a controlled reevaluation and revision of the target should an event that is outside management control occur.

### Climate change

#### Highlights

- Integrated planning. Planning was based on a low carbon future – embracing the principles and objectives for the country as set out in the long-term mitigation scenarios (LTMS)

- Successful carbon school held with key industrial customers
- Initiated work on the impact of carbon taxes on electricity pricing
- Great success with underground coal gasification project and the utility load manager for residential customers
- Advice given to the UN secretary general on energy access and energy efficiency

#### Challenges

- Lack of certainty on the future climate change regime from Copenhagen
- Delay of renewable projects due to funding constraints
- Increase in absolute CO<sub>2</sub> emissions from 221,7Mt<sup>RA</sup> (2009) to 224,7Mt<sup>RA</sup>

Last year was a pivotal year for climate change in the international arena. The climate talks in Copenhagen marked the culmination of two years of negotiations on the future international climate change regime.

The Copenhagen climate change talks closed on Saturday, 19 December 2009, without reaching an international legally binding agreement.

However, negotiations resulted in a political agreement called the Copenhagen Accord, which deals with important issues such as mitigation (both developed country targets and developing country action) and financing, but it has a long way to go in dealing with issues such as adaptation. During 2010, there will be further negotiating sessions to hopefully arrive at a global climate change deal by the end of 2010 as part of the conference of parties to be held in Mexico. This is especially important for South Africa, as it hosts the conference of parties at the end of 2011 – where there must be an agreement on the post-2012 regime.



### The climate change negotiation process

This process is governed by the United Nations Framework Convention on Climate Change (UNFCCC). This international treaty has been ratified by all countries and the goal is to consider what can be done to reduce climate change and to cope with whatever temperature increases are inevitable.

The UNFCCC does not contain any legally binding commitments for any country. In 1997 the Kyoto Protocol was negotiated and became the legal instrument of the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and the European community for the reduction of greenhouse gas (GHG) emissions. This amounts to an average of 5% against 1990 levels from 2008 to 2012. The Protocol came in force in 2005, following ratification by the majority of countries. Most famous for not ratifying Kyoto and therefore not bound to any legal obligation, is the USA, which is historically the largest emitter of GHGs.

The five-year period for countries to reduce their emissions will end in 2012 and therefore a new regime is required post 2012, which includes additional targets for developed countries. The negotiating session in Copenhagen last year was seen as the watershed for agreeing the post-2012 architecture and emission targets for developed countries and a commitment by developing countries to deviate from business as usual. It is important to note that the Kyoto Protocol contains many other commitments for developed countries, including financing and technology transfer. Countries are still legally bound to deliver on these commitments even post 2012. It is therefore not the Kyoto Protocol that comes to an end in 2012, as is often quoted, but the target period for developed countries to comply with emission reduction targets. Every year in June the governments of the UNFCCC and Kyoto Protocol countries come together to negotiate how these agreements will be met.

### South Africa's obligation

The requirements of the accord means that South Africa will need to prepare a report on its mitigation action for formal submission to the (UNFCCC), confirming that South Africa would undertake a range of voluntary nationally appropriate mitigation actions (NAMAs). South Africa's undertaking ensures that these actions will enable the country's emissions to deviate below the projected business-as-usual emissions by 34% by 2020 and 42% by 2025. This level of effort would enable emissions to peak between 2020 and 2025, plateau for approximately a decade and decline in absolute terms thereafter.

South Africa's undertaking to act is distinct from the legally binding quantified emission reduction commitments required from all developed countries. Further, South Africa's efforts were emphasised as voluntary and conditional on two key elements. Firstly, South Africa requires the UN climate change summit at the end of 2010 in Mexico to conclude with a fair, ambitious, effective and legally binding international agreement. This would be required to ensure legally binding obligations by developed countries on both mitigation and support. Secondly, the extent of the actions to be taken by South Africa, and other developing countries, will depend on the provision of support from the international community, in particular finance, technology and support for capacity building from developed countries, in line with their commitments under both the Framework Convention on Climate Change and the Bali Action Plan. While the Copenhagen Accord makes provision for some of these conditionalities, the requirement for legally binding emission reduction commitments from developed countries remains elusive. The negotiations in 2010 will provide more certainty in this regard.

South Africa is already undertaking significant mitigation actions in relation to: energy efficiency in commerce, energy and industry; mechanisms to support the rollout of renewables and alternative energies; working towards integrated rapid transit systems; and the rollout of solar water heaters.

Eskom's participation in the climate negotiations is two-pronged. We participate in both the government negotiations and the business meetings. We specifically give input on mitigation issues, including market-related issues and sectoral approaches. We also provide input to the technology negotiations and provide support in general to the South African delegation where necessary. International business has a strong presence at the negotiations through bodies such as the World Business Council for Sustainable Development (WBCSD), International Chamber of Commerce (ICC), International Emissions Trading Association (IETA) and the World Economic Forum (WEF). We are a member of these organisations and we actively participate in their development of position papers for the negotiations on an ongoing basis.

### Eskom commitment – pre- and post-Copenhagen

Climate change has long been an integral part of our business. Our climate change strategy, developed in 2005 and our six-point plan on climate change are testament to this. The six-point plan was detailed over the last two years in our annual reports and we remain committed to the principles and aspirations highlighted therein. Over the last year, we have been driving the climate agenda further through planning, research, pricing studies and training sessions – both internally and with our key industrial customers.

Eskom has made significant strides in ensuring that the planning process takes into account a low carbon future and prioritises energy efficiency internally and externally. In the past the integrated strategic electricity planning process was based on a least-cost optimisation imperative, while the sustainability indicators were used to do the sensitivity analyses of the plans. The last round of planning used the least cost plan as a reference plan, but several other plans were developed based on achieving a low carbon future as contained in the objectives of the LTMS work and policy objectives at a national level. The process included a robust multi-criteria decision analysis process

## Corporate Services division continued

which resulted in the plan of choice being one that entrenched a low carbon future. This was outlined in Eskom's MYPD 2 submission.

It is a significant mindset shift but it also needs active support – especially from a financial point of view. This plan needs to be financed and supported at a national level. In the last year we have also initiated studies on carbon pricing and the impact of a carbon tax on electricity pricing. Further work will look at the macroeconomic impacts. It is extremely important to recognise that climate change is not an issue that can be addressed in isolation. We need to address this as a nation in an integrated manner. For Eskom, stakeholder engagement and liaison with government will continue to play a very crucial role in achieving its climate change aspirations.

Further, there are several opportunities that Eskom could embrace in the next few years up to 2013 and beyond. These include stepping up energy efficiency programmes, and realising benefit from the carbon market and green financing options. While these options do not currently generate enough revenue to cover the entire expense of a new technology, they certainly offer an opportunity to augment Eskom's financing options.

Eskom's research into ground-breaking technologies such as concentrating solar power, underground coal gasification, smart grids and the utility load manager must move to the implementation phase. An important aspect of Eskom's six-point plan on climate change is adaptation to the negative impacts of climate change to ensure reliability and continuity of supply. Climate-related risks include, among others, the availability of water for power generation in drought conditions, severe precipitation and extreme weather events impacting on the ability to supply, infrastructure damage and relocation of people. In the last year we completed a scoping exercise to determine the requirements for an adaptation strategy, including working with other institutions to look at downscaling climate models to better inform the strategy. We also completed an extensive desktop review of what other utilities around the world are doing in terms of adaptation strategies. We have also looked at this from a risk and insurance point of view. The full adaptation strategy will be developed over the coming year.

### Internal energy efficiency

Eskom's internal energy efficiency campaign is aimed at implementing energy saving projects within our facilities and educating our employees on how to save energy. We are also addressing the actions highlighted in the World Business Council for Sustainable Development's buildings manifesto and have signed their pledge.

#### Highlights

- A company pledge, directive and procedure has been completed.
- Targets have been developed for each division for the next three years in order to achieve an internal energy saving of 1 billion kilowatt-hours by 2012 and these have been included in relevant compacts.
- A building monitoring website has been developed to track and manage energy consumption at our key facilities. Several buildings are being monitored.
- Internal energy efficiency is included in the Eskom shareholder compact and relates specifically to savings in our facilities. The



target in the shareholder compact is aligned to that of the power generation sector, as per the national energy efficiency strategy for South Africa (2005 and 2008). The percentage savings will be determined once the Eskom baseline has been completed.

- Year-to-date (March 2010) savings are 30,6GWh<sup>LA</sup> (contribution by non-essential consumption was 9,6GWh)<sup>LA</sup> and 75,3GWh since the project started in 2003 (contribution by non-essential consumption was 46,7GWh). These savings were achieved through energy efficiency initiatives at Lethabo power station, Braamfontein and Rosherville buildings, the Eskom employee CFL exchange programme and initiatives in buildings in the northern region. Various other facilities have been implementing measures to save energy. However, as these savings have not been measured and verified, the savings have not yet been recognised.
- An Eskom baseline, using the metered information from the key sites and modelling techniques for the smaller sites, has been initiated.<sup>1</sup>
- An extensive communications campaign was re-launched and involved a revamped and dedicated website (including interactive games and quizzes), articles in internal publications, road shows and educational posters/table talkers highlighting the seven things staff can do to cut down on energy use at the office.

LA – Limited assurance provided by independent assurance provider (refer page 169).

1. The percentage saving will be determined once the Eskom baseline has been completed

## Challenges

- Very few projects were actually implemented.
- The delay in the installation of meters has delayed the development of the Eskom baseline as metered data is required.

## Future priorities

- Installation of metering at remaining key sites.
- Completion of the Eskom baseline.
- Implementation of projects.
- Monitoring and managing the consumption of key sites through the building monitoring system.
- Continued communication, education and awareness on internal energy efficiency.

## Managing our environmental impact

Due to the nature and extent of our operations, we impact the environment in terms of our use of resources, the processes required to generate electricity and the physical footprint we have on the land. This has led to us adopting a systematic approach to environmental management to ensure our environmental duty of care.

Environmental performance is managed as an integral part of our governance structure, from the board sustainability committee, to the executive management committee (Exco) sustainability and safety subcommittee. Accountable environmental managers and environmental practitioners from the various line divisions ensure the effective implementation of environmental management systems throughout our business. Corporate Services division sets overall Eskom strategy on the environment and provides oversight, reporting and assurance.

Through this commitment, our objective remains to ensure continual improvement in our environmental performance by setting environmental performance indicators and controlling our activities through management systems and ensuring that our decision-making processes are based on balanced criteria. These commitments are set out in our safety, health and environment policy.

Our activities that have significant environmental impacts include:

- 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 our nuclear power station – land transformation, radiation and radioactive waste

Based on these significant aspects of Eskom's operations, the environmental highlights, challenges, performance and future priorities are set out in the divisional sections of this report.

## Concentrating solar power (CSP) project

The renewable energy research programme has identified CSP as a high-potential future electricity generation option, given Southern Africa's significant solar energy resource. CSP technologies convert the thermal energy of the sun's radiation into steam which powers a steam turbine to generate electricity.

Eskom is developing a 100MW CSP pilot plant that uses the central receiver technology with molten salt storage. This research project will demonstrate the full-scale commercial operation of this technology in the South African context.

The World Bank's approval in April 2010 for a USD3,75 billion loan to help South Africa achieve a reliable electricity supply includes financing for this CSP pilot plant and the planned wind power plant along the west coast of South Africa.



## Highlights

- Continual improvement in the development and implementation of environmental management systems – maintenance of ISO 14001 certification for parts of Eskom and additional ISO 14001 certification for the peaking power stations.
- Continuation of environmental stakeholder forums for engagement on Eskom's capacity expansion programme.
- Continued engagement with the Department of Environmental Affairs with regard to air quality, biodiversity, EIAs and waste management.
- Research outcomes in the area of managing our environmental impact (air quality, biodiversity and waste and water management).

## Challenges

- Activities resulting in us not complying with environmental legislation on 55<sup>RA</sup> occasions (2009<sup>PY</sup>: 114<sup>RA</sup>). While an improvement in controls and practices has led to a decrease in the contravention of environmental legislation from the previous year, the level of non-compliance is still not acceptable.

## Corporate Services division continued

### Consolidated Eskom non-compliance with environmental legislation, waste disposal and expenditure<sup>1</sup>

	Target 2010	<b>Actual 2010</b>	Actual 2009	Actual 2008	
Environmental legal contraventions (number) <sup>2</sup>	0	<b>55<sup>RA</sup></b>	114 <sup>RA</sup>	46	●
Environmental legal contraventions reported in terms of Eskom's operational health dashboard (number) <sup>3</sup>	0	<b>0</b>	12 <sup>4</sup>	6	●
Materials containing asbestos disposed of (tons) <sup>4</sup>	n/a	<b>321,1<sup>RA</sup></b>	3 590,8 <sup>LA</sup>	321,0	
Materials containing polychlorinated biphenyls (PCBs) thermally destructed (tons)	n/a	<b>19,1<sup>RA</sup></b>	505,6 <sup>LA</sup>	17,0	
Environmental expenditure (Capex) (Rbn)	n/a	<b>0,6</b>	1,1	1,3	
Environmental expenditure (Opex) (Rbn)	n/a	<b>0,9</b>	1,0	0,5	

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

LA – Limited assurance provided by the independent assurance provider (refer page 169).

1. The operational environmental performance areas and contribution to non-compliance to environmental legislation, waste and expenditure are set out in the divisional sections contained in this report.
2. 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. Managing directors can escalate any significant environmental legal contravention to the OHD.
3. The 2009 annual report reported 11 environmental legal contraventions in terms of the OHD. During this reporting period, one legal contravention regarding the illegal disposal of waste for the Medupi project was identified following an investigation. This was found to be a repeat legal contravention in the preceding year and is recorded as such.
4. Quantities of waste disposed of at registered waste sites.

Our objective is to integrate environmental management into our systems, processes and activities for a sustainable electricity supply, ensuring continual improvement in environmental performance. To achieve this, our environmental management objectives and criteria are entrenched in our procurement and investment strategies, governance structures, operational practices and decision-making processes.

In line with this objective we have developed and implemented environmental management systems throughout our operational divisions. We based our environmental management systems on ISO 14001, a framework of agreed rules for our process to control what we do and how we do it.

#### Looking forward

In 2006, South Africa's national treasury released a draft policy paper for comment entitled "A framework for considering market-based instruments to support environmental fiscal reform in South Africa".

Government introduced a 2c/kWh environmental levy on non-renewable generation effective from 1 July 2009. The total value over three years is projected to be in excess of R15 billion. This will be an

inherent variable cost to the production of electricity from non-renewable sources, similar to fuel costs.

The environmental levy was introduced as a separate charge for all tariffs. It is anticipated that national treasury will publish a carbon tax proposal for stakeholder comment in 2010.

#### Environmental management

Our focus is on re-enforcing environmental controls and decision making, emissions control and water management practices and driving continual improvement by taking a systems approach to environmental management. Opportunities exist to implement our own internal energy efficiency projects and expand on water conservation programmes, and conservation of certain land to secure its biodiversity value.

#### Benchmarking our key environmental performance indicators

In order to provide some perspective to our environmental performance, a few other electricity utilities' performance is provided in the table below. Their technology mix is aligned to an extent with ours. All information is based on information published in the respective utilities' annual reports.



	<b>Eskom 2009/10</b>	Electricity utility in Europe 2009	Electricity utility in Australia 2009	Electricity utility in USA 2009	Electricity utility in Canada/USA Australia/Mexico 2008	Electricity utility in Australia 2009
Total electricity produced (GWh)	<b>232 812</b>	187 200	23 746	53 100	43 105	26 999
<b>Electricity generation mix</b>						
Coal-fired power stations (%)	<b>92,8</b>	61,4	88,3	35,0	71,1	99,8
Renewables (%)	<b>0,5</b>	3,5	11,7	8,0	5,3	0,2
Pumped storage and other (%)	<b>1,2</b>	1,1	n/a	2,0	n/a	n/a
Gas (%)	<b>0,02</b>	15,9	0,0	37,0	23,6	n/a
Nuclear (%)	<b>5,5</b>	18,1	0,0	18,0	n/a	n/a
<b>Environmental performance</b>						
Water usage (ℓ/kWhSO)	<b>1,38</b>	1,74	1,73	13,11 <sup>1</sup>	5,89	3,18
CO <sub>2</sub> (kg/kWhSO)	<b>0,98</b>	0,80	0,91	0,53	0,90	0,94
Particulate emissions (g/kWhSO)	<b>0,39</b>	0,02	0,12	n/a	0,12	0,19
SO <sub>2</sub> emissions (g/kWhSO)	<b>8,10</b>	0,32	3,74	4,76	1,08	4,35

1. 90% of water used is returned to the rivers – therefore the high value

## Biodiversity

This year is the United Nation's International Year of Biodiversity. Globally, there is an increased level of awareness of the importance of biodiversity and the relevant ecosystem services that we rely on. We are participating in the World Business Council for Sustainable Development (WBCSD) ecosystems focus area, which is currently developing a corporate guide for ecosystem valuations. Furthermore, we have accepted the challenge of road testing the guide – in parallel – to better understand our impact on ecosystem services and subsequently investigate measures to mitigate this impact.

During this reporting year the Eskom land and biodiversity task team (represented by all the business areas within Eskom) has revised various biodiversity-related procedures, and drafted a biodiversity policy and standard within the framework of the ISO 14001 environmental management system.

The Eskom-EWT strategic partnership performed a review of the effectiveness of the partnership, which highlighted the need to look at more pro-active and collective mechanisms to manage our impact on biodiversity. This led to the development of a partnership strategy with related KPAs and KPIs. It is our intention to test the reporting of these KPIs within the short term.

## Safety

Although there has been a reduction in the number of employee and contractor fatalities for the past year as compared to 2009, we

remain concerned about this unacceptable performance. To this end, a number of safety improvement initiatives have been and are in the process of being implemented, to reduce the number of safety-related incidents for contractors and employees to zero.

The implementation of a safety improvement programme has led to enhanced operational discipline among employees and visible felt leadership in safety. We have identified critical behaviours or actions that, when performed, have a very high probability of causing incidents resulting in severe injuries or fatalities. In order to prevent these unacceptable consequences, we implemented five safety cardinal rules that apply to Eskom employees and other persons performing work for Eskom. This initiative has led to zero fatalities among employees in the high-risk activities covered by the cardinal rules.

There has also been a greater focus on the health and safety of Eskom contractors and the public. To this end, Eskom is working with suppliers, customers and contractors to integrate safety, health and environmental issues into their operations. Contractors working under our supervision or on our premises, are expected to comply with Eskom's safety, health and environment (SHE) policy, and support the zero tolerance approach to safety management. Eskom leadership has taken the initiative to engage with contractors in the form of quarterly contractor forums to ensure that the standard of safety management at Eskom sites is in line with best practice.

## Corporate Services division continued

### Safety performance

	Unit of measure	Actual 2010	Actual 2009	Actual 2008	
<b>Employee safety</b>					
Total fatalities	number	2 <sup>RA</sup>	6 <sup>RA</sup>	17	●
Electrical contact fatalities	number	0	4	5	●
Vehicle accident fatalities	number	2	0	8	●
Other fatalities	number	0	2	4	●
Lost-time incident rate, including occupational diseases	index	0,54 <sup>RA</sup>	0,50 <sup>RA</sup>	0,46	●
Electrical contact injuries	number	17	13	25	●
<b>Contractor safety</b>					
Total contractor fatalities	number	14 <sup>RA</sup>	21 <sup>RA</sup>	12	●
Electrical contact fatalities	number	1	1	1	●
Other fatalities	number	13	20	11	●
<b>Public safety</b>					
Total public fatalities	number	41	28	42	●
Electrical contact fatalities	number	27	22	32	●
Fatalities from other causes	number	14	6	10	●

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

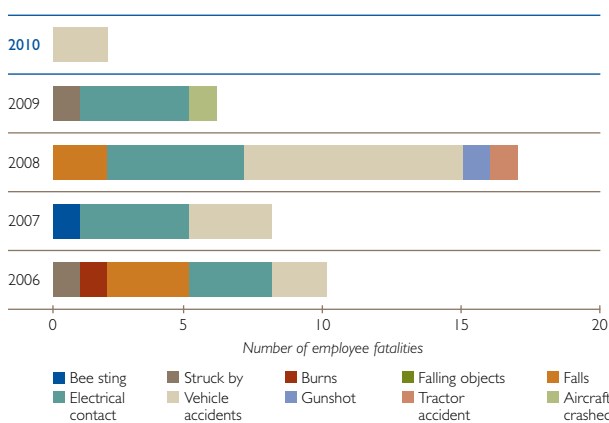
### Divisional safety performance

	LTIR	Employee fatalities	Contractor fatalities
Generation	0,50	0	0
Transmission	0,80	0	1
Distribution	0,72	2	8
Enterprises	0,29	0	3
Nuclear	0,32	0	1
Corporate Services	0,50	0	0
Primary Energy	0,00	0	1
Generation Business Engineering	0,00	0	0
System Operations and Planning	0,00	0	0
Finance	1,40	0	0
Human Resources	0,97	0	0
Office of the Chief Executive	2,20	0	0

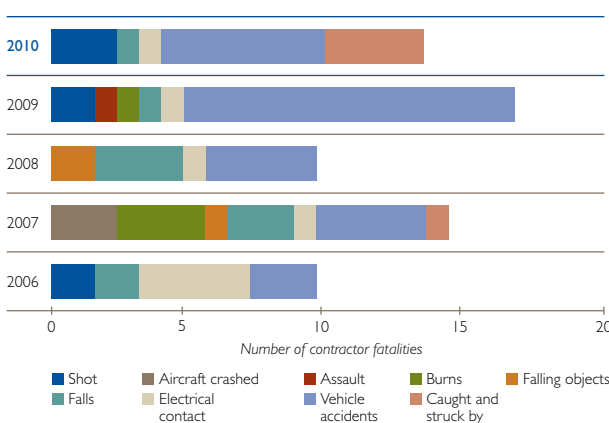
Continued focus is required on enhancing safety training and awareness, skills and competency, supervision and operational discipline to drastically improve the current performance.

- We unfortunately lost two<sup>RA</sup> employees this financial year in comparison to the six<sup>RA</sup> we lost in 2009. Both the fatalities were attributed to motor vehicle accidents.
- Sadly 14<sup>RA</sup> contractors lost their lives this financial year compared to 21<sup>RA</sup> in 2009. Six of the fatalities were attributable to vehicle accidents, three to gunshots, three to being struck by falling objects, one to an electrical contact incident and one passed away due to a fall from height.
- Sadly 41 members of the public died in 2010, with vehicle accidents and electrical contacts remaining the major causes. A massive public safety campaign is addressing this.

#### Employee fatalities



#### Contractor fatalities



#### In memoriam

Our thoughts and prayers go to the families of the employees and contractors who passed away in the line of duty this past year:

##### Employees

Piet Tshabalala  
Mzuzi Ngema

##### Contractors

Mbolwane Malambu  
Irvin Assegai  
Magrieta Assegai  
Bernardus Janse van Vuuren  
Phathuxolo Zingunyele  
Ndiafhi Nekhubvi  
Saule Sikhonza  
Frans Mkhonto  
Sonnyboy Phetla  
Bokang Lumphondo  
Thabane Khoza  
Samuel Ramogopotsi  
Freddy Mochike  
Nelson Mdingane

#### Lost-time incident rate (LTIR)

The progressive LTIR is a proportional representation of the occurrence of lost-time injuries over 12 months. The actual lost-time injury rate (LTIR) performance was 0,54<sup>RA</sup> per 200 000 manhours worked against a target of 0,31 for 2010 in comparison to the 0,50<sup>RA</sup> reported in 2009 and 0,46 in 2008. We are disappointed that we did not meet our LTIR target, and reaffirm that the safety of our people remains fundamental to our business. We will not rest until we achieve our safety goals through collective responsibility, commitment and ongoing focus.

In risk-specific terms, the leading causes of injuries were motor vehicle accidents, caught and struck by objects and falls.

#### Contractor and construction management

While there are instances of good health and safety practice among some contractors, overall contractor performance is still discouraging.

## Corporate Services division continued

Establishing and maintaining an effective contractor health and safety management programme requires significant changes to the current procurement and supply chain management processes. As part of the contractor safety management system, it will become mandatory for all vendors who wish to undertake work for Eskom to undergo a thorough SHE evaluation/pre-qualification process. This in-depth process will ensure that all contractors take the necessary practicable steps to apply safe systems of work and comply with the legislative requirements of the OHS Act together with Eskom's requirements. Vendors who are found to be deficient will not be permitted to undertake work for Eskom. A comprehensive health and safety integration standard has been drafted and awaits authorisation.

A national contractor MD forum was hosted by Eskom on 5 November 2009 and was well attended by senior Eskom officials and contractors. The theme was "Am I doing enough to ensure the health and safety of my employees?" The focus of this forum was on how Eskom and contractors can work together in delivering on our projects with zero harm to people and the environment. It also served as an opportunity for Eskom and contractor management to interface on health and safety-related matters.



### Safety requirements for vendors

Eskom has implemented wide-ranging policies, procedures and standards for vendors. We expect our vendors to adhere to our policies and procedures in addition to their own safety programmes. In an effort to manage Eskom vendors more effectively, we have set minimum, mandatory safety, health and environmental requirements in the procurement and supply chain management processes for all vendors that we engage with.

### What is a vendor?

A vendor is a person or legal entity who qualifies to render a service to, or performs work for, Eskom and is listed on the Eskom vendor database. Vendors may include contractors, service providers, consultants and suppliers.

### What are the Eskom mandatory requirements?

In addition to our current corporate policies and procedures, a standard is being drafted to ensure that mandatory SHE requirements are addressed. The commercial process will use these requirements to prescribe minimum criteria to evaluate, select and monitor vendors.

### What is expected from vendors?

All vendors must be familiar with and comply, at all times, with all applicable SHE statutory requirements as well as Eskom policy and procedural requirements while performing work for Eskom.

Measures to ensure vendor health and safety must include:

- identifying the requirements of the job and assessing the risks involved
- consulting and co-operating with Eskom personnel on relevant health and safety issues
- providing requisite training and induction
- ensuring competence of employees and subcontractors
- review of work and risk assessment
- appropriate supervision
- exercising a duty of care towards all contractors and service providers

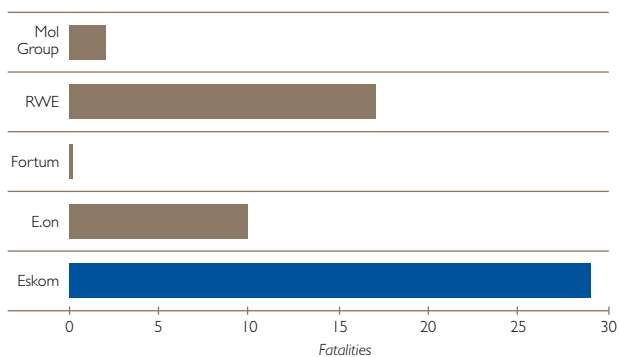
## Safety benchmarks

The benchmarks were based on 2009 data and the results were concluded at the beginning of 2010.

### Benchmarked companies

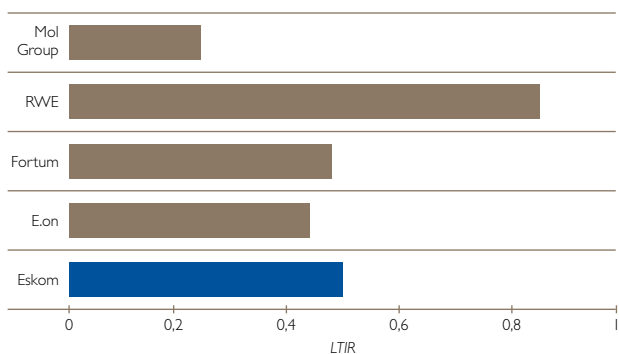
Company	Description
MOL Group	MOL is a Hungarian oil and gas company and one of the largest multi-national corporations in Central Europe
Fortum	Fortum is a leading energy company in the Nordic countries and other parts of the Baltic Rim. Activities cover the generation, distribution and sale of electricity and heat as well as the operation and maintenance of power plants
RWE	Core businesses are electricity, gas, water and waste water, waste disposal and recycling. The German group develops innovative products and services for safe and reliable supply and disposal
E.ON	E.ON is on track to becoming the world's leading power and gas company. They are already the world's largest investor-owned energy service provider.

### Benchmark fatalities



Note: Displayed fatalities include employee and contractor fatalities combined.

### Benchmark employee LTIR



As part of Eskom's goal of zero harm we have implemented a behaviour observations process to change the safety culture from being re-active (by measuring and investigating accidents) to being pro-active (by observing and addressing unsafe acts and conditions through management visibility in the workplace). We also continue to enforce our five cardinal rules which are based on critical behaviours or actions that, when performed, have a very high probability of causing incidents resulting in severe injuries or fatalities.

Our cardinal rules are:

- Rule 1: Open, isolate, test, earth, bond and/or insulate before touch
- Rule 2: Hook up at height
- Rule 3: Buckle Up
- Rule 4: Be Sober
- Rule 5: Ensure that you have a permit to work

## Quality

Eskom has embarked on a quality improvement journey in order to integrate quality into all activities throughout the organisation. A quality management strategy was developed in 2009 as a roadmap to achieve, sustain and improve quality throughout our value chain. As part of the strategy, we adopted the ISO 9001:2008 standard as the framework for business management in all our divisions and subsidiaries.

## Corporate Services division continued

### Management system certification

Division	ISO 9001	ISO 14001
Generation	In progress (currently Matimba, Hendrina and peaking power stations are certified)	In progress (peaking power stations are currently certified)
Transmission	Certified	Certified
Distribution	In progress	In progress
Enterprises	In progress (to date: Project Development Department)	In progress
Nuclear	In progress	In progress
Corporate Services	Certified	In progress (to date: Climate Change and Sustainability)
Primary Energy	In progress	In progress
Generation Business Engineering	In progress	In progress
System Operations and Planning	In progress	In progress
Finance	In progress	In progress
Human Resources	In progress	In progress

Those divisions that are not certified are developing and implementing their quality management system and overall progress towards compliance is estimated to be 60%.



*A demonstration solar-powered traffic light in the Western Cape.*

## Research and development

The Eskom research and development programme is driven by the Sustainability and Innovation business unit. The department provides a variety of services such as scientific and technical advice, research and consulting, analysis, detailed design as well as strategic technical planning services and direction.

The research is focused on the needs of the line divisions within Eskom. Thus, the focus is predominantly on applied, not pure research and the research outputs are linked to the strategic and operational needs of Eskom. In order to remain relevant, however, a portion of research resources is allocated to technology innovation and emerging technology options. Our research expenditure for the year amounted to R197 million (2009: R207 million).



For further details on the expenditure and research focus areas, go to [www.eskom.co.za/annreport10/003.html](http://www.eskom.co.za/annreport10/003.html)

## Demonstration and pilot projects

As research matures, it leads to the establishment of demonstration plants that take the understanding of the technology to the next level. A demonstration project is a production scale asset that is built to evaluate and validate prior research findings and recommendations to enable future business decisions (especially the understanding of risk and certainty of costs) regarding the applicability of the technology in an Eskom context. Eskom's investment in the demonstration and pilot programme over the last year is shown below.

Project name	Actual expenditure R000
Solar power for Africa (100MW concentrated solar plant)	2 981
Plant monitor (Online analysis of equipment characteristics)	20 448
Utility load manager (Load management device)	22 914
HVDC (High voltage direct current power transmission)	1 800
Underground coal gasification (Majuba demonstration)	198 945
	247 088

## Underground coal gasification research

The underground coal gasification (UCG) technology has been successfully piloted for more than three years, and initial technical predictions have been confirmed. The next phase of the demonstration 100 – 140MW open-cycle gas turbine, for planned commissioning in 2014, has recently been approved. Stakeholder engagement and a full environmental impact assessment (EIA) are already underway. The plant will be able to prove and quantify the technical, environmental and commercial performance of the technology, and will be able to predict design and performance of a full-scale, commercial UCG plant.

The demonstration plant remains under the stewardship of Corporate Services division, but the project now involves all Eskom divisions and stakeholders that will be responsible for ensuring the success of the demonstration plant, and subsequent uptake of the technology when proven viable.

In parallel to the demonstration plant design, the pilot plant is presently ramping up gas production, in order to prove the concept of co-firing the UCG gas with coal in Majuba power station's unit 4. The interconnecting pipe work between the power station and the UCG gas field has been installed, and will be commissioned as soon as unit 4 is scheduled for an outage.

The pilot plant is gaining incredible interest locally and globally given the technology's potential for clean and lower cost electricity production.



## Corporate Services division continued

Most of the allocated research capital will continue to be invested in the concentrating solar power and underground coal gasification projects in an effort to diversify the generation portfolio. Significant investment is also being made in the utility load manager (ULM) which is a form of load control on the customer's premises.

The purpose of the demonstration programme is to support Eskom's infrastructure expansion programme through research that improves quality, reduces cost and reduces the time taken from conception to commission. It will also drive and challenge our capital expansion technology choices based on the knowledge gained through demonstration, by ensuring that key technologies that can fundamentally change Eskom's current technology path and improve performance are well understood and part of our technology plan.

### Innovation circuit

To support one of Eskom's core values, namely innovation, Eskom Sustainability and Innovation (S&I) formed the innovation circuit (IC).

The IC website went live at the end of 2006 and now boasts 4 616 registered users. A total of 1 491 ideas have been submitted by staff, of which 158 are either under review or in the implementation phase, while numerous have already been implemented.

The IC accepts any ideas that could potentially benefit Eskom. Some ideas under review include an energy educational board game, various cost-saving initiatives (such as lower cost wooden electricity poles), a print optimisation project and recycling drive. Innovative financial instruments for the funding of energy efficiency products are also being explored.

Innovation is part of human nature and we are realising immeasurable value through the Innovation Circuit, ensuring that innovation becomes part of what we do in Eskom.



### Information management

The information communication technology (ICT) team focused primarily on the following five areas in the past year:

- Operational excellence: confidentiality, integrity and high availability of data and systems.
- Financial sustainability: lowering total cost of ownership for ICT.
- Solutioning and innovation: responsiveness to business demands, optimal feasible solutions, processes and systems, standardised and optimised systems.
- Safety, health, environment, quality, people: putting people first.
- ICT image: thought leadership, communication, ICT value proposition: contributing to a positive image for Eskom.

Other initiatives included the introduction of sustainability initiatives such as green IT, enhanced WEB and media services and attaining ISO 9001 certification. A major milestone was the successful disposal of arivia.com and conclusion of a sound outsourcing agreement with T-Systems South Africa.

Eskom ICT adopts cutting-edge solutions and technology. Many of the new innovations such as online vending, enhancements on billing systems, weigh-bridge (coal) system, integrated business management reporting contributed to improved decision making and operational excellence in the business.





Below are the current Eskom mission critical systems as determined through a business impact risk assessment:

IT system	Target availability	Delivered availability	Performance
Maximo (Distribution maintenance)	99,00%	99,49%	👆
CC&B (Billing)	98,80%	99,30%	👆
GTX (Contact centre)	99,00%	99,69%	👆
OVS (Online vending systems)	99,00%	99,81%	👆
GPSS (Generation – production and sales)	100%	100%	👉
Phoenix (Transmission)	98,00%	99,20%	👆

The business continuity and disaster recovery plans were invoked successfully when three hardware failure incidents occurred. There were no significant information security incidents on our network this year.

### Going forward

There will be a major focus on cost reduction; efficiency improvements; simplification of systems and management of IT in Eskom. Other future priorities include:

- Computing centralisation: opportunities to save money and promote sustainability through resource centralisation while maintaining the quality and integrity of the computing environment.
- Application support: widening the range of requirements with regards to applications while integrating, developing and supporting them as best possible.
- Systems assurance/resilience: continually improve protection from viruses and maintain our reliability of 99,99% uptime for our network and all production systems.
- Technology collaboration: intended to result in a better IT environment across the business.

### Anti-fraud and anti-corruption programmes

The forensic and anti-corruption department assists Eskom with good corporate governance and prevents, mitigates, detects and responds appropriately to fraud, corruption and other forms of economic crime or acts of dishonesty. This is in support of our commitment as a signatory to the United Nations Global Compact.

Partnering Against Corruption Initiatives (PACI) principles were developed by a multi-sectoral and multi-national task force of bodies such as the World Economic Forum, Transparency International and the Basel Institute on Governance, of which Eskom is a member. The aim of these principles is to provide a framework for good business practices and risk management strategies to counter corruption. PACI principles commit companies to two basic actions:

- a zero-tolerance policy towards bribery, and
- development of a practical and effective internal “programme” in line with the policy

It is against this background that Eskom has developed a fraud prevention policy to express its commitment to fight fraud, corruption and economic crime, in line with the national anti-corruption strategy of South Africa and in line with the principles of “partnering against corruption”.

## Corporate Services division continued

### Contributing to society

#### Progress this year

##### Highlights

- Through the Eskom Foundation, Eskom has impacted 196 beneficiary organisations for the year.
- In the “*Top caring companies spontaneous awareness:2009*” survey Eskom was rated:
  - among the top five caring companies since 1998; and
  - second top caring company by urban blacks and first by rural blacks – and ranked first among public enterprises in this survey.
- ISO 9001:2008 certified.

#### Future priorities

- Support programmes in communities where Eskom implements its capacity expansion projects, focusing primarily on capacity building, skills development and job creation, thereby enhancing the socioeconomic fabric of communities in which we operate.
- Support developmental programmes in rural communities.
- Continue to ensure local content, skills development and the participation of small, black enterprises and black, women-owned organisations in communities around Eskom capacity expansion programme sites.

Haylene Liberty, Acting Senior General Manager (Development Department)



#### Q: Why does Eskom focus on corporate social investment?

A: Eskom recognises the importance of operating in a corporate socially responsible manner. The organisation is part of the communities where we operate and as such the welfare of those communities is of strategic importance. Corporate social investment not only contributes to the wellbeing of communities, but also promotes skills development, education and enterprise development, jobs, poverty alleviation and employability. It also contributes to a pipeline of available critical skills and creates a future supplier pool for the organisation and other industries. Ultimately, these contribute to the country's priorities of shared economic growth, poverty alleviation, and reducing unemployment.

#### Summary of corporate social investment

	2010		2009		2008	
	No of projects	Rm	No of projects	Rm	No of projects	Rm
Grants for flagship and national programmes and economic and social sector projects	43	47,4 <sup>RA</sup>	43	47,8	64	44,9
Donations to registered, non-profit philanthropic organisations	153	8,4 <sup>RA</sup>	109	4,7	135	3,9
Rural development	7	2,9 <sup>RA</sup>	50	27,0	45	21,0
<b>Total donations and grants</b>	<b>203</b>	<b>58,7<sup>RA</sup></b>	<b>202</b>	<b>79,5<sup>RA</sup></b>	<b>244</b>	<b>69,8</b>

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

## Corporate social investment

### Eskom Development Foundation

The Eskom Development Foundation (Foundation) is an association incorporated under section 21 of the Companies Act and is a wholly owned subsidiary of Eskom Holdings Limited (Eskom) as its sole shareholder. The Foundation receives its mandate from Eskom and is governed by an independent board whose directors are accountable to Eskom through the shareholder compact. It complies with the PFMA and the Companies Act and follows good governance principles. The Foundation is responsible for the co-ordination and integration of Eskom's corporate social investment (CSI) strategy with a view to enhance quality of life, while maximising the strategic impact for Eskom.

The CSI strategy is aligned to the objectives of AsgISA, with the Foundation supporting economic and social programmes that contribute to job creation, poverty alleviation and skills development.

In executing its mandate, the Foundation provides support to programmes in the economic and social sector through grants, particularly in communities where Eskom implements its capacity expansion programme and, in broad terms, supporting the theme of energy. Donations are made to registered non-profit philanthropic organisations.

### Distribution of grants, donations

In the period under review, the Foundation approved a total of 43 grants for R47,4<sup>RA</sup> million towards economic and social development projects, national programmes and flagship projects; and 153 donations for R8,4<sup>RA</sup> million were approved for philanthropic and welfare organisations. This brings the total grant and donation making to R55,8 million for this reporting period (2009: R52,5 million).

A total of 196 organisations benefited from the grants and donations made during the reporting period, with some 590 440 project beneficiaries (2009: 239 617 beneficiaries). The significant increase in the number of beneficiaries is due to increased interventions in the education sector, resulting in more schools and learners participating.

### Donation of assets

Assets that had been written off in Eskom were donated to the Foundation. These assets were in turn donated to institutions such as schools and welfare organisations. The estimated market value of these assets amounted to R30 000 in the current financial period.



Refer to [www.eskom.co.za/annreport10/csi](http://www.eskom.co.za/annreport10/csi) for further information about the Eskom Development Foundation.



AmaBlom flower project at the Nelspruit Incubator funded by the Eskom Foundation.

## Corporate Services division *continued*

### Focus on development in communities around strategic sites

The Foundation revised its strategy in 2010 with a view to focus on development in communities around Eskom new build sites. Planning has been completed to implement projects in the communities around Lephalale (Medupi site). Communities around Kusile site include eMalahleni, Delmas, Ogies and Phola.

In the period under review, grants for the before-mentioned project sites have been approved, with implementation rolling out from May 2010. These included contributions towards mobile classrooms for Pine Ridge primary school in eMalahleni, Tokoloho primary school in Grootvlei and Ithembaletu daycare centre benefiting 2 036 learners. Mpumalanga Education Development Trust centre in eMalahleni received a grant to equip the science centre. This was a joint funding venture between Anglo Coal, MTN, Vodacom and Eskom. The centre services 552 primary and secondary schools in this district with 217 358 educators and learners.

The Eskom contractor academy, which aims to build capacity for selected black contractors, particularly to render services to Eskom and other industries during the construction phase of Kusile and beyond, received a grant. Thirty contractors will be selected to participate in the academy.

Twenty-two black, and black women-owned SME owners will be selected, in consultation with the Kusile stakeholder forum, for SME business and management skills training to improve their business performance with a view to be listed on the procurement database of Eskom and other industries in the area.

The Nkangala further education and training (FET) college in Middelburg, which services the Nkangala district and includes eMalahleni, Delmas, Ogies and Phola received a grant to equip their fitting and turning as well as the automotive workshops for trade test accreditation. The FET will become a fully operational centre with the upgrading and accreditation as a trade test centre where all their national vocational certificate learners as well as staff can prepare for trade tests. This grant to the FET is central to the delivery of priority skills needed to ensure access and participation in South Africa's growing economy. According to the strategic plan for higher education, enrolment at these institutions should rise from 15% to 20% within fifteen years.

These interventions *inter alia* promote Eskom's goodwill and support to harmonise its business activities in these communities.

### Accelerated and Shared Growth Initiative for South Africa

Eskom remains committed to the objectives of government's Accelerated and Shared Growth Initiative for South Africa (AsgiSA), which are to promote economic growth and halve poverty and

unemployment by 2014. Eskom's most significant contribution to AsgiSA is through its core business of supplying reliable electricity. However, Eskom also leverages associated activities such as procurement, and its corporate social investment (CSI) programmes, for the development of the disadvantaged. An amount of R6,4 million was spent on the development of contractors through the Eskom contractor academy in Polokwane and East London.

AsgiSA elements and targets continue to form part of key deliverables of the capacity expansion programme and some of the power delivery procurement contracts. Cumulatively, since the inception of the capacity expansion programme, up to and including the fourth quarter of the reporting period, of the R103,2 billion (2009: R96,4 billion) contracted, R62,3 billion (2009: R52,4 billion) was contracted to local suppliers. This represented over 60,5% (2009: 50%) of the total value contracted and exceeded the 50% Eskom had compacted with the shareholder.

In line with main contractors' commitment to empowerment spending, of the R62,3 billion (2009: R52,4 billion), some R26,0 billion (2009: R22,8 billion) has been awarded to second tier large, black suppliers, small, black enterprises and black, women-owned organisations.

Skills development remained a key focus of the initiative, with a target of 5 000 learners to be developed in skills such as engineering, technicians and artisans during the Medupi, Kusile and Ingula construction phases. To date 2 324 learners have been registered in various programmes since construction started in 2007.

### Rural development

Eskom's rural development programme contributes to government's Integrated Sustainable Rural Development strategy (ISRDS) to address development needs in the rural areas of South Africa. By design, its focus is on the basic needs of the most indigent communities, aimed at closing the gap between the main stream and the second economy. During the period under review, R2,9 million was spent. This expenditure includes part implementation of a number of projects that will be fully implemented during the coming financial year. These projects include the upgrading and building of schools in the Eastern Cape and KwaZulu-Natal.

In addition, a capacity building programme for schools was introduced in January 2008 in KwaZulu-Natal, which was also implemented in two clusters, each comprising a number of schools in KwaZulu-Natal in the 2009 academic year. One cluster was in Hluhluwe with seven schools, benefiting 3 982 people and the other in Turton/Umzombe with 12 schools, benefiting 6 591 people. According to a baseline assessment conducted at the beginning of the programme at the above schools, the average pass rate was at 64%. Year end results reflect an average pass rate of 78%. This represents a 14% improvement after the introduction of the capacity building programme.

**CASE STUDY:** *Coromandel dairy farm, Lydenburg, Mpumalanga*

The Eskom Development Foundation's grant to Coromandel dairy farm indicates how strategic assistance has helped a fledgling agri-business expand its productivity output and create new jobs.

The farm is an iconic piece of land in Mpumalanga between Dullstroom and Lydenburg. In 2002 Coromandel farm made history when ownership was transferred to 248 farm workers, who succeeded in obtaining a land grant to purchase the 5 800-hectare farm. What made this case unique was that the transfer of ownership was not driven by a land claim, but rather by the workers themselves. When Coromandel came onto the market from a deceased estate, the workers – many of whom had been on the farm from its beginning – approached the Land Reform Office for a purchase grant.

Prior to the Coromandel Farmers Trust taking ownership, farming included cattle (beef and dairy), sheep for their wool and fruit farming. At the time of the sale, only the dairy and some orchards remained. As Coromandel had spiralled into increasing financial difficulty in the years leading up to the sale, vital assets were held by liquidators before an agreement was finally reached.

“This set us back and we had no chance to make improvements or expansions to the farm even though we continued to protect these assets while the estate was being wound up,” explains Brian Phokane, Chairman of the Coromandel Farmers Trust and farm manager. “Eventually the liquidators conceded that the Farmers Trust should have first right of purchase.”

The Eskom Development Foundation assisted Coromandel with a grant for a new milking system and a computerised cooling tank. Since the installation of the system, milking time has been halved to two and a half hours per milking session instead of four and a half hours per milking session. An additional 75 litres of milk is being produced on a daily basis and the dairy's income has increased to over R6 000 per day. An additional 16 seasonal workers were employed to work at the dairy.



## Corporate Services division *continued*

### **More contractor academy students graduate**

*2009 contractor academy graduates at the awards ceremony.*

Eskom's contractor academy performed well in the 2009 academic year, thanks to the efforts and commitment of its latest group of graduates. At a special awards ceremony, each graduate received certificates of achievement. In addition, the programme's top students received further accolades in the form of a number of special awards.

The graduates used the occasion to pay a special tribute to Eskom for its support and continual encouragement and, importantly, for taking the time and resources to invest in their skills. Some of the students shared their personal development experiences with the assembled guests; many telling their stories of dedication and sheer hard work in order to improve their personal skills and career prospects by also studying management programmes.

The dedication and commitment of the students at the Eskom contractor academy is testimony to the benefits of Eskom's contribution to the business world of South Africa. The academy's graduates emerge richer in terms of self-empowerment, enriched personal lives, and access to a world of new opportunities, while adding to a growing supplier pool of capable small and medium black businesses from which industries can draw.



*Haylene Liberty, CEO of the foundation, presents a cheque to Dr Gareth Edwards, chairman of the Breast Health Foundation at the Eskom Development Foundation's annual fundraising event – Joy & Jewels.*

## Broad-based black economic empowerment (B-BBEE)

This year saw Eskom fully engaging the Codes of Good Practice (the codes) in terms of B-BBEE. The codes, gazetted in February 2007, are a replacement of the narrow-based BEE. The main aim of the codes is to open more doors for economic emancipation and participation, with sustainability as the core focus. B-BBEE suppliers need to be classified according to their level of B-BBEE contribution, based on certificates from accredited verification agencies, as required by the codes.

Eskom's B-BBEE performance is rated from two perspectives:

- Eskom as an empowerment company, where Eskom's B-BBEE level 2 contributor rating will provide evidence to stakeholders of Eskom's performance as an empowerment company.
- Eskom's performance as a purchaser; where Eskom will benefit from the attributable spend, dependent on the B-BBEE certification of its suppliers. For Eskom to benefit, it must ensure that its suppliers have a current B-BBEE certification document, and to encourage them to improve their B-BBEE scoring.

For details of Eskom's B-BBEE scorecard see the Finance Division report on page 48.



Refer to [www.eskom.co.za/annreport10/004.html](http://www.eskom.co.za/annreport10/004.html) for details of the B-BBEE process, an explanation of the B-BBEE levels and the link to attributable spend.



Learners enjoy their new classroom at Bester Primary School near the Ingula project.







# Staffing for growth

Human Resources division

76	Summary
77	Performance
77	Risk profile
78	Skills
80	Training interventions
80	Focus on leadership
81	Transformation
82	Health and wellness
82	Employee relations
82	Benchmarking
83	Staffing for the expansion phase

## Human Resources

**Q: What is your major challenge in terms of human resources?**

**A:** Ensuring that we maximise our value to the business through genuine alignment to the line businesses' needs.



**Bhabhalazi Bulunga**  
Managing Director: Human Resources

**Mandate:** Provides human resources strategy, direction, policies and assurance as well as strategic services to the Eskom Group. Human resources will also drive Eskom-wide culture change through effective change management and implementation of appropriate programmes.

### Progress this year

#### Performance

- Given the economic recession in South Africa, the organisation still attained a steady growth in the performance of its human resources sustainability

#### Skills

- Magnet Survey: engineering learners voted Eskom – Employer of choice for two consecutive years
- Sustained the skills base and tripled the skills pipeline over the last five years

### Future priorities

- Leadership and supervisory development
- Workforce planning and skills management
- Eskom academy of learning (EAL) operationalised
- Maintain employee value proposition (EVP)
- Labour costs and options optimised
- HR@Eskom – back to basics

## Performance

The mandate of human resources within Eskom remains entrenched in Eskom's role within the context of South Africa. The human resources strategy therefore supports universal principles that reflect the common needs of all South Africans namely:

- improving the quality of life of all citizens of our country
- maximising the potential of each employee in our organisation
- becoming the embodiment of a united and democratic South Africa
- enhancing South Africa's participation in the global economy

The human resources division provides

- direction and assurance on people-related issues
- business partnering in the delivery of the organisational objectives
- a cost-effective transactional service for economies of scale and skills

An important role is to measure and monitor critical factors relating to the sustainability of Eskom's human resources, an internally developed human resources sustainability index (HRSI) measures key aspects of human resources sustainability. The HRSI is also contracted into leadership performance compacts.

The areas of measurement can be summarised into employee satisfaction, employee competence and employee health and wellness. The measurements and measurement criteria are reviewed on an annual basis to ensure applicability.

The HRSI score for the past year was 92,1% (2009: 89,8%) against a target of 80%. Eskom's human resources performance was well maintained and marginally improved in spite of rigorous resource constraints. This is a satisfactory performance, indicating that our

human resources interventions are relevant and meet the needs of our people and our organisation.

If we want to meet the needs of this constantly evolving organisation, we must ensure that we employ the right people for the right job at the right time. Every effort is being made to ensure that we obtain and retain the skills needed to ensure a reliable electricity supply for generations to come.

The human resource development strategy over the past year has demonstrated remarkable resilience in an environment characterised by a number of constraints, such as the impact of the global economic downturn and international demand for scarce skills.

As per the skills development legislation, Eskom has submitted a workplace skills plan and an annual training report for the period 2009/2010.

## Risk profile

The Human Resources division recognises the importance of an integrated risk management (IRM) system and has implemented a programme to identify, report and manage the risks in line with Eskom's IRM standard and policy. The division started reporting on the new IRM methodology in October 2009. The Human Resources executive committee reviews the risk reports and monitors the status and progress in the treatment of human resources risks.

The dynamic nature of events, both internal and external to Eskom, has presented the following distinctive risks to Human Resources in Eskom.

## Human Resources *continued*

Risk	Treatment plans
Leadership alignment and development	Implement appropriate governance and operating model to sustain the leadership framework. Implement the leadership framework and associated behaviours throughout Eskom. Measure the impact of "new" leadership behaviours, including LEA (leadership effectiveness assessment) and leadership excellence scorecard
Workforce planning	Complete workforce management policy/strategy. Develop workforce planning, organisational design and organisational maintenance procedures. Develop Eskom resourcing framework. Develop and increase the capability to plan and design the organisation
Technical and/or functional competence	Develop an attraction, retention and development strategy. Implement an employee value proposition. Implement and maintain the learning management system. Ensure IDPs are in place. Engage the learner pipeline steering committee
Dynamic changes within the health sector	Perform environmental scanning and impact analysis on staff. Strengthen the collaborative relationship with stakeholders

### Skills

Eskom has been fortunate in benefiting from the extremely low 3,5% staff turnover during the year (6,0% in 2009), mainly due to the restricted job market resulting from the tight economic climate both locally and internationally. However, we continue to face a number of skills-related challenges:

- ring-fencing and operationalising the Eskom Academy of Learning that manages all learning in Eskom
- learner pipeline
- employee value proposition (EVP)

Eskom has sustained its skills base and even managed to triple the learner pipeline over the last five years (2006 – 2010). During the recent *Magnet* survey, 4 892 young professionals rated Eskom as "Employer of Choice," out of 60 South African blue-chip companies.

The next planning cycle will be marked by reinforcement of the shareholder's vision of being a developmental entity. The higher levels of growth and development will put the required 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. A succession management business process and procedure has been developed to ensure that there is robust talent contingency planning and that career development opportunities are put in place.

The identification and categorisation of skills, be it non-core or core, critical and scarce should be aligned with the new legislative requirements which is the organising framework for occupations (OFO).

Medium- and long-term skills requirements have been determined in terms of the critical workforce segments. Likewise, the core and scarce skills have been identified and translated into a workforce plan and a medium-term skills plan – aligned to the first integrated resource plan (IRP).

The recruitment section on the Eskom website ([www.eskom.co.za](http://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.

An integral part of retaining current staff and recruiting new people is developing Eskom as an employer of choice and building a sound EVP. Key activities in this regard were:

- Incentives: motivating people by looking at reward and recognition strategies. Where there is a shortage of core, critical or scarce skills, we will pay competitive salaries and fringe benefits and review the latest remuneration principles and practices.
- Employee engagement: meaningful engagement and mutual commitment through effective organisational communication and ensuring that people are given work that is challenging and motivating, while having a work/life balance.
- Co-worker quality: employees value co-worker and managerial quality. Eskom will be able to enhance these qualitative relationships through the introduction of communities of practice (CoPs).

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 5 255 learners with three- or four-year learning bursary contracts to accommodate the new skills requirements and offset normal attrition. This is reflected in the table below:

### Cumulative projected additional core, critical and scarce skills requirements

	2010	2011	2012	2013	2014
Skills required	1 712	2 054	2 465	2 958	3 300

### Eskom staff turnover

Company	Actual 2010	Actual 2009	Actual 2008
Employees at start of period	35 196	32 954	30 746
Add: Recruitment	2 581	4 261	4 385
Less: Resignations	(541)	(1 312)	(1 370)
Deaths	(260)	(276)	(260)
Dismissals	(110)	(98)	(85)
Absconded	(12)	(11)	(13)
Retirements	(300)	(337)	(447)
Voluntary packages	(5)	(7)	(15)
Other	(2)	22	13
Total employees at end of period	36 547	35 196	32 954
Employee turnover rate (%)	3,5	6,0	6,9

### Eskom staff age distribution

Company	Actual 2010 %	Actual 2009 %	Actual 2008 %
Age distribution of workforce – end of period			
18 – 20 years	0,05	0,04	0,05
20 – 29	21,86	21,62	19,35
30 – 39	28,75	27,25	25,60
40 – 49	22,04	24,59	28,40
50 – 59	23,54	23,20	23,50
Over 60	3,76	3,30	3,10

## Human Resources continued

### Staff complement per division

Division	Actual 2010	Actual 2009	Actual 2008
Generation	11 312	10 833	10 586
Transmission	1 889	1 819	1 976
Distribution	17 441	16 716	15 692
Enterprises	3 152	3 097	2 506
Corporate Services	1 368	1 339	1 133
System Operations and Planning	285	270	–
Finance	611	649	619
Human Resources	442	422	391
Office of the Chief Executive	47	51	51
<b>Total</b>	<b>36 547</b>	<b>35 196</b>	<b>32 954</b>

### Training interventions

Training has always been a major focus area at Eskom – to such an extent that outside organisations make use of our training facilities. We have 28 facilities with 244 on job training venues spread across South Africa to train our learner base. There are approximately 530 training practitioners with 28 instructors and in excess of

6 000 courses in Eskom's course catalogue on the centralised learning management system (LMS). During the year we achieved 140 000 learner days. These facilities, staff and programmes are used to support the development of new and existing employees, in accordance with individual development plans, to ensure optimal performance in the work environment.

### Total training investment per year

		Actual 2010	Actual 2009	Actual 2008
Total training costs	Rm	758	823	784

The Eskom Academy of Learning was established in the last year, with a council consisting of the divisional managing directors and a chief learning officer.

The objective of the academy is to co-ordinate and integrate all learning throughout Eskom, focusing on business needs and cater for all facets of the learning value chain, covering strategy and planning, learning design and development, learning delivery, learning administration, as well as learning operations, supported by a quality management process. The academy faculties have already been created, namely engineering, artisan, services, project management, leadership and finance.

The key focus will be on engineers, technologists, technicians and artisans for the future. We have 5 255 learners in the pipeline, of which 3 780 are studying in the engineering and technical fields. Once they have completed their training, they will be absorbed into the business as engineers or graduates-in-training. Over and above the business learner pipeline requirements, Eskom is training 236 learners to contribute to the socioeconomic development of our country (bursaries for employee dependants which are also included in the learner pipeline).

### Focus on leadership

Building on comprehensive leadership value chain architecture, 810 leaders were assessed with the LEA assessment instrument via a 360° assessment methodology. Leaders received individual feedback and used the feedback to compile their individual development plans. A comprehensive leadership assessment framework was also compiled, aligned with the leadership value chain architecture and implemented to assist decision making by talent boards.

Capacity building interventions were conducted as part of the ongoing process to entrench the leadership architecture.

This year 120 managers and professionals were trained in the theory and application of Situational Leadership II. "Leading in times of crisis" e-learning material was developed and activated, and a "vision dialogue initiative" partly rolled out. In total 822 leaders and supervisors were developed over the course of the year, including leadership safety and supervisors development programmes.

## Transformation

Eskom continues to drive transformation as part of its strategic objectives. The organisation has over the years set targets to improve its workforce profile. A 2020 strategy was put in place to set long-term targets.

The highlight of the transformation process has been the establishment of consultative structures at all business units, at divisional and Eskom Holdings level. The challenge is to revise our long-term strategy for target setting of race, gender and disability to enable the organisation to change its workforce profile within the different occupational levels to reflect the demographics of the country's economically active population.

As part of our transformation agenda, we will continue with the affirmative action drive, the promotion of women and the focus on employment equity for people living with disabilities, not only because it is required of us by statute, but because we believe that it is the right thing to do. It is also a business imperative.

## Human resources operational measurements

The table below reflects the performance against internal transformation guidelines, reflecting employee movements and the achievement of targets set for gender and race in the managerial levels only. These guidelines and targets differ from the regulatory definitions of the Employment Equity Act in the following respects:

- Eskom does not include non-permanent employees who would otherwise be included in terms of the Employment Equity Act.
- Eskom has excluded foreign nationals when preparing this table. Although the current Eskom guideline provides for the inclusion of foreign nationals who would otherwise not be included in terms of the Employment Equity Act, Eskom intends to modify its guideline to bring it in line with this Act.

Eskom's annual report to the Department of Labour in terms of the Employment Equity Act is being discussed with organised labour prior to the October 2010 submission requirement.

Group	Unit of measure	Target 2010	Actual 2010	Actual 2009	Actual 2008
Race:					
Black <sup>1</sup> staff at managerial level <sup>2</sup>	%	66,3	68,7 <sup>RA</sup>	68,6	65,9
Black staff at all levels	%	n/a	76,0	75,8	73,7
Gender:					
Women at managerial level	%	36,4	34,4 <sup>RA</sup>	34,5	34,1
Women at all levels	%	n/a	29,1	28,8	27,5
People with disabilities	%	3,7	2,4 <sup>RA</sup>	3,2	3,1
Internal promotions:					
Black staff at all levels	%	n/a	83,4	78,7	79,1
Women at all levels	%	n/a	31,8	37,4	36,0

Company	Unit of measure	Target 2010	Actual 2010	Actual 2009	Actual 2008
Race:					
Black <sup>1</sup> staff at managerial level <sup>2</sup>	%	66,3	69,3 <sup>RA</sup>	69,3	66,4
Black staff at all levels	%	n/a	76,7	76,5	74,5
Gender:					
Women at managerial level	%	36,4	35,0 <sup>RA</sup>	35,1	34,8
Women at all levels	%	n/a	29,9	29,6	28,2
People with disabilities	%	3,7	2,6 <sup>RA</sup>	3,4	3,3
Internal promotions:					
Black staff at all levels	%	n/a	83,4	78,7	78,6
Women at all levels	%	n/a	31,8	37,4	37,7

1. African, Asian and Coloured Eskom employees.

2. Managers, professionals and supervisors – CU to F band on the Patterson grading; TASK grading 11 to 23 plus F bands in Eskom.

RA Reasonable assurance provided by the independent assurance provider (refer page 169).

## Human Resources continued

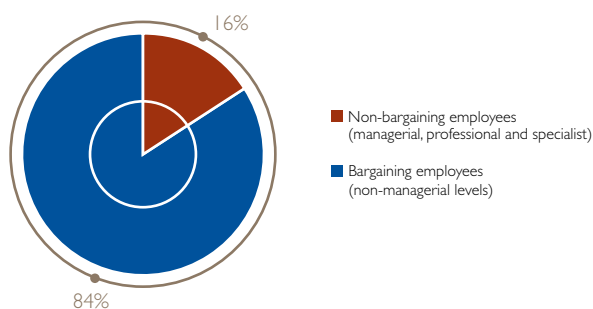
### Health and wellness

Eskom supports a comprehensive health and wellness programme that provides occupational health services, an employee assistance programme, chronic disease management (including HIV and Aids), sport and recreation, preventive care and biokinetics to all employees.

In the past year we have seen an increase in awareness and employees accessing health and wellness services.

### Employee relations

No man-hours were lost due to industrial action at Eskom in the last year. Good communication is a feature of the industrial relations environment. There are direct lines of communication with managers and professionals and consultation in the bargaining unit through recognised trade unions. COSATU called for protest marches in various provinces throughout the country intended, among others, to highlight the electricity crisis facing South Africa and its impact on employment, but this had no impact on Eskom. We concluded a one-year salary and conditions of service agreement with trade unions during the last year.



Eskom evaluates jobs using the Tuned Assessment of Skills and Knowledge (TASK) job evaluation system. There are 23 grades within the system of which grades 1 – 13 are bargaining unit grades and 14 – 23 are non-bargaining unit grades. The main evaluation criteria are complexity, knowledge, influence and pressure. TASK also identifies five skill levels, namely, basic, discretionary, specialised, tactical and strategic which fit well within the Eskom context.

### Benchmarking

#### Training and development costs as a percentage of the wage bill

Eskom's investment in training and development as a percentage of the wage bill is 4,5%. This puts Eskom well within the 75th percentile of US utility companies (3,3%), and UK/European utility companies (3,5%) (PWC, 2008).

#### Training hours per full-time equivalent (FTE)

Eskom's training hours per FTE is 62. This puts Eskom above the 75th percentile of US utility companies (37 hours) and between the 25th percentile and 50th percentile of UK/European utility companies (53 – 75 hours) (PWC, 2008).

#### Learner pipeline

Eskom's learner pipeline consists of 5 255 learners, which is above the target as agreed in the shareholder compact. There are 3 780 engineering/technical learners, which is also above the target as agreed in the shareholder compact. (SOE Shareholder Compact; 2009 – 2010).

#### Employer of choice

Eskom was rated as the number 1 "Employer of Choice" by 4 892 young professionals in engineering/technology out of 60 companies in South Africa (Ideal Employer Ranking; Magnet survey, 2009).

#### Overall staff turnover

Eskom's overall staff turnover is 3,5%. This places Eskom favourably below the 25th percentile of South African companies (9,5%). This also reflects the lowest turnover that Eskom has had in the last 20 years, and could be reflective of the previous recessionary climate. The average turnover of Eskom has been 6,2% over the last two decades.

#### Turnover due to retirement

Eskom's turnover due to retirement is 0,82%. This places Eskom midway between the 50% percentile and 75% percentile of South African companies (0,6 – 1,2%). Twenty-seven percent (27%) of Eskom's staff are above the age of 50 years and could be considered a retirement risk within the next decade.



### Disability

According to the report on equity disability in the SA Public Service, the public service sets a benchmark of 2% for disability. The Employment Equity Commission's Report 2009 found that people with disabilities (PWD) accounted for nearly 0,7% of the total number of employees reported by all employers. Despite the national challenge of employing PWDs, Eskom prides itself in achieving targets that are above the national norm.

### Age profile

The Eskom age profile is made up as follows: under 30 years (22%); between 30 – 39 years (29%); between 40 – 49 years (22%); over 50 years (27%). The ideal age profile and knowledge transfer profile of young professionals to older professionals should be 2:1, but the current ratio is 2:3, reflecting a disproportionately high number of people in the higher age categories (SAICE, 2008).

### Staffing for the expansion phase

In order to achieve ongoing efficiencies, Eskom is developing a strategy to contain manpower numbers by reallocating headcount from the existing business to the new business, with the impact of this being visibly reflected in years two and three of the MYPD 2 period.

Eskom will have to manage increases in overtime and monitor ongoing adherence to public safety requirements resulting from these efficiencies, to ensure compliance with legislation. Shifting the balance from the existing to the new business is only possible if adequate skills levels can be redeployed in critical areas (such as maintenance and delivery on the new build).



*Diane Else and Busi Megale from Corporate Affairs at work in Eskom's head office.*



# Engaging on policy and regulation

## Regulatory and Legal Framework

Medupi Lift Shaft Unit 6  
officially unveiled by  
**Ms Barbara Hogan,**  
Minister of Public Enterprises  
17 August 2009  
Eskom

- 87 Regulatory affairs function
- 87 Regulatory and legal framework
- 90 Multi-year price determination (MYPD 2) and the price increase
- 91 Looking ahead

## Regulatory and Legal Framework

### Q: Why did Eskom request a price increase of 35%?

A: The price of electricity has historically not recovered the prudent costs of supply; nor did it allow for a reasonable return to assist with the building of reserves which could be used for capital expansion. In addition, this resulted in a price that was not sustainable and thus weakened Eskom's financial position and its ability to raise funds on the capital markets. The need for a significant increase was therefore unavoidable to ensure long-term sustainability and security of supply.

### Mohamed Adam

Senior General Manager: Regulatory Affairs



### Progress this year

- Pricing
  - Stakeholder consultation process on MYPD 2 application
  - Finalisation of MYPD 2 application
  - Input into MYPD 2 rules
- Strengthening of internal regulatory processes and interface
- Enhancing regulatory integration
- Initiated programmes to facilitate private participation
- Rollout of workshops to enhance businesses' understanding of the basics of economic regulation

### Future priorities

- Establish regulatory function/capability and further strengthen processes
- Pricing
  - Contribute to the development of a long-term price path
  - Prepare for MYPD3
  - Align with NERSA reporting framework
- Regulatory strategy
  - Identify and prioritise regulatory topics
  - Identify and minimise regulatory risk (increase predictability)
  - Enhance communication and transparency
  - Clarify the roles of corporate and divisions
  - Co-ordinate and lead discussions with NERSA on key priorities
  - Consolidate divisional submissions in key areas
  - Provide guidance on inter-divisional issues to ensure alignment to overall strategy
- Industry structure
  - Continue engagement on structure issues and facilitate implementation of certain initiatives, for example, the independent system operator, introduction of independent power producers and EDI restructuring

## Regulatory affairs function

In an effort to enhance Eskom's regulatory capability and its ability to develop an integrated regulatory strategy that supports its business objectives in line with best practices, Eskom has established a regulatory affairs function, under the guidance of Mohamed Adam, Senior General Manager (Regulatory Affairs) and Corporate Counsel. The role of the function will be to constructively and effectively engage with and shape the policy and regulatory environment within which Eskom operates. Its key focus areas in the immediate future will include the refinement of the regulatory strategy for the organisation, co-ordinating the interface with NERSA, assisting with regulatory compliance and assisting with the integration of regulatory matters in business decisions across the organisation.

Currently, regulatory matters across the organisation are co-ordinated through a regulatory interface co-ordinating forum (RICF), with representation across the divisions in Eskom. As further details of the Regulatory Affairs function unfolds, it is likely that the workings of the RICF will be strengthened to assist in fulfilling this mandate.

The Regulatory Affairs function will work closely with all the divisions as well as other corporate support functions in providing a value-added input to Eskom's business. In particular, there is a close relationship with the company secretary regarding legal, compliance and governance matters; with the Finance division regarding pricing and funding matters and with group communications regarding stakeholder engagement.

A number of issues that are referred to herein are also dealt with in the divisions. While this section provides an overall context for some of the major initiatives, further detail is provided in the divisional reports.

## Regulatory and legal framework

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

The regulatory, legislative and policy framework in the energy sector has also been evolving. Some of the significant developments in this regard are set out later in this section.

Eskom is also regulated in the broader sense beyond electricity regulation. In 2002 Eskom was converted into a public company pursuant to 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 – for example the Companies 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 and the Promotion of Administrative Justice Act.

During the 2011 financial year, two major pieces of legislation will become effective. The first is the Companies Act, 71 of 2008 and the second is the Consumer Protection Act, 68 of 2008. Both Acts may have a major impact on Eskom and as such Eskom has during the current financial year focused on preparing for effective implementation.

## Regulatory framework

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

- achieving the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa
- promoting the long-term sustainability of the industry
- facilitating investment in the industry
- facilitating universal access to electricity
- promoting the use of diverse energy sources and energy efficiency
- promoting competitiveness and customer choice
- facilitating a fair balance between the interests of customers and end users, licensees, investors and the public

NERSA's powers include issuing licences for the operation of generation, distribution and transmission facilities, import, export and trading of electricity, and determining and approving electricity prices and tariffs as well as the conditions on which electricity may be sold.

Eskom has been issued with separate licences for the generation, transmission and distribution of electricity, including all matters related or incidental thereto. Eskom also has a nuclear licence that regulates the operation of its nuclear power station and all aspects of the nuclear value chain.

In the light of the above it is clear that NERSA has significant influence and oversight over Eskom's business. Eskom is also subject to oversight directly or indirectly through government as shareholder and policy maker, as well as other regulators.

Eskom needs to interact across all areas of government and has the benefit of a number of relationships with various ministries and government departments in so far as the regulatory environment within which it operates is concerned.

## Regulatory and Legal Framework *continued*

Some of the key relationships are outlined below.

### *Shareholder – Minister of Public Enterprises*

The Minister of Public Enterprises is the shareholder representative of the South African government with oversight responsibility for Eskom. The relationship is governed through a shareholder compact. The shareholder sets and agrees on the strategic intent, key performance areas and targets for Eskom. The shareholder compact includes strategic objectives, policies, financial, technical and other key performance indicators and reporting requirements. Quarterly and annual reports on performance against the compact are provided to the Department of Public Enterprises (DPE). Eskom's responsibilities, approvals and reporting in terms of the Public Finance Management Act (PFMA) are managed through the DPE. The DPE also serves as a conduit for Eskom's relationship with other government departments. Eskom's compliance with the PFMA is discussed in the directors' report on page 179.

### *Policy – Minister of Energy*

The Minister of Energy, together with the Department of Energy (DoE) is the key policy ministry responsible for the energy industry, including the electricity sector, the activities of which are mainly governed by the Electricity Regulation Act, 4 of 2006 and its associated regulations.

### *Additional financial oversight and reporting – National Treasury*

The Minister of Finance plays a pivotal role in developing South Africa's fiscal policy. In certain instances Eskom also needs to obtain approval from the Minister of Finance and reports to National Treasury in terms of the PFMA. In addition, National Treasury has been instrumental in providing the government loan and guarantees in favour of Eskom. Further information in this regard is set out in the Finance division section.

### *Environmental compliance – Minister of Water and Environmental Affairs*

Eskom's operations have an impact on the environment and Eskom is committed to managing and mitigating this impact in an effective manner. It is subject to the current environmental legislation and policies and strives to fulfil its obligations in a responsible manner.

In terms of environmental control, Eskom is regulated through environmental authorisations and licences/permits issued by the Department of Water and Environmental Affairs. These include

licences or permits for commencement of construction of power stations and major power lines and substations, waste (including ash dams/dumps), emission licences and integrated water use licences. Further information in this regard is set out in the Corporate Services and Generation Business sections.

### *Economic planning and integration – Minister of Planning (National Planning Commission), Minister of Economic Development and Minister of Trade and Industry*

Eskom recognises the need to build additional synergies in other areas of government. The operations of Eskom, and in particular the capital expansion programme, have a significant macroeconomic impact beyond just the energy sector. The infrastructure development needs to be aligned with national planning and economic development initiatives. In addition, the construction programme could be leveraged to achieve sustainable benefits for local industry and manufacturing capability and needs to be aligned with South Africa's industrial policy and the industrial policy action plan.

### *Nuclear operations – National Nuclear Regulator*

Eskom is also regulated by the National Nuclear Regulator established by the National Nuclear Regulator Act, 47 of 1999. Its role is to protect persons, property and the environment against nuclear damage through the establishment of safety standards and regulatory practices, to exercise regulatory control related to safety over various aspects of the nuclear sector, and to issue nuclear licences. The activities of Eskom's Koeberg power station are regulated hereunder.

### *Legal and policy framework*

Some of the most important recent developments within the electricity sector are summarised below.

#### *Electricity regulations on new generation capacity<sup>1</sup>*

On 5 August 2009 the Minister of the then Department of Minerals and Energy (DME) promulgated the electricity regulations on new generation capacity. These regulations provide guidance on future investment in generation capacity by both Eskom and independent power producers (IPPs) in accordance with the integrated resource plan (IRP).

IPPs have an important role to play in addressing the energy needs of the country since it is vital to diversify the source and nature of energy production, introduce new skills and capital in the industry and enable the benchmarking of related pricing and performance. Eskom therefore supports the introduction of IPPs.

<sup>1</sup> Issued in terms of the Electricity Regulation Act, 4 of 2006.

In order to ensure successful implementation of these regulations, it is imperative that resolution is reached on a number of critical issues such as the finalisation of the IRP and designation of the independent system operator.

### **Integrated resource plan (IRP)**

The IRP is the long-term electricity or capacity plan for the country. It should answer a number of questions: how much capacity is needed for South Africa in the long term, what mix of energy sources should be used and who should build the required capacity.

As outlined in the electricity regulations on new generation capacity, "the system operator, in consultation with the energy planner and the regulator is responsible for developing the IRP, with the Minister of Energy ultimately responsible for the approval and gazetting of the IRP". Further details on the IRP are reflected in the System Operations and Planning section on page 145.

### **Independent system operator (ISO)**

On 11 February 2010, the President of South Africa during his state of the nation address announced the establishment of an independent system operator. The creation of an independent system operator is seen as a mechanism to support the introduction of independent power producers (IPPs), by creating a non-conflicted buyer of power:

This restructuring of the electricity supply industry will have a significant bearing on how the industry is to be regulated into the future. Eskom has provided input regarding the possible implementation options in this regard and it is anticipated that a decision will be finalised by government in due course.

### **Electricity distribution industry restructuring**

In October 2006 Cabinet approved the proposal to create six regional electricity distributors (REDs). These REDs are to be established as public entities, accountable to the Department of Energy. Electricity Distribution Industry Holdings (Pty) Limited is implementing government's restructuring policy. The critical next steps include the finalisation of outstanding policy matters and enabling legislation.

Eskom completed the ring-fencing of its operating units in prior years, in preparation for the RED formation. Any further internal preparation is dependent on the resolution of national policy matters.

### **Medium-term power purchase programme (MTPPP)**

Early in 2008, during the load-shedding period, Eskom received numerous requests from the market claiming that there were new and refurbished generation projects that could be brought online

fairly quickly to assist Eskom and the country with the medium-term capacity constraints. In light of the market request and Eskom's awareness of potential projects, Eskom initiated the MTPPP to attract relevant projects. It was Eskom's intention to procure the maximum MWs of capacity in the shortest period of time. The MTPPP was meant to fill a gap between supply and demand in the short to medium term. One of the key characteristics of this programme was the publishing of price profiles (ceiling price and maximum programme price). The programme was run with the necessary approvals and support of NERSA. Due to funding constraints during 2009, the programme was, however, temporarily delayed.

Eskom is pleased to announce that two power purchase agreements have been finalised and are awaiting necessary approvals from NERSA. Discussions with other short-listed bidders are continuing and we anticipate that further agreements will be finalised shortly.

### **Electricity regulatory rules**

As the regulatory environment in South Africa continues to mature, a myriad of regulations, codes, rules, directives and guidelines will be developed to provide the necessary guidance required in so far as the regulation of the electricity supply industry is concerned.

Over the past year, a number of developments have taken place on this front.

### **NERSA's multi-year price determination (MYPD) methodology**

The MYPD methodology was published by NERSA on 20 November 2009. NERSA has indicated that the purpose of the methodology is to consolidate and align the regulatory methodology from various places into one document. Eskom supports the effective integration of the regulatory framework.

However, the methodology provides for a substantive change in the way Eskom's revenue requirement will be assessed. Significant new methodological frameworks include:

- the mechanism for the calculation of the cost of capital
- valuation of the regulatory asset base
- the revenue allowance for return on the regulatory asset base
- the revenue allowance for depreciation (based on the valuation of the regulatory asset base)
- treatment of research and development costs
- service quality incentive/penalty mechanisms

Eskom has commented to NERSA on the proposed methodology and raised some concerns.

## Regulatory and Legal Framework continued

### *The Electricity Pricing Policy of 2008 (EPP)*

During November 2008 Cabinet approved an electricity pricing policy (EPP) which was gazetted on 19 December 2008. Among other issues it also ensures the long-term sustainability of the industry with the ability to fund future investment in the expansion of infrastructure capacity without price shocks, by requiring that electricity tariffs be based on a depreciated replacement valuation of assets. NERSA's MYPD 2 decision recognised the requirements of the EPP and has made some progress towards full implementation of its requirements within the allowed five-year period.

### *Regulatory rules for power purchases cost recovery*

NERSA approved the regulatory rules on power purchases cost recovery with effect from 26 November 2009. These rules were developed to facilitate the introduction of IPPs by ensuring that the costs for IPPs could be recovered through the tariff.

### *Regulatory rules on selection criteria for renewable energy projects under the REFIT programme*

In terms of the regulations on new generation capacity, NERSA is required to issue rules relating to the selection of renewable energy or co-generation IPPs that qualify for licences. In line with this, NERSA published regulatory rules on selection criteria for renewable energy projects under the REFIT (renewable energy feed-in tariff) programme for public comment during February 2010.

As a stakeholder in this process, Eskom has submitted its comments on the said selection criteria. It is important that the selection criteria are finalised timeously, so as to advance progress on renewable energy projects.

### *Reporting*

NERSA is in the process of enhancing reporting and information requirements. In particular, a regulatory reporting manual has been developed and the focus is now on implementation. NERSA has also issued minimum information requirements for tariff applications for public comment. In principle, Eskom supports these initiatives which, if correctly implemented, would facilitate greater transparency.

### **Multi-year price determination (MYPD 2) and the price increase**

The most significant initiative regarding regulatory matters during the past financial year related to Eskom's price increase application.

It may be useful to recap Eskom's rationale regarding its approach. As was explained in Eskom's proposed price application, over the last decade there has been an increasing demand for electricity that has

resulted in a low reserve margin (the capacity available above the maximum demand), which necessitated Eskom embarking on a massive capital expansion programme.

In addition, Eskom is also facing significant challenges to meet its operational costs. This is due partly to the increased costs that have resulted because of a low reserve margin. More importantly the price of electricity has historically not recovered all the prudently incurred costs of supply and thus did not create adequate borrowing capacity, nor did it allow for the building of reserves which could be used for the capital expansion.

Eskom highlighted in its MYPD 2 application that:

*"...a significant strategic shift was required to achieve a successful outcome for Eskom and South Africa. Furthermore the expectations and roles of Eskom, government and stakeholders should be consistent with this shift. This strategic shift is based on a deeper commitment to the following:*

- The contextualisation of the MYPD 2 application within a long-term country vision. As a country we need to have a view of the overarching objectives and outcomes that define success and sustainability for the economy and the electricity industry and ensure that the price path is consistent with that objective.*
- It is crucial that the roles of the various parties in achieving our national objectives are clear. In particular, there should be clarity of roles regarding the implementation of key initiatives: aggressive demand-side management initiatives, facilitating access to funding, introducing new capacity, ensuring integrated infrastructure development, reducing our carbon footprint, reducing energy intensity per GDP output and ensuring security of supply.*
- Eskom cannot provide for all the future energy needs of the country on its own and therefore an enabling environment is required to attract new entrants to the market.*
- A collaborative effort is required between Eskom, government, and all stakeholders including business, communities, customers and other role players in the electricity industry. In order to succeed, Eskom should place its confidence in the ability of other stakeholders to contribute to a solution.*
- Eskom needs to focus on executing its mandate within its own capability and capacity, while other role players in the country assigned with specific mandates must execute those mandates."*

Eskom normally applies for a revenue determination, which is then translated into a price increase. For ease of reference we refer herein to a price increase application. Eskom submitted a proposed price increase application of 45% on 30 September 2009, followed by a revised application of 35% on 30 November 2009. NERSA held



public hearings on the application in all nine provinces during January 2010, for the first time ever. On 24 February 2010 NERSA awarded Eskom a price determination of 24, 8% (FY11), 25, 8% (FY12) and 25,9% (FY13), resulting in a revenue shortfall of approximately R55 billion for the three-year period compared to the 35% increase applied for. Further information in this regard is set out on page 44 in the Finance division section.

In its application Eskom also emphasised the following:

*"This MYPD 2 application, and in particular the price path and time period within which to migrate from the current price level to an appropriate price level, should be assessed in relation to the achievement of the overarching long-term country objectives. The MYPD 2 is therefore a stepping stone towards achieving the objectives of South Africa in the long term. It is a stepping stone that has been forged through intense stakeholder discussions and relies for its success on an effective partnership between Eskom and all stakeholders.*

*Eskom is concerned about the increased risk profile but is committed to working within this partnership to ensure that we all achieve success.*

*The provision of reliable and affordable electricity is a critical and strategic imperative to ensure sustainable economic growth in South Africa. Eskom's price application will result in an integrated solution that is in the best interests of Eskom, customers and the country. It has also mitigated the adverse impact on the economy and job losses by choosing a longer-time period to achieve cost-reflective tariffs. It is our firm belief that it is in the national interest that the appropriate country choices have been made in a collaborative and participative process."*

In the medium to long term – it is expected that the principles of the EPP, intended to restore electricity tariffs to cost-reflective levels, in particular the revaluation of the asset base and the earning of a rate of return equal to the cost of capital will be phased in. This will ensure that cost-reflective tariffs are achieved over the medium term in order to ensure the financial sustainability of Eskom and other companies who intend entering the local electricity market.



For a history of pricing, see [www.eskom.co.za/annreport10/005.html](http://www.eskom.co.za/annreport10/005.html)

## Looking ahead

Eskom continues to be optimistic regarding the continued maturity of the regulatory environment within South Africa. A consistent and concerted effort by all stakeholders in the electricity industry will aid in ensuring the long-term viability and sustainability of the industry as well as the achievement of our long-term goals as a country.

In the short term Eskom needs to address its funding shortfall and manage its business within the limits of the price increase allowed by NERSA. This will present a significant challenge to the organisation, but we are committed to be as efficient and effective as possible.

There are a number of critical decisions that need to be made during 2010 to ensure security of supply in 2011 and beyond. Not all of these decisions are within Eskom's control and there is a need for government and other stakeholders to prioritise these decisions. The critical interventions include the implementation of an appropriate demand management and energy efficiency framework, signing up IPPs, and the finalisation of certain capacity choices to ensure security of supply.

In addition, a number of regulatory and policy issues need to be addressed now to position the electricity industry for success into the future. A number of government and other stakeholder-led interventions are already underway to address the key challenges and to facilitate progress towards an optimal regulatory and policy environment – one that is credible, predictable, legitimate and transparent.

The priorities being addressed and which need to be finalised include:

- the IRP, including the assumptions regarding growth, the capacity need for the country and the fuel choices, and in particular, renewables and nuclear; and who should build this capacity
- mechanisms to ensure the protection of the poor
- mitigating the impact on climate change
- industry structure, including decisions on the ISO, the electricity distribution industry and the designation of "buyers" in terms of the regulations
- an effective demand-management framework (including the power conservation scheme (PCP) and demand-side management interventions). Further details on PCP can be found in the System Operations and Planning section on page 142
- securing coal, water and other resources for power generation

Eskom has and will continue to play an active role in contributing to the advancement of the regulatory environment so as to ensure that current, potential and future consumers are protected, that Eskom is sustainable and that national policy objectives can be realised.



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# Powering the nation

## Generation Business

### 95 Overview

#### 100 Generation division

- 101 Key focus areas
- 101 Risk profile
- 102 Plans for 2010 – 2013
- 102 Technical performance
- 104 Benchmarking
- 105 Environmental performance
- 107 Environmental impact assessments

#### 108 Primary Energy division

- 109 Primary energy update
- 109 Risk profile
- 109 Coal quality and quantity
- 110 Long-term coal supply strategy
- 110 Long-term water strategy
- 111 Liquid fuels (diesel and kerosene) strategy
- 111 Impact of primary energy costs on the business
- 112 Road repairs
- 112 Environmental performance
- 113 Safety – coal transport

#### 114 Nuclear division

- 115 Key focus areas
- 115 Risk profile
- 116 Key performance indicators
- 116 Nuclear capacity increase
- 116 Pebble-bed modular reactor (PBMR) update
- 117 Nuclear fuel
- 117 Nuclear safety
- 118 Environmental performance
- 119 Nuclear waste management

### 120 Generation Business

#### Engineering division

- 121 Key strategy
- 121 The engineering excellence programme
- 122 Plans for 2010 – 2013
- 122 The GEDI project
- 123 Risk profile
- 123 Challenges

### 124 Enterprises division

- 125 Capacity expansion programme
- 125 Risk profile
- 129 Future of renewable projects
- 129 Benchmarking build costs globally
- 130 Environmental performance
- 130 Local content of capacity expansion contracts
- 131 Stimulating economies around capacity expansion projects
- 131 Training and development

## Generation Business

**Mandate:** The Generation Business is a dynamic portfolio that efficiently operates the existing generating capacity, provides primary energy and water resources, delivers on the massive capacity expansion programme and ensures world-class engineering solutions.

### Progress this year

#### Highlights

- Improved financial performance
- No load shedding in the past 12 months
- Negotiations for new coal supply agreement for Majuba power station successfully completed
- Improved performance of Koeberg nuclear power station as measured by the INPO index
- Generation capacity and transmission infrastructure installed and commissioned exceeded targets
- Safety performance on capacity expansion construction sites
- Staff commitment

#### Challenges

- Increased particulate emissions
- Number of trips at power stations
- Undersupply of coal by coal companies and the poor quality of coal supplied to Eskom power stations impacting station performance and output
- Funding constraints on new build projects

### Future priorities

- Delivery of Eskom expansion programme
- Implementation of the Eskom long-term coal supply strategy
- An improvement of 4% in the energy availability factor (EAF) of the power stations within three years (“4 in 3” programme)
- Energy efficiency – reduce power plant consumption
- Reduce carbon footprint – investigate co-firing coal-fired power stations with biomass, thereby reducing coal usage by 10%
- Operational excellence – back to basics in the operation and maintenance of power plants
- Financial excellence – 10% reduction in operating and primary energy costs

## Financial results – Generation Business

R millions	2010	2009
Total revenue	49 732	33 790
Profit (loss) for the year	192	(6 537)
Total assets	131 039	93 671
Capital expenditure	40 484	31 864

**Brian Dames**  
Chief Officer: Generation Business

**Q: What impact has the funding challenge had on the capacity expansion programme?**

**A:** The funding challenge has resulted in delays in placing contracts, for example for certain parts of the Kusile power station project, and the suspension of other new capacity projects, such as Nuclear-1. The consequence is a delay in a return of the reserve margin (the margin between the demand for, and the capacity to supply electricity) to internationally acceptable levels.

**Q: What are the key challenges in generating electricity for the future?**

**A:** Our priority is always to ensure the safety of our staff and contractors. This will be an increasing challenge, particularly on our construction sites. We are also running our existing power stations much harder to meet the demand for electricity. Until the reserve margin improves, the scheduling for planned maintenance activities will be challenging, but is critical to ensure and improve the technical and environmental performance of the stations. A reliable supply of good quality coal and water to our coal-fired power stations at a reasonable price is a further challenge. And of course completing the return-to-service programme and keeping to the schedule, maintaining high quality and containing costs for the power stations and transmission infrastructure under construction remains one of our priorities.

**Overview**

The Generation Business portfolio was established in 2008. It is a diverse portfolio encompassing the operations and engineering of the existing power stations, the supply of primary energy (coal, liquid fuels and nuclear fuel), the supply of water and the project development, project management, construction and commissioning associated with the return-to-service project (of the three mothballed power stations



– Camden, Grootvlei and Komati) and the new power stations as well as new transmission network infrastructure.

The Generation Business portfolio operates, maintains and engineers are of the world's largest fleet of electricity generating power stations, and is implementing the fifth largest utility capacity expansion programme internationally. The portfolio procures more than half of the coal produced in South Africa, while the logistics supporting the coal movements are one of the largest undertakings in the country. Through these new build activities Eskom will be investing around R485 billion in the South African economy over a seven-year period from 2005 to 2012. Annually Eskom procures about approximately R20 billion in coal and water and spends approximately R6 billion on operating and maintenance activities. Collectively, these activities provide direct and indirect employment for more than 60 000 people throughout South Africa across the electricity, mining, transport and construction industries.

**Power station performance**

In early 2008 the country experienced significant shortages of electricity (rolling blackouts) due partly to technical problems and unexpectedly high unplanned shutdowns for repairs and maintenance at some of the power stations, exacerbated by the continuous growth in the demand for electricity. Since then significant progress has been and

## Generation Business *continued*

continues to be made in improving the performance of the power stations.

A number of recovery teams were established to improve the plant reliability and availability. These have brought about excellent results, with the consequence that there has been no load shedding since late April 2008. Eskom has over many years benchmarked its performance against international counterparts. It is evident from recent benchmarks that the performance of Eskom's power stations is in line with or better than many of its international peers.

### Environmental performance

Unfortunately the quality of the coal that is being supplied to some of the power stations is at the low end of the contractual specification, which sets out a broad range of quality parameters. This, together with the very demanding operational regime that is being placed on the power stations as a consequence of the high demand for electricity and the low reserve margin, has led to an increase in the emission of particulates from the coal-fired power stations. An improvement in this environmental performance indicator is one of the top priorities for the Generation division. The division will also improve its monitoring of gaseous emissions, such as sulphur dioxide and oxides of nitrogen. Although the relative consumption of water improved slightly in the past year, this will remain one of the major focus areas for continued improvement.

### Coal supply

Low coal stock levels at some power stations in early 2008 resulted in these stocks being vulnerable to excessive rain, the coal being too wet to feed into the power stations and contributing to the shortages of electricity supply. This situation has been turned around over the past two years. The average coal stock levels improved from approximately 12 days in early 2008 to 37 days at the end of March 2010. As a result of the stock build up, the coal supply is not as vulnerable to wet coal, although excessive rain will always have a negative impact on the supply of coal to the power stations. To mitigate the effect of rain, "coarse coal" stock piles treated with special chemicals to prevent water ingress have been created at stations vulnerable to wet coal supply.

### Long-term coal strategy

The growth in electricity demand over the past several years has resulted in an increasing erosion of Eskom's generation reserve margin with the result that the existing power stations have had to be operated at much higher load factors. The direct consequence of this has been a shortfall in coal supplied from the tied collieries (since

the mines were never designed to meet the current station burn levels) and a need for new coal supplies to meet the needs of the return to service (RTS) and new build power stations. Importantly, the bulk of this coal has to be transported from more distant mines, requiring road transportation in the short and medium term, and investment in a longer-term logistics infrastructure.

This "temporary" coal demand/supply imbalance has been accompanied by several other important adverse dynamics in the South African coal industry:

- Ongoing deregulation of the coal mining industry, with a corresponding shift in the power balance away from the national interest to that of the shareholders of the mining companies. This has directly impacted the quantity, quality and cost of coal supplied to Eskom as some miners have deliberately optimised their total business at Eskom's expense (even to the extent of receiving ongoing volume and quality penalties).
- Exports of lower quality coal to India, creating direct competition for new coal sources that were previously only suitable for domestic use, and a marked deterioration in the coal offered to Eskom from existing multi-product mines.
- Extensions of the lives of most of Eskom's coal-fired stations from 40 to 60 years, beyond the contracted duration of the tied collieries, which were originally set up to supply only for 40 years. These contracts start to expire as early as 2013, and in many cases coal reserves have not yet been dedicated to meet the full life extensions.
- Ageing of Eskom's existing tied collieries, resulting in deterioration of coal qualities and reliability of supply from these mines.
- Depletion of the higher grade coal reserves in Mpumalanga, resulting in increased competition for the remaining reserves suitable for supplying Eskom's older power stations.
- Dramatic escalation in costs, partly driven by "real" factors (the commodities boom, resource depletion and more stringent environmental and safety standards), but also by a diversion of scarce resources (skills, capital, management focus) away from the Eskom mines to the higher margin export businesses.

Eskom has implemented a widely syndicated coal sourcing strategy based on the following eight principles:

1. Optimal portfolio of long-, short- and medium-term sources, in order to achieve the best balance between cost, capital investment, volume flexibility and security of supply, while creating sufficient certainty to permit investment in long-term logistics infrastructure.
2. Prices based on efficient costs and fair returns on invested capital. This implies a new level of cost transparency between Eskom and the industry, and an equitable sharing of risk and reward.

3. Investment in low cost, flexible coal transport infrastructure, with the primary focus being conveyers and rail capacity, with a corresponding reduction in road transportation.
4. Quality management and coal beneficiation to reduce the total cost of ownership (TCO), aimed at reducing the load losses attributed to poor coal quality.
5. Risk-based stock management to align stock levels with the dramatically changed (and constantly changing) risk profile of coal supplies.
6. Strengthening the primary energy division to deliver on the strategy, through a combination of increasing skills in critical areas and putting in the systems and processes required to operate in this more challenging environment.
7. Improved co-operation with major stakeholders, including authorities, regulators, suppliers and local communities.
8. Investment in long-term infrastructure, the benefits of which will not accrue in the immediate future. These include underground coal gasification (UCG), water infrastructure (through contracts with the Department of Water and Environmental Affairs) and the Waterberg rail link.

Eskom has made extensive progress in implementing this strategy. This has included the conclusion of multiple new coal supply contracts (of varying durations), the renegotiation of the Medupi coal supply agreement and several unfavourable short-term agreements, the thorough evaluation of several initiatives to improve coal quality (now under implementation), securing funds for rail infrastructure investments and road repairs, and the implementation of the first set of rail projects (Camden rail container solution scheduled to go live in June 2010).

However, despite these successes, Eskom has continued to face substantial challenges in securing coal for the full lives of its power stations at efficient costs. These challenges result from several structural shortcomings in the industry and associated legislation as follows:

- Insufficient mechanisms for the country to optimise the total South African coal resource and to “reserve” coal for future use, coupled with the incentive implicit in the “use it or lose it” principle for miners to seek ways to exploit deposits before their prospecting rights expire. Similarly, miners tend to optimise the resource within their boundaries and can occasionally be exploited by players owning small adjacent deposits.
- Limited means for Eskom to drive consistent pricing and contract terms in negotiations – in securing a mining right the miner has only to indicate that the coal is intended for Eskom, but thereafter

can hold out for prices equivalent to Eskom’s next alternative, which in most cases involves a lower quality coal and substantial transport costs.

- Limited means for Eskom to drive negotiations to conclusion in the necessary timeframes, since the miners are almost always better off delaying until Eskom has no option but to agree to their terms.

### Coal quality

A marked deterioration in the quality of the total coal deliveries to Eskom has been the trend since 2006. A step change occurred from 19,5MJ/kg to 19,0MJ/kg. The stations which suffered significant deteriorations were Duvha, Matla and Arnot. Hendrina and Kendal were affected to a lesser extent while the quality at the remainder of the stations remained either relatively constant or showed improvement over time.

These trends, together with higher load factors, have resulted in significant coal-related load losses and the equivalent financial loss to Eskom is approximately R1 billion, based on replacement power assuming 5% OCGT at R2 800/MWh and mid-merit stations at R1 18/MWh.

### Total system losses

The loss per station is as follows:

Duvha	1 601 214MWh	40%
Matla	1 506 086MWh	37,6%
Tutuka	334 234MWh	8,3%
Camden	204 507MWh	5,1%
Kriel	166 593MWh	4%

As can be seen from the above table, Duvha, Matla and Tutuka power stations accounted for 86% of the total system losses.

### 2010 FIFA World Cup™ readiness

The reliable performance of the power stations is a critical component of the successful delivery of a dependable, uninterrupted flow of electricity for the 2010 FIFA World Cup™. Preparations for the world cup have been ongoing throughout the 2009/10 financial year and included the identification of potential risks to the ability of the power stations to produce electricity and the mitigation actions and timelines to address these risks. Criteria were developed against which the readiness can be assessed and have been used by Generation business leadership during on-site reviews and engagements with the power station and (where applicable) mine management teams.



## Generation Business continued

### The Generation Business contribution:

<b>Primary Energy</b>	<p><b>Ensured</b></p> <ul style="list-style-type: none"> <li>• That all primary energy is contracted</li> <li>• Water, coal stock supplies and/or liquid fuels are adequate to meet capacity requirements</li> </ul>
<b>Enterprises</b>	<ul style="list-style-type: none"> <li>• Co-ordinated the fast tracking of a number of projects to expand network capacity and strengthen identified critical 2010 sites</li> <li>• Since the build programme started in 2005, Gourikwa, Ankerlig and the return to service of the Komati, Camden and Grootvlei power stations have reinforced supply security</li> </ul>
<b>Generation</b>	<p><b>Ensured</b></p> <ul style="list-style-type: none"> <li>• Plant reliability and availability</li> <li>• Sufficient coal stock levels</li> <li>• No planned maintenance will be done over the extended 2010 FIFA World Cup™ period</li> <li>• Security readiness reviews for national key points</li> </ul>

### Capacity expansion programme

Although the funding constraints delayed the placing of certain contracts related to the Medupi and Kusile projects, and resulted in the suspension of other capacity expansion projects (such as Nuclear-1), the capacity expansion programme has shown remarkable growth. The significant number of commissioned projects is evidence of the progress that has been made from inception in 2005 to date: Some 4 905,5MW of generating capacity has been installed, 2 825,4km of high-voltage (400kV and 765kV) transmission lines have been constructed and 11 730MVA transmission capacity has been commissioned through the construction and refurbishment of substations.

### Performance

	Targets 2010	<b>Actual 2010</b>	Actual 2009	Actual 2008
Generation capital expenditure (Rm)	43 566	<b>29 467<sup>RA</sup></b>	25 984	11 004
Transmission capital expenditure (Rm)	6 888	<b>4 246<sup>RA</sup></b>	4 451	2 394
Generation capacity installed (MW)	420	<b>452<sup>RA</sup></b>	1 770 <sup>RA</sup>	1 061
Transmission lines installed (kilometres)	428	<b>600<sup>RA</sup></b>	418 <sup>RA</sup>	246
Transformers installed (MVA)	1 365	<b>1 630<sup>RA</sup></b>	1 255 <sup>RA</sup>	1 295

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).



Construction of the Medupi power station in Lephalale, Limpopo province, is well advanced.

## Safety

Safety of our staff and contractors is a key priority for Eskom. The safety performance at the return to service and new build construction sites has been good when compared to international benchmarks, but can nevertheless still be improved and will remain a focus area.

## Stakeholder engagements

Multiple engagements with various stakeholders (including senior delegations from the South African government, international funding organisations (World Bank and African Development Bank), the media, investor institutions have been undertaken at various new build sites, in particular the Medupi project, and operational power stations around the country.



This year saw the establishment of the Mpumalanga Eskom Forum with government, business and all recognised groups relating to Eskom's operations in the province. These platforms of engagement include but are not limited to forums and work groups.

## Principals Forum

This forum gives strategic direction to all relevant programmes and operations by unlocking blockages in the system. The forum also provides political leadership on matters relating to various programmes.

## Technical Forum

This forum creates an enabling environment for the Eskom capacity expansion programme. This is done with the principle of advancing the socio-economic development programme by leveraging the Eskom build programme and its operations in general. This forum has also ensured a co-ordinated response to key challenges such as road infrastructure, water, environment and mining.

## Work groups

The Mpumalanga Eskom Forum has introduced work groups that will ensure a co-ordinated approach in dealing with specific issues. These work groups focus on Kusile, environment and water, roads and mining, existing operations and return to service and empowerment and economic development.

Eskom has also engaged in extensive communication and stakeholder consultation activities on other pertinent issues in Mpumalanga from a primary energy perspective, including the impact of transportation of coal by road in the province. Generally, there has been significant progress and commitment to this initiative and appreciation from all stakeholders involved.

## Future focus

In line with the resolutions taken at the recent strategic planning workshops held by Eskom's senior leadership, seven strategic shifts will be achieved in the Generation business in the next three years and will be underpinned by the divisional keys in each area of the business:

1. Delivery of the Eskom expansion programme
2. Implementation of the Eskom long-term coal supply strategy
3. An improvement of 4% in the energy availability factor (EAF) of the power stations within three years ("4 in 3" programme).
4. Energy efficiency – reduce power plant consumption.
5. Reduce carbon footprint – investigate co-firing coal-fired power stations with biomass, thereby reducing coal usage by 10%.
6. Operational excellence – back to basics in the operation and maintenance of power plants.
7. Financial excellence – 10% reduction in operating and primary energy costs.

Our strategic objectives are to create a world-class power company, keep the lights on, deliver on the capacity expansion programme, focus on safety and health, reduce the environmental impact of our operations, treatment of all risk, maintain and improve quality, live within our means, care for our people and restore the confidence of all South Africans in their national power company, Eskom.

## Generation division

**Mandate:** Optimally operates and maintains Eskom's non-nuclear electricity generating assets over its full plant lifecycle.

### Progress this year

#### Highlights

- No load shedding in the past 12 months
- Managing our maintenance schedules, within ever reducing windows of opportunity for maintenance
- World-class technical performance by some of Eskom's larger coal-fired power stations
- Very low staff turnover, highlighting our staff commitment and resilience
- Improved management of wet coal
- Good financial performance despite increased maintenance expenditure
- Improved water consumption

#### Challenges

- Increase in particulate emissions
- Poor coal quality supplied by the mining industry adversely impacting the production capability of the power stations
- Poor technical performance at some of our stations
- Increase in the number of unit trips

### Future priorities

- Ensuring no incidents related to power station operations during the 2010 FIFA World Cup™
- Safety of staff and contractors
- Improved environmental performance by reducing particulate emissions and water consumption
- Improve our technical performance, increase availability of the stations
- Improved plant reliability by reducing the number of unit trips
- Training and development of staff
- Improve cost efficiencies
- ISO 14001 certification

**Thava Govender**, Managing Director: Generation

#### **Q: What are the main pressures on Eskom's fleet of power stations?**

**A:** The increased demand and low reserve margin in South Africa means that we have shorter windows of opportunity to perform essential maintenance on our power stations. Many of our stations are in their midlife and require major refurbishment. Our employees and contractors at the power stations are working around the clock, 365 days a year, and this is taking its toll on them and their families. The deteriorating quality of the coal supplied to our stations has a major impact in terms of the need to burn more coal, increased emissions and ash produced (ie, increased environmental impact) and more pressure on the station equipment.



## Key focus areas for the coming year

Based on the challenges identified in both the internal and external contexts, the Generation division will focus on supporting the following strategic thrusts of the Generation business:

### Ensuring no supply interruptions due to plant unavailability

Generation division will ensure that there will be no load shedding due to poor plant performance over the next five years. An average of daily MW lost to forced outages (OCLF + UCLF) must not exceed 2 500MW. This will be achieved by ensuring that an adequate pool of core, critical and scarce skills are available to operate and maintain current and future power stations. The daily supply and demand will be balanced by optimising long- and short-term maintenance requirements within the real-time status of unplanned plant unavailability. The integrated Generation control centre (IGCC) will enable us to better identify and co-ordinate responses to operation challenges and crises.

In support of Eskom's strategic shift, Generation embarked on a programme to improve the energy availability factor (EAF) of the power stations by 4% within three years ("4 in 3" programme). The focus is on the factors that will enhance the performance of the existing power stations to provide reliable and sustainable supply of electricity within the tight operating environment that prevails.

### Ensuring financial sustainability as the generating licensee

We will maintain operating and capital expenditure within  $\pm 5\%$  of budget for the next five years.

### Reduce the carbon footprint by investigating the feasibility of co-firing with biomass

The intent is to expedite the introduction of renewables into Eskom, in support of Eskom's response to mitigate CO<sub>2</sub> production.

### Ensure energy efficiency by pursuing

- the reduction of power station auxiliary power consumption per unit sent out
- optimising boiler and turbine cycle efficiency
- reducing specific fuel consumption per unit output

### Ensure operational excellence through a back-to-basics focus in plant operations

### Risk profile

The division implemented the new Eskom integrated risk management (IRM) process, built on the ISO 31000 standard. All business unit managers are responsible for managing risk within their respective areas. All business and operational risks are captured and managed thorough a newly adopted IRM system. The following generation division risks were identified at Generation executive level.

Risk	Treatment plans
<b>Security of supply is breached (demand and reserves)</b>	<ul style="list-style-type: none"> <li>• Requested NERSA authorisation for inclusion of gas turbines capacity as additional maintenance space</li> <li>• Generation and NERSA interaction on a quarterly basis as a platform for engagement on Generation issues</li> <li>• Maintain required system reserve requirement namely 1 700MW of real time reserve, 2 500 MW of unplanned which equals 4 200MW in planning mode</li> <li>• Achieve least cost dispatch (coal driven) and more emphasis on demand-side interventions</li> <li>• Outages continually monitored through short-term energy risk forum which is held weekly</li> </ul>
<b>Further deterioration of safety performance</b>	<ul style="list-style-type: none"> <li>• Visible felt leadership (behavioural safety observation, senior leadership inspections)</li> <li>• Cardinal rule enforcement</li> </ul>
<b>Compliance to environmental requirements</b>	<ul style="list-style-type: none"> <li>• Implement air quality strategy</li> <li>• A long-term plan to change to bag filters</li> <li>• Improve coal quality</li> </ul>

## Generation division *continued*

### Plans for 2010 – 2013

The division will:

- ensure zero harm to its employees, contractors, the public and the natural environment
- meet the balanced expectations of major stakeholders, weighing up the benefits and risks to all involved eg, meeting our obligation to supply while managing a reduced tariff increase
- ensure no supply interruptions due to plant unavailability during the 2010 FIFA World Cup™, and respond quickly and effectively to restore continuity of supply in the event of a unforeseen supply interruption
- ensure its financial sustainability as the generating licensee
- sustain a motivated, high performing workforce to give effect to the Eskom strategic objectives
- have processes, systems and technology that enable superior performance
- drive to achieve its medium-term objectives, underpinned by the following strategic thrusts:
  - pursuing various strategies to enhance energy efficiency
  - seeking to reduce its carbon footprint (for example, co-firing with biomass)
  - ensure operational excellence through a focus on back-to-basics in plant operations.
  - financial excellence

### Technical performance

Measure	Description	Target	Actual 2010	Actual 2009	Actual 2008	
Unit capability factor (UCF) (%)	UCF measures the plant availability and provides an indication of how well the plant is operated and maintained	86,5	<b>85,86</b>	86,07	86,24	●
Energy availability factor (EAF) (%)	EAF measures plant availability (UCF above), plus energy losses not under the control of plant management (external) and internal non-engineering constraints	85,5	<b>85,21</b>	85,32	84,85	●
Unplanned automatic grid separations (UAGS/7 000 hours)	UAGS measures the reliability of service provided to the electrical grid and the number of supply interruptions per operating period (7 000 hours on average)	2,40	<b>2,80</b>	2,93	2,80	●
Unplanned capability loss factor (UCLF) (%)	UCLF measures the lost energy due to unplanned production interruptions resulting from equipment failures and other plant conditions	4,50	<b>5,10<sup>RA</sup></b>	4,38 <sup>RA</sup>	5,13	●
Planned capability loss factor (PCLF) (%)	PCLF-planned energy loss is energy that was not produced during the period because of planned shutdowns or load reductions due to causes under plant management control	9,0	<b>9,04</b>	9,54	8,63	●
Reserve margin (including imports) (%)	Difference between net system capability and the system's maximum load requirements (peak load or peak demand)	15 – 19	<b>16,4</b>	10,6	5,6	●
Generation load factor (GLF) (%)	GLF generation load factor (net) indicates the extent to which the generation fleet was loaded on average over the year to produce the energy demanded from the power stations	66,6	<b>66,2</b>	67,02	72,29	●

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

The continuous growth in demand for electricity prior to early 2008, and the resurgence in the electricity demand growth towards the end of 2009 and beginning 2010, combined with limited increased electricity generation capacity, has resulted in a significant increase in the production required from existing power stations. This increased demand for production has, in many instances, led to plant components being stressed beyond their design operating parameters.

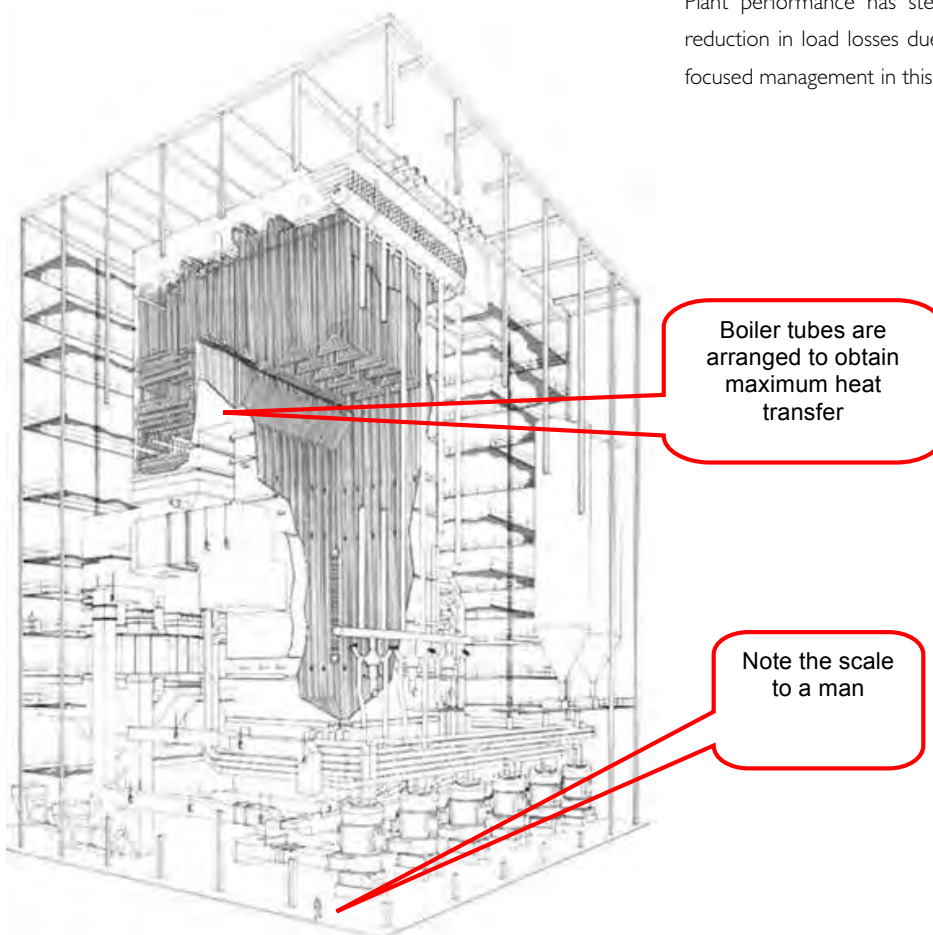
The generation recovery process in 2008/09 resulted in improved availability and reliability for those plant areas for which priority focus was given. However, other plant areas like coal handling and particulate emission reduction systems have shown a deterioration in performance as a result of the demanding operating regime of the coal-fired power stations and variation in coal qualities.

The low reserve margin in the South African electricity supply system has, since 2006, resulted in shorter windows of opportunity to perform essential maintenance on our power stations, as well as less opportunity to schedule the major refurbishments required by the older power stations. The decrease in electricity demand which resulted in a lower load factor experienced in 2008 and 2009 in comparison to previous years provided more opportunity for maintenance, resulting in higher PCLF in 2009 and 2010 compared to 2008. Scheduling of more short-term outages also contributed to increased planned outages.

### Boiler tube leaks recovery progress

The generation recovery process in 2008/09 also identified opportunities to reduce and improve the management of boiler tube leaks, including a review of works management principles and further refinements to future maintenance activities. All the identified actions from the recovery process have been formally committed.

Plant performance has steadily recovered, and we have seen a reduction in load losses due to boiler tube leaks as a result of the focused management in this area.



*Eskom's 600MW coal-fired boilers are more than 30 storeys high with over 600 kilometres of tubing arranged around and inside the boiler.*

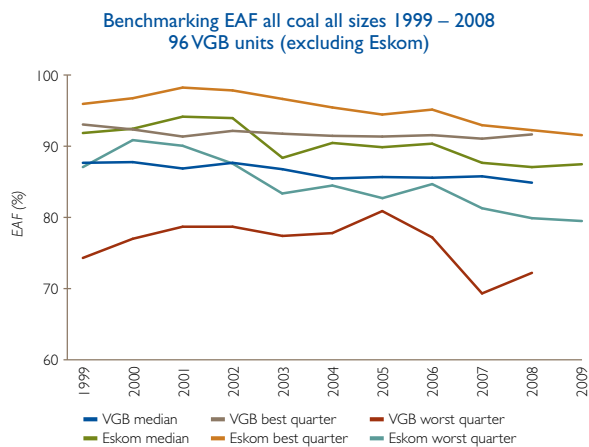
## Generation division *continued*

### Benchmarking

#### Technical performance indicators

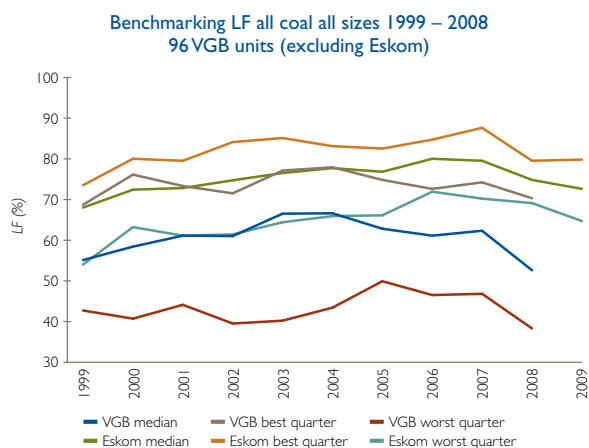
Generation has over many years benchmarked its performance against international counterparts. It is evident from recent benchmarks that Eskom's plant performance aligns closely with that of VGB (the European technical association for the electricity and heat generation industries with 427 member organisations from 32 countries, representing a collective capacity of 500 000MW).

The availability performance of Eskom's generating plant in comparison to aggregate VGB member performance (excluding Eskom) compares as follows:



From the above it is clear that Eskom's plant generally performs better than the comparative VGB plant sets, but is showing a declining trend emanating from increased operating pressure on the electricity production infrastructure.

When comparing the load factor of Eskom's assets with that of the VGB members, the following graph indicates that Eskom has generally experienced a more severe increase in operating conditions, thus implying that we have done slightly better than international counterparts in maintaining plant availability under adverse operating conditions. Eskom has a higher load factor compared to VGB plants, which is indicative of the lower reserve margin in South Africa.



For further information on maintenance activities, go to [www.eskom.co.za/annreport10/006.html](http://www.eskom.co.za/annreport10/006.html)

#### High load factors

In order to deliver on its obligation to meet the ever-increasing demand for electricity in South Africa with limited system capacity expansion, Eskom has been forced to operate its existing power stations up to and often beyond their design limits. In some instances this has resulted in increased degradation rates and introduced new failure mechanisms, which necessitated the re-evaluation of current maintenance strategies. For example, the scope of inspections for phenomena such as fly ash erosion of boiler tubes has had to be increased since wear is no longer occurring in the same areas where previous history would have predicted.

#### Plant monitor for generators

Eskom has developed a unique generator monitoring system that includes partial discharge, stray flux, electromagnetic interference, shaft monitoring and fault diagnostic modules, all combined into a host system.

We have applied for patents for the design of some of the modules and 44 partial discharge monitors have already been sold to a South American utility.

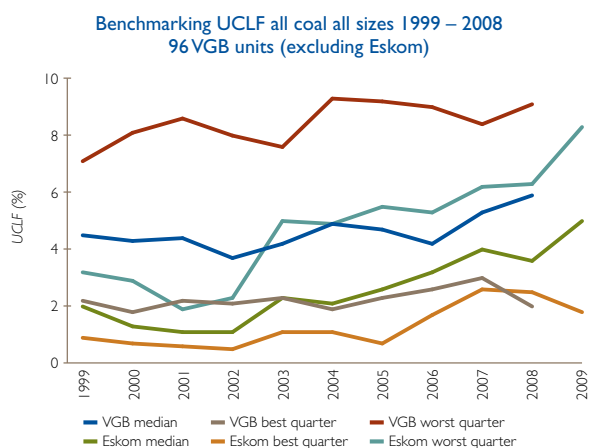
Monitors are currently in operation at two Eskom power stations with the rollout to other power stations scheduled for upcoming planned maintenance shutdowns.

Some major successes of the application of these monitors are:

- integration of the system as part of a programme where it is applied to every generator being returned to service;
- Duvha and Koeberg power station rotor interventions in 2007, where data from the modules allowed slightly damaged rotors to be operational for a longer time than expected; and
- detection of a failing Koeberg rotor bearing in 2009. If this had not been detected, the machine could have failed catastrophically. Koeberg nuclear stations' performance is discussed in more detail in the nuclear division section on page 114.



Similarly, the comparison of forced plant failures (UCLF) in the following graph reflects levels in Eskom that are generally better than the average of the VGB members. The slope of the increasing trend in recent years is reflective of the ongoing harsh operating conditions and forced failures.



## Environmental performance

### Highlights

- Generation Peaking business unit achieved ISO 14001 certification
- Several other business units successfully completed phase I certification audits for ISO 14001

### Key Generation environmental performance indicators

	Target	2010	2009	2008	
Water used at power stations (including Koeberg) (ML)	n/a	<b>316 202</b>	323 190	322 666	
Specific water consumption (L/kWh sent out) <sup>1</sup>	<1,36	<b>1,34<sup>RA</sup></b>	1,35 <sup>RA</sup>	1,32	●
Nitrous oxide (N <sub>2</sub> O) (t)	n/a	<b>2 825</b>	2 801	2 872	
Carbon dioxide (CO <sub>2</sub> ) (Mt) <sup>2</sup>	n/a	<b>224,7<sup>RA</sup></b>	221,7 <sup>RA</sup>	223,6	
Sulphur dioxide (SO <sub>2</sub> ) (kt) <sup>2</sup>	n/a	<b>1 856<sup>RA</sup></b>	1 874 <sup>RA</sup>	1 950	
Nitrogen oxide (NO <sub>x</sub> ) as NO <sub>2</sub> (kt) <sup>2</sup>	n/a	<b>959<sup>RA</sup></b>	957 <sup>LA</sup>	984	
Relative particulate emissions, (kg/MWh sent out) <sup>3</sup>	<0,24	<b>0,39<sup>RA</sup></b>	0,27 <sup>RA</sup>	0,21	●
Particulate emissions (kt)	n/a	<b>88,27<sup>RA</sup></b>	55,64 <sup>RA</sup>	50,84	●
Ash produced (Mt)	n/a	<b>36,01<sup>RA</sup></b>	36,66 <sup>LA</sup>	36,04	●
Ash sold (Mt)	n/a	<b>2,0<sup>RA</sup></b>	2,1	2,4	
Ash recycled	n/a	<b>5,6%<sup>RA</sup></b>	5,7%	7,0%	
Ash disposed of on Eskom ash dumps and dams (Mt)	n/a	<b>33,89<sup>RA</sup></b>	34,56	33,6	
Number of environmental legal contraventions (number) <sup>4</sup>	n/a	<b>33</b>	64	32	●
Number of environmental legal contraventions reported in terms of Eskom's operational health dashboard (number) <sup>4</sup>	0	<b>0</b>	7	4	●
Materials containing asbestos disposed of (tons) <sup>5</sup>	n/a	<b>209,8</b>	2 879,7	88,8	
Material containing polychlorinated biphenyls (PCBs) thermally destructed (tons)	n/a	<b>0,9</b>	0	10	

RA – Reasonable assurance provided by the independent insurance provider (refer page 169).

LA – Limited assurance provided by the independent insurance provider (refer page 169).

1. Volume of water consumed per unit of generated power from coal-fired power stations sent out, excluding Komati and Grootvlei power stations.

2. Calculated figures based on coal characteristics and the power station design parameters. SO<sub>2</sub> and CO<sub>2</sub> emissions are based on coal analysis and using coal burnt tonnages. For 2010, includes Camden, Grootvlei and Komati and the gas turbine power stations as well as oil consumed during power station start-ups and for CO<sub>2</sub> the underground coal gasification pilot (flaring).

3. 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.

4. Under certain conditions, contraventions of environmental legislation are classified in terms of the Eskom 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. Managing directors can escalate any significant environmental legal contravention to the OHD.

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

- Waste management reviews of all power stations were undertaken during the year to ensure improved waste management practices
- Water management and ground water reviews were completed to identify areas for improvement
- The stabilisation of our water use performance. Water used as part of the process to generate electricity improved slightly from 1,35<sup>RA</sup> to 1,34<sup>RA</sup> L/kWh sent out (see details of actions taken on page 107)
- Hendrina, Arnot and Komati power stations were awarded the blue drop certification status by the Department of Water Affairs as water service providers
- Several major modifications were completed on particulate emission abatement equipment and related plant, which will result in improved performance in the next financial year

### Challenges

- A decline in the particulate emission performance from the coal-fired power stations to 0,39<sup>RA</sup>kg/MWh sent out (2009: 0,27<sup>RA</sup>)
- Inability to meet the requirements of the particulate emission licences
- Unauthorised water releases



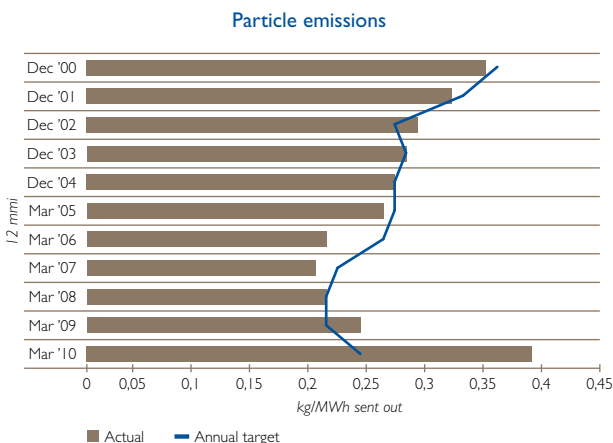
## Generation division *continued*

### Atmospheric emissions

The generation of electricity at Eskom coal and liquid fuel-fired power stations results, *inter alia*, in the release of combustion gases and particulate matter. These gases and particulates have the potential to adversely impact local and regional air quality.

The reduction of particulate emissions from coal-fired power station stacks has been a focus since the early 1980s. Significant reductions in the quantity of particulates emitted have been achieved through the use of various particulate abatement technologies, such as electrostatic precipitators (ESPs), whose efficiency has been further enhanced through sulphur trioxide (SO<sub>3</sub>) flue gas conditioning, skew flow technology and modern control systems. Some power stations have been retrofitted with pulse jet fabric filters.

Although the relative quantity of particulates emitted from the coal-fired power stations compared to the amount of electricity generated is significantly less than the 1980s, there has been an increasing trend over the most recent years, resulting in relative particulate emissions being the highest in the past decade.



The poor particulate emissions performance from the coal-fired power stations in 2009/10 is the result of:

- deteriorating coal qualities at some power stations
- continued reduced opportunity for maintenance owing to the lower reserve margin
- continued running of power stations at higher load factors
- refurbishment work on critical pollution abatement equipment (sulphur trioxide injection plants) at Kriel and Matla power stations. During such a refurbishment the emissions increase due to the absence of the sulphur trioxide injection. This refurbishment takes place approximately once in 20 years. Successful refurbishment results in long-term emission reductions

The deteriorating emission performance has been identified as an area of significant concern, resulting in Eskom developing a comprehensive particulate emission reduction plan. This plan focuses on specific plant maintenance regimes, upgrades and technology retrofits.

Over the past two years the actions that have been implemented included the following:

- installation and optimisation of SO<sub>3</sub> plants to improve the performance of the electrostatic precipitators (ESPs) at Matimba power station

- replacement of secondary air heater packs on four of the six units at Kendal power station
- refurbishment of the SO<sub>3</sub> plants for all units at Kriel power station
- refurbishment of common SO<sub>3</sub> plant at Matla power station
- completion of most of the short-term ESP improvement plan at Tutuka power station, which included repairing the defective ESP fields, modifying the rapping system, air-heater and ESP washing and ESP controller optimisation
- replacement of pulse jet fabric filters at Majuba and Hendrina power stations

The nature of these actions is such that they do not result in an immediate reduction in particulate emissions, but rather a reduction over a number of years. Thus positive improvements are expected to become evident during the next financial year (2010/11). There was however a reduction in the number of exemptions requested from emission licence conditions from 160 in 2008/09 to 135 in 2009/10.

### Ambient air quality monitoring

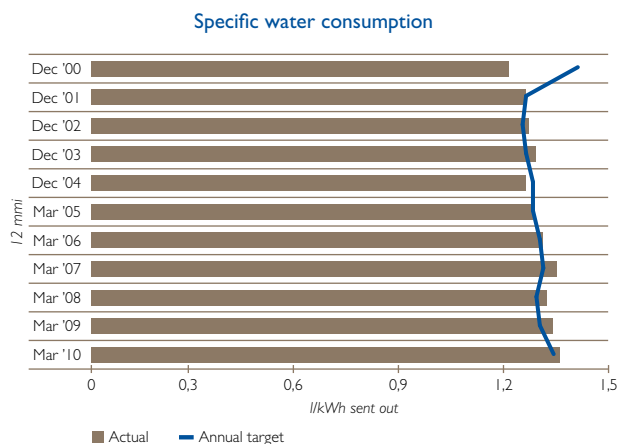
This year saw the finalisation and gazetting of ambient air quality standards for major pollutants including sulphur dioxide, nitrogen dioxide and particulate matter. Emissions from Eskom do not result in non-compliance with ambient air quality standards in any populated areas in the vicinity of power stations.

Eskom has carried out ambient air quality monitoring for more than 20 years. Ambient monitoring is conducted to measure the impact of Eskom's emissions on people residing in the vicinity of power stations; to measure the change in air quality as a result of commissioning new power stations; to measure long-term trends in air quality; and to gain a greater understanding of atmospheric chemistry and Eskom's influence on the environment.

### Water

Eskom, as a strategic water user, has a responsibility to play a leading role in the management of this precious resource. Eskom continues to implement water management improvement measures and monitoring and improvement of water consumption at our power stations.

The specific water consumption of 1,34<sup>RA</sup> L/kWhSO (2009: 1,35<sup>RA</sup>) (for the power stations excluding the Grootvlei and Komati return to service power stations) was better than the target of 1,36L/kWhSO.



The positive performance was the result of

- above normal rainfall during the year 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 recycle

Water management and sewage 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 management reviews revealed various deficiencies such as unaccounted water losses, water leaks, ageing plant, poor coal quality leading to load losses and higher demineralised water consumption and opportunities to reduce water consumption.

### Waste

All waste, general and hazardous, produced at the power stations is disposed of at licensed landfill sites. Of particular relevance is the commitment to phase out polychlorinated biphenyls (PCBs) and asbestos-containing materials. Generation division disposed of 0,9 tons of PCB contaminated material (2009: 0) and 209,8 tons of asbestos (2009: 2 879,7 tons).

### Ash

Of the approximately 36,01<sup>RA</sup> million tons (2009: 36,7<sup>LA</sup> million tons) of ash produced at the coal-fired power stations 5,6%<sup>RA</sup> (2009: 5,7%) was reused.

Some of the ash from Lethabo, Majuba, Matla, Kriel, and Kendal is used for the production of cement. The remaining ash is safely disposed of and managed at ash dams and dumps adjacent to the power station. These ash disposal sites are continually rehabilitated to ensure the mitigation of any fugitive dust that may arise.

### Environmental impact assessments

The undertaking of environmental impact assessments (EIAs) plays a critical role in ensuring informed decision making regarding Eskom's capacity expansion programme and modifications on existing plant such as waste disposal sites and the extension of ash dams. Environmental authorisations are issued by the national Department of Environmental Affairs (DEA).

EIAs were initiated for two future coal-fired power stations and one nuclear power station in 2008 and 2007, respectively. This year Generation received approval of scoping for these projects which are now well advanced in the EIA phase. Several smaller EIAs were completed during 2009/10 for a landfill site, extension to existing ash dams as well as infrastructure associated with new build projects, such as the Kusile rail project, the Medupi landfill site and the cemetery at Ingula.

### Environmental management systems

Generation division has committed to achieving ISO 14001 certification by March 2011. The Generation peaking business unit



For further details on our environmental performance improvement initiatives go to [www.eskom.co.za/annreport10/007.html](http://www.eskom.co.za/annreport10/007.html)

### Air quality monitoring

Eskom's research team has been undertaking investigative air quality monitoring on a regional scale since the late 1970s using state-of-the-art equipment. Currently there are 13 sites, including a "super-site" at Elandsfontein, measuring most of the criteria pollutants as stipulated by the Department of Environmental Affairs under the Air Quality Act.

The air quality monitoring network is accredited by the South African National Accreditation Service (SANAS). By identifying long-term pollution trends and atmospheric chemistry processes, Eskom is able to assess compliance with ambient air quality standards and also predict long-term environmental impacts. By enhancing our knowledge and understanding of the effects of power station emissions on atmospheric chemistry at a regional and global scale, Eskom will be able to minimise our industry's impact on the environment.

was the first in the division to achieve ISO 14001 certification, during this financial year. The remaining stations are all at various stages of the certification process and are on track to meeting their respective target dates.

### Partnering with non-government organisations

The Ingula Partnership, between Eskom, Birdlife South Africa and Middelpunt Wetland Trust, was formed six years ago to provide a forum for discussion and management decision taking related to environmental issues on 8 000 hectares of land purchased for conservation around the Ingula pumped-storage scheme.

Participation by other organisations interested in environmental aspects of the pumped-storage scheme was enabled by creating a working committee – the Ingula Advisory Committee: Conservation. This facilitates transparency, further discussion and input of advice to the partnership. Meetings of the working committee are held regularly, the participants of which include representatives from the national Department of Agriculture, the KwaZulu-Natal and Free State environmental departments and the Ekgangala Grassland Trust. A comprehensive conservation plan is being implemented, which includes the possible declaration of the area as a nature reserve and the wetland as a Ramsar site. Significant achievements have been made this year, including the initiation of the alien vegetation eradication programme, the development of an erosion rehabilitation plan and the completion of most of the baseline studies.

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

LA – Limited assurance provided by the independent assurance provider (refer page 169).

## Primary Energy division

**Mandate:** Optimally identifies, develops, sources, procures and delivers the required amounts of primary energy (water, sorbent, coal, liquid fuels), to power station specification, to the required locations, on time and at minimum cost over the full plant lifecycle of Eskom's non-nuclear generating assets.

### Progress this year

#### Highlights

- A 17-year coal supply agreement for the supply of coal from the Goedgevonden colliery to Majuba power station was signed between Eskom, ARMCoal and Xstrata. The signing marked the end of three years of negotiations between the parties
- Detailed analyses on coal-related load losses have been completed for some power stations
- An innovative, containerised rail solution has been developed for Camden power station whereby modified rail containers will be loaded with coal at the mine site, trucked to the nearest siding and then loaded onto flatbed wagon trains destined for Camden. This will reduce the number of trucks on the road which are required to deliver coal directly to Camden
- Primary Energy has been reorganised to improve business processes
- The Medupi coal supply agreement was concluded prior to the financial crisis of 2008. In the past year, Eskom and the supplier have re-negotiated certain commercial parameters to ensure alignment to the changing economic conditions
- Several short/medium-term coal supply contracts which were concluded under the emergency situation of 2008, were favourably re-negotiated in 2009

#### Challenges

- The decline in coal deliveries over the 2009 festive season due to the underperformance of the coal mines supplying Eskom, increased electricity demand and the impact of rain resulted in the system coal stock days falling to 37 days as at 31 March 2010, below the target 42 days. Plans have been implemented to facilitate stock day recovery to the target level
- The breakdown in the working relationship with coal transporters led to a truck blockade at Eskom's head office in April 2009. Fortunately there was minimal impact on the coal stockpiles at the power stations

### Future priorities

- Road coal haulage in Mpumalanga has raised the issue of overall road safety in the province due to deteriorating road conditions and public and truck driver behaviour
- Over the next three years, Primary Energy will continue to implement its long-term coal supply strategy. The coal sourcing strategy which is currently in place will enable Eskom to develop an optimal portfolio of long-, medium- and short-term coal supply agreements which are dependent on the life and quality of the resource
- The division will ensure the necessary capital investments for the dedicated mines, enabling them to supply the required tonnages and quality to Eskom
- Major emphasis will also be placed on investigating, designing and implementing low-cost, flexible, coal transport solutions, which will relieve the impact of coal trucks on our roads

Dan Marokane, Managing Director: Primary Energy

#### Q: How is Eskom addressing the coal trucking issue?

**A:** We continue to spend significant effort on managing the challenges of transporting 36Mt of coal (road and rail) per year (about 25% of annual coal purchases) to our coal-fired power stations. The current model mix has 6Mt of this volume being transported by rail to Majuba power station and the remainder being transported by road to Majuba and other power stations. We remain fully committed to the strategic imperative of migrating coal transport from road to rail. This migration strategy has been debated with our stakeholders, including the road transporters and the communities on the coal routes. The road transporters acknowledge the compelling rationale for the rail migration strategy. Regular progress meetings are held with the road transporters and all relevant matters pertaining to the rail strategy are disseminated, including the approval of a rail solution for Camden power station and progress on the World Bank funding being secured for the construction of the heavy haul coal line to Majuba power station.



## Primary Energy update

Over the past year, Primary Energy has undergone an extensive exercise focusing on its organisational structure. The structure was developed based on an international benchmarking exercise and on the principles of organisational design. The structure was approved and is currently being implemented in the division. This exercise also

identified the key positions in the division and vacant positions have been advertised. Primary Energy will acquire the requisite skills and experience from the market. Extensive focus is currently on implementing processes and systems that will improve contract management while strengthening governance practices. A number of legacy issues in different contracts will also receive attention.

## Risk profile

Risk	Treatment plans
Reduced coal purchases and inadequate coal qualities caused by non-performance of the coal mines	Engage and manage the coal suppliers and the coal supply agreements to ensure maximum efficiency and performance
Deterioration of road infrastructure caused by heavy rains and lack of road maintenance by the relevant authorities	<ul style="list-style-type: none"> <li>Continual engagement with the relevant authorities to improve and maintain the road network</li> <li>Optimisation of the rail network, thus decreasing the need for coal to be transported by road</li> </ul>
Reduced rail performance caused by inefficiencies across the coal value chain leading to coal being transported by road at extra cost	<p>Embark on various initiatives to ensure that the rail network is optimised</p> <p>Eskom is in the process of establishing rail off-loading facilities at power stations which will be supplied by mine loading sites in the central basin of Mpumalanga</p> <p>Short-term containerised coal solutions will be implemented at some stations because these solutions are cost effective and relatively quick to implement</p> <p>Eskom aims to move over 18Mtpa of coal from road to rail in the foreseeable future</p>
Delays in implementation of new water supply infrastructure leading to late delivery of water to new power stations	<ul style="list-style-type: none"> <li>Prioritise and fast track off-take agreements</li> <li>Trigger specialist studies on water resource availability and impact</li> <li>Support strategic environmental studies around impact of water use for future power generation developments</li> <li>Obtain explicit or implicit guarantees from government for water infrastructure funding</li> </ul>

## Coal quality and quantity

Coal quantity procured has been below the business requirements in the current year due to underperformance of the tied mines operated by the major mining companies supplying Eskom. Stockpiles at all the stations have been kept at above their minimum levels and total system stock is within the expected range.

Eskom has also embarked on several initiatives to ensure that the correct quality of coal reaches each power station. These initiatives will continue over the next few years.

## Performance – coal purchased and burnt

	Target 2010	Actual 2010	Actual 2009	Actual 2008
Coal burnt (M tons)	122,50	<b>122,70</b>	121,16	125,30
Coal purchased (M tons)	123,94	<b>121,82</b>	132,66	119,63
Coal stock days	42	<b>37<sup>RA</sup></b>	41 <sup>LA</sup>	13

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

LA – Limited assurance provided by the independent assurance provider (refer page 169).

For the year under review, the largest impacts on coal costs were lower volumes than planned (4,1 Mt) from the long-term coal supply agreements with tied mines resulting in a higher level of short/medium-term coal being procured (with its associated transport costs) to fill Eskom's coal demand gap.

## Primary Energy division *continued*

### Long-term coal supply strategy

Eskom has developed a long-term coal supply strategy in order to meet the requirements of the current and future power stations. The key elements of this strategy are:

- to develop an optimal portfolio of long-, medium- and short-term coal supply agreements
- to invest in low-cost, flexible, coal transport infrastructure
- to improve the consistency and quality of coal supplied to the power stations
- to intensively engage with all major stakeholders

### Long-term water strategy

The concerns of growing water scarcity; lack of access to water to meet basic human needs; depleted environmental flows; growing pollution from land use activities; human health concerns and the implications of climate change on the hydrological cycle and yields have brought water to the forefront as a strategic area for us. This has resulted in us understanding that we will no longer be able to easily access relatively cheap and clean water and that we must consider limited supplies and the implications of our water use and discharge on watersheds, ecosystems, and communities. The increase in demand for water together with deterioration in water quality will result in increases in the cost of water, requiring recovery from the electricity tariff.

Eskom, as a strategic water user, has an added responsibility to play a leading role in the management of this precious resource, while leveraging its role of setting a foundation for growth and development as well as creating a sustainable economy, not harmful to the environment.

The key water supply infrastructure projects that have been identified to deliver water to Medupi, Kusile and the return-to-service stations are the Mokolo and Crocodile Water Augmentation Project (MCWAP) and the Komati Water Scheme Augmentation Project (KWSAP), respectively.

The KWSAP is awaiting Public Finance Management Act approval before the water supply agreements between Eskom and the Department of Water Affairs (DWA) can be signed. The environmental authorisation is expected by end May 2010 and water delivery planned by end May 2012.

The MCWAP phase 1 water supply agreements are planned to be concluded by end June 2010 with water delivery planned for end April 2013. This will provide sufficient capacity for all the water

requirements of Medupi power station and the associated developments but excluding water for flue gas desulphurisation (FGD). In the interim, Medupi power station will have adequate water supply, using the existing surplus from Matimba power station, to cater for Medupi's first three units fully commissioned without FGD.

MCWAP phase 2 involves the abstraction and transfer of water from the Crocodile West River to the Lephale area. Phase 2 will support future water requirements beyond Eskom's needs in the region and Medupi's FGD and is planned to be completed by October 2015.

In addition, the Vaal River eastern subsystem augmentation project (VRESAP) was declared operational by DWA in June 2009. Eskom has requested the DWA to investigate potential infrastructure bottlenecks in their water supply systems and this study is expected to be completed by end April 2011. Eskom is also working closely with the DWA to mitigate potential water deficits in the Vaal River system. This water feeds all the power stations in the Mpumalanga province.

Eskom has engaged with the DWA's national water resources planning directorate to ensure water resources and infrastructure planning needs are factored into the integrated resources plan. The DWA has also initiated and completed various water resources studies and strategies to ensure plans are implemented timeously to meet the electricity generation and related development needs of the country.

Further, pronounced water scarcity and deteriorating quality in key catchments, along with heightened expectations among important stakeholders including consumers and investors, has created a compelling business case for our overall water management strategy, including a water demand management strategy. This strategy takes into account the scenarios related to the future cost of water.

The key elements of the water strategy are:

- to meet the water quality objectives of the various catchments
- to efficiently manage water cost increases into the future
- to actively influence policy, strategy, planning, legislative and regulatory environment related to water
- to meet the water requirements for existing and new power stations

- to develop long-term water plans to ensure security of water supply
- to develop and implement a water conservation and water demand management strategy
- to engage stakeholders on water challenges and solutions

### Liquid fuels (diesel and kerosene) strategy

Eskom's total installed capacity from liquid fuel-fired stations (open-cycle gas turbine stations) totals 2 426MW. These plants provide assurance of supply to the Western Cape during periods when Koeberg nuclear power station is not operational, when there is a general shortage of generating plant to meet demand or when problems are experienced with the transmission lines to the Western Cape.

Because of the high cost of generation from the liquid fuel-fired stations, Eskom strives to restrict the use of this plant to peak hours or during emergencies. During 2010 we were able to contain the usage and produced only 49GWh from these stations.

There are specific challenges around the fuel procurement and fuel storage for the liquid fuels plant. The first concerns the pattern of usage of this plant. As it is used as back-up plant, the uncertainty around the timing and extent of usage is high. The second is that suppliers require long lead times for orders of liquid fuel. Maintaining a stock of fuel is one way of overcoming this challenge. Eskom is aware that this comes at a cost in terms of working capital and regularly reviews the stock levels required.

The biggest drivers of the cost of fuel for this plant are the price of oil and the exchange rate, which resulted in the price of fuel fluctuating significantly. Overall, the average price for the current year has decreased by 36% compared to 2009.

Consumption decreased by 52% during 2010 because of the increased availability of the nuclear power station and an overall decrease in demand for electricity.

	2010	2009	2008
Diesel and kerosene consumed (million litres)	16,1 <sup>RA</sup>	28,9 <sup>LA</sup>	345,9

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

LA – Limited assurance provided by the independent assurance provider (refer page 169).

### Impact of primary energy costs on the business

Primary Energy division recognises the need to accurately budget and forecast for coal expenditure so as to allow the business to adequately prepare for future coal costs. The MYPD 2 application submitted to NERSA is an example of how a robust and comprehensive plan was created based on defined and defensible assumptions. This was critical to ensure that the cost of coal was adequately accounted for in Eskom's revenue application.

There is also a strategy to enter into new long-term agreements with coal suppliers, which will reduce pricing uncertainty into the future. The implementation of the long-term coal supply strategy will necessitate major engagements with key stakeholders, such as mining houses, labour, government and Transnet. Eskom has already started engaging with stakeholders to discuss and resolve coal supply issues in the national interest.

Other initiatives are to maximise tonnages from relatively less expensive long-term contracts, without affecting the life of the mines, as well as optimising lower cost rail transport for stations that normally receive their coal by road.



Truck loads coal at the coal-yard at Matimba power station in Lephalale.

## Primary Energy division continued

### Road repairs

While Eskom does not have an obligation to repair roads, the organisation has spent R161 million in the last financial year on repairs to the roads used to transport coal to the power stations. For the coming financial year, a total amount of R950 million will be spent on repairing and maintaining this network of roads. Part of Eskom's long-term strategy is to maximise the use of rail to transport coal.

However, in the short term, it is imperative that these roads are repaired and maintained in order to provide an adequate supply of coal to the power stations and ensure safe driving for the communities.

In 2009, the government and the South African National Roads Agency Limited (SANRAL) agreed that SANRAL will be responsible for road maintenance. However, for the coming financial year, Eskom, in its MYPD 2 application to NERSA, requested an amount for road repairs to allow for time for the new arrangements to be finalised. This was granted by NERSA. Beyond the next financial year, SANRAL

will conduct all road repairs and Eskom will pay a shadow toll to SANRAL based on Eskom's beneficial use of the roads for coal haulage.

### Environmental performance

#### Highlights

- Environmental and water strategies are in place and plans are being implemented
- Inclusion of environmental conditions in new coal suppliers contracts
- Completion of the water and waste water management reviews at all coal-fired power stations
- Water use licence authorisations and permits issued for Eskom operations

#### Challenges

- Repair of roads required to improve coal transport was started before obtaining the required environmental authorisation

### Key primary energy environmental performance indicators

	Target	2010	2009	2008	
Number of environmental legal contraventions	0	1	1	n/a	●
Number of environmental legal contraventions reported in terms of Eskom's operational health dashboard <sup>1</sup>	0	0	0	n/a	●

1. 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.

### Looking forward

- Eskom aims to implement its water demand management strategy to reduce its water losses (evaporative, seepage and spillages) and continuously achieve improvement in its water use performance (litres per kWh sent out) by setting stretch targets
- Investigating mine water treatment and reuse at power stations
- Conducting activities in a self-regulatory manner, complying with legal and regulatory requirements and reducing long-term environmental liabilities

## Safety – coal transport

Some 26Mt of coal was transported by road in the past year, primarily in the Mpumalanga province. Due to the high number of road incidents and fatalities, a public safety awareness initiative was started jointly with the Departments of Public Works, Roads and Transport. Various stakeholders such as the Bethal community, truck owners, traffic departments, SAPS, the Department of Health, Mercedes Benz, Dunlop, Rotran and truck drivers were invited to a workshop to discuss how the target of “zero harm for all” could be achieved.

Eskom has also built two new junior traffic training centres to educate children on road safety in areas where coal trucks travel. Five areas were identified for these centres: Ermelo, Hendrina, Morgenzon, Perdekop and Kinross.

In March 2010, Eskom joined the Trans-African Concessions (TRAC) N4 road safety project 2010 in Mpumalanga. The focus is to prevent accidents by increasing the visibility of all emergency role players and to have a complete emergency team stationed at one place, from where a co-ordinated response to emergency calls will decrease reaction time.

There was also a visit to Mpumalanga to identify critical or risky areas where coal truck drivers are challenged due to poor road conditions. Eskom recognises the urgent need for a sound and realistic road repair plan to be developed and shared with all concerned stakeholders.



*Train downloads coal at Majuba power station near Volksrust.*



## Nuclear division

**Mandate:** Performs activities relating to the optimal operation and maintenance of Eskom's nuclear generation assets over their full plant lifecycle.

### Progress this year

Highlights	Challenges
<ul style="list-style-type: none"><li>• Significant worker radiation dose reduction</li><li>• Reduced staff turnover</li></ul>	<ul style="list-style-type: none"><li>• Decision for new nuclear capacity (Nuclear-I project) not finalised (awaiting IRP2)</li></ul>

### Future priorities

<ul style="list-style-type: none"><li>• Formalisation of Koeberg lifespan at 60 years</li><li>• Koeberg steam generator replacement project</li><li>• EIA process for new nuclear sites</li><li>• DRA for future nuclear capacity</li></ul>
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Clive le Roux, Senior General Manager: Nuclear

**Q: What is Eskom's view on the future nuclear expansion programme?**

**A:** Other than coal-fired power stations, the only feasible alternative for base load electricity in South Africa is nuclear power stations. Because the existing nuclear power station at Koeberg is a pressurised water reactor, this remains the preferred nuclear technology for a new fleet of reactors. The South African government is currently considering the way forward in terms of the expansion of South Africa's nuclear power generation capacity.



## Key focus areas in 2010

During the year under review, the Nuclear division concentrated on providing nuclear energy in accordance with world-class nuclear safety and technical performance requirements. This was achieved through the development of supportive nuclear safety values and beliefs, continuous effort to ensure operational excellence and adherence to the fundamentals of sound financial management.

New techniques, and a concerted drive to change behaviours, resulted in the total radiation dose emitted to the Koeberg workforce in the execution of work in radiological controlled zones, being reduced significantly. This achievement was maintained during the year, even though considerable work was conducted within narrowly defined timeframes during the outage period.

A suite of technical modifications was completed on both units. These safety modifications have further reduced the probability of accidents and public risk, which remains below limits prescribed by regulation.

Eskom continues to actively participate in the international nuclear domain through its affiliation to the World Association of Nuclear Operators (WANO), the International Atomic Energy Agency (IAEA) and the Institute of Nuclear Power Operators (INPO). This facilitates benchmarking of performance, periodic safety reviews, definition of standards, dissemination of best practices and training of industry personnel.

Eskom remains a member of the European Mutual Association for Nuclear Insurance and uses this membership to reduce the cost of insurance for the business and to network with other nuclear utilities on common risk and insurance issues.

During 2009 Koeberg celebrated its 25th consecutive year of safe operation of unit 1 with unit 2 about to reach that milestone during 2010. This remarkable feat, combined with the current condition of the plant, makes it feasible to consider a plant operational lifespan of 60 years in line with international trends. A formal decision in this regard is anticipated in the coming year.

In an effort to ensure public participation, the division undertook awareness activities through various media, community forum initiatives and effective communication strategies. In addition, continuous support was provided to the South African government with regards to initiatives aimed at the development of a future nuclear power industry.

## Risk profile

The nuclear division has implemented an integrated risk management practice that is aligned to that of Eskom. Pursuant to this policy, the nuclear division has identified risks and appropriate risk mitigation techniques. The more important risks are listed hereunder:

Risk	Treatment plans
Threats to production	To improve the availability of the Koeberg units, future planned upgrades are part of the ongoing asset management strategy, and are planned in a prioritised manner for future outages
The extent of the reliance of Koeberg and the Western Cape on the transmission network	This is addressed through continuous dialogue between the Koeberg operators and the network operators, to ensure that risks on the transmission network and at Koeberg are understood and appropriate contingencies plans are devised
Delays in the establishment of National Radioactive Waste Disposal Management Agency	The agency has many responsibilities that directly influence the operations of nuclear installations. Eskom is actively involved with the Department of Energy and its consultants in the establishment of the agency. Eskom has evaluated the different strategies for managing used fuel and is ready to make proposals to the agency when established

## Nuclear division continued

### Key performance indicators

#### Power station net capacity

Koeberg	MW	1 800
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#### Electricity production

		2010	2009	2008
Koeberg nuclear	GWh	12 806	13 004	11 317

#### Technical performance

	WANO's PWR best quartile	Target 2010	Actual 2010	Actual 2009	Actual 2008	
UCLF	0,08%	2,56%	<b>2,12%</b>	5,70%	4,40%	●
EAF	n/a	80,18%	<b>82,0%</b>	83,3%	72,3%	●
UCF	94,34%	82,65%	<b>83,2%</b>	83,4%	75,6%	●
PCLF %	n/a	14,79%	<b>14,68</b>	10,90	20,10	●
UAGS/7000h	n/a	1,42	<b>1,42</b>	0,47	1,56	●

WANO – World Association of Nuclear Operators (2009 Quarter 4 results)

### Nuclear capacity increase

The nuclear division continued with the project definition activities including, among others, the feasibility study, the environmental impact assessments, investigation of site suitability, identification of transmission line routes, geotechnical and other studies required to support an application to the national nuclear regulator for a nuclear installation licence.

This work has advanced to the stage where a draft EIA report has been issued for public comment and public meetings regarding the draft report have been held. Three sites, namely, Duynefontein, Bantamsklip and Thyspunt have been considered in the EIA.

### Pebble-bed modular reactor (PBMR) update

The nuclear division has performed the role of the eventual client and licence applicant for the PBMR demonstration plant. The EIA report has been issued to government for review and an environmental authorisation is anticipated before the end of 2010.

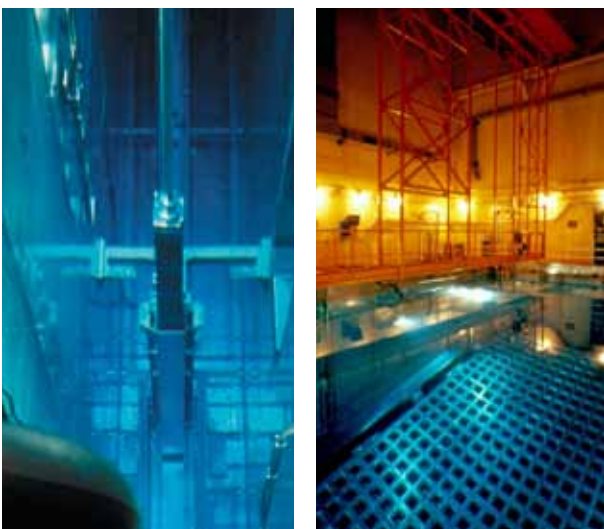
Due to government's decision to stop funding the PBMR Company (Pty) Limited and thus its subsequent winding down, the direction of the client office has shifted towards ensuring that intellectual property acquired thus far is captured for possible future application, should the project continue. The future of the client office is dependent on the business strategy of the PBMR Company (Pty) Limited.



Koeberg nuclear power station.

## Nuclear fuel

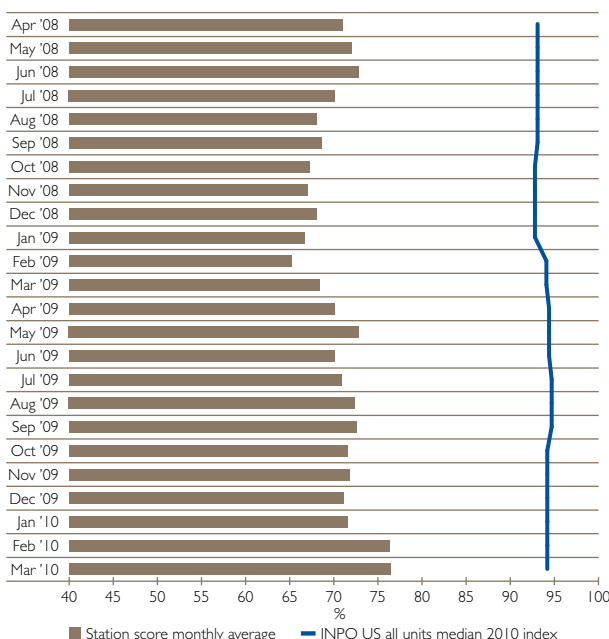
Nuclear fuel is procured and delivered to Koeberg nuclear power station in accordance with government-authorised contracts for the supply of enriched uranium and for the supply of nuclear fuel fabrication services for the nuclear fuel assemblies. A second fuel fabrication vendor was established during the year to ensure flexibility and competition in the fuel market. These contracts are sufficient to provide the fuel demand for Koeberg for the next eight years.



## Nuclear safety

Eskom's nuclear safety performance as measured by the INPO index has shown cumulative improvement since the beginning of 2009.

INPO index two-yearly trend



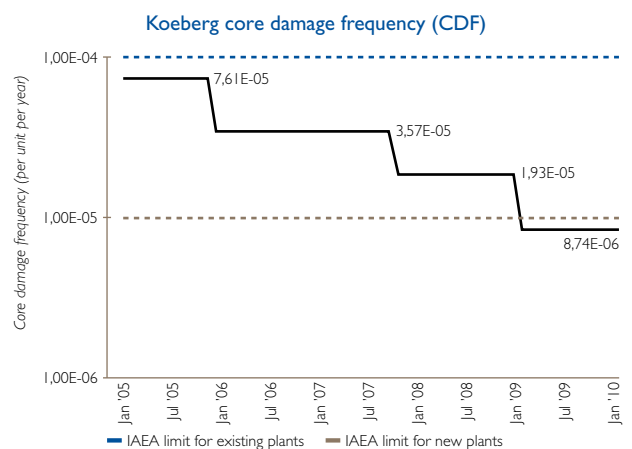
The safety performance of Koeberg for 2009 has been above the WANO median performance indicators relative to pressurised water reactors of similar design.

Nuclear Safety and Assurance, a separate department within the Generation business with its own technical experts and resources, provides independent assurance on nuclear safety and compliance with licence requirements. In line with international best practice, Eskom has a three-tier system of nuclear safety governance.

The sustainability committee of the board (the top tier), dedicates several meetings a year to nuclear matters. The meetings are attended by international nuclear experts who bring a broad perspective to the deliberations. The Nuclear Management Committee (middle tier), presided over by the chief officer (Generation business), monitors, reviews and makes recommendations on issues such as nuclear policy, standards, benchmarks and rules, and Eskom's overall business requirements. The safety review committees (third tier), bring together experts from various parts of Eskom to evaluate nuclear safety issues and make recommendations to senior management and the other tiers.

A significant reduction in core damage frequency (CDF) has been achieved, primarily due to hardware modifications implemented during recent outages. This large reduction in the baseline core damage frequency has significantly reduced the potential impact of human fallibility and equipment failure on safety. A total of R720 million has been spent to date on upgrades to ensure the overall plant safety of Koeberg.

The overall inherent level of safety reflected in the graph below is at world standard compared to the IAEA guidance for existing plants.



The Koeberg design and technical practice is aligned to that of the Electricité de France (EdF) CPI reference plant, while the management processes and training philosophy are aligned to that of the US nuclear industry.

## Nuclear division continued

### Environmental performance

#### Highlights

- Issued the EIAs for public review for the environmental impact assessments for the Nuclear-1 and pebble bed modular reactor projects
- ISO 14001 phase 1 certification audit successfully completed

#### Challenges

- Relatively high volume of low-level radiological waste due to major projects and dose reduction initiatives at Koeberg nuclear power station

#### Key nuclear division environmental performance indicators

	Target	2010	2009	2008	
Environmental legal contraventions (number)	0	<b>0</b>	0	0	●
Specific water consumption by station (L/kWh)	n/a	<b>0,038</b>	0,043	0,039	
Potable water consumption (Ml)	n/a	<b>492,6</b>	589,3	479,1	
Low-level radioactive waste generated (net)	n/a	<b>137,8</b>	140,8	180,3	
Intermediate-level radioactive waste generated (net) (m <sup>3</sup> )	n/a	<b>47,1</b>	23,9	16,5	
Low-level radioactive waste transported to Vaalputs (m <sup>3</sup> )	n/a	<b>216,0<sup>RA</sup></b>	189,0 <sup>RA</sup>	270,0	
Intermediate-level radioactive waste transported to Vaalputs (m <sup>3</sup> )	n/a	<b>266,0<sup>RA</sup></b>	473,6 <sup>RA</sup>	418,0	
Public radiation exposure due to effluents released (mSv)	<0,25	<b>0,0040</b>	0,0045	0,0047	●

RA – Reasonable assurance provided by the independent insurance provider (refer page 169).



Low-level waste is stored in steel drums at Vaalputs waste disposal site in the Northern Cape.

## Industrial and radiological safety performance

		2010	2009	2008
Nuclear division fatalities	Number	<b>0</b>	0	0
Contractor fatalities (commuting)	Number	<b>1</b>	0	0
Lost-time injuries (including contractors)	Number	<b>10</b>	10	11
Refuelling outages	Number	<b>1</b>	1	2
Worker collective radiation exposure (both units)	mSv	<b>717,83</b>	937,61	2 793,64

## Nuclear waste management

The low and intermediate level radioactive waste from Koeberg is sealed in steel drums and concrete containers, respectively. This waste is disposed of at Vaalputs, a near-surface disposal site for radioactive waste, licensed by the national nuclear regulator. Due to recent regulatory changes NECSA (Nuclear Energy Corporation of South Africa) is no longer appointed to operate Vaalputs, so the transport of waste to Vaalputs has been temporarily suspended. The National Radioactive Waste Management Agency under the governance of the Department of Energy is responsible for appointing the operator of Vaalputs.

A further role of the agency is to formulate the national strategy for the management of used nuclear fuel. Used fuel from Koeberg is stored at the power station in either specially designed fuel pools or used fuel storage casks in accordance with specified regulatory requirements.

### Looking forward

- Reduction in low-level radiological waste quantities
- ISO 14001 environmental management system certification during 2010

## Generation Business Engineering division

**Mandate:** Provides specialist engineering services to ensure the continued operation of existing power stations and to design new power generation assets.

### Progress this year

#### Highlights

- Establishment of engineering competence to deliver design requirements for Eskom
- Completion of phase I of the engineering framework development
- Generation engineering design infrastructure (GEDI) project progress
- Safety performance
- Modern Power Systems Power Plant Innovation Award for Medupi plant

#### Challenges

- Increased pressure to run ageing plant beyond design life
- Skills and competency gaps in critical input areas

### Future priorities

- Rollout of the engineering framework
- Provide engineering support to Generation to ensure sustainable long-term plant health in current high-demand conditions
- Engineering enhancements to reduce our environmental impact
- Establish and embed use of a common engineering system platform across entire Generation business

**Matshela Koko**, Senior General Manager: Generation Business Engineering

#### **Q:** What are the main challenges facing engineering in Eskom?

**A:** Eskom is in the middle of a capacity expansion programme while simultaneously operating and maintaining a large fleet of power stations supplying power to South Africa. These dual programmes have put tremendous pressure on Eskom's ability to provide effective and efficient engineering services and support. Furthermore, the large number of interfaces that engineering is required to manage makes the total Eskom design integration a great challenge.

Our engineering capability is fully engaged in assisting the generation division to operate the current generating fleet assets at optimal levels without undue risks. On the other hand, Eskom's engineering capability in design is gaining international recognition – the Modern Power Systems Innovation Design Award for the Medupi plant is evidence of this.



### Key strategy

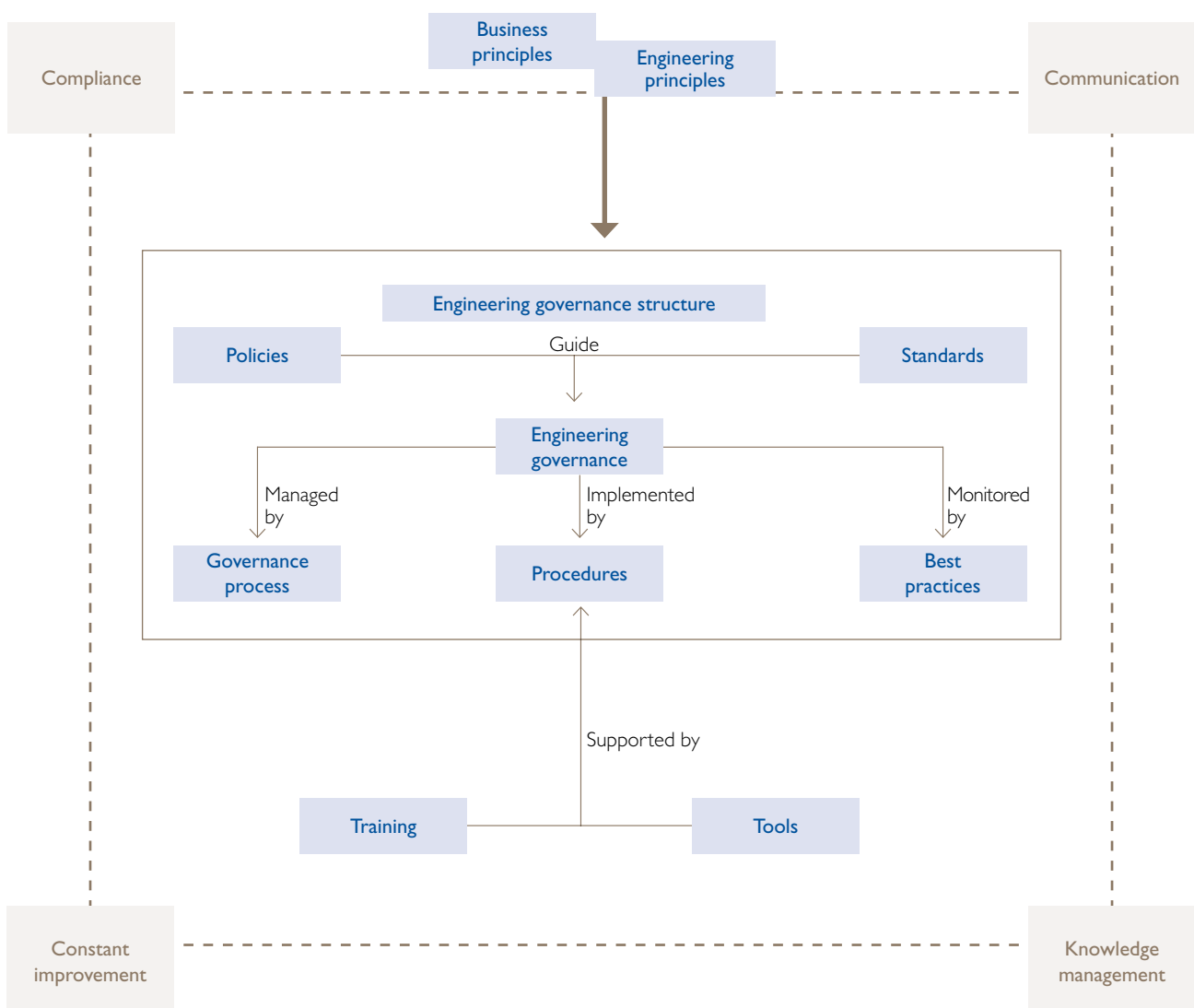
The division provides assurance of engineering integrity and integration across the Generation business – this is done through enterprise level engineering governance in a common engineering framework that supports Eskom as an asset-intensive business. It also drives engineering as a vital part of the Generation business portfolio, providing world-class engineering solutions to sustain the technical integrity of assets.

### The engineering excellence programme

The engineering excellence programme was initiated to establish an integrated engineering management framework, to technically govern engineering inputs from across the Generation business, ensuring the integrity of the design base, the operating technical specifications and the maintenance baselines.

The components of the integrated engineering management framework include engineering operating and governance frameworks, critical engineering processes and operating procedures, design codes, appropriate configuration management systems and supporting engineering tools. The building blocks towards establishing engineering excellence, are centred on engineering resources, skills and competencies, and directed by the engineering governance framework, underpinned by strong engineering values.

The benefit of this “one engineering mindset” approach is that it will empower the Eskom fleet of power generating units to perform at world-class levels of technical performance; despite the challenges of low reserve margins and the constraints of shorter windows of opportunity for maintenance activities.



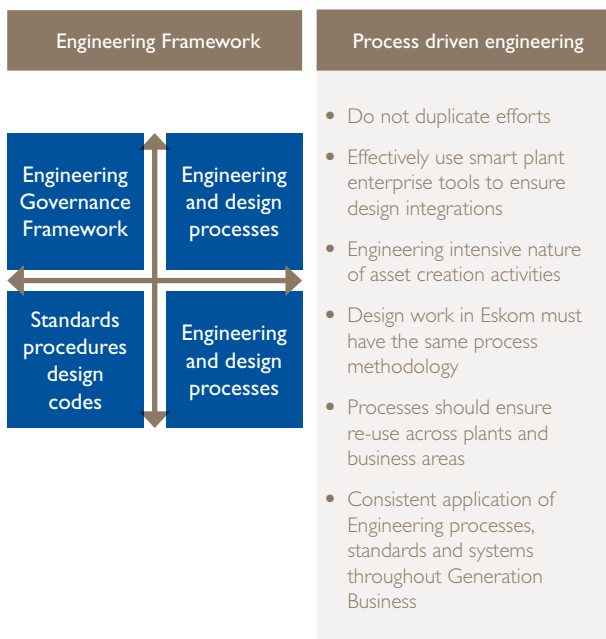


## Generation Business Engineering division *continued*

### Plans for 2010 – 2013

A number of activities were initiated in 2009 to establish a sound foundation for Generation business engineering. An engineering six-point plan was developed, centred on the Eskom vision.

The period 2010 to 2013 will be used to fully establish, rollout and implement the integrated engineering management framework across the Generation business. To complete the framework, an engineering toolbox will be defined and established that will enable the Eskom engineer to deliver the services accurately and efficiently, with the confidence of world-class approaches and applications.



The structured approach has led to the development of an engineering framework, which has as key elements, the following

- The required engineering governance and practices needed to sustain a world-class engineering organisation
- Standardised, repeatable and audit-able engineering and design processes
- Standards, procedures and design codes to enable and support all engineering activities throughout all phases of projects and plant asset lifecycles.
- The required systems, technology and design tools to support engineering and design activities throughout all phases of projects and plant asset lifecycles.

### The Generation engineering design infrastructure (GEDI) project

In late 2008, the Generation engineering design infrastructure (GEDI) project was launched. The GEDI project builds on previous investments made by Eskom in technology such as a common engineering system platform (SmartPlant Enterprise), by using such technology on build projects to fast-track optimisation of the configuration and align the technology with Eskom-specific needs. To this end, the GEDI project is partnering with the Kusile project to create an Eskom coal technology reference plant in collaboration with the implementation partner (Black & Veatch). In the process, fully intelligent piping and instrumentation diagrams (P&IDs) will be created, as well as a full 3D plant model and a boiler internal 3D model for Kusile. This has the additional benefit in that Medupi and Kusile are of similar design as far as the boilers and turbines are concerned, so this information will also be re-usable at Medupi power station.

Black & Veatch has also provided assistance in the development of the engineering framework, by providing access to their work processes and methodology. In addition to this, the division has access to the RWE framework for O&M processes. This dual approach ensures that the division will develop an engineering business process framework that supports the entire plant lifecycle from conceptual design right through to decommissioning.

In phase I of the GEDI project, extensive work was completed to create inter-operability between the SmartPlant Enterprise engineering platform and plant process and performance simulation software like Flownex. This creates an extremely powerful tool to analyse the impact of plant operational changes, and the ability to simulate occurrence events when tied up with the Generation Plant Data Store (PDS).

## Risk profile

Technical challenges	Treatment plans
Environmental challenges	Flue gas desulphurisation plant for coal-fired stations
High-pressure pipe work health deterioration	Risk-based inspection programme – introduce plant risk classification system to strategically manage replacements
High energy demand resulting in increased pressure to run plant beyond design life limits	Improve analysis and introduction of high tech plant health monitoring tools
Ageing plant	Pro-active analysis and mitigation to deal with emergent failure trends

In order to deal with these risks, structural adjustments have been made to improve internal agility and resilience. Specific skills have been dedicated to review and improve costing models and estimation techniques as well as 3D modelling and best practice technical design methodologies. Our integrated approach to these risks will be a key principle in managing them.

## Challenges

### Engineering support for maximising plant availability

Eskom is currently in an environment where plants are being run at higher load factors and with limitations on the available time to do maintenance. The situation is further compounded by the requirement to replace components at several stations that have reached the end of their design life. Engineering processes, maintenance philosophies and operating specifications are being

aligned to support a zero error requirement and thereby maximise availability.

### Engineering support on environmental challenges

Eskom's commitment to the reduction of emissions from the power station operations is dependent on enhanced engineering solutions and the implementation of cleaner technologies. Some of the areas receiving attention from engineering in support of these commitments include:

- The installation of flue gas desulphurisation (FGD) plants at the coal-fired stations. The first FGD plant will be installed at the Kusile power station, with plans in place to retrofit the Medupi plant with FGD plant.
- Upgrades will also be carried out on the particulate emission control plants at various power stations



A three-dimensional drawing of the new Medupi power station in Lephalale.

## Enterprises division

**Mandate:** Builds Eskom's assets, takes the lead role for project development for the group; and is the custodian of Eskom Enterprises (Pty) Limited and its subsidiaries. The enterprises division also offers strategic and commercial lifecycle services to the line divisions.

### Progress this year

#### Highlights

- The safety performance was excellent – an LTIR of 0,26 (including contractors)
- The following shareholder compact targets were exceeded: MW installed and commissioned, transmission lines built and MVA installed
- Two units at Grootvlei were commissioned and we upgraded three units at Arnot power station
- The Tabor-Spencer high-voltage line was commissioned
- Excellent co-operation between Eskom and contractors given the urgency of the projects
- Tremendous progress on Medupi, Kusile and Ingula

#### Challenges

- Sadly two contractors passed away
- Underspend on capital expenditure due to funding constraints
- Uncertainty about funding for projects
- Postponement of the Majuba rail project due to funding constraints
- Industrial action at Medupi, but this has been resolved through project labour agreements

### Future priorities

- Completion of RTS projects, construction and commissioning of Medupi, Kusile, Ingula and Transmission projects within budget, on schedule and meeting all quality requirements
- Plan to be certified to the ISO 14001 environmental management system standard during 2011. This will see the construction sites of Medupi, Kusile and Ingula all having certified environmental management systems

### Kobus Steyn

Acting Managing Director: Enterprises

#### Q: What factors contribute to increased costs on the capacity expansion projects?

**A:** The cost at completion components for a typical capacity expansion project is split between components that fall outside Eskom's control:

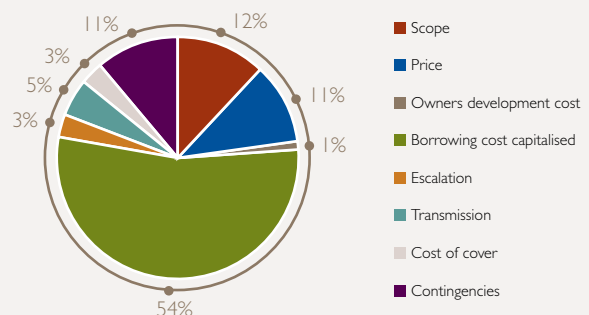
- Escalation
- Costs of cover
- Borrowing cost capitalised
- Total value of packages (price)

And those within Eskom's control:

- Total value of packages (scope)
- Owner's development cost
- Transmission
- Contingency



The contribution of the above components for the cost movements in the capacity expansion programme between 2007 and 2008 for Medupi, Kusile and Ingula combined are illustrated in the pie chart below:



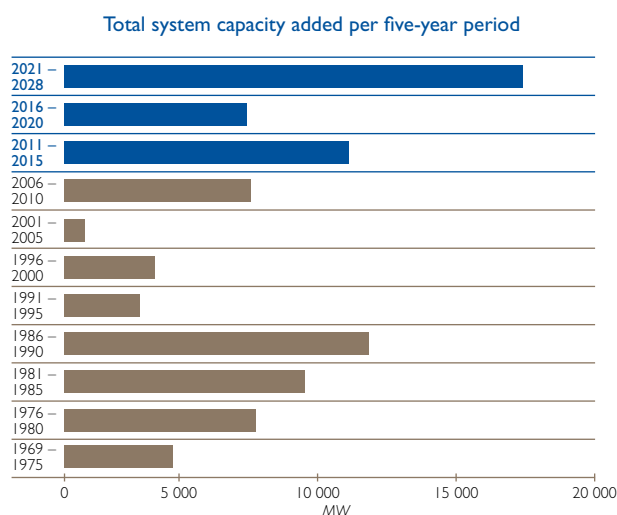
## Capacity expansion programme

The capacity expansion programme has shown remarkable growth. The significant number of commissioned projects is evidence of the progress that has been made so far. In an effort to meet the expected quality standards and deadlines, formal project assurance is used to track project schedules, cost and safety risks.

Despite the global recession, Eskom has successfully managed to negotiate and secure most of the fundamental contracts. Building a coal-fired power station is a mammoth task which takes approximately eight years (not including project development which typically takes five to seven years to produce a bankable document). As such, keeping the construction costs fixed to a specific amount is a challenge which Eskom will continue to grapple with.

So far, the following portfolios of the Eskom capacity expansion programme are on track in terms of schedule and capital expenditure: new coal (Kusile and Medupi) and the peaking projects (Ingula and Gas I projects). The return-to-service stations are not doing so well in terms of schedule but one of the RTS stations (Camden) has been completed and all units fully commissioned. Undoubtedly, the “breather” for Eskom as it walks the tightrope between supply and demand will be further enhanced when Ingula, Medupi and Kusile power stations come on line. Once completed, the Ingula pumped-storage scheme will generate electricity during peak periods specifically. The team that is building and refurbishing transmission

lines and substations is making significant inroads in strengthening the transmission network.



## Risk profile

Enterprises division has adopted the corporate risk management policy and standard as developed by group risk management and will be incorporating these principles into its business planning process. Although the CURA risk management information system will only be rolled out in the division during the 2010/2011 financial year, risks from departments and business units have been captured in this system for inclusion in the group risk management reports.

Risk	Treatment plans
Insufficient funding has resulted in selected work-packages being delayed and may further result in the projects not being delivered as required by the integrated resource plan	Closely monitoring the deployment of available funds, so as to optimise the execution programme, and is actively supporting the group finance division in its efforts to source additional funding
Delays to critical approvals (including investment decisions, regulatory approvals and granting of servitudes)	The processes for up-front environmental approval have been reviewed and project development efforts are continuing in order to prepare robust business cases for future projects
The non-placement of selected work packages (as a result of funding constraints) has created a risk that some components and equipment may be delivered ahead of their revised installation date without adequate storage facilities	Existing Eskom storage facilities will be used where possible but additional facilities may need to be constructed in order to prevent damage. Continual review of project schedules will include such scenarios in order to allow for pro-active management

The integrated risk management process has also identified aspects of financial, commercial, safety, environment, quality, information and human resource management where opportunities for business process improvements have been identified.

## Enterprises division continued

### Build project update

Project: Medupi power station

Technology: Coal, dry cooling, flue gas desulphurisation (FGD) – commissioning of FGD plant planned for 2018

Output: 4 764MW (6 × 794MW units)

Location: Lephalale

Completion date: First unit in 2012 and completion in 2015

Progress:

Eskom contracted PB Power, an international engineering consulting firm, to provide support with the execution of the Medupi power station project. A multi-package procurement strategy was selected for the project. The boiler package was awarded to Hitachi Power, the turbine package to Alstom and the generator transformer package to Siemens. The main civil works package was awarded to a joint venture company comprised of Murray & Roberts, Grinaker LTA and Concor.

The site on which Medupi is being constructed was first accessed in May 2007 to commence the site preparation activities.

As of 28 February 2010, the progress against the schedule for the procurement and commercial processes was as follows:

- Number of package contracts placed – 19
- Number of package contracts not yet placed – 13
- Percentage of contracts placed (by value) – 92%
- Progress has been made on the air cool condensers – the first phase has been completed and handed over
- The structure of the turbine hall has been completed
- Transmission integration is well underway with major focus on phase I for the substation and lines



May 2007



February 2010

Project: Grootvlei power station

Technology: Coal (return to service)

Output: 1 200MW (6 × 200MW units)

Location: Balfour

Completion date: End of August 2010

Progress

- Unit 1 went into commercial operation on 31 March 2008
- Unit 2 went into commercial operation on 27 March 2009
- Unit 4 went into commercial operation on 21 October 2009
- Unit 3 went into commercial operation on 9 March 2010
- Work is in progress on units 5 and 6



**Project:** Kusile power station

**Technology:** Coal, dry cooling, flue gas desulphurisation

**Output:** 4 800MW (6 × 800MW units)

**Location:** Emalahleni

**Completion date:** 2017

**Progress:**

Construction entered into its second year in the first quarter of 2009. The terracing (site preparation and underground drain lines) contractor continued their work and four other contractors started work during the year. The site services contractor, also built facilities for the Kusile management team and other contractors – a new construction management office, medical and fire services building and two canteens. Progress was made on the construction of a potable water treatment facility and a sewage treatment plant.

Kusile civil works joint venture (KCW JV) were awarded the main civil works contract to build the foundations for the plant, which started early in the year. They started work on the piling to support the foundations for the unit 1 boiler, turbine and air-cooled condenser. By the end of 2009 the unit 1 boiler main concrete structure (lift shaft) had reached 116m. Three 56m air-cooled condenser support columns can also be seen from the N4 and N12. The Kusile project is now a visible landmark.

A new access road to connect the site to the N4 (north of the plant) has been surveyed and clearance has started. A new water supply pipeline for Kusile from Kendal power station is being laid.

Approximately R16 billion of the budget will be spent locally. This will be spent on items such as accommodation, training and associated facilities, catering and services, laundry and supplies, fill material, and other smaller contracts for goods and services available in the Nkangala district.



May 2008



January 2010

**Project:** Komati power station

**Technology:** Coal (return to service)

**Output:** 1 000MW (4 × 125MW and 5 × 100MW units)

**Location:** Middelburg

**Completion date:** 2012

**Progress:**

- Unit 9 went into commercial operation on 5 January 2009
- Unit 8 went into commercial operation on 31 March 2009, adding an additional 125MW to the national grid
- Unit 7 is expected by the end of August 2010
- Komati is expected to be completed in 2012

## Enterprises division continued

Project: Ingula pumped storage scheme

Technology: Pumped storage

Output: 1 332MW (4 x 333MW units)

Location: Ladysmith

Completion date: 2014

Progress:

- Construction on the main-underground works is progressing well – it is 30% complete, with the excavation of over 3,5km of tunnels and 300 metres of shafts. The top section of the huge turbine/generator cavern, some 26 metres wide and 184 metres long, has also been completed. This cavern is the largest of its kind in the world
- Construction on the Bedford Dam is well underway with 14 months of the construction period completed. The dam is 60% complete. Some 700 000 of the 1 million m<sup>3</sup> of rockfill had been placed and the intake tower is 42m above foundation level
- The Bramhoek Dam is 75% complete with the expected date for impoundment in April 2010 and completion in October 2010. Some 52 000m<sup>3</sup> of the 74 000m<sup>3</sup> of roller compacted concrete has been placed
- 62,2km of roads have been handed over
- The machine hall crown tunnel, which forms the first part of the staged excavation of this large underground cavern, has been completed to its full 175-metre length. Cable anchors are being installed in the crown in preparation for opening up each side to the full 26-metre width
- Other work on the go includes excavation of the tailrace outfall structure and channel, which is about 90% complete
- Some 1,6 million tons of aggregate has been quarried and crushed to date – this is being used for the dams, main underground works and high-voltage yard



February 2008



April 2010

Project: Arnot capacity increase project (phase 2)

Technology: Coal

Output: 2 400MW (upgrade from 2 220MW to 2 400MW)

Location: Middelburg

Completion date: December 2010

Progress:

- Unit 3 achieved sectional completion on 17 December 2008
- Unit 2 achieved sectional completion on 25 March 2009
- Unit 6 achieved sectional completion on 27 March 2009
- Unit 4 achieved sectional completion on 19 March 2010
- Unit 1 achieved sectional completion on 19 March 2010
- Unit 5 is expected to achieve sectional completion on 28 March 2011



<p><b>Project:</b> Sere</p> <p><b>Technology:</b> Wind energy</p> <p><b>Output:</b> 100MW (50 x 2MW units)</p> <p><b>Location:</b> Koekenaap, West Coast</p> <p><b>Progress:</b></p> <p>Development work, including viable funding plan nearing completion and construction expected early in 2011.</p>
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### Transmission expansion projects

#### Line construction progress:

The completion dates for the transmission projects are as follows:

- 765kV: strengthening projects March 2012
- Northern Grid: November 2016
- Central Grid: September 2012
- Cape Grid: December 2012

By the end of 2010 the power delivery team will have completed the 400kV strengthening of the Nelson Mandela Bay area, as well as the 275kV and 400kV strengthening in the Polokwane area in Limpopo. The network strengthening in Johannesburg North should be complete by end 2010 and the first phase of the Vaal strengthening by end 2011, and phase 2 by end 2012.



The 765kV strengthening (operated at 400kV) of the Empangeni area will be finalised by the end of 2011, and the 765kV project from Zeus to Omega to strengthen supply to the Western Cape region by mid-2012.

The Ingula and Medupi 400kV integration into the national grid is planned for the end of 2013.

### Future of renewable projects

Project Sere (100MW wind power project on the West Coast) is progressing, with funding approved by the World Bank and other multilateral development banks. Construction is expected early in 2011.

Eskom has a portfolio of wind projects and other renewable energy projects (including wind, and concentrating solar power) at various stages of development in line with national renewable objectives and Eskom's own renewable energy strategy.

The work undertaken by the South African government to determine the potential and options for the country to reduce its greenhouse gas emissions, the long-term mitigation scenarios (LTMS), was clear about the need for renewables – together with nuclear and clean coal as options to reduce emissions from electricity generation. For renewables, the challenge is to scale up in the next few years, so that implementation at a larger scale is feasible and more affordable in future. The central problem is cost – and much depends on what technology learning happens in South Africa and in other countries.

### Benchmarking build costs globally

For comparison purposes, the costs of a power station can be measured in a number of ways, two of which are the “cost to completion” and the “levelised cost of electricity”<sup>1</sup> measures.

Capital or overnight cost (USD/kW) is defined as the cost to completion if the station was built overnight. Because of this, overnight costs exclude escalation on equipment, labour and commodity prices that could occur during construction. It also excludes the financing charges (like interest during construction) incurred while the plant is being built.

Benchmarking capital costs for the purposes of comparison is usually quoted as a USD/kW overnight cost.

Comparisons are difficult due to site-specific conditions, differing plant design specifications and the variability in market conditions from year to year. Notwithstanding this, benchmarking is a useful indication of how the cost of a plant compares to other plants.

1. Levelised costs include all costs over lifetime on plant, ie, initial investments, operation and maintenance, fuel and cost of capital.



## Enterprises division continued

Benchmarks are usually a point in time and are not always straight forward. Only high-level broad conclusions can be made, particularly if the underlying assumptions are different. Some key considerations when benchmarking are:

- to ascertain whether the technologies are comparable
- to adjust the capital costs to the same point in time viz. the same base year as the study being compared
- comparing the same capacity ie, gross or net capacity
- the use of similar components for comparison
- the consideration of contextual issues such as localisation, supply chain, economic cycles/parameters and economies of scale

International benchmarking studies for similar coal-fired plants are as follows:

- Lazard (2008) quotes a range of US\$2 550 – 5 350/kW.
- The Electric Power Research Institute (2007) quotes a range US\$2 500 – 3 700/kW.
- A CRS report (2008) noted an average overnight cost of US\$2 519/kW.

- The US Department of Energy (2008) quotes a US\$2 000 – 4 000/kW range.
- McKinsey currently estimates new European coal-fired plants at between US\$1 800 and US\$2 250/kW.

Medupi and Kusile, Eskom's new coal-fired power stations, will be between USD2 000/kW and USD2 350/kW, as calculated in FY2008/9, which is comparable to the 2008 benchmark studies with the same cost components. If calculated at the current exchange rate, the number would be between USD2 200/kW and USD2 500 even though the rand cost of the project has not changed. The impact of the exchange rate on the capital cost benchmark quoted in USD illustrates the point that benchmarking information must be used with care. Even though the plant cost estimates in rand stay the same, the R/USD rate, which is completely de-linked from the cost dynamics of the plant, creates the impression that plant cost has increased from USD2 000/kW to USD2 500/kW.

The main conclusion is that Eskom's capital expansion costs are comparable with the costs of similar projects internationally.

## Environmental performance

### Key enterprises division environmental performance indicators

	Target	2010	2009	2008	
Environmental legal contraventions (number)	0	15	24	10	●
Environmental legal contraventions reported in terms of Eskom's operational health dashboard <sup>1</sup> (number)	0	0	3	0	●
Materials containing asbestos disposed of (tons) <sup>1</sup>	n/a	73,6	279,4	n/a	
Materials containing polychlorinated biphenyls (PCBs) thermally destructed (tons)	n/a	1,2	1,4	n/a	

1. 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. Managing directors can escalate any significant environmental legal contravention to the OHD.
2. Quantities of waste disposed of at registered waste sites

### Highlights

- Effective management and compliance with the conditions of environmental authorisations

### Challenges

- Fifteen cases of non-compliance with environmental requirement (2009: 24). Waste, water and biodiversity management in particular represent areas for improvement.

### Local content of capacity expansion contracts

One of the components of Eskom's major build contracts is the promotion of local industries by stimulating local expenditure on the new power stations in terms of manufacturing components, such as, but not limited to, boilers and turbines.

We can already report significant investment in new manufacturing and training facilities:

- a new boiler fabrication facility is being built in Nigel specifically for Medupi
- training facilities are being set up in Pretoria for pressure part manufacturing
- a training school is being established in Wadeville for structural steel manufacturing

Percentage of local content in capacity expansion contracts placed during the year	73,9% <sup>RA</sup>
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RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

LA – Limited assurance provided by the independent assurance provider (refer page 169).

The following components are already being manufactured locally: air-cooled condensers, major pumps, heaters, main cranes, LP outer casings and feed water tanks.

Our main contractors, in line with their CSDP commitments, have cumulatively subcontracted from the inception of the build programme some R51,12 billion locally – R12,7 billion with local suppliers; R5,81 billion with black women-owned businesses and R4,6 billion with small and medium enterprises. This translates to over 52% of the build programme spend awarded to local contractors and over 45% of the local portion being shared with empowerment contractors.

### Stimulating economies around capacity expansion projects

Considering that an average six-unit coal-fired power station takes up to eight years to build, the impact on the communities around these projects is massive. The Medupi, Kusile and Ingula projects have already shown the following positive spin-offs for the adjacent communities:

- it is expected that the Medupi project will impact the Lephalale GDP by about 95%. Kusile will impact the Delmas town GDP by around 25%. The Ingula projects will impact the Ladysmith town GDP by about 1%
- more than 3 000 skills will be developed through partnerships with suppliers and educational institutions
- there are about 7 500 people currently on site at Medupi – of which around 4 500 are from Lephalale
- at Kusile we have employed some 1 625 people from the local area
- some 1 300 local people are working on the Ingula project
- at Medupi the MPS joint venture plans to invest R10 million in a brick-making plant to be owned by local black women
- the build projects are impacting all the following sectors in the communities around them: catering, laundry, housing, house maintenance, hotels, entertainment, training facilities, security, schools, policing, churches, medical care, banks and financial services, shops and transport

### Training and development

Enterprises division competes with utilities in major industrial countries for rare skills, therefore constant focus is being directed towards resource planning to ensure that resources across projects are optimally leveraged and that the appropriate skills are acquired, developed and nurtured.

Active focus is directed towards the following in order to ensure effective skills management:

- the development of young professionals through structured mentoring and coaching programmes

- enhancing learnerships and establishing learnership programmes in skills areas that have been identified as core and critical to the business
- involvement in community development and upliftment through youth programmes, Eskom mathematics and science school projects and the awarding of bursary schemes
- enhancement and development of existing skills base within the division through structured training curricula and programmes such as the Eskom learning faculty with a wide variety of training programmes
- tertiary education support programmes
- development of a strategy to maximise the use of South African resources for welding on-site
- ensure skills transfer from contractors and consultants to Eskom employees

There are currently 220 engineers-in-training, of which 190 graduated in January 2010. About 400 Eskom bursaries have been allocated, of which 99% are technically oriented – engineering, civil, quantity surveyors and control and instrumentation.

Definite plans are in place to liaise with secondary schools and tertiary institutions to ensure identification of the required talent and skills and to ensure that training programmes are aligned and relevant.

The cumulative learners recruited since inception of the capacity expansion programme up to and including the first quarter of the 2009/10 financial year is 1 502 against a target of 4 992.



#### Did you know?

- Medupi will require enough concrete to build four Greenpoint stadiums
- 71 tons of steel was used to reinforce the foundation for the lift shaft
- It took 575 tons of steel to build the lift shaft
- Parts and cement weighing the same as seven super tankers will be transported over land
- The total height of the lift shaft is 119,55m
- The lift shaft was completed on 4 August 2009, three days ahead of schedule despite stoppages caused by the strike action that lasted eight days
- The Ingula pumped-storage scheme consists of an upper and lower dam, both having approximately 22 million m<sup>3</sup> water supply. The dams, 6,6km apart, are connected by underground waterways, through an underground powerhouse, which will house 4 x 333MW pump turbines





# Customer Network Business

## 135 Overview

### 140 System Operations and Planning division

- 141 Key focus areas in 2010
- 141 Risk profile
- 142 Status of the power supply system in South Africa
- 142 Power conservation programme
- 143 Ten-year Transmission development plan (TDP)
- 144 Demand and energy forecasting
- 145 Integrated resource plan

### 146 Transmission division

- 147 Risk profile
- 147 Transmission system performance
- 148 Benchmarking Transmission's performance
- 148 Maintenance and refurbishment
- 149 Environmental impact assessments and land acquisitions
- 150 Copper and pylon theft
- 150 Contracting with SADC utilities
- 151 Westcor
- 151 Key customer update
- 151 Environmental performance

## 153 Distribution division

- 153 Future priorities
- 154 Risk profile
- 154 Distribution system performance
- 156 Demand-side management (DSM) 2010
- 158 Customer service
- 158 Tariffs
- 160 Management of total energy losses
- 161 Free basic electricity (FBE)
- 162 Electrification
- 162 Environmental performance

## Customer Network Business

Erica Johnson

Chief Officer: Customer Network Business



**Q: Why do residential customers pay more for electricity than industrial customers? Is it true that residential customers cross-subsidise industrial customers?**

**A:** It is not true that industrial customers are subsidised by residential customers. There is a common misconception that residential customers subsidise industrial customers. This is understandable when prices are compared in isolation – 29 cents per kWh on average for industry as compared with 64 cents per kWh for suburban households. However, direct comparison in this manner is incorrect – the cost of supply must be taken into account. It costs substantially less, per kWh, to supply a large industrial customer than a household, the former currently costing an average of 27 cents versus 68 cents per kWh for the latter. The subsidisation is therefore the other way around.

**Mandate:** Accountable for the network and customer services business in Eskom. This entails the planning, operations and maintenance of the transmission and distribution network, the management of the customer base, long-term electricity capacity planning and the revenue stream.

### Progress this year

#### Highlights

- Eskom is ready for the 2010 FIFA World Cup™
- A substantial increase in the solar water heater rebates offered by Eskom, in some cases up to 120%, is set to bring environmentally friendly solar-heated geysers within the financial reach of thousands of South Africans wishing to reduce their home energy costs

#### Challenges

- Unacceptably high levels of theft of equipment and electricity is affecting plant performance and increasing cost
- Non-payment by large and residential customers
- Employee security is becoming an issue

### Future priorities

- Facilitating the participation of independent power producers at local and regional level
- Vibrant energy trade in sub-Saharan Africa
- Intensified demand management and regional inflow of green power
- Acquiring the right skills
- Improved asset management
- Integration of energy and power delivery planning into Eskom's strategic planning
- Step changes in safety and security
- Integrated demand management across all Eskom divisions

## Financial results

R millions	Transmission and System Operations and Planning	Distribution	Customer Network Business
2010			
• Total revenue	<b>29 492</b>	<b>43 577</b>	<b>73 069</b>
• Profit for the year	<b>2 080</b>	<b>290</b>	<b>2 370</b>
• Total assets	<b>28 438</b>	<b>43 995</b>	<b>72 433</b>
• Capital expenditure	<b>7 143</b>	<b>7 079</b>	<b>14 222</b>
2009			
• Total revenue	20 548	32 542	53 090
• Profit/(loss) for the year	(6 596)	1 288	(5 308)
• Total assets	22 504	38 372	60 876
• Capital expenditure	6 665	6 615	13 280

## Overview

The Customer Network Business (CNB) was established in February 2008, as a result of the need to sharpen our operational focus on security of supply.

CNB's 19 615 employees ensure that 390 338km of power lines, 3 500 substations, and 344 369 transformers deliver electricity optimally to our approximately 4,5 million direct customers. The business comprises Eskom's customer services, network asset management, system operations and capacity planning functions organised into three main divisions, namely, System Operations and Planning, Transmission and Distribution. A dedicated project office was also established to oversee Eskom's preparations for the 2010 FIFA World Cup™ from a security of supply perspective up to and including our areas of responsibility.

The CNB footprint spans the country and requires appropriate levels of resources and indicators to manage risk in an effective manner.

## Technical system performance

International performance benchmarks indicate that Transmission and System Operations and Planning are within top quartile performance, but Distribution system performance requires improvement. In this regard, urgent attention is being given to reducing the number and duration of customer interruptions, particularly in rural areas where huge distances covered by technical staff to repair faults lead to long restoration times.

## System security

The country's electricity system is under pressure. We have a low reserve margin, and as long as this situation prevails, we will always be at risk of supply interruptions.

However, the power system has performed well over the past year, and there has not been an incident of load shedding. Indeed, more than two years have passed since the devastating load-shedding incidents of 2008. We are committed to ensuring that the national electricity supply situation remains stable and that the electricity necessary for the country's growth and advancement is provided. The reduced electricity demand levels in 2009, mainly due to the economic downturn, have since been returning to normal activity levels. In fact, the demand for electricity is averaging about 9% higher in March 2010 than it was in March 2009 and is in line with 2007 levels.

The tight system conditions are expected to continue during the remaining maintenance months, but will improve as all power stations come back into operation during the winter season. This winter will also coincide with a special event, the 2010 FIFA World Cup™. There is a very low likelihood of load shedding prior to and during the 2010 FIFA World Cup™, but we need to be vigilant as South Africans throughout this period. Thereafter, the system will be extremely tight, as the power station maintenance season starts again.



*Eskom workers maintain around 390 000km of power lines across the country.*

## Customer Network Business continued

The system challenges we face until the new capacity comes into commission will be that of meeting the demand while creating maximum opportunities to undertake generation plant maintenance. This will require a tight trade-off in terms of controlling costs with respect to usage of the expensive open-cycle gas turbine (OCGT) stations. The indications are that more OCGT usage will be required over the forthcoming years.

### System adequacy

Ensuring that the system adequately meets the future electricity needs of the country for economic growth and prosperity has shifted from only increasing supply-side resources to including intensive demand management in the process. Ensuring delivery on increasing supply-side resources and managing demand requires an integrated approach to planning with focused interventions.

### Integrated resource planning

The Department of Energy (DoE) is accountable for the country's energy plan and the related electricity generation capacity plan – the integrated resource plan (IRP). The system operator within the Customer Network Business provides the resources to develop the plan under the policy guidance of the DoE. Decisions on how much capacity is needed, who should build it, the technology to be adopted and the publication of the plan lie within the Energy Ministry. The first IRP was published at the end of 2009. The second IRP is currently under development and is expected to be published during the second half of 2010. This is an opportunity for active engagement for South Africa on economic growth projections, electricity demand projections and technology choices balanced against affordability.

### Energy efficiency

Energy efficiency and conservation are essential. In all our stakeholder interactions, we are stressing the importance of saving electricity wherever possible. This will assist with the constraints on the power system and help customers run their businesses and homes more efficiently and at a lower cost. Eskom will play its role in assisting South Africa to migrate to an energy conserving culture. In the short to medium term energy efficiency and conservation are essential for power system stability. This conservation drive presents a good opportunity for long-term climate change support by reducing the carbon footprint from electricity production and delivery.

### Integrated demand management project

Eskom will aggressively pursue demand management as a key solution to manage the projected shortfall in the next few years until the next new baseload power stations start coming online from 2012. This includes the reorganisation of all demand management activities into a single business division.

Eskom is in the process of developing and implementing a number of demand management initiatives. Firstly, an extensive demand-side management (DSM) programme drives energy efficiency by rolling out new technologies and encouraging customer behaviour change through communications and awareness campaigns. Secondly, initiatives such as demand market participation, the utility load management, and advanced metering infrastructure are targeted at managing load – with secondary energy efficiency benefits. Inherent in the Eskom suite of demand management solutions is the power conservation programme – a risk mitigation solution that could be implemented in a short space of time should the need arise.

### System resilience

The electricity crisis of 2008 and the fact that it will take several years to regain a healthy reserve margin have highlighted the need to target a range of measures to increase the resilience of the system and society as a whole.

Some of the key areas on which Eskom is focusing to build resilience are defined as the ability to:

- Identify, anticipate and adapt rapidly to vulnerabilities arising from changes in the internal and external environment.
- Operate at elevated levels of stress without failure for extended periods of time.
- Respond to a shock by containing the impact (severity/duration) of the event.
- Recover quickly in a co-ordinated manner.
- Implement learning from near misses and recovery experiences.

Significantly increasing situational awareness and the ability of the organisation to visualise operational trends and emerging risks at the frontlines of the organisation are critical.



Eskom has embarked on an intense resilience building initiative and has implemented the following:

- The establishment of regional reliability teams, which are aimed at developing a consolidated view of supply risks and societal resilience in each of the Eskom supply regions. This focused risk management (across all Eskom divisions operating in the region) significantly increases the ability to identify and respond to current and emerging vulnerabilities.
- The development of a national code of practice, which addresses load shedding and curtailment under system emergencies, restoration of supply after a regional or national blackout, the identification and treatment of critical loads and essential load requirements of customers.
- Undertaking emergency simulations and exercises – both at a technical level and multi-stakeholder exercises (for example, communication and interaction with stakeholders) to deal with power outages.

The system resilience drive within Eskom is ultimately aimed at ensuring that there is a high degree of emergency preparedness to be in a position to respond to events while managing a constrained power system.

### 2010 FIFA World Cup™ readiness

The successful delivery of a reliable, uninterrupted flow of electricity for the FIFA 2010 World Cup™ has been a major focus for the last three years. A dedicated team has driven Eskom's internal preparations and co-ordinated the broad-based collaborative efforts and partnerships required for an event of this magnitude. Potential risks to supply continuity were identified and addressed by the team. Ten "project platforms" ensured that the entire electricity supply-chain from power station to stadium would operate effectively and that all risks were identified and managed. The project platforms are as follows:

1. *Technical and Capacity National*, which co-ordinates efforts across Generation, including Nuclear, Primary Energy, System Operations and Transmission.
2. *Technical and Capacity SAPP*, which co-ordinates efforts between Eskom and our partners in the Southern African Power Pool.
3. *Technical and Capacity Regional*, which co-ordinates efforts across Transmission, Distribution, the municipalities and host cities.

4. *2010 Marketing and Communication*, which co-ordinates and leads the internal and external Eskom 2010 marketing and communication initiatives.
5. *2010 DSM*, which links into the overall Eskom DSM programme and seeks to fast-track specific DSM initiatives for the event.
6. *2010 Greening*, which co-ordinates the overall Eskom greening contributions in support of the Department of Environmental Affairs Greening 2010 initiatives.
7. *2010 Security*, which co-ordinates the overall Eskom 2010 security-related initiatives and efforts with the various security structures and agencies, such as SAPS.
8. *2010 IT*, which co-ordinates the overall Eskom 2010 IT support-related initiatives.
9. *2010 Telecommunications*, which co-ordinates the overall Eskom 2010 telecommunications-related initiatives.
10. *2010 HR*, which co-ordinates the overall Eskom 2010 HR-related initiatives.

### Stakeholder collaboration

Eskom, through the Association of Municipal Electricity Undertakings (AMEU), was a founding partner and catalyst for the establishment of the 2010 Electricity Supply Industry (ESI) forum, which consisted of Eskom, 2010 FIFA World Cup™ host municipalities, the Department of Energy, the FIFA Local Organising Committee, the National Energy Regulator of South Africa (NERSA), and National Treasury. The forum assesses the total electricity requirements of the 2010 FIFA World Cup™, addresses challenges and monitors the status of preparations.

SAPP members will undertake all necessary maintenance on their generators prior to the event, so ensuring that maximum plant capacity is available in southern Africa during the event.

Simultaneously, considerable effort has been put into ensuring that all members of the public are aware of the need to conserve energy and promote energy efficiency for the duration of the event.



See [www.eskom.co.za/annreport10/008.html](http://www.eskom.co.za/annreport10/008.html) for detail on the divisional contributions to the project.

## Customer Network Business *continued*

### Energy loss management

Due to the nature of the network, technical losses are an inherent feature of power systems. There is continued focus to keep technical losses to a minimum. For the financial year, the overall energy losses were 8,45% against a budget of 8,76% of generation supplied and imported energy. The total energy losses for the Distribution network and Transmission network are 5,87% and 3,27%, respectively. This distribution figure compares favourably with the international benchmark. Continued efforts are made, as far as possible, to manage losses to minimum levels.

Theft has regrettably broadened from cables to transmission tower components and other equipment. Municipalities are experiencing a similar challenge, which points to the need for a country-wide security initiative to reverse the current trends. We estimate non-technical losses to be between 1,3% and 2,1% of total energy losses and 1,5% to 2,4% of distribution energy losses.

### Renegotiating long-term price agreements

Eskom entered into long-term negotiated pricing agreements (NPAs) with large industrial customers during the period of excess capacity and low-cost electricity in South Africa in the nineties, with a view to stimulating economic development in the country and the SADC region. These agreements were designed on a risk-sharing basis over the contract term. The current environment within South Africa has made it necessary for Eskom to reflect on its experiences with NPAs and to review the overall expected contribution from the existing NPAs.

Of concern to Eskom was the considerable deviation of the contract price of these NPAs from the standard tariff going forward, resulting in significant under-recovery. In addition to the sustainability of these contracts, the embedded derivative volatility arising from most of these agreements also prompted a re-examination of these agreements.

The key challenge in addressing these concerns was to engage the counter-parties to amend the agreements, as the counter-parties had no contractual obligation to renegotiate the current price levels. The counter-parties willingly engaged Eskom to find a solution. We are pleased to confirm that a new pricing addendum has been concluded for one of the negotiated pricing agreements which is effective from 1 March 2010, while terms sheet have been agreed for the other contracts.

Eskom is in negotiations with the parties to finalise these contracts during 2011.

The Finance division report contains further details on the results of the negotiations on page 41.

### Customer service levels

Key Sales and Customer Services (KSACS) customers are largely serviced through customer executives allocated per region. Interaction via face-to-face and telephonic means is important to ensure that Eskom is continually made aware of the key industrial customer issues so that they are dealt with timeously. Regular surveys are conducted with KSACS customers to assess issues ranging from communication to service quality. For this financial year, the KSACS customer service level was 98% against a target of 103%. This performance is currently under review, and new strategies are being developed to improve this figure.

Distribution customers are serviced through call centres, walk-in centres, customer executives and electronic channels such as internet and cellphone SMS. Once again, this interface is important for understanding and resolving customer challenges in a timeous manner. Customer service in the Distribution environment is measured through the customer service index, and for this financial year, 85,05% was achieved against a target of 82,65%. However, the Customer Network Business is currently looking at new strategies to further enhance the current customer service levels. A project to look at integrated customer strategies that are comparable to best practice has been initiated.

Customer service performance levels are in line with historical performance, but the results also show that much work is needed to rebuild Eskom's reputation following the load-shedding incidents in 2008 and the recent electricity price increase announcements. Improved communication with customers and the public regarding the outlook for security of electricity and electricity prices in the country is essential.

### Security of our staff

We have staff that experience varied challenges from a security point of view, specifically when dealing with situations of illegal connections. Staff members are required to travel to remote sites, during periods of outages and other technical problems. This operational requirement places them in danger of armed robbery, vehicle hijacking and violent attacks. The number of incidents in this area is not acceptable. Interventions by security forces are required to mitigate this situation.

### Future focus areas

Our resolve is to manage the power system to ensure no load shedding despite the current constraints. The acceleration of demand

management programmes and regional inflow of power will be crucial to system security and to diversify the energy mix in South Africa. Linked to this is the focus on strengthening the energy trade opportunities in sub-Saharan Africa.

Given the long-term capacity requirements for a secure electricity system of new players entering the electricity market is supported. Eskom is facilitating the participation of independent power producers at local and regional level by establishing power purchase programmes and engaging in the debates on an appropriate industry structure for South Africa.

Given that Eskom's Distribution and Transmission networks are ageing, the implementation of network infrastructure investment plans is key to meeting the increasing demand and remaining in line with regulatory requirements. We are in the process of developing reliability criteria for the Distribution network. This will require engagements with NERSA in order to update the Distribution code regulations. A discussion with NERSA on the appropriate funding levels to meet the Transmission and Distribution regulatory requirements will also be a priority.

Electricity and equipment theft is an ongoing focus area. Eskom requires the support of the South African security services to partner with us more vigorously to combat this challenging issue.

We aim to ensure that the lessons we learn as we navigate our way through a constrained environment both financially and technically will make us resilient while we deal with these challenges.

Finally, as Eskom and South Africa, we need to intensify our focus on skills development initiatives to deliver on our mandate now and into the future.

## Conclusion

I wish to thank all the staff for their tireless efforts in carrying out their duties. They are displaying high levels of commitment despite the uncertainty and Eskom's reputational loss. I encourage Eskom employees to continue taking pride in their work, serving our customers and country diligently ensuring that the lights stay on and Eskom stays in business.



*As a key supplier for the 2010 FIFA World Cup™, Eskom has been energising its employees towards strengthening the system for 2010.*

## System Operations and Planning division

**Mandate:** Provides an integrative function for the reliable development, operation and risk management of the interconnected power system.

### Progress this year

#### Highlights

- We have not had load shedding since late April 2008, which has required continual co-ordination between System Operations and Generation
- Completion of a detailed capital investment plan, integrating all aspects of the business and indicating the key decisions that have to be made in 2010 to ensure security of supply through to 2028
- The successful integration of several units from the return-to-service programme
- The enhancement of the resilience teams in the regions and the emergency preparedness protocols in Eskom, greatly improving Eskom's ability to anticipate, respond and recover from technical system shocks
- Power purchase agreements signed with independent power producers

#### Challenges

- Funding constraints delaying investment required to achieve an adequate power system

### Future priorities

- Reframing the energy efficiency drive to create a positive message of sustainability, affordability and enhancing security of supply
- Creating an enabling environment to introduce new players and technologies into the electricity market
- No load shedding until 2012
- Ensure that our planning processes provide a coherent and clear decision framework to meet reliability standards and strategic priorities
- Sustainable skills development
- Financial sustainability
- Invest in the Transmission network to ensure compliance with the NERSA approved reliability standards progressively

### Kannan Lakmeeharan

Managing Director: System Operations and Planning



#### Q: How are you preparing for an independent system operator (ISO)?

**A:** We are ensuring that all stakeholders have information and a common fact base on the enablers for an ISO and what form and shape such an ISO could take. Position papers have been prepared for Eskom and external stakeholders on a possible transition path to a desired end state. A project team has also been set up to deal with change management and process management once decisions on the transition path have been made. Internally we are focusing on regulatory, financial and governance ring-fencing of the system operator:

As the current system operator we are positioned to operate as the single buyer of electricity from IPPs, and now that funds are being made available we will be signing up more IPPs in future.

## Key focus areas in 2010

- Ensuring a fault-free 2010 FIFA World Cup™ and ensuring that the requirements for a secure power system to 2012 are understood and implemented
- A 10-year transmission development plan that is made available for public engagement
- Supporting the Department of Energy in developing the IRP
- Supporting the implementation of an energy conservation scheme
- Increasing the resilience of our technical systems and processes
- Developing the requirements for Eskom's technical investment plan to support the direction of the integrated resource plan

## Risk profile

Risk	Treatment plans
Execute a robust IRP planning process to ensure an adequate expansion programme	<ul style="list-style-type: none"> <li>• Together with Department of Energy engage with stakeholders to resolve governance framework, verification of assumptions and agreement on process</li> <li>• Develop an integrated decision-making framework that allows us to be flexible and nimble</li> <li>• Develop an open database to provide energy planning data for consistency in independent studies and for verification</li> <li>• Develop a related investment plan to support the flexibility and robustness of the IRP process</li> </ul>
Sufficient integration and executability of long-term expansion plans combined with investment leading to an ability to meet customer needs	<ul style="list-style-type: none"> <li>• OEM and construction capability assessment through integrated supply chain management: through supply chain management most of the long lead time equipment requirements have been communicated to suppliers and agreements are being put into place. This still has to be done in terms of communicating Transmission's construction requirements</li> <li>• Asset creation process enhancement, monitoring and reporting</li> <li>• Sustainable funding model for Transmission investment</li> <li>• Alignment of new Transmission planning process with the new IRP process</li> <li>• Align Distribution master plans</li> </ul>
Maintain coal quality, coal stockpile days and coal handling as a result of logistical constraints leading to reduced plant availability	<ul style="list-style-type: none"> <li>• SO&amp;P is in constant contact with Generation production and sales regarding outages on generation units and liquid fuel usages. Studies are constantly being done as new situations arise</li> <li>• Assist with the change in operating regime to allow recovery of fuel supply</li> <li>• SO&amp;P to engage with Primary Energy and Generation to raise the profile of control measures and treatment plans</li> </ul>
Manage the reserve margin to respond to the real-time demands of the power system to have the ability to respond to customer demands	<ul style="list-style-type: none"> <li>• Development of an alternate Eskom PCP strategy to develop internal capability</li> <li>• Continuation with the voluntary PCP</li> <li>• Sign up MTPPP power purchase agreements</li> <li>• Integration with the integrated demand-management programme</li> <li>• Project to ensure/resolve to do no load shedding</li> </ul>
Avoid the loss of supply capability at Transmission substations due to equipment loss or failure and/or operating errors leading to load shedding and brown out in the worst case	<ul style="list-style-type: none"> <li>• Work towards ensuring the reliability and security of supply at all Transmission substations</li> <li>• Adequate spares levels maintained</li> </ul>

## System Operations and Planning division *continued*

### Status of the power supply system in South Africa

Demand has returned to 2007 levels in March 2010. If energy efficiency measures are not put in place by the winter of 2010, the power system will be tight beyond winter 2010 and in 2011 as we go back into our generation maintenance season. The risk of interruptions increases.

While the peak demand during the winter of 2009 was 35 850MW, the current forecast peak for 2010 is 37 240MW.

### Medium-term outlook – up to 2017/18

Medupi and Kusile power stations must be completed. A third baseload power station will possibly be needed by 2017. Decisions have to be made in the next year to ensure that water and transmission network infrastructure is planned for such a station.

Continued focus on energy efficiency to maintain a healthy reserve margin and to slow the rate of increase in the demand for electricity, could enable us to delay the need for the third baseload station and allow the development of other technologies to be used. The role of nuclear and renewable energy to fulfil the energy needs of the country in the future will have to be concluded in the coming two years.

Under most scenarios, the adequacy of supply in 2012/13 is a serious concern. DSM and energy efficiency are essential over the next three years to ensure system adequacy. It is estimated that there is an opportunity of an 8% to 15% reduction in energy usage in the next five to 10 years through energy efficiency initiatives.

If worse than planned generation performance occurs (from 86% to 84% availability) this would result in higher risk and reduced system adequacy especially between 2011 and 2013. Relatively high load factor supply-side options are needed in this timeframe (such as co-generation).

### Long-term outlook

Current net installed generation capacity in South Africa and contracted imported generation amounts to around 43,5GW. Current expansion plans are based on the moderate growth

scenario (averaging 3% electricity consumption growth rate over a 20-year period). This may change as part of the IRP development process.

In order to power the South African economy and ensure an adequate reserve margin, 20GW of additional generation capacity is required by 2020 and up to 40GW by 2030. Eskom's current capacity expansion programme is well advanced and together with IPP projects could contribute at least 14GW by 2017 to this requirement. Eskom's older coal-fired power stations will probably start to be decommissioned from 2023 onwards. It is possible that up to 50GW of capacity up to 2030 will have to be built or sourced from demand-side options to cater for the increase in demand and to replace the decommissioned plant.

### Power conservation programme

In January 2008, Eskom was requested by the then Department of Minerals and Energy (DME) to develop the power conservation programme (PCP) on behalf of national government to assist in addressing the energy challenge by creating space to do essential generation plant maintenance and allow space for growth.

The key components of PCP include the energy conservation scheme (ECS) to reduce energy consumption by approximately 10% and electricity growth management to manage new electrical connections in line with available supply capacity. While the global economic downturn of the past two years created some breathing space, national consumption has returned to the "pre-economic crisis" levels and the security of supply is once again threatened unless specific strategies, such as PCP, are implemented to create additional space.

PCP can be implemented in a relatively short space of time (9-12 months from finalisation of the rules) to provide the bulk of the required demand reduction. In addition, PCP will provide the pricing signal to ensure the uptake on other solutions such as demand-side management, particularly among larger consumers. Most of the large consumers in the target market of the proposed first phase are preparing themselves for the implementation of PCP, and prefer this route in order to ensure security of supply. Specific discussions have been held with the Energy-intensive User Group in this regard.

### NERT process

As part of addressing the energy challenges, government set up the national electricity response team (NERT) under the leadership of the Department of Energy. Its objective is to co-ordinate and facilitate all implementation activities that are taking place as part of the response to the electricity challenge.

Eskom handed over the accountability for PCP finalisation and implementation to the Department of Energy during the second half of 2008. In turn, the Department of Energy requested NERSA to promulgate rules for PCP.



Refer to [www.eskom.co.za/annreport10/009.html](http://www.eskom.co.za/annreport10/009.html) for details of how Eskom has prepared for PCP.

### Ten-year transmission development plan (TDP)

The South African Grid Code requires that Eskom annually publishes a transmission development plan, outlining the plans to expand and develop the network into the future, as well as indicating the level of capital expenditure to be invested in the South African transmission network. The TDP is based on assumptions of new demand in various parts of the country, as well as the proposed new power stations. It is therefore important to update the plan periodically as new information comes to light. In addition, a stakeholder forum is held annually to disseminate the TDP to key stakeholders.



*Liveline teams maintain high-voltage lines under live conditions to reduce inconvenience to customers.*

## System Operations and Planning division continued

### Major TDP transmission assets expected to be installed

TDP new asset	Total
HVDC lines (km)	1 700
765kV lines (km)	6 770
400kV lines (km)	8 355
275kV lines (km)	831
Transformers 250MVA+	103
Transformers <250MVA	29
Total installed MVA	67 840
Capacitors	19
Total installed MVar	2 366
Reactors	56
Total installed MVar	14 600

A significant number of new transmission lines are expected to be added to the system – over 6 700km of 765kV and over 8 300km of 400kV lines over the ten-year TDP period. This is due to the major network reinforcements required for the supply to the Cape (south and west grids) and the supply to the east grid. The integration of new power stations in the developing Limpopo west power pool (Medupi and potential future coal stations – Coal 3 close to Matimba and a potential IPP in Botswana) also requires significant lengths of transmission line as the power stations are very remote from the main load centres. New HVDC power lines will be required to transport the electricity from any future power stations in the Waterberg area to other parts of the country.

The large number of 400kV transmission lines is also the result of a more meshed transmission 400kV network to provide higher reliability within the grids and thus improve the levels of network security.

These new transmission lines form part of the long-term strategy to develop a main transmission backbone from which regional power corridors can be supported. These power corridors will connect generation pools to each other and to the major load centres in the country. This backbone and regional power corridor network

structure will allow for the increasing system demand to be supplied and the power from new power stations to be integrated more efficiently into the transmission network and distributed where required.

### Demand and energy forecasting

The demand forecast is the prediction of future electricity requirements by the electricity users covered within the scope of the IRP.

The long-term forecast covers the total requirement for electricity to be generated to meet the needs of South Africa, including the needs of neighbouring states and international customers, as contracted for in accordance with cross-border co-operation protocols.

The long-term forecast includes the total energy requirements of all consumers, irrespective of whether or not they do self-generation or co-generation. Demand-side initiatives that are planned (not yet realised) are excluded from the forecast, since these are handled in the planning process.

The annual energy and demand forecasts are used as one major input to the electricity generation planning process, essentially setting energy and demand requirements that have to be met with the planned-for power generation resources.

The long-term forecast for electrical energy is the key input from which the long-term demand forecast is derived. The long-term energy forecast and the long-term demand forecast determine the energy and capacity requirements, respectively, that must be met through the integrated resource plan (IRP).

The output of the forecasting process is the total annual energy requirement for more than 20 years, inclusive of losses, that will require electricity production from existing and future generation resources. The moderate load forecast is flanked by a high and low forecast, reflecting the cone of uncertainty.

The official energy forecast submitted as part of the MYPD 2 process including exports is shown below:

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Forecast sales (TWh)	215	218	229	236	242	250	261
Percentage sales growth	(4,3)	1,3	5,1	2,8	2,7	3,4	4,2



The official energy forecast is used as one of the major inputs into the hourly maximum demand forecast model to generate annual maximum (peak) demand forecast.

The other major inputs to the hourly maximum demand forecast model are the electricity demand profiles. These are developed using the historical customer electricity usage and modelled to determine the expected demand profiles per sector using load research models and expertise.

### Integrated resource plan

On 5 August 2009 the Department of Energy promulgated, in terms of the Electricity Regulation Act, the electricity regulations

on new generation capacity. The regulations clarify the role of the Department of Energy as the energy planner who is therefore accountable for electricity generation planning in South Africa. The Department of Energy gazetted the first integrated resource plan (IRP) on 29 January 2010.

The IRP requires the completion of the current Eskom generation build programme and the introduction of independent power producers (IPPs). It needs to meet the needs of a growing economy and be consistent with government's energy policy (such as emission targets, the use of renewable energy, nuclear energy and the promotion of an energy efficiency culture in South Africa).

### The IRP reflects capacity and DSM requirements for 2009 to 2013 in MW:

	Return to service	Medupi	Kusile	Ingula	DoE IPP	MTPPP REFIT	Wind, solar	Other	Total capacity	DSM
2009	772	–	–	–	–	–	–	–	772	432
2010	683	–	–	–	–	343	150	30	1 206	923
2011	404	–	–	–	1 020	518	–	55	1 997	1 343
2012	–	738	–	–	–	284	–	–	1 022	2 118
2013	–	738	723	666	–	300	–	–	2 427	3 056
<b>Total</b>	<b>1 859</b>	<b>1 476</b>	<b>723</b>	<b>666</b>	<b>1 020</b>	<b>1 445</b>	<b>150</b>	<b>85</b>	<b>7 424</b>	

The options for IPPs and co-generation included in Eskom's MYPD 2 application and the subsequent approval by NERSA of the allowed expenditure for IPPs is shown in the tables below:

Capacity (MW)	2011	2012	2013
MTPPP	417	417	417
REFIT	100	445	725
<b>Total</b>	<b>517</b>	<b>862</b>	<b>1 142</b>

Allowed expenditure (R million)	2011	2012	2013
MTPPP	2 246	2 416	2 480
REFIT	58	1 883	3 339
<b>Total</b>	<b>2 304</b>	<b>4 299</b>	<b>5 819</b>

The IRP 1 also includes the Department of Energy OCGT IPP (1 020MW) in 2011 and 300MW of MTPPP/REFIT in 2013. The costs associated with these options were not included as part of the allowed expenditure for IPPs and co-generation in the MYPD 2 and therefore do not feature in the tables above.

Eskom has publicly stated that the electricity needs of the country can only be met if IPPs are introduced. At the end of 2009 the regulator approved the mechanism in terms of which Eskom may recover the cost arising from purchases from IPPs and, on 24 February 2010, the regulator furthermore approved, as part of the multi-year price determination 2 (MYPD 2), the funds that Eskom may employ during the next three financial years to purchase power from IPPs.

Eskom is awaiting finalisation of the enabling environment, which includes *inter alia*: an appropriate government support package, determination of the "buyer" in terms of the new generation regulations, a guideline on the targets for each of the renewable technologies set out under the IRP and the NERSA rules for evaluation.

Once a fully supportive, enabling environment is in place, Eskom will be in a position to run a procurement process for the REFIT programme including all other IPP programmes as prescribed in the IRP by the Minister of Energy (in accordance with the new generation regulations). The first MTPPPP contracts are currently close to being signed.

Further details on the IRP are reflected in the regulatory and legal framework section on page 89.

## Transmission division

**Mandate:** Optimally operates and maintains the lifecycle of the South African transmission network, while managing key customer relationships and trading energy internationally.

### Progress this year

#### Highlights

- Safety record
- Improved stakeholder engagement through forums with key customers
- Environmental legal compliance
- Continued co-operation with SADC countries
- Apollo DC/AC converter upgraded – now world class
- Progress was made with the implementation of the voluntary power conservation programme (PCP) with our key industrial customers
- Term sheets have been agreed for the majority of the national pricing agreement contracts and Eskom is negotiating with the parties to finalise the contracts
- Term sheets have been agreed for the majority of the national pricing agreement contracts and Eskom is negotiating with the parties to finalise the contracts
- Mozal pricing agreement successfully renegotiated

#### Challenges

- The theft of steel structures is on the increase
- A number of incidents took place where network failures were directly coupled to asset theft, and where our staff were threatened
- Problems with gaining access to land are slowing down our efforts to strengthen the national grid
- The lower than budgeted sales to the key industrial customers, which was mainly caused by the global economic problems

### Future priorities

- Promote projects in the SADC region, particularly those that connect South Africa to renewable energy sources and new power pools
- Pay special attention to payment of accounts and general revenue management, including guarantees
- Honouring the regulator's licence conditions as required by the grid code
- Ensure availability of the transmission network, especially during the 2010 FIFA World Cup™
- Improved transmission asset management practices and processes as part of continual operational improvement
- Conclude remaining negotiations with key industrial customers with negotiated pricing agreements which expose Eskom to embedded derivatives

### Mongezi Ntsokolo

Managing Director: Transmission



#### Q: What are the key challenges in maintaining a secure power grid in South Africa?

**A:** Given the age of many of our main networks, maintenance and other asset management practices are crucial, with the added challenge of maintaining assets with constrained budgets. Other than maintaining the existing infrastructure, we also need timeous and efficient expansion of the transmission network to improve security of supply. This requires in-depth planning, approval processes such as EIAs and stakeholder engagement before buying land and starting tender processes for the actual construction work.

The transmission network is spread all over South Africa – covering nearly 29 000km – and our personnel have to travel long distances on deteriorating roads. Operating safety is and will remain a challenge.

An unfortunate issue that seems to be escalating is threats to the physical security of our people and assets. In response we are developing a security improvement plan that deals with securing our people and addressing cable and lattice theft.

## Risk profile

Management throughout Transmission is responsible for the integrated risk management (IRM) capability. Transmission has implemented IRM structures which are aligned to the new Eskom

IRM standard and policy. Risks are included in every business area's operational plan as well as the divisional business plan to ensure integration and that risks are identified against Eskom and the division's functional objectives.

Risk	Treatment plans
Legacy agreements which are not cost reflective	There is an engagement strategy in place regarding these agreements and the agreements are recognised in the regulatory environment. An energy-intensive user strategy is also being developed. Any future negotiated pricing agreements will continue to be recognised and approved by NERSA
Dissatisfied customers	Efforts will continue to expand customer engagement and analyse survey feedback through the KeyCare tool. There are ongoing strategies to improve service levels. Customer forums are held on a regular basis, led by the Chief Executive, Chief Operating Officer (Customer Network Business), Managing Director (Transmission) and General Manager (Key Sales and Customer Service)
Unavailability of the Transmission network	The implementation of the asset management project will assist in improving the life-cycle management of plant, review of policies, procedures and processes. There is also a continual review of emergency preparedness plans and testing of the plant to look into multiple failures and response strategies
Funding constraints	Treatments include cash-saving initiatives, analysis of monthly cash flow projections, prioritisation of capital projects, short- and long-term cost efficiencies. A capital review committee has been constituted and will monitor project progress on a quarterly basis. A stakeholder engagement plan has been compiled and audits are performed to measure adherence to the grid code criteria
Customers defaulting on payment	Eskom has implemented a credit management policy that guides the process of when to cut off the electricity supply of defaulting customers and criteria to be complied with before payment extensions may be granted. Security guarantees are analysed on a regular basis to ensure that adequate securities are in place and that the "good payer" principle is adhered to and managed

## Transmission system performance

Measure (and unit)	Description of measure	Target 2010	Actual 2010	Actual 2009	Actual 2008 (includes load shedding)	Comments	
Number of interruptions	Interruptions affecting the continuity of supply	≤35	31	31	49	Target achieved	●
Number of system minutes lost	Total number of system minutes lost (for incidents of less than one system minute)	≤3,40	4,09 <sup>RA</sup>	4,21 <sup>RA</sup>	3,56	Not achieved, poor performance primarily due to the loss of large loads and the inflexibility of the network during contingencies	●
Number of major incidents	Records number of incidents with a severity greater than one system minute.					Achieved	●
	– severity degree one (≥ 1 but less than 10)	≤2	1 <sup>RA</sup>	3 <sup>RA</sup>	5	Incident initiated by a third party and exacerbated by a transmission breaker failure	
	– severity degree two (≥ 10 but less than 100)	0	0	0	0		
	– severity degree three (≥ 100)	0	0	1	1		
Number of line faults	Number of transmission line faults per 100km	≤2,45	2,54	2,46	2,31	Not achieved, due to tower design limitations for extreme wind conditions and high unseasonable rainfall impacts	●

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

1. A major incident (degree 1) took place on 19 February 2010, at Ararat substation in the Northern grid. The Minpro number one and number two 88kV (distribution) lines tripped due to a construction vehicle colliding with the number two line. The Ararat-Minpro number one 88kV breaker (transmission breaker) failed to close, resulting in an interruption of supply. On investigation, a defective latch was found on the breaker and this was cleaned. There was an interruption of supply with a total of 1,16 system minutes lost.

## Transmission division *continued*

Transmission's 2010 interruption performance is stable relative to the 2009 performance. The target for the total number of interruptions on the system was achieved. The total number of system minutes lost (for incidents of less than one system minute) has, however, performed below expectation. This was due to the loss of plant or circuits carrying large loads and the inflexibility of the network to support the load through alternative supply points (unfirm and constrained networks).

There was a substantial improvement in major incidents (more severe interruptions) which reduced from three major incidents in 2009 to one major incident this year, even though the risk on the network for such types of incidents has not yet been reduced. Line faults increased compared to last year due to a few tower structures with inappropriate designs for extreme wind conditions, high unseasonable rainfall and weaknesses in the installation and maintenance of bird guard devices (to prevent bird streamer faults). Vigilant post fault investigation, root cause analysis and targeted corrective action remain our prime methods of curtailing these faults at the lowest cost.

### Benchmarking Transmission's performance

Transmission again participated in the International Transmission Operations and Maintenance Study (ITOMS™). This benchmark is primarily focused on maintenance and plant performance. Numerous international transmission companies participate in this study in order to compare maintenance performance and identify best transmission industry practices worldwide. Benchmarking Transmission's system performance indices against other similar utilities remains challenging due to differences in data capturing between utilities. However, the data validation obtained from 27 utilities worldwide has been completed and the final report is being compiled.

### Maintenance and refurbishment

The average age of plant in the transmission network is 32 years. The oldest substations and lines are 53 years old. This calls for high-level network plant and equipment maintenance and continual refurbishment and replacement of plant that has reached the end of its useful life.

The transmission grid has over 63 500 plant items requiring maintenance. By end of March 2010 a total of 36 356 works orders had been issued and 35 756 completed – 98,3% of all maintenance required was completed.

Approximately 25% of the issued maintenance work orders can only be performed when the power is off, so these are delayed until there

### Invubu 275kV gas insulated substation investigation

Since the complete stripping down and rebuilding of the Invubu 275kV substation in Richards Bay in the late nineties, there have been a number of isolator operating rod failures. After the last failure in 2009, the substation was bypassed and a full investigation initiated.

During the investigation it was discovered that some of the operating rods appeared to have scrape marks on them, possibly due to contact misalignment. This anomaly was identified as the cause of the failures.

The research team performed a series of high-voltage tests under controlled conditions to test the failure theory. These tests, as well as computer simulations and material analyses, confirmed that advanced scrape damage due to contact misalignment will lead to failure. As it is impossible to view the contacts directly once an isolator has been assembled, the team devised an innovative and unique video system to perform internal inspection of the rod clearances. This system was used to identify all misaligned contacts and will be used again when suspect rods are removed and replaced. The substation is scheduled to return to service at the end of 2010.

Repairs costs less than R15 million as opposed to a possible R300 million to replace the substation if the root cause had not been found.



Isolator operating rod

is a planned outage, so as not to inconvenience customers. The commissioning of new substations and lines also demanded more time from grid staff, resulting in further delays in the performance of maintenance.

Transmission is in the process of implementing a revised organisational structure and business processes based on asset management principles in line with the PAS55<sup>1</sup> standard. To this end, Transmission is in the process of performing plant health, criticality and risk assessments to help determine plant end-of-life and optimise maintenance and refurbishment strategies.

During 2010 the following major refurbishment projects were completed:

- Arnot high-voltage yard
- Batteries and chargers nationally (done on a rolling two-year basis)
- Remote terminal units at seven substations
- 500MVA Hermes transformer and 315MVA transformer from Bighorn

Note that the timing of some refurbishment projects were re-phased in line with Eskom's cash flow savings initiative.

## Environmental impact assessments and land acquisitions

The process of acquiring land, land rights and environmental authorisation to build electricity infrastructure has become increasingly challenging. Over the years we have learnt that we should initiate this process at least three to four years before the construction process can begin. However, even these timeframes seem insufficient given the urgency of most projects and the demanding nature of the consultation process during the EIA process.

The detailed participation process experienced in recent years is a positive indication that the public are exercising their democratic right to be heard and play an active role in making our process robust and credible. Despite this challenge Eskom is still committed to ensuring an inclusive and informed participation process to ensure maximum participation by all interested and affected parties. This in turn increases the success rate of our projects.



For details on activities to enhance stakeholder relationships go to [www.eskom.co.za/annreport10/010.html](http://www.eskom.co.za/annreport10/010.html)

### 705A compact cross-roped 765kV tower

Research is currently involved in the verification and testing of a new generation of compact towers to make optimal use of limited servitudes, and to review the aesthetical characteristics of transmission lines and towers.

The 705A is a new compact cross-roped 765kV suspension tower. The tower offers a strategic advantage as opposed to its conventional lattice type predecessors in that it offers a reduction in steel and foundation costs. The compact structure should not compromise the technical performance of the tower; hence an exercise was undertaken to determine the electrical, mechanical and liveline operability and maintainability of the tower.

Although this structure is not cheaper on a per-pylon basis, significant operational cost savings can be achieved on long-distance links (typically over 200km), due to favourable capacitance and inductance characteristics of the delta phase configuration. The verification aspects currently being conducted include the reliability, liveline, cost savings and electrical characteristics.

1. International specification and guideline for the optimised management of physical assets

## Transmission division *continued*

### Expropriation

The biggest challenge experienced with land and servitude acquisition is the inability to match the landowners' expectation of their land values. Eskom is prepared to acquire land and servitudes at market values as determined by professional valuers. However, landowner expectations are normally above the market value, sometimes resulting in a deadlock during negotiations.

As a last resort, Eskom would resort to expropriation. This is not the best approach since it:

- affects the long-term relationship between Eskom and the landowner
- is a long process that normally affects the project delivery times
- is a process controlled by the state and therefore the decision made by the responsible minister becomes binding on all parties involved, leaving little room for negotiation.

Due to difficulty in acquiring servitudes on the following projects, Eskom has in 2010 initiated the process of expropriating six servitudes on the Mercury-Zeus 765kV line, the Spitskop-Dinaledi 400kV line and the Mercury-Ferrum 499kV line.

Eskom's relationship with landowners who have our infrastructure on their properties requires attention. Disputes regarding claims by property owners against Eskom, often result in a deadlock during negotiations for new servitude rights. These claims involve "act of God" incidents, and often involve fire claims. Eskom's insurance cover does not cover every claim forwarded by property owners, especially losses as a result of an "act of God". Eskom's insurance only covers cases where Eskom is legally liable. Property owners express extreme frustration and dissatisfaction with the manner in which these claims are assessed and adjudicated. This is affecting the success of many projects.

Eskom insurance management services (EIMS) settles all claims speedily in cases where there is legal liability on the part of Eskom. However, where no legal liability exists, the affected business units within Eskom normally take a business decision as the case may no longer be an insurance matter. It is also noted that this is a reactive solution as it happens long after relationships with the landowner have been tarnished. A more pro-active solution is still required.

### Copper and pylon theft

In the year under review the Transmission division suffered losses amounting to R5,3 million due to conductor theft and R5,5 million due to theft of steel tower lattices (pylon theft). These incidents continue to be a concern and various initiatives are in place to combat them.

In the high prevalence areas aggressive awareness campaigns have been successfully launched with the view to informing the public of the negative effects of conductor and tower-member theft to the security and cost of electrical supply. Moreover, we continue with deployment of new technologies as well as the expansion of our intelligence activities to combat these incidents.

### Contracting with SADC utilities

Eskom is a founding member of the Southern African Power Pool (SAPP) which facilitates the relationship and contracting with the utilities and end-use customers in the SADC region. This provides the platform for a regional energy market, where Eskom is able to pursue additional import options from potential regional power sources.

The bulk of the exports into SADC are made as firm supply in terms of bilateral agreements. In addition Eskom participates in the SAPP day-ahead market which trades electricity on a day-ahead basis when short-term surplus energy is available.

Eskom is a net exporter (exports exceed imports) of electricity to the region:

- Exports = 6,30% of the total electricity available in South Africa
- Imports = 5,39% of the total electricity available in South Africa
- Net exports = 0,93%

Most of Eskom's current exports are to the national utilities of Botswana (BPC), Namibia (NamPower), Swaziland (SEC) and Lesotho (LEC). Eskom also has trading relationships with Zimbabwe (ZESA) and Zambia (ZESCO), but these agreements are for non-firm power when surplus capacity exists and during emergency situations. In addition Eskom exports to three end-use customers, one in Mozambique and two in Namibia.

The bulk of the imports are currently received from the Cahora Bassa hydro scheme in Mozambique, with non-firm imports received on occasion from other regional utilities. Eskom has been purchasing approximately 1 250MW from Cahora Bassa for a number of years

and this agreement is effective until 2030. We also have an agreement for an additional 250MW and this agreement is valid until 2014. The original and additional agreements are concluded at different prices.

The SADC region has considerable potential primary energy capacity, specifically hydro and natural gas, and these primary energy sources offer a future supply option into South Africa. These will not only assist with the growing capacity requirements in South Africa, but will also assist in reducing the country's dependence on coal with its associated carbon emissions. Eskom is currently engaging in a number of such potential projects in the region. One such project is noted below:

### Westcor

The aim of the Westcor project was to build a 3 500MW hydro station (Inga 3) on the Congo river in the Democratic Republic of Congo (DRC) as well as a transmission system through Angola, Namibia, Botswana and into South Africa. The national utilities of these five countries had formed the Westcor joint venture to develop this project.

At the SADC energy ministers' meeting regarding Westcor held in Kinshasa in February 2010, the President of the DRC announced that the Inga 3 capacity should be opened up to all members of SADC. As a result of a changing mandate it was decided to close the Westcor company and the project. It is possible that this move will provide the impetus to develop the Grand Inga concept on the Congo river.

### Key customer update

The key sales and customer services team is the interface with major key customers (those customers using a minimum of 100GWh of energy a year). The KeyCare total quality index measures the satisfaction of about 120 key customers. An independent research house conducts interviews with senior managers in the companies to measure our performance and produces a 12-month moving average KPI of these segments (the KeyCare index).

The KeyCare index performance was 98% against a target of 103% (2009: 101%). The main reasons for not meeting target were the capacity constraints and the price increases.

### Environmental performance

Transmission's environmental policy commits to:

- comply with applicable legislation and other requirements
- establish an environmental management system, including prevention of pollution that is economically viable and sustainable
- educate, train and motivate our employees about environmental issues
- promote open communication on environmental issues among employees and stakeholders

### Highlights

- reduction in number of cases of non-compliance with environmental legislation. This was attributed to the controls and oversight mechanisms implemented at all the Transmission business units
- development and implementation of biodiversity and land management environmental management plans for 330 existing power lines based on a phase-in approach: the proposed target of 90% for 2010 was achieved (2009: 80%)
- all Transmission business units were recommended for ISO 14001 and re-certification was achieved in August 2009

### Challenges

- an increase in the number of environmental complaints related to power line construction projects
- increase in the number of oil spills
- higher collision rate of Ludwig's Bustards with high-voltage transmission power lines in the De Aar area of the Karoo region

## Transmission division continued

### Key transmission division environmental performance indicators

	Target 2010	Actual 2010	Actual 2009	Actual 2008
Number of environmental legal contraventions – number	0	1	20	1
Number of environmental legal contraventions reported in terms of Eskom's operational health dashboard <sup>1</sup> – number	0	0	2	0
Materials containing asbestos disposed of – tons <sup>2</sup>	n/a	21,5	391,4	169,0
Material containing poly-chlorinated biphenyls (PCBs) thermally destructed – tons <sup>2</sup>	n/a	3,7	489,2	0

1. 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. Managing directors can escalate any significant environmental legal contravention to the OHD.

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

For this reporting period, one (2009: 20) environmental legal contravention was recorded relating to an oil spill at a substation site.

Transmission maintains nearly 29 000km of overhead power lines, which means our divisional footprint needs to be monitored and managed closely through environmental management plans. The significant environmental impacts such as avian impact in terms of biodiversity are managed and controlled through our partnership with the Endangered Wildlife Trust (EWT).

In line with the Stockholm Convention, Transmission is committed to the phasing out of PCBs by 2025. A phase-out strategy and stringent management practices have been developed in this regard. These cover the handling, testing and labelling of PCB-contaminated equipment, the compiling of inventories and the development of phase-out plans that meet the requirements of the Stockholm Convention.

### Environmental expenditure

Funds are allocated for environmental capital and operational expenditures. These amounted to R65,9 million on capital projects (2009: R93,1 million) and R31,7 million on operational environmental activities (2009: R82,4 million). The increase in capital expenditure is due to the capital expansion programme. The largest component was on waste disposal, animal interaction and on capital expenditure on environmental impact assessments for power lines and substation construction projects, waste and sewage management, rehabilitation of land and control of vegetation.

### Looking forward

- an assessment needs to be done to determine the readiness and appropriateness of moving from many business unit ISO 14001 certifications to one environmental management system certificate
- development and implementation of biodiversity and land management environmental management plans for all the 330 existing transmission power lines



## Distribution division

**Mandate:** Manage the retail business and optimally operate and maintain the Eskom distribution network, while playing an active role in the restructuring of the electricity distribution industry (EDI).

### Progress this year

#### Highlights

- Customer service index score of 85,05% against a target of 82,65%
- Environmental index (compliance) score of 105,5 against a target of 100
- Small power user debtor days of 40,53 days against a target of 45 days
- Electrification connections of 149 901 against a target of 145 615
- Implementation of on-line vending resulting in improved customer accessibility

#### Challenges

- Collisions and electrocutions of birds on distribution power lines
- Large power debtor days of 18,88 days against a target of 16 days
- Demand-side management savings of 372MW against a target of 432MW
- SAIDI technical performance of 54,41 interruption hours per annum against a target of ≤50,00 hours per annum
- SAIFI technical performance of 24,65 interruption events per annum against a target of ≤23,50 events per annum
- Sadly two Distribution employees and eight contract workers passed away during the financial year

### Future priorities

- Continue with appropriate network maintenance and investment levels
- Continue with the business optimisation plan to drive service and financial efficiency
- Enhancing skills
- Enhanced focus on our revenue management and non-technical loss management
- Continue development of initiatives to protect the poor and improve payment affordability
- Support government initiatives such as the universal access plan and solar water heating

### Ayanda Noah

Managing Director: Distribution division



#### Q: How is Eskom driving energy efficiency nationally?

**A:** During the past 10 years, the Eskom DSM initiative has grown into a concerted national electricity saving effort, which has been driven and managed by Eskom with the joint participation and buy-in from government, NERSA, municipal, residential, commercial, and industrial sectors.

The key objective of DSM is to implement measurable and sustainable demand reduction interventions, using energy efficiency and load reduction technologies that “hardwire” energy savings via customer purchasing patterns (technology choices) and behavioural changes (usage patterns).

From a business perspective, DSM is extremely beneficial to South Africa because the measures have been proven internationally and locally for the short, medium, and long term to:

- be the most cost-effective mechanism for demand reduction;
- have the least economic impact;
- have the quickest time to implement;
- be one of the most effective climate change mitigation strategies;
- be a strong resource to improve overall energy productivity; and
- create sustainable jobs in terms of installation and maintenance of systems

## Distribution division continued

### Key focus areas

- Anticipate, understand, provide for and respond to our current and future customer needs
- Work towards a seamless working relationship with all our key stakeholders
- Continue to make sustainable contributions to social delivery through initiatives such as
  - reducing public safety incidents through awareness
  - demonstrated climate change deliverables
  - delivering on the universal electrification access expectations
- providing viable electricity solutions to informal settlements, and
- contributing to B-BBEE and small business development in a sustainable manner
- Continue to play an active role in the EDI restructuring process
- Continue to focus on energy efficiency and demand management
- Continue to enhance our internal business processes and business enablers
- Grow our human capital through retention of core, critical and scarce skills, complemented by effective skills and talent management

### Risk profile

Risk	Treatment plans
Networks becoming overloaded	<ul style="list-style-type: none"> <li>• Identify, develop and enhance the skills required for the optimal running of the technical business</li> <li>• Refurbishment prioritisation for ageing networks</li> <li>• Enhance our approach to illegal connections and energy theft</li> <li>• Encourage energy efficiency among our customers</li> <li>• Enhance and implement sound asset management principles</li> <li>• Develop an effective supply chain for equipment</li> </ul>
Energy theft escalating	<ul style="list-style-type: none"> <li>• Ongoing execution of the enhanced energy losses programme</li> <li>• Launch a public and social awareness campaign to counter the culture of non-payment and energy theft</li> <li>• Meter audits on all customer categories</li> <li>• Engage with law enforcement authorities to improve litigation success</li> <li>• Successful prosecution of offenders</li> </ul>
Equipment theft and vandalism escalates	<ul style="list-style-type: none"> <li>• Proactive patrol of installations and lines in high-risk areas</li> <li>• Ongoing awareness initiatives</li> <li>• Engage Eskom contractors in controlling materials and implementation of security measures</li> <li>• Use new technology to monitor and track equipment theft</li> <li>• Interact and co-operate with government departments and other industry stakeholders</li> <li>• Increased capacity for the specialised conductor theft teams in high-risk areas</li> <li>• Successful prosecution of offenders</li> </ul>
Inability to reduce or contain demand growth through demand-side management (DSM), energy efficiency and power conservation programme (PCP) implementation	<ul style="list-style-type: none"> <li>• Develop and implement demand-side solutions to support security of supply</li> <li>• Create a culture of energy efficiency</li> <li>• Integrate demand initiatives across the organisation</li> <li>• Develop funding and investment solutions for energy efficiency, DSM and customers initiatives</li> <li>• Influence and contribute to the policy and regulatory environment</li> </ul>
Inadequate skills and capacity to effectively and efficiently operate the Distribution business	<ul style="list-style-type: none"> <li>• Strengthen the organisational capacity to manage the evolving skills challenge</li> <li>• Co-ordinate all functional skills development and capacity creation</li> <li>• Standardise the approach to training, training materials and training curriculum</li> <li>• Strengthen coaching and mentoring</li> <li>• Capture and transfer specialised knowledge across the organisation</li> </ul>
Inability to collect all the revenue due to increased tariffs	<ul style="list-style-type: none"> <li>• Use advanced technology to curb energy theft and reduce revenue losses</li> <li>• Normalisation of credit management practices (disconnections)</li> <li>• Removal of illegal connections</li> <li>• Launch a public social awareness campaign to counter the culture of non-payment</li> <li>• Provide infrastructure in informal settlements to improve revenue collection</li> <li>• Improve meter reading practices</li> </ul>

## Distribution system performance

Measure	Description of measure (and unit)	Target 2010	Actual 2010	Actual 2009	Actual 2008	Comments	
Distribution supply loss index (DSL)	Distribution network unavailability index (minutes per month)	≤8,70	<b>12,30</b>	9,17	10,36	Target not achieved. See comments for DSLI and RSLI below.	●
Reticulation supply loss index (RSL)	Total reticulation network unavailability index (hours per annum)	≤2,20	<b>2,43</b>	2,16	2,24	Target not achieved. See comments for DSLI and RSLI below.	●
Reticulation supply loss index (RSL)	Unplanned reticulation network unavailability index (hours per annum)	≤1,60	<b>1,84</b>	1,70	1,68	Target not achieved. See comments for DSLI and RSLI below.	●
System average interruption frequency index (SAIFI)	Reliability of supply index (number per annum)	≤23,50	<b>24,65</b> RA	24,16 RA	25,36	Target not achieved. See comments for SAIFI and SAIDI below.	●
System average interruption duration index (SAIDI)	Availability of supply index (hours per annum)	≤50,00	<b>54,41</b> RA	51,51 RA	55,51	Target not achieved. See comments for SAIFI and SAIDI below.	●

RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

### Comments regarding DSLI and RSLI performance

Distribution has started with various initiatives to improve the accuracy of the reporting of DSLI and RSLI due to process and data integrity challenges. These initiatives were not completed by the end of the 2010 financial year and will continue into the next financial year. The reported performance for DSLI and RSLI is therefore a best estimate of our performance, and this needs to be taken into consideration for year-on-year evaluation and comparative analysis.

### Comments regarding SAIFI and SAIDI performance

SAIDI and SAIFI performance have marginally deteriorated since the previous year. Business plan targets have also not been achieved because of the slower than anticipated benefit realisation for Distribution's network performance improvement initiatives, resource constraints, impact of conductor/equipment theft on resources and network performance and adverse weather conditions during the financial year. There has been an increased focus during the year on planned work.

Distribution continues to focus on the following key initiatives to improve SAIFI and SAIDI performance and to reduce the impact of planned/unplanned outages on customers:

- increased use of live-line techniques
- increased network visibility and remote control of switching devices
- improved outage management and co-ordination
- implementation of enhanced asset management processes (PAS55 standard)
- increased maintenance and refurbishment expenditure
- focus on improvement plans for worst performing networks



Refer to [www.eskom.co.za/annreport10/011.html](http://www.eskom.co.za/annreport10/011.html) for detail on distribution performance and benchmarks.

## Distribution division continued

### Utility load manager

The utility load manager (ULM) system is a demand-side management (DSM) solution. The ULM system has been deployed in pilot areas and the results have to date proven to be successful.

This system can limit the load available to a residential premise on a "real-time" basis. This reduction in load will be based on power reductions required to maintain the stability of the electricity network. This load reduction differs from other solutions as it gives customers a choice (which appliances to use when) and basically encourages them to be energy efficient.

The ultimate goal is to instil behavioural change in energy users. If consumers can be motivated to be more energy efficient, both the peak and base power loads on the national grid can be reduced, thus relieving some of the strain presently experienced by the power stations.

If deployed successfully, the ULM system will potentially free up over 5 000MW of power from the residential sector. It can also be used to prevent load shedding in South Africa, and minimise the impact of lack of supply capacity to the economy.

### Demand-side management (DSM) 2010

Given the constrained power system, it is critical that South Africa adopts an energy savings culture. The constraints on Eskom's energy supply will continue until Medupi power station becomes operational from 2012. To manage this, there is a need to remove a certain amount of energy from the system through co-generation, DSM and a substantial shift in energy saving behaviour.

Historically Eskom DSM was working to effect a reduction of 3 000MW by March 2011 and a further 5 000MW by March 2026. However, due to the financial pressure on the company the planned demand target of 3 000MW will now only be achieved by March 2013. This involves the installation of energy-efficient technologies to alter the load and demand profile of the country. These technical solutions are seen as hardwiring energy-efficiency measures which ensure a higher level of security of supply in the short to medium term.

The energy efficiency and DSM policy from the Department of Energy guides the implementation of DSM, with energy and demand savings being verified by independent university measurement and verification professionals. Verifiable short-term DSM savings are included in NERSA's multi-year price determination (MYPD) process.

The current year's saving during weekday evening peak periods was 372MW<sup>RA</sup>, against the target of 432MW. This has increased the cumulative saving to 2 372MW since the inception of DSM in 2003.

Currently these projects are performing at 2 118MW due to a deterioration in performance as measured by measurement and verification professionals.

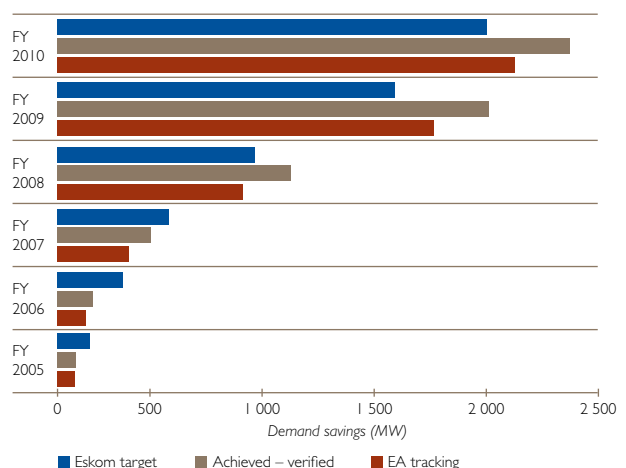


Soli Philander and the winner of the Polar heart rate monitor at the Cape Argus Pedal Power challenge

Initially, Eskom DSM focused on realising energy and average demand savings during the evening weekday peak period (18:00 to 20:00) through energy services company projects in the industrial and commercial sectors and hot water load management within municipal environments. Given the urgent need to reduce demand, the focus expanded to include mass energy efficient product rollouts that could be rapidly implemented. These included energy-efficient lighting using compact fluorescent lamps (CFLs), solar water heaters and improving the efficiency of electric motors and pumps.

Eskom is continuing its efforts to raise public awareness of generation and transmission capacity constraints and encouraging energy-saving behaviour through extensive communication campaigns and strengthening relationships with customers, municipalities and the public.

### DSM cumulative performance relative to Eskom targets



RA – Reasonable assurance provided by the independent assurance provider (refer page 169).

### Solar water heating rebates

Eskom's solar water heating strategy is an initiative that could lead to a reduction in demand of approximately 530MW on the national grid and a favourable contribution to reducing carbon emissions. At the core of the strategy is a rebate offered to home owners, aimed at stimulating the uptake of solar water heaters, as it is believed the current high capital cost of solar systems is limiting the rate of market uptake. A substantially increased rebate offer was launched to the market during January 2010, increasing the rebate amount on some systems by up to 120%.

Research will be conducted to ascertain whether the introduction of "green bond" finance, can be used to reduce the cost of solar water heating to the end user. The insurance industry is encouraged to promote solar water heating systems as a replacement option to their clients. Santam joined the programme and is piloting the rollout of this offer.



### Solar water heating

The objective of the solar water heating programme is to reduce the load associated with heating water, which is believed to be approximately 40% of total load for an average household. The programme is also in support of the government drive to install one million solar water heating geysers over the next five years.

At the core of the strategy is a rebate offered to home owners, aimed at stimulating the uptake of solar water heaters, as it is believed that the current high capital cost of solar heating systems is limiting the rate of market uptake. Eskom has entered into a partnership with the insurance industry to offer a solar water heating system as a water heating replacement option to their clients. Other strategic initiatives currently under consideration are the introduction of "green bonds", partnerships with plumbing and do it yourself (DIY) retail outlets to provide approved systems to their customers, larger corporate drives to promote employee and municipal rollouts. It is envisaged that policy and regulatory amendments to enforce utilisation of efficient water heating for new building developments

(residential, commercial and industrial) will provide a much needed boost for this programme.

#### The SWH rebate scheme:

The solar water heating programme offers an incentive to consumers to replace existing conventional electric geysers with solar heating geysers. The strategy is to create a sustainable solar water heating industry in South Africa and to install 250 000 solar water heaters over three years. We processed and settled 3 455 rebate claims during the current financial year for qualifying installed systems.

Since the launch of the Eskom solar water heating programme, certain processes have been modified as a better understanding of the solar environment developed. Eskom is encouraging solar heating related industries to comply with the South African Bureau of Standards (SABS) and other applicable regulatory and legislative requirements. We hope that, through increased demand and local manufacturing capacity, more competitive prices will materialise.

Initially in the first year the programme focused on developing the industry, which meant the uptake was low. With the increase of the rebate by as high as 120% on some of the solar water heating systems, we expect future increases in market uptake.

#### Future priorities

The key focus areas of the DSM programme will include the following:

- hot water strategy targeting solar water heating/heat pumps energy and water-saving shower heads and regulators
- industrial process optimisation including compressed air
- lighting and heating/air-conditioning
- continued rollout of compact fluorescent lamps (CFLs)
- demand response
- national energy efficiency awareness campaign and specific emergency response communication system – Power Alert

Research is underway to develop innovative energy solutions in the areas of energy efficiency, demand-side management (DSM) and customer behavioural change. The purpose is to reduce energy use on the power system.

The focus is on understanding the energy consumption behaviour of our customers and developing the right methodologies to influence a change towards energy efficiency. We are also gaining new insights in the area of load research. This will help to develop the right tools for accurate load forecasting and analysis.



Refer to [www.eskom.co.za/annreport10/012.html](http://www.eskom.co.za/annreport10/012.html) for more details on the DSM programme.

## Distribution division *continued*

### Customer service

Eskom's efficiency is important to South Africa's economic prosperity, transformation and sustainable development. By monitoring customer satisfaction, we can plan pro-actively to ensure that we deliver the required quality of service at the appropriate time and price. We use a range of statistical perception surveys, conducted by an independent research organisation, to measure customers' satisfaction with the service delivered.

### Customer service index

Eskom uses a composite index to measure the service delivered to its Distribution customers. The index combines the results of two

external customer service perception surveys and four internal customer service process measures. The 12-month moving average index score on 31 March 2010 was 85,05% (2009: 84,74%) against a target of 82,65%.

The business uses these results to identify which aspects of service require improvement. Once action plans have been reprioritised and implemented, success can be tracked by monitoring the trends in results on specific service aspects.

### Customer service index results:

	Target 2010 12mma%	<b>Actual</b> <b>2010</b> <b>12mma%</b>	Actual 2009 12mma%	Actual 2008 12mma%	Benchmark (2007)	Regulatory Standard <sup>4</sup>	
<b>External customer perception surveys:</b>							
– Enhanced MaxiCare	≥88,85	<b>92,95</b>	92,80	89,15	n/a	n/a	●
– CustomerCare	≥80,00	<b>80,70</b>	81,70	82,53	n/a	n/a	●
<b>Internal performance measures:</b>							
– Restoration time <7,5 hours	≥80,00	<b>72,15</b>	72,80	75,96	Q3	90,00	●
– Minor projects quotations <30 days	≥80,00	<b>90,00</b>	85,00	82,00	n/a	95,00	●
– Minor projects connections <90 days	≥80,00	<b>78,00</b>	73,00	83,00	Q3	95,00	●
– Contact centre service level	≥80,00	<b>82,60</b>	84,00	75,00	Q2	80,00	●
– Weighted customer service index	≥82,65	<b>85,05</b>	84,74	82,11			●

Eskom was placed in the 2nd quartile of performance on contact centre service level in the 2007 benchmarking study. The minimum standard specified in NRS047-1:2005 is 80%. The deterioration in performance is partly due to the growth in call volumes queued into the contact centres, which increased by 29% to 5,3 million calls by 31 March 2010 (2009: 4,1 million). The ongoing good service levels despite this growth can be attributed to improved performance management, resource planning and optimisation, as well as an improved balance of call flow between sites. The contact centres also demonstrated an improved ability to handle emergency situations.



Refer to [www.eskom.co.za/annreport10/013.html](http://www.eskom.co.za/annreport10/013.html) for more information about the measuring of customer satisfaction.

### Tariffs

#### NERSA decision on Eskom's price increase for the 2010 financial year

On 25 June 2009 NERSA made the following determination on tariffs:

- a 31,3% price increase on the average standard tariff was approved from 1 July 2009 to 31 March 2010 (nine months)
- the 31,3% increase included the 2c/kWh levy on the sale of electricity generated from non-renewable sources ("environmental levy"). The 2c/kWh must be recovered within the 31,3% tariff increase
- the approved price increase on the average standard tariffs included a limited price increase of 15% for both Eskom and municipalities' poor customers (Homelight 1 and 2 tariffs). It must be noted that this is an interim measure until the implementation of inclining block rate tariffs to protect the poor. The full implementation of the inclined block rate methodology will occur in the multi-year price determination 2 (MYPD 2)

4. Regulatory standard: NPS047-1:2005

The Eskom tariffs implemented on 1 July 2009 were the restructured tariffs that incorporate stronger energy price signals, especially impacting more energy-intensive users. Together with the environmental levy charge, these tariffs recover the NERSA-approved annual revenue requirements. As in the past, all the charges and components of the tariffs were adjusted with annual average price increases for standard tariffs, differentiated by local authority and non-local authority tariffs.

Eskom also recognises the importance of the protection for the poor at a time of increasing prices and that this requires a sustainable solution. Currently, we have with the guidance of NERSA implemented different types of subsidies to address the affordability of mainly our residential and rural consumers. As Eskom only directly supplies 40% of these affected consumers, addressing the affordability of electricity requires a national approach. National policy on protection for the poor needs to deal not only with electricity, but also with the provision of other basic services and grants. Any changes to this national policy remain the accountability of the relevant government departments.

### NERSA decision on Eskom's price increase for the 2011 financial year

Eskom requested a nominal increase of 35% for 2010/11. NERSA in its determination allowed for an annual average price increase of 24.8%. The average price increase was then applied to Eskom's tariffs after taking into account NERSA's decision regarding protection of poor, which resulted in different tariff categories having different increases applied to the tariffs. NERSA also decided on the introduction of an inclining block rate tariff for residential customers, thereby replacing Eskom's existing residential tariff structures. This has only been implemented for conventional residential customers, while implementation for prepayment residential customers remains a challenge and is under discussion with NERSA.

Refer to MYPD 2 on page 90



For detail on Eskom's price increases over the past 17 years go to [www.eskom.co.za/annreport101014.html](http://www.eskom.co.za/annreport101014.html)

### Changes to retail tariffs in 2009/10

In addition to the price increase Eskom also implemented the following in 2009:

#### Retail tariff restructuring plan

The price of any product influences the way in which customers use the product. Our electricity tariffs are therefore designed to send out signals that resemble the cost to supply the electricity. Customers are guided, through price signals, to use electricity in an economic and efficient way. Eskom's tariffs are designed to support both energy and capacity efficiency. Energy efficiency is supported through energy rates that are time-of-day and seasonally differentiated, while cost-reflective network charges ensure that the networks are used in an optimal way as customers pay for what they use and for what they reserve on the network for their own requirement.

The tariffs are designed to be as non-discriminatory as possible by taking into account the needs of all customers on a fair and equitable basis. Our tariff options are based on consumers' demand sizes, with charges differentiated in terms of location and voltage for the larger supply points.

Effective 1 July 2009, NERSA approved the retail tariff structural changes designed to recover the Eskom revenue requirement and to contain cost-reflective signals for economic efficiency and sustainability. The restructuring plan updated the tariffs with the latest cost associated with energy, network and customer service.

This restructuring of the tariffs saw energy rates increasing and network charges and most service charges proportionally reducing:

- for higher load factor customers the tariff restructuring resulted in higher increases than the average price increase as they are more energy intensive users of electricity
- for small power users, the impact of the restructuring was minimal.

#### The price increase implemented to the retail tariffs on 1 July 2009

The price increase determined by NERSA was based on the average price paid for electricity. Individual tariffs saw increases that differed from the average increase due to the following:

- in an effort to protect the poor, the NERSA decision included a lower increase for Eskom's Homelight tariff customers. The capping of the Homelight tariffs to a 15% increase meant a shortfall in revenue, which was applied to non-local authority tariffs, resulting in these tariffs seeing increases higher than the average increase. This resulted in the increase in subsidies for the Homelight tariffs. Local authority tariffs were not impacted as NERSA expected them to provide a similar subsidy to their customers

## Distribution division continued

- because the environmental levy was introduced as a separate charge, the price increase applied to all individual tariff rates had to be adjusted accordingly

### Increase on tariff rates excluding the environmental levy

	Increase applied to tariff rates %
<b>Total Eskom average excluding the environmental levy:</b>	24,08
Local-authority tariffs	23,23
Non local-authority tariffs (excluding Homelight)	26,18
Non local-authority Eskom Homelight tariff (billed and prepaid)	11,30

### Average increase including the environmental levy

	Average price increase %
<b>Total Eskom average including the environmental levy:</b>	31,30
Local-authority tariffs	31,30
Non local-authority tariffs (excluding Homelight)	33,60 <sup>1</sup>
Non local-authority Eskom Homelight tariff (billed and prepaid)	15,00

## Management of total energy losses

Energy losses reflect the difference between the quantity of energy sent out from the power stations and the quantity sold to the various customers at the end of the value chain. Losses are categorised as technical or non-technical in nature.

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

### Pole-top fires

Pole-top fires on distribution and transmission wooden pole structures cause power trips and cost money and time to repair. Far more importantly, in some cases, people and animals make contact with energised low-hanging conductors resulting from pole-top fires. The mitigation of pole-top fires is therefore receiving significant attention within Eskom.

Results from extensive outdoor laboratory tests and field investigations assist us in updating applicable standards and procedures, in order to provide a high-quality product that is able to better withstand the impact on the network and thereby reduce safety risks.

In the current 2010 financial year the total Distribution energy losses were 5,87%, of which non-technical losses is estimated to be between 1,5% and 2,4%. Compared to other utilities globally, Eskom continues to perform well with regards to energy loss management. The international benchmark exercise carried out in 2007 puts Eskom in the first quartile of the top performing distribution utilities in terms of total energy losses. The Eskom result is within the benchmark parameters of 5,60% to 12,07%.

Even though we compare favourably with other utilities globally, this continues to be a key focus area in our business. We are currently preparing to launch a public and social campaign to augment the work done under the energy loss management programme (ELP). The level of energy losses has improved due to increased interventions in the management thereof. These actual results achieved are better than the target energy losses allowed for by NERSA.

1. The Homelight tariff was capped by NERSA to a 15% increase. This meant that the 31,3% for other non-local authorities was increased to 33,6% to cater for the Homelight subsidy.



**Total actual losses are as follows:**

	Target 2010	2010 GWh	2009 GWh	2008 GWh
Energy losses				
<b>Total Eskom energy flow</b>		<b>246 705</b>	240 673	250 414
Total distribution network energy flow <sup>1</sup>		<b>218 663</b>	214 313	223 102
Actual loss – Distribution		<b>12 839</b>	11 706	12 195
Actual loss – Transmission		<b>8 009</b>	7 407	7 832
<b>Total actual loss</b>		<b>20 848</b>	19 113	20 027
<b>NERSA MYPD allowance</b>		<b>21 131</b>	20 558	21 428
<b>Energy loss %</b>				
Total distribution loss	≤6,00%	<b>5,87%</b>	5,46%	5,47%
Total transmission loss	≤3,30%	<b>3,27%</b>	3,08%	3,13%
<b>Total Eskom loss</b>	≤8,76%	<b>8,45%</b>	7,94%	8,00%

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

**Free basic electricity (FBE)**

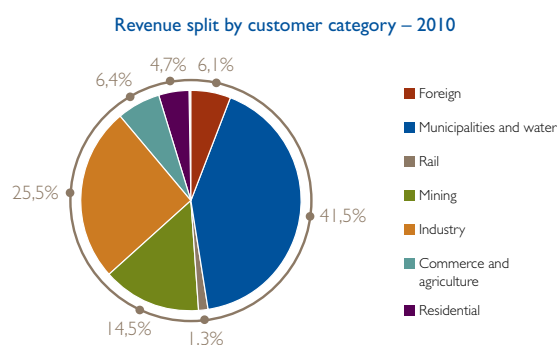
Government aims to bring relief to low-income households through the national electricity basic services support tariff, thereby ensuring optimal socioeconomic benefits from the national electrification programme. Qualifying customers are eligible for 50kWh of free electricity per month.

**Free basic electricity**

Description	Unit of measure	2010	2009	2008
Municipalities contracted to provide FBE	number	243	243	241
Municipal contracts rolled out	%	99	99	98
Customers approved by municipalities for FBE	number	1 308 357	1 289 804	1 298 747
Customers' meters reconfigured to receive FBE	number	1 294 997	1 233 012	1 268 986
Reconfigured FBE customer meters in the year	average %	99	96	98
Amount invoiced to contracted municipalities	Rm	308	197	242
Cumulative tariff differential and cost under-recoveries <sup>2</sup>	Rm	165	141	60



Refer to [www.eskom.co.za/annreport10/015.html](http://www.eskom.co.za/annreport10/015.html) for more information regarding free basic electricity.



1. Inclusive of energy flows to KSACS customers.  
2. Tariff differentials and cost under-recoveries have been cumulative since 2006.

## Distribution division *continued*

### Electrification

The Department of Energy began funding the integrated national electrification programme (INEP) in April 2001. Eskom implements the programme in its licensed areas of supply on the Department of Energy's behalf<sup>1</sup>. Operating costs relating to this electrification programme are incurred by Eskom as the licensed distributor supplying electricity to its consumers.

Since the inception of the electrification programme in 1991, a total of 3 901 054 (2009: 3 751 153) homes have been electrified.

Funding is currently made available for new connections and infrastructure development projects that are part of the INEP going forward. We expect that the average cost of infrastructure development and the cost per connection will increase as we electrify communities in more remote rural areas. In addition, technical specifications for network design have been enhanced to better accommodate future growth in electricity demand and to improve the quality and reliability of the electricity supply in these areas.

### Electrification programme

	Unit of measure	Target 2010	Actual 2010	Actual 2009	Actual 2008	
Total connections	number	1 45 615	<b>1 49 901</b>	1 12 965	1 68 538	●
– Direct connections, excluding farm workers	number	1 45 226	<b>1 49 028</b>	1 11 903	1 67 164	●
– Farm worker connections	number	389	<b>873</b>	1 062	1 374	●
Total capital investment	Rm	1 207	<b>1 086</b>	798	1 022	●
– Reticulation and connections	Rm	1 028	<b>914</b>	682	910	●
– Sub-transmission infrastructure development	Rm	177	<b>169</b>	113	108	●
– Farm worker connection incentives paid	Rm	2	<b>3</b>	3	4	●

Government aims to achieve universal access to electricity by 2014. Meeting the future universal access programme requirements is primarily dependent on the availability of funding from DoE via the INEP. Eskom continues to engage with DoE and other key stakeholders regarding the planning, funding and other requirements needed to achieve universal access.

### Electrification of grid schools and clinics

	Unit of measure	Target 2010	Actual 2010	Actual 2009	Actual 2008	
Capital investment	Rm	323	<b>142</b>	108	88	●
Total connections	Number	1 048	<b>774</b>	479	751	●

The electrification of schools and clinics is funded by the DoE through the National Electrification Fund. This programme is focused on electrifying specifically identified schools and clinics. The target number of connections was increased during the course of the current financial year due to an additional special schools programme from DoE. This programme will continue to receive focus with the objective of completion in the 2010/11 financial year.

### Environmental performance

#### Highlights

- Containing compliance with environmental legislation through improved controls and oversight mechanisms
- Training of staff and contractors in environmental laws
- Maintaining an 80% response to wildlife interactions within four months

#### Challenges

- Number of complaints related to cutting of trees
- Collisions and electrocutions of birds on distribution power lines

1. Electrification within the licensed areas of supply of a municipality is carried out by that municipality.

## Key distribution division environmental performance indicators

	Target 2010	Actual 2010	Actual 2009	Actual 2008	
Number of environmental legal contraventions	0	4	5	3	●
Number of environmental legal contraventions reported in terms of Eskom's operational health dashboard <sup>1</sup>	0	0	0	2	●
Materials containing asbestos disposed of – tons <sup>2</sup>	n/a	16,2	40,2	49,2	
Material containing polychlorinated biphenyls (PCBs) thermally destructed – tons <sup>2</sup>	n/a	13,3	15,0	7,4	

Over and above the legal requirement of obtaining an environmental authorisation through the undertaking of EIAs, many of the Distribution powerline projects do not require authorisation. These projects are, however, subjected to internal environmental screening so as to ensure environmental duty of care and informed decision making.

Through formal environmental management systems with allocated environmental roles and responsibilities, the division ensures the provision of electricity to Eskom's customers while reducing its environmental impact.

During this year the division had four cases (2009: five) of activities that resulted in environmental legal contraventions as a result of not fully complying with the conditions of environmental authorisations.

The thousands of kilometres of power lines impact wildlife and in particular birds. This has resulted in a long-standing partnership with the Endangered Wildlife Trust (EWT) which assists in mitigation of these environmental impacts.

Distribution, and the rest of Eskom, continues to maintain a register of all PCB-contaminated equipment so as to ensure the long-term commitment to the phasing out of PCBs by 2025.

### Environmental expenditure

Funds are allocated for environmental capital and operational expenditures. These amounted to R84 million on capital projects (2009: R79,2 million). On the other hand R32,4 million was generated through recycling efforts.

### Looking forward

- Ensuring continual improvement in the effective implementation of conditions of environmental authorisations, including environmental management plans.
- Focus on the quality of and use of geographical information systems used to complete the Distribution environmental screening studies for those projects not required to obtain an environmental authorisation.
- Review of the environmental questions raised in the internal risk audit system.
- Finalisation of the Distribution climate change strategy.

### Urban distribution automation

Eskom has more than 280 000km of medium voltage (MV) lines to provide power to its customers. Distribution automation (DA) can improve power network reliability by making the grid "smart" by integrating protection and control technologies. Such "smart" networks can automatically detect the occurrence and location of faults, and automatically switch circuit breakers and switches to restore supply as quickly as possible; all without any human intervention.

DA systems therefore ensure that "healthy" parts of the network are restored as quickly as possible through intelligent, automatic switching. The result is improved network reliability and customer satisfaction.

Eskom's urban DA project is investigating the technical and financial benefits of DA technology through a number of pilot systems. The study also includes a cost-benefit analysis. This will help to make electricity delivery more reliable into the future.

1. 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. Managing directors can escalate any significant environmental legal contravention to the OHD.  
2. Quantities of waste disposed of at registered waste sites.



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# Supporting the Eskom business

Eskom Enterprises (Pty) Limited

- 166 Financial results
- 166 Structure
- 168 Key focus areas in 2010
- 168 Performance indicators
- 168 Disposals

## Eskom Enterprises (Pty) Limited

**Mandate:** Offers strategic and commercial lifecycle services to Eskom and is the custodian of Eskom's non-regulated businesses

### Progress this year

#### Highlights

- Containment of costs to Eskom
- Significant improvement in overall safety performance
- Disposal of investment in arivia.kom for value
- Completion of the non-core disposals process begun in 2007

#### Challenges

- One contractor fatality recorded
- Contract management issues in Roshcon
- Low utilisation of the helicopter fleet and fixed wing aircraft
- Contractual difficulties experienced by Eskom Energie Manantali

### Future priorities

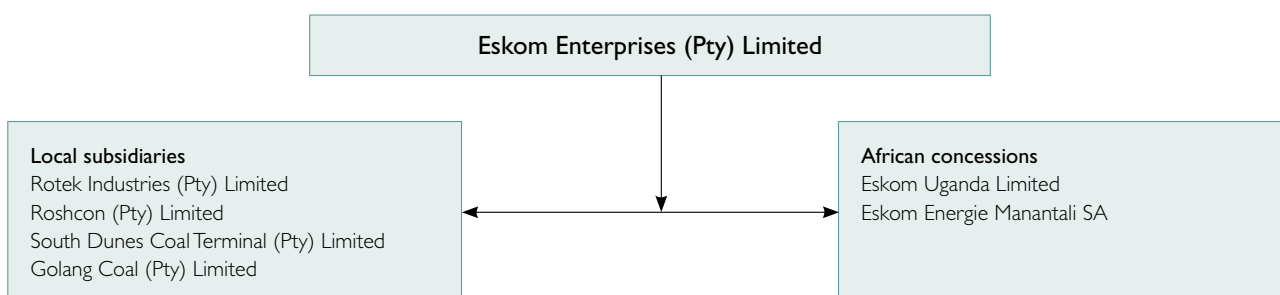
- Manage stakeholder relationships by delivering the expected returns to the shareholder
- Ensure financial sustainability
- Improve service quality by improving operational efficiency and SHEQ performance
- Focus on skills – through retention strategy, talent management and pipelining of skills – to grow the capacity and capabilities of the group
- Improved project management, particularly in Roshcon division
- Disposal of the fixed wing aircraft
- Arriving at and implementing direction concerning future involvement in South Dunes Coal Terminal (SDCT) and Golang Coal

## Financial results

R millions	2010	2009
Total revenue	<b>6 876</b>	8 271
Profit for the year	<b>152</b>	468
Total assets	<b>7 295</b>	8 122
Capital expenditure	<b>509</b>	515

## Structure

The group is structured as follows:



Note: Only operating companies are depicted

## Brian Dames

Chief Executive Officer: Eskom Enterprises

### Q: What is Eskom's longer-term strategy in the rest of Africa?

A: At the moment, the focus of the Eskom Enterprises group is on servicing the needs of its main customer, being Eskom Holdings Limited. However, should the group have surplus capacity, it will source external work, firstly in South Africa, then in the SADC countries. At the moment there is no drive to expand into Africa.



## Les Carlo

Chief Operating Officer: Eskom Enterprises

### Q: Which of the subsidiaries have performed well this past year?

A: On a financial level, the Eskom Enterprises group did not perform well against budget during the 2010 financial year, since the group was badly affected by a reduction in work for Eskom Holdings Limited, due to the widely publicised financial pressures in Eskom. However, Eskom Enterprises (Pty) Limited did perform better than budget, mainly due to cost savings measures implemented in Telecomms, the main operating division.



## Eskom Enterprises continued

The Eskom Enterprises group supports the Eskom business by providing plant lifecycle support and plant maintenance, including return-to-service work, network protection and measurement, and supporting the build programme for all the main Eskom line divisions.

### Key focus areas in 2010

- Effective cash management
- Safety improvement initiatives
- Extraction of value from assets
- Disposal of arivia.kom
- Eskom Energie Manantali arbitration

During the year ended 31 March 2010, 56 lost-time incidents (2009: 86) were reported, covering employees and contractors. Regrettably, there was one fatal incident during the year (2009: five), being a contractor, as a result of a vehicle accident. The employee lost-time incidence rate declined significantly from 0,50 in 2009 to 0,34 during the current financial year, while the contractor lost-time incident rate declined from 0,43 in 2009 to 0,24 at year end.

### Performance indicators

Performance measure	Target 2010	Actual 2010	Actual 2009	Actual 2008	
<b>Socio-economic measures</b>					
LTIR – employees	0,20	<b>0,34</b>	0,50	0,39	●
LTIR – contractors	0,40	<b>0,24</b>	0,43	Not measured	●
Fatalities – employees	Nil	<b>Nil</b>	3	1	●
Fatalities – contractors	Nil	<b>1</b>	2	2	●

The group operates and maintains the Eskom group private telephone network, and provided the IT function to the Eskom group, until the sale of its investment in arivia.kom. Various other support services are provided.

### Risk profile

#### Risk

#### Treatment plans

**Low forward order book**

Identify areas within Eskom to add value

### Disposals

Eskom Enterprises disposed of its 58,5% shareholding in arivia.kom for a consideration of R235 million, which resulted in a reversal of R34 million of the impairment loss of R195 million incurred in the previous year. A five-year IT service outsourcing contract was signed on behalf of Eskom with the new owners of arivia.kom – T-Systems South Africa.



# Independent assurance report on sustainability information

## To the directors of Eskom Holdings Limited

We have undertaken an assurance engagement on selected performance information presented in the 2010 Eskom Integrated Annual Report (the report) of Eskom Holdings Limited (Eskom).

The directors are responsible for the preparation and presentation of the selected performance information presented in the report, the identification of stakeholders and stakeholder reporting requirements, material issues, for commitments with respect to sustainability performance, establishing and maintaining appropriate performance management and internal control systems, and the selection of the performance information which forms the subject of our engagement. The directors are also responsible for the selection and application of the following criteria in the evaluation of the subject matter:

- The AA1000APS (2008)<sup>1</sup> for the three principles of inclusivity, materiality and responsiveness (the AA1000APS (2008) principles);
- The Global Reporting Initiative (GRI) G3 Guidelines, supported by Eskom's internally developed reporting guidelines, which are available on request from Eskom, for the selected performance data; and
- The GRI G3 Guidelines for the B+ application level.

Our responsibility is to express assurance conclusions on the selected information based on our work performed. We believe that the evidence obtained from our work performed provides an appropriate basis for conclusions expressed in this report.

We comply with the appropriate requirements of the International Federation of Accountants (IFAC) Code of Ethics for Professional Accountants and have systems and processes in place to monitor compliance with the code and to prevent conflicts regarding independence. Our work was carried out by a multi-disciplinary team of health, safety, social, environmental and assurance specialists with extensive experience in sustainability reporting.

Our work has been undertaken to enable us to express the conclusions contained in this report solely to the directors of Eskom in accordance with the terms of our engagement, and for no other purpose. We do not accept or assume liability to any party other than Eskom, for our work, for this report, or for the conclusions we have reached.

## Assurance standards used

We conducted our engagement in accordance with the ISAE 3000<sup>2</sup> and AA1000AS (2008)<sup>3</sup>.

The scope of an AA1000AS (2008) engagement conforms to the requirements of a Type 2 assurance engagement which covers not only the nature and extent of the organisation's adherence to the AA1000APS (2008) principles of inclusivity, materiality and responsiveness, but also evaluates the reliability of the selected performance information. Reasonable and limited assurance are terms used in an ISAE 3000 engagement to distinguish between the two types of assurance and are consistent with a high and moderate level of assurance respectively which are the terms used in an AA1000AS (2008) engagement.

## The scope of our engagement

The scope of our engagement included the provision of:

1. Limited assurance on Eskom's alignment with AA1000APS (2008) principles as described on page 13 of the report.
2. Assurance, as described below, on the 'selected performance information'.
  - (a) Reasonable assurance on the following performance data, marked with an 'RA' on the relevant pages of the report:
    - Technical performance parameters – *Unplanned capability loss factor, system minutes lost, major incidents, system average interruption frequency index (SAIFI) and system average interruption duration index (SAIDI) and National Load Shedding (Generation induced) OR unserved energy*

1. AA1000 AccountAbility Principles Standard (2008), issued by AccountAbility

2. International Standard on Assurance Engagements 3000: Assurance engagements other than audits or reviews of historical information, issued by the International Auditing and Accounting Standards Board

3. AA1000 Assurance Standard (2008) issued by AccountAbility

## Independent assurance report on sustainability information continued

- Environmental performance parameters – *Coal purchased – stock days, specific water consumption, liquid fuel usage at the Open Cycle Gas Turbines, demand side management monitoring and verification, particulate emissions, carbon dioxide emissions, sulphur dioxide emissions, nitrogen oxides emissions, low level radioactive waste disposed, intermediate level radioactive waste disposed, polychlorinated biphenyls (PCBs) thermally destructed, asbestos disposed, ash disposed and environmental legal contraventions*
- Social performance parameters – *Skills and development (Eskom trainees/bursars-learner pipeline, number of engineering trainees/apprentices, additional number of non-Eskom learners on Eskom-sponsored learning), human resource operational measurements (race, gender, disabilities), corporate social investment spend, employee and contractor work related fatalities, employee lost time injury rate (LTIR)*
- Economic parameters – *Generation capacity installed and commissioned, transmission lines installed, transmission Mega Volt Amperes (MVA) installed, generation capital expenditure, transmission capital expenditure, percentage of local content in new-build contracts, cost of electricity, ratio of debt to equity (the debt: equity ratio) and interest cover.*

(b) Limited assurance on the following performance data, marked with an 'LA' on the relevant pages of the report:

- Environmental performance parameters – *Internal energy efficiency (non-essential energy consumption)*
- Social performance parameters – *Broad-Based Black Employment Equity (B-BBEE) Expenditure-Company (top 295 suppliers)*

3. Limited assurance on Eskom's self-declaration of the GRI B+ Application Level (page 169).

The above is collectively referred to as the 'selected information'.

### Summary of work performed

Our work was performed to obtain the evidence that we considered necessary for our engagement. The procedures selected depend on our judgement including the risks of material misstatement of the selected information in the report, whether due to fraud or error. In making those risk assessments we considered internal control relevant to the preparation of the report. Our evidence-gathering procedures are more limited than where reasonable assurance is expressed.

Our work included the following evidence-gathering procedures:

- Interviews with management and senior executives at corporate, operational divisions and site level to evaluate the application of the GRI G3 Guidelines and the AA1000APS (2008) principles and to obtain an understanding of the general control environment, taking into account the maturity of the application of AA1000APS (2008) in South Africa and at Eskom.
- Evaluating evidence provided by management and senior executives at corporate level to substantiate the accuracy of statements made during the interviews as well as systems in place at corporate, divisional and site level.
- Evaluating and testing of process and systems and inspecting documentation at corporate, operational divisions and site level to generate, collate, aggregate, monitor and report the selected sustainability performance information for the year.
- Visiting business units including Koeberg (nuclear power station), Arnot (coal power station), Tutuka (coal power station), Matimba (coal power station), Lethabo (coal power station), Matla (coal power station), Kendal (coal power station), Kriel (coal power station), Hendrina (coal power station), Transmission division, the North West Distribution region, Northern Distribution Region, Central Distribution Region, Capital Expansion (Enterprises), Roshcon (Enterprises) and Rotek (Enterprises).
- Conducting an application level check on the report to ensure all disclosure requirements of the GRI B+ application level have been adhered to.

- Evaluating whether the information presented in the report is consistent with our overall knowledge and experience of sustainability management and performance at Eskom and is not inconsistent with information contained in the annual financial statements that are included in the Annual Report.

## Conclusions

### 1. On the AA1000APS (2008) principles of inclusiveness, materiality and responsiveness

Based on our work performed, nothing has come to our attention that causes us to believe that Eskom's assertions relating to their alignment with the AA1000APS (2008) principles of inclusivity, materiality and responsiveness, described on page 13, is not fairly stated.

### 2. On the selected performance information

In our opinion, the selected 2009/2010 performance information set out in 2(a) above for the year ended 31 March 2010, is fairly stated in all material respects in accordance with the GRI G3 Guidelines, supported by Eskom's internally developed reporting guidelines.

Based on our work performed, nothing has come to our attention that causes us to believe that the selected 2009/2010 performance information set out in 2(b) above for the year ended 31 March 2010, is not fairly stated in all material respects in accordance with the GRI G3 Guidelines, supported by Eskom's internally developed reporting guidelines.

### 3. On Eskom's self-declaration on the GRI G3 B+ Application Level

Based on our work performed, nothing has come to our attention that causes us to believe that Eskom's self-declaration of a B+ Application Level, is not fairly stated in all material respects in accordance with the GRI G3 Guidelines.

## Observations

The key observations below do not affect our conclusions.

### On the AA1000APS principles of inclusiveness, materiality and responsiveness

In relation to the principle of inclusiveness, Eskom has an extensive stakeholder engagement process in place and has identified a broad range of relevant stakeholders. However, as discussed on page 14, the process is currently not centrally co-ordinated and integrated. Eskom have taken several steps to improve the effectiveness of their stakeholder engagement processes.

In relation to the principle of materiality, as discussed on page 13, Eskom has implemented a group-wide risk management framework for the identification and analysis of risks. This process will benefit from a more effective stakeholder engagement process. The process of determining which material issues to report on and meaningfully analysing the chosen material issues within the report in proportion to the magnitude of the risk to Eskom and to stakeholders is an area for future focused sustainability reporting.

In relation to the principle of responsiveness, as the improvements described in the preceding paragraphs are addressed, the issue of responsiveness to stakeholder concerns is expected to improve.

## KPMG Services (Pty) Limited



Per PD Naidoo  
Director  
Johannesburg  
10 June 2010



AH Jaffer  
Director  
Johannesburg  
10 June 2010





# Consolidated financial statements

## Section contents

	Page		Page	
Currency of financial statements	173	4	Critical accounting estimates and judgements	224
Statement of responsibilities and approval	174	5	Segment information	227
Report of the audit committee	175	6	Property, plant and equipment	230
Statement by company secretary	175	7	Intangible assets	233
Independent auditors' report	176	8	Investment in equity-accounted investees	234
Directors' report	177	9	Investment in subsidiaries	236
Statements of financial position	180	10	Financial instruments with group companies	238
Income statements	181	11	Future fuel supplies	239
Statements of comprehensive income	181	12	Deferred tax	239
Statements of changes in equity	182	13	Financial instruments	240
Statements of cash flows	184	14	Embedded derivative assets and liabilities	250
Notes to the consolidated financial statements:		15	Derivatives held for risk management	251
1 General information	186	16	Finance lease receivables	254
2 Summary of significant accounting policies:		17	Trade and other receivables	254
2.1 Basis of preparation and measurement	186	18	Inventories	254
2.2 Consolidation	188	19	Service concession arrangements	255
2.3 Segment reporting	189	20	Share capital	256
2.4 Foreign currency translation	189	21	Payments made in advance	257
2.5 Property, plant and equipment	190	22	Non-current assets and liabilities held-for-sale	257
2.6 Intangible assets	190	23	Deferred income	261
2.7 Capitalisation of borrowing costs	191	24	Retirement benefit obligations	262
2.8 Service concession arrangements	191	25	Provisions	264
2.9 Leases	192	26	Finance lease liabilities	265
2.10 Impairment of non-financial assets	193	27	Trade and other payables	265
2.11 Financial instruments	193	28	Payments received in advance	265
2.12 Inventories	197	29	Revenue	266
2.13 Future fuel supplies	198	30	Other income	266
2.14 Share capital	198	31	Net fair value loss on financial instruments, excluding embedded derivatives	266
2.15 Equity reserve	198	32	Employee benefit expense	266
2.16 Income tax	198	33	Depreciation and amortisation expense	266
2.17 Deferred tax	198	34	Net impairment loss	267
2.18 Payments received in advance	198	35	Other operating expenses	267
2.19 Deferred income	198	36	Finance income	267
2.20 Insurance contracts	199	37	Finance cost	268
2.21 Employee benefits	199	38	Income tax	268
2.22 Provisions	200	39	Cash generated from operations	270
2.23 Revenue recognition	200	40	Guarantees and contingent liabilities	271
2.24 Finance income	201	41	Commitments	274
2.25 Finance cost	201	42	Related-party transactions	274
2.26 Dividend income	201	43	Events after the reporting date	276
2.27 Dividend distribution	201	44	Restatement of comparatives	277
2.28 Non-current assets and liabilities held-for-sale	201	45	Directors' remuneration	280
3 Financial risk management	201			

## Currency of financial statements

The financial statements are expressed in South African rand (R).

The following are approximate values of R1,00 to the selected currencies and one unit of the selected currencies to the rand:

	R1,00 to the selected currency		one unit of the selected currency to the rand	
	March	March	March	March
	2010	2009	2010	2009
EUR	0,10	0,08	9,92	12,63
USD	0,14	0,11	7,34	9,49
GBP	0,09	0,07	11,11	13,57
CHF	0,14	0,12	6,94	8,33
JPY	12,50	10,35	0,08	0,10
SEK	0,98	0,87	1,02	1,15
CAD	0,14	0,13	7,23	7,69
AUD	0,15	0,15	6,73	6,67
NOK	0,81	0,71	1,24	1,41
Currency	Abbreviation	Currency	Abbreviation	
Euro	EUR	Swedish krona	SEK	
United States dollar	USD	Canadian dollar	CAD	
Pound sterling (United Kingdom)	GBP	Australian dollar	AUD	
Swiss franc	CHF	Norwegian krone	NOK	
Japanese yen	JPY			

## Statement of responsibilities and approval

The Public Finance Management Act requires the directors to ensure that Eskom Holdings Limited (Eskom) and its subsidiaries (the group) keep full and proper records of their financial affairs. The financial statements should fairly present the state of affairs of Eskom and the group, its financial results, its performance against predetermined objectives for the year and its financial position at the end of the year in terms of International Financial Reporting Standards.

To enable the directors to meet the above mentioned responsibilities, the Eskom board of directors sets standards and management implements systems of internal control. The controls are designed to provide cost-effective assurance that assets are safeguarded, and that liabilities and working capital are efficiently managed. Policies, procedures, structures and approval frameworks provide direction, accountability and division of responsibilities, and contain self-monitoring mechanisms. The controls throughout Eskom focus on those critical risk areas identified by operational risk management and confirmed by executive management. Both management and the internal audit department closely monitor the controls, and actions taken to correct deficiencies as they are identified.

The financial statements are the responsibility of the directors. The external auditors are responsible for independently auditing the financial statements in accordance with International Standards of Auditing and the Public Audit Act.

Nothing significant has come to the attention of the directors to indicate that any material breakdown has occurred in the functioning of these controls, procedures and systems during the year under review.

The financial statements of Eskom and the group have been prepared in terms of International Financial Reporting Standards, the Companies Act of South Africa, 61 of 1973, as amended and the Public Finance Management Act, 1 of 1999. These financial statements are based on appropriate accounting policies, supported by reasonable and prudent judgements and estimates and are prepared on the going-concern basis. Refer to the directors' report on page 177 for further information.

Should Eskom not receive adequate funding for its planned activities, the board undertakes to curtail its activities in order to balance its cash flow requirements.

Based on the information and explanations given by management, the internal audit function and discussions held with the independent external auditors, the directors are of the opinion that the internal accounting controls are adequate to ensure that the financial records may be relied upon for preparing the financial statements, and that accountability for assets and liabilities is maintained.

In the opinion of the directors, based on the information available to date, the financial statements fairly present the financial position of Eskom and the group at 31 March 2010 and the results of its operations and cash flows for the year.

The financial statements of Eskom and the group for the year ended 31 March 2010 have been approved by the board of directors and signed on its behalf on 10 June 2010 by



**MP Makwana**

*Acting chairman*

10 June 2010



**PS O'Flaherty**

*Finance director*

10 June 2010

## Report of the audit committee

### Report of the audit committee in terms of the Public Finance Management Act, 1 of 1999

The audit committee reports that it has adopted appropriate formal terms of reference as its audit committee charter; has regulated its affairs in compliance with this charter; and has discharged all of its responsibilities contained therein.

In the conduct of its duties, the audit committee has, *inter alia*, reviewed the following:

- the effectiveness of the internal control systems
- the risk areas of the entity's operations covered in the scope of internal and external audits
- the adequacy, reliability and accuracy of financial information provided by management
- accounting and auditing concerns identified as a result of internal and external audits
- the entity's compliance with legal and regulatory provisions
- the effectiveness of the assurance and forensic department
- the activities of the assurance and forensic department, including its annual work programme, co-ordination with the external auditors, the reports of significant investigations and the responses of management to specific recommendations
- preparation of the annual financial statements on the going-concern basis and related cash flow projections
- the independence of and objectivity of the external auditors

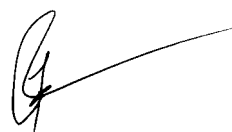
The audit committee is of the opinion, based on the information and explanations given by management and the assurance and forensic department and discussions with the independent external auditors on the result of their audits, that the internal accounting controls are adequate to ensure that the financial records may be relied upon for

preparing the financial statements, and accountability for assets and liabilities is maintained.

Nothing significant has come to the attention of the audit committee to indicate that any material breakdown in the functioning of these controls, procedures and systems has occurred during the year under review.

Having considered the matters set out in section 270A(5) of the Companies Act of South Africa as amended by the Corporate Laws Amendment Act, the audit committee is satisfied with the independence and objectivity of the external auditors.

The audit committee has evaluated the financial statements of Eskom Holdings Limited and the group for the year ended 31 March 2010 and, based on the information provided to the audit committee, considers that they comply, in all material respects, with the requirements of the Companies Act of South Africa, 61 of 1973, as amended, the Public Finance Management Act, 1 of 1999, as amended, and International Financial Reporting Standards. The audit committee concurs with the adoption of the going-concern premise in the preparation of the financial statements. The audit committee has therefore, at their meeting held on 3 June 2010, recommended the adoption of the financial statements by the board of directors.



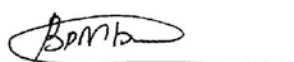
**JRD Modise**

*Chairman*

10 June 2010

## Statement by company secretary

In terms of section 268G(d) of the Companies Act, 61 of 1973, as amended, I certify that the company has lodged with the Registrar of Companies all such returns as are required of a public company in terms of the Act, and that all such returns are true, correct and up to date.



**B Mbomvu**

*Company secretary*

10 June 2010



# Independent auditors' report to the shareholder – Minister of Public Enterprises

## Report on the annual financial statements

We have audited the group annual financial statements and annual financial statements of Eskom Holdings Limited (Eskom) which comprise the directors' report, the consolidated and separate statements of financial position at 31 March 2010, the consolidated and separate income statements and statements of comprehensive income, statement of changes in equity and cash flows for the year then ended, and the notes to the financial statements which contain a summary of significant accounting policies and other explanatory notes as set out on pages 177 to 285.

### Directors' responsibility for the annual financial statements

The company's directors, who constitute the accounting authority for Eskom Holdings Limited, are responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards, and in the manner required by the Public Finance Management Act and the Companies Act of South Africa. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

### Auditors' responsibility concerning the annual financial statements

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the financial statements present fairly, in all material respects, the consolidated and separate financial position of Eskom Holdings Limited at 31 March 2010 and its consolidated and separate statements of financial performance and consolidated and separate cash flows for the year then ended in accordance with International Financial Reporting Standards, and in the manner required by the Public Finance Management Act of South Africa and the Companies Act of South Africa.

## Report on other legal and regulatory requirements

In terms of the Public Audit Act of South Africa and General Notice 1570 of 2009, issued in Government Gazette No 32758 of 27 November 2009, we include below our findings on the report on performance against predetermined objectives, compliance with laws and regulations and internal control.

### Report on performance against predetermined objectives

We are required by the Auditor-General to undertake a limited assurance engagement on the *performance against the shareholder compact* as set out on pages 34 and 35 of the Integrated report, in which the actual performance of the company for the year ended 31 March 2010 is compared with target key performance indicators (predetermined objectives) and report thereon to those charged with governance. In this report we are required to report our findings coming from our engagement relating to non-compliance with regulatory requirements, where the reported information was inadequately presented or not received timeously, and where we have evaluated reported information to be useful or reliable. We report that we have no significant findings.

### Compliance with laws and regulations

Our audit of the annual financial statements, described in our report on the financial statements, did not reveal any material non-compliance with applicable laws and regulations relating to financial matters, financial management and related matters as required by the Public Finance Management Act of South Africa (which includes the relevant National Treasury Regulations) and the Companies Act of South Africa.

### Internal control

We considered internal control relevant to our audit of the financial statements, and the report on performance against predetermined objectives and compliance with laws and regulations, but not for the purpose of expressing an opinion on the effectiveness of internal control. The matters reported in this report are limited to the deficiencies identified during our audit. Our opinion on the financial statements, as expressed in our report on the financial statements, is unmodified.

KPMG Inc



Director: AH Jaffer  
Registered auditor

10 June 2010

85 Empire Road  
Parktown  
2193

SizweNtsaluba vsp



Director: SY Lockhat  
Registered auditor

10 June 2010

20A Morris Street East  
Woodmead  
2191

## Directors' report

The directors are pleased to present their report for the year ended 31 March 2010.

### Principal activities, state of affairs and business review

The principal activities of the Eskom group are described on the inside front cover in the Profile section.

#### State of affairs and business overview

The operating profit for the year for the Eskom group, before fair value gains and losses and net finance costs, was R10 193 million (2009: loss of R333 million) and for the company a profit of R8 351 million (2009: loss of R2 636 million).

The profit for the year for the Eskom group was R3 620 million (2009: loss of R9 668 million) after taking into account the net fair value profit on embedded derivatives of R2 284 million (2009: loss of R9 514 million).

The profit for the year for the company was R3 187 million (2009: loss of R10 137 million) after taking into account the net fair value profit on embedded derivatives of R2 283 million (2009: loss of R9 506 million).

Eskom applied for a 34% price increase for the 2009/10 period and received a 31,3% increase. For the period 2010/11 to 2012/13 Eskom submitted a proposed price increase application of 45% on 30 September 2009, followed by a revised application of 35% on 30 November 2009. Nersa held public hearings on the application in all nine provinces during January 2010, for the first time ever. On 24 February 2010 Nersa awarded Eskom a price determination of 24,8% (2010/11), 25,8% (2011/12) and 25,9% (2012/13). Further information in this regard is set out on page 90 in the Regulatory and Legal Framework section.

The forward electricity price curve used to value embedded derivatives at 31 March 2010 was the applicable tariff determined by Nersa as referred to above. The curve assumes two additional annual increases of 25% and CPI thereafter. A sensitivity analysis for the embedded derivatives appears in note 4 to the annual financial statements on page 224.

The special pricing agreements link the price of electricity to commodity prices which resulted in embedded derivatives in our financial statements. The large changes in commodity prices and other variables used to fair value them resulted in volatility in our results. It therefore became a priority to renegotiate these contracts to eliminate the embedded derivatives. By year end the contract with Mozal had been successfully renegotiated, while the others were at an advanced stage in the negotiation, which we estimate will be concluded by the end of the 2011 financial year. These negotiations had a significant impact in reducing the carrying value of the net embedded derivative exposure.

Eskom succeeded in removing the link of its power price to the market price of aluminium. Eskom now sells electricity to Mozal at a rand price and have taken off any derivatives.

Capital expenditure including borrowing cost capitalised is disclosed in notes 6 and 7 to the annual financial statements. An amount of R57 003 million (2009: R47 099 million) was spent during the year. The future funding of the capital expansion programme is discussed in the Finance division section on page 44.

For more detailed information on the performance for the year, refer to the annual financial statements on pages 173 to 285 and Sustainability reporting in Eskom on pages 11 to 171.

#### Share capital and shareholder

The Government of the Republic of South Africa is the sole shareholder of Eskom Holdings Limited. The shareholder's representative is the Minister of Public Enterprises.

#### Dividends

No dividend was declared during the current and prior year, after taking into account the resource impact of the future build programme, the current capital structure, and the dividend policy.

#### Going concern

The funding gap over the next seven years based on the plan formulated by Eskom after the multi-year price determination tariff ruling and as communicated in the public domain during April and May 2010, indicated that Eskom is facing cumulative cash shortfalls of R1 15 billion by 2013 and R190 billion by 2017 (the year in which the Kusile power station is fully commissioned).

These amounts, however, include capital expenditure of R144 billion relating to capacity expansion projects beyond Kusile which have as yet not been approved by either the board or by the Department of Energy's (DoE) Integrated Resource Plan (IRP2) process.

With regard to capacity expansion projects beyond Kusile, Eskom's position is that once this IRP2 has been published by DoE later this year, indicating the new capacity requirements, they will need to be pre-funded at inception to avoid a repeat of Eskom's current financial position.

As a result, during the early part of calendar year 2010, Eskom secured a mandate from its shareholder to formally pursue a much broader range of potential financing solutions, and it has engaged advisors to evaluate these as well as specific funding opportunities around the Kusile power station that is currently under construction in eMalaheni in Mpumalanga.

This support from government is in addition to the R60 billion loan committed during the previous financial year (R40 billion received to date) and the R176 billion government guarantee (R117 billion used to date) provided to enable Eskom to raise debt.

The World Bank has approved Eskom's request for a R28 billion loan to co-finance the Medupi power plant in Lephalale, Limpopo province. These funds combine favourable financing rates with a structured repayment profile. This approval clears the way for the full construction of Medupi power station and is catalytic for South Africa's commitment to renewable energy and lower carbon technologies such as large-scale solar thermal and wind power.

## Directors' report

The above initiatives are expected to result in cash stability over the next seven years (excluding the R144 billion estimated in the period for capacity expansion beyond Kusile).

Even though this funding plan requires final government approval and implementation, the Eskom board believes that Eskom is a going concern over the next 18 months as its expected working capital resources, by way of cash generated from operations and existing cash on hand, together with current undrawn secured facilities are sufficient to meet Eskom's present working capital and capital expenditure needs during that period.

### Directors

Currently the board consists of nine non-executive directors, the acting chairman and the finance director. Mr RM Godsell resigned as chairman on 9 November 2009 and Mr PJ Maroga resigned as chief executive on 28 October 2009. Mr PM Makwana was appointed as acting chairman with executive powers on 12 November 2009. Mr PS O'Flaherty was appointed as finance director from 1 January 2010. Mr AJ Morgan resigned on 31 March 2010.

The board of directors and their details are discussed on page 26 and on page 288 in the Corporate governance report.

### Remuneration of directors and members of Exco

The remuneration of the directors and the executives who were members of Exco during the financial year, is disclosed in note 45 to the annual financial statements, on page 280.

### Company secretary

The details of the company secretary and her declaration in terms of section 268G(d) of the Companies Act are disclosed in her statement on page 175.

### Auditors

The statutory auditors for the forthcoming financial year will be appointed at the annual general meeting scheduled for 28 June 2010.

Eskom's policy is, where possible, not to use the external auditors for non-audit services. In cases where the external auditors are to be used for non-audit services, the prior approval of the board's audit committee must be obtained.

### Internal control

An effective internal control framework is the responsibility of the board. The control framework provides cost-effective assurance that the assets of the organisation are safe guarded and that the liabilities and working capital are efficiently managed.

These controls are monitored and evaluated through the audit committee. Refer to the Governance section on page 293 and the statement of responsibilities and approval on page 174 for further detail on internal control and integrated risk management.

### Subsidiaries, associated and joint venture companies

The investment of Eskom in subsidiaries, associate and joint venture companies is disclosed in notes 8 and 9 in the annual financial statements. Refer also to the organisational structure on page 6.

### Interests of directors and officers

Details of directors' and officers' interests in the Eskom incentive scheme is disclosed in note 45 to the annual financial statements. Refer to page 293 for Eskom's ethics policies and their application regarding interests in contracts.

### Research and development activities

Research is driven by the sustainability and innovation business unit. It focuses predominantly on applied, rather than pure research, and outputs are linked to the strategic and operational needs of Eskom. In order to remain relevant, a portion of research resources are allocated to technology innovation and emerging technology options. Our research expenditure for the year amounted to R197 million (2009: R207 million). Research and development activities are discussed in greater detail within the research blocks within the Corporate Services section on pages 51 to 163 and in other divisional reports.

### Employee information

The Eskom group had a staff complement of 39 222 men and women at the end of the financial year. Training has always been a major focus area and this past year R758 million (2009: R823 million) was spent on training and developing our staff. The staff turnover during the year was a low 3,5%, but with the build programme underway, we face a number of skills-related challenges. The management of human resources is discussed in the Human Resources section on page 76.

### Safety

Safety remains a major area of concern for Eskom as we have to report the death of two employees and 14 contract workers in the past year. Sadly 41 members of the public died in 2010, with vehicle accidents and electrical contacts remaining the major causes. Much work and effort continues to be put into safety awareness.

### Environmental issues

While we are responding to the demand of electricity by building new capacity, ensuring financial stability and driving energy efficiency, we understand that the long-term nature of our business has an impact on environmental sustainability into the future. We therefore continue to strive for a balance between the different legs of sustainability. Bearing this in mind, our long-term planning processes take into account a lower carbon future for South Africa. Eskom's response to climate change and limiting the impact on the environment is discussed on page 52 in the Corporate Services section and divisional reports.

### Corporate social investment

Eskom is committed to good corporate citizenship through its corporate social investment (CSI) initiatives. Eskom does not consider donations and grants to political party activities, trade union activities and religious organisations unless it is a non-profit organisation and has an outreach programme that directly benefits the community, for example, Aids hospice. Refer also to page 68 in the Corporate Services section.

## Information required by the Public Finance Management Act

### Performance in terms of the shareholder compact

The performance of Eskom against the shareholder compact key performance indicators is shown in the table on page 34 in the Profile section.

Reasons for not meeting the targets on the shareholder compact:

- **Internal energy efficiency**  
Metering and monitoring is still outstanding at some key facilities, hence not all potential savings are as yet being reported. Metered information is also required for the development of the Eskom baseline. The targeted savings (percentage savings) will be determined once the Eskom baseline is completed
- **Generation and transmission capital expenditure**  
As a result of funding constraints, the capital expenditure was delayed on a number of projects, which would otherwise have been on target
- **Additional number of non-Eskom learners on Eskom-sponsored learning**  
The definition of non-Eskom learners only included the Dr Straszacker and Van der Bijl Eskom-sponsored scholarships. The University of Technology merit bursars also sponsored by Eskom, were unintentionally omitted from the definition, but included in the target. Hence the number reported being below target

### Losses through criminal conduct and irregular or fruitless and wasteful expenditure

In terms of the materiality framework agreed with the shareholder, any losses due to criminal conduct or irregular or fruitless and wasteful expenditure, that individually (or collectively where items are closely related) exceed R10 million must be reported.

#### Irregular or fruitless and wasteful expenditure

During the year the company underpaid value-added tax to the South African Revenue Service as a result of compilation errors. Due to the late payment, an additional amount of R47 million was paid as interest and penalties. Certain internal control enhancements relating to the preparation of returns have since been implemented. Disciplinary action was instituted, which resulted in a dismissal.

#### Losses due to criminal conduct

##### Conductor theft

Losses due to conductor theft (including copper, cable, transformers and tower-related structures) totalled R45,6 million (2009: R38 million), and involved 2 580 incidents (2009: 2 343 incidents).

Actions to combat conductor theft are managed by the Eskom Conductor Theft Committee in collaboration with other affected state-owned enterprises and the South African Police Services. The combined effort resulted in 367 arrests (2009: 480 arrests). R6,3 million worth of stolen material was recovered (2009: R4,7 million).

## Fraud

During the financial year investigations into incidents of fraud suffered by the group, amounting to R13,4 million (2009: R3,1 million), were finalised. Of this amount, R7,3 million (2009: Rnil) was recovered. The existing internal control measures in the affected areas as well as similar areas have been reviewed and enhanced. Disciplinary, criminal as well as civil proceedings have been instituted against those involved.

## Promotion of Access to Information Act



Refer to [www.eskom.co.za/annreport10/016.html](http://www.eskom.co.za/annreport10/016.html) for statistics relating to requests received during the year in terms of the Promotion of Access to Information Act.

## Management of energy losses

Energy losses reflect the difference between the quantity of energy sent out from the power stations and the quantity sold to the various customers at the end of the value chain. Losses are categorised as technical or non-technical in nature. Refer to page 160 for more details regarding energy losses.

The energy losses are as follows:

Energy losses	2010		2009 Actual %	2008 Actual %
	Target %	Actual %		
Total distribution loss	≤6,00	5,87	5,46	5,47
Total transmission loss	≤3,30	3,25	3,08	3,13
Total Eskom loss	≤8,76	8,45	7,94	8,00

## Statements of financial position

at 31 March 2010

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>Assets</b>					
<b>Non-current assets</b>		<b>203 162</b>	154 160	<b>199 723</b>	155 528
Property, plant and equipment	6	187 905	138 642	187 008	138 328
Intangible assets	7	1 305	851	1 177	740
Investment in equity-accounted investees	8	196	182	95	95
Investment in subsidiaries	9	–	–	2 341	2 341
Future fuel supplies	11	3 768	3 510	3 768	3 510
Deferred tax assets	12	79	56	–	–
Investment in securities	13	2 392	3 558	1 923	3 153
Loans receivable	13	4 110	–	–	–
Embedded derivative assets	13, 14	–	1 135	–	1 135
Derivatives held for risk management	13, 15	–	586	–	586
Finance lease receivables	13, 16	532	536	532	536
Trade and other receivables	13, 17	19	23	23	23
Payments made in advance	21	2 856	5 081	2 856	5 081
<b>Current assets</b>		<b>42 953</b>	41 106	<b>41 622</b>	39 092
Financial instruments with group companies	13, 10	–	–	2 461	1 279
Inventories	18	7 378	6 581	7 287	6 438
Taxation		88	89	–	–
Payments made in advance	21	1 413	1 086	1 384	1 006
Investment in securities	13	2 797	4 360	1 584	3 320
Loans receivable	13	6	–	–	–
Embedded derivative assets	13, 14	110	231	110	231
Derivatives held for risk management	13, 15	112	1 251	112	1 251
Finance lease receivables	13, 16	13	11	13	11
Trade and other receivables	13, 17	9 391	8 191	8 247	7 073
Financial trading assets	13	6 104	924	5 553	562
Cash and cash equivalents	13	15 541	18 382	14 871	17 921
<b>Non-current assets held-for-sale</b>	22	<b>20</b>	4 036	–	–
<b>Total assets</b>		<b>246 135</b>	199 302	<b>241 345</b>	194 620
<b>Equity</b>					
Capital and reserves attributable to owner of the company		70 222	59 349	67 119	56 701
Non-controlling interest		–	229	–	–
<b>Total equity</b>		<b>70 222</b>	59 578	<b>67 119</b>	56 701
<b>Liabilities</b>					
<b>Non-current liabilities</b>		<b>132 700</b>	95 349	<b>130 544</b>	94 456
Debt securities issued	13	59 322	44 253	58 538	44 253
Borrowings	13	34 628	12 796	34 153	12 369
Embedded derivative liabilities	13, 14	4 583	8 219	4 583	8 219
Derivatives held for risk management	13, 15	3 626	786	3 626	786
Deferred tax liabilities	12	5 262	6 098	4 834	5 871
Deferred income	23	7 036	5 536	7 036	5 536
Retirement benefit obligations	24	6 988	6 061	6 823	5 919
Provisions	25	8 494	8 883	8 194	8 731
Finance lease liabilities	13, 26	632	537	965	761
Trade and other payables	13, 27	1 134	1 466	797	1 297
Payments received in advance	28	995	714	995	714
<b>Current liabilities</b>		<b>43 213</b>	42 362	<b>43 682</b>	43 463
Financial instruments with group companies	13, 10	–	–	1 897	1 853
Debt securities issued	13	2 880	3 324	2 141	3 324
Borrowings	13	9 143	13 811	9 094	13 809
Embedded derivative liabilities	13, 14	139	43	138	41
Derivatives held for risk management	13, 15	4 644	2 626	4 644	2 626
Deferred income	23	342	494	342	494
Retirement benefit obligations	24	210	184	210	184
Provisions	25	2 010	1 498	1 447	1 246
Finance lease liabilities	13, 26	52	15	74	45
Trade and other payables	13, 27	16 331	16 701	16 370	16 248
Payments received in advance	28	1 883	1 471	1 802	1 403
Taxation		66	15	10	10
Financial trading liabilities	13	5 513	2 180	5 513	2 180
<b>Non-current liabilities held-for-sale</b>	22	<b>–</b>	2 013	–	–
<b>Total liabilities</b>		<b>175 913</b>	139 724	<b>174 226</b>	137 919
<b>Total equity and liabilities</b>		<b>246 135</b>	199 302	<b>241 345</b>	194 620

## Income statements

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	Restated <sup>1</sup> 2009 Rm	2010 Rm	Restated <sup>1</sup> 2009 Rm
<b>Continuing operations</b>					
Revenue	29	71 209	54 177	70 064	53 090
Primary energy <sup>2</sup>		(29 100)	(24 884)	(29 100)	(24 884)
Employee benefit expense	32	(17 390)	(15 135)	(15 984)	(14 102)
Depreciation and amortisation expense	33	(5 726)	(4 918)	(5 953)	(4 745)
Net impairment loss	34	(652)	(989)	(654)	(1 011)
Other operating expenses	35	(8 148)	(8 584)	(10 022)	(10 984)
Operating profit/(loss) before net fair value loss and net finance cost		10 193	(333)	8 351	(2 636)
Other income	30	557	610	1 589	1 422
Net fair value loss on financial instruments, excluding embedded derivatives	31	(5 945)	(2 392)	(6 097)	(2 303)
Net fair value profit/(loss) on embedded derivatives		2 284	(9 514)	2 283	(9 506)
Operating profit/(loss) before net finance cost		7 089	(11 629)	6 126	(13 023)
Net finance cost		(1 237)	(1 167)	(1 303)	(1 275)
Finance income	36	1 614	3 152	1 577	3 104
Finance cost	37	(2 851)	(4 319)	(2 880)	(4 379)
Share of profit of equity-accounted investees, net of tax	8	14	37	–	–
<b>Profit/(loss) before tax</b>		<b>5 866</b>	<b>(12 759)</b>	<b>4 823</b>	<b>(14 298)</b>
Income tax	38	(2 080)	3 786	(1 636)	4 161
<b>Profit/(loss) for the year from continuing operations</b>		<b>3 786</b>	<b>(8 973)</b>	<b>3 187</b>	<b>(10 137)</b>
<b>Discontinued operations</b>					
Loss for the year from discontinued operations	22	(166)	(695)	–	–
<b>Profit/(loss) for the year</b>		<b>3 620</b>	<b>(9 668)</b>	<b>3 187</b>	<b>(10 137)</b>
<b>Attributable to:</b>					
Owner of the company		3 642	(9 705)	3 187	(10 137)
Non-controlling interest		(22)	37	–	–
		<b>3 620</b>	<b>(9 668)</b>	<b>3 187</b>	<b>(10 137)</b>

## Statements of comprehensive income

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	Restated <sup>1</sup> 2009 Rm	2010 Rm	Restated <sup>1</sup> 2009 Rm
<b>Profit/(loss) for the year</b>		<b>3 620</b>	<b>(9 668)</b>	<b>3 187</b>	<b>(10 137)</b>
<b>Other comprehensive loss</b>		<b>(6 155)</b>	<b>(313)</b>	<b>(6 162)</b>	<b>(327)</b>
Available-for-sale financial assets – net change in fair value		(25)	33	(17)	17
Cash flow hedges					
Effective portion of changes in fair value		(8 450)	(411)	(8 450)	(411)
Changes in fair value		(8 604)	(816)	(8 604)	(816)
Ineffective portion of changes in fair value reclassified to profit or loss		154	405	154	405
Net amount transferred to initial carrying amount of hedged items		(51)	(66)	(51)	(66)
Foreign currency translation differences for foreign operations		13	2	–	–
Net actuarial loss on post-retirement medical aid benefits	24	(317)	(55)	(317)	(55)
Income tax on other comprehensive loss	38	2 675	184	2 673	188
<b>Total comprehensive loss for the year</b>		<b>(2 535)</b>	<b>(9 981)</b>	<b>(2 975)</b>	<b>(10 464)</b>
<b>Attributable to:</b>					
Owner of the company		(2 513)	(10 018)	(2 975)	(10 464)
Non-controlling interest		(22)	37	–	–
		<b>(2 535)</b>	<b>(9 981)</b>	<b>(2 975)</b>	<b>(10 464)</b>

1. Refer note 44.

2. Primary energy relates to the acquisition of coal, uranium, water, gas and diesel that are used in the generation of electricity.

## Statements of changes in equity

for the year ended 31 March 2010

	Attributable to owner of the company										
	Share capital <sup>1</sup>	Equity reserve <sup>2</sup>	Cash flow hedge reserve <sup>3</sup>	Available-for-sale reserve <sup>4</sup>	Un-realised fair value reserve <sup>5</sup>	Insurance reserve <sup>6</sup>	Foreign currency translation reserve <sup>7</sup>	Accumulated profit <sup>8</sup>	Total	Non-controlling interest	Total equity
	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Group</b>											
Balance at 31 March 2008	-	-	5 471	(137)	(485)	86	(2)	55 990	60 923	206	61 129
Loss for the year	-	-	-	-	-	-	-	(9 705)	(9 705)	37	(9 668)
Other comprehensive (loss)/income, net of tax	-	-	(299)	24	-	-	14	(52)	(313)	-	(313)
Available-for-sale financial assets											
Net change in fair value	-	-	-	24	-	-	-	-	24	-	24
Cash flow hedges											
Effective portion of changes in fair value	-	-	(251)	-	-	-	-	-	(251)	-	(251)
Net amount transferred to initial carrying amount of hedged items	-	-	(48)	-	-	-	-	-	(48)	-	(48)
Foreign currency translation differences on foreign operations	-	-	-	-	-	-	14	(12)	2	-	2
Net actuarial loss on post-retirement medical aid benefits	-	-	-	-	-	-	-	(40)	(40)	-	(40)
Subordinated loan from shareholder	-	8 444	-	-	-	-	-	-	8 444	-	8 444
Other movements on non-controlling interest	-	-	-	-	-	-	-	-	-	(14)	(14)
Transfer between reserves	-	-	-	-	(1 164)	36	-	1 128	-	-	-
Balance at 31 March 2009	-	8 444	5 172	(113)	(1 649)	122	12	47 361	59 349	229	59 578
Profit for the year	-	-	-	-	-	-	-	3 642	3 642	(22)	3 620
Other comprehensive (loss)/income, net of tax	-	-	(5 922)	(18)	-	-	13	(228)	(6 155)	-	(6 155)
Available-for-sale financial assets											
Net change in fair value	-	-	-	(18)	-	-	-	-	(18)	-	(18)
Cash flow hedges											
Effective portion of changes in fair value	-	-	(5 885)	-	-	-	-	-	(5 885)	-	(5 885)
Net amount transferred to initial carrying amount of hedged items	-	-	(37)	-	-	-	-	-	(37)	-	(37)
Foreign currency translation differences on foreign operations	-	-	-	-	-	-	13	-	13	-	13
Net actuarial loss on post-retirement medical aid benefits	-	-	-	-	-	-	-	(228)	(228)	-	(228)
Subordinated loan from shareholder	-	13 393	-	-	-	-	-	-	13 393	-	13 393
Sale of investment in subsidiary	-	-	-	(22)	15	-	-	-	(7)	(207)	(214)
Transfer between reserves	-	-	-	-	550	(67)	-	(483)	-	-	-
<b>Balance at 31 March 2010</b>	-	21 837	(750)	(153)	(1 084)	55	25	50 292	70 222	-	70 222

	Attributable to owner of the company						Total
	Share capital <sup>1</sup>	Equity reserve <sup>2</sup>	Cash flow hedge reserve <sup>3</sup>	Available-for-sale reserve <sup>4</sup>	Un-realised fair value reserve <sup>5</sup>	Accumulated profit <sup>8</sup>	
	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Company</b>							
Balance at 31 March 2008	–	–	5 473	(159)	(497)	53 904	58 721
Loss for the year	–	–	–	–	–	(10 137)	(10 137)
Other comprehensive (loss)/income, net of tax	–	–	(299)	12	–	(40)	(327)
Available-for-sale financial assets							
Net change in fair value	–	–	–	12	–	–	12
Cash flow hedges							
Effective portion of changes in fair value	–	–	(251)	–	–	–	(251)
Net amount transferred to initial carrying amount of hedged items	–	–	(48)	–	–	–	(48)
Net actuarial loss on post-retirement medical aid benefits	–	–	–	–	–	(40)	(40)
Subordinated loan from shareholder	–	8 444	–	–	–	–	8 444
Transfer between reserves	–	–	–	–	(1 136)	1 136	–
Balance at 31 March 2009	–	8 444	5 174	(147)	(1 633)	44 863	56 701
Profit for the year	–	–	–	–	–	3 187	3 187
Other comprehensive loss, net of tax	–	–	(5 922)	(12)	–	(228)	(6 162)
Available-for-sale financial assets							
Net change in fair value	–	–	–	(12)	–	–	(12)
Cash flow hedges							
Effective portion of changes in fair value	–	–	(5 885)	–	–	–	(5 885)
Net amount transferred to initial carrying amount of hedged items	–	–	(37)	–	–	–	(37)
Net actuarial loss on post-retirement medical aid benefits	–	–	–	–	–	(228)	(228)
Subordinated loan from shareholder	–	13 393	–	–	–	–	13 393
Transfer between reserves	–	–	–	–	550	(550)	–
<b>Balance at 31 March 2010</b>	<b>–</b>	<b>21 837</b>	<b>(748)</b>	<b>(159)</b>	<b>(1 083)</b>	<b>47 272</b>	<b>67 119</b>

#### Dividends proposed

No dividend has been proposed in the current or prior year.

1. Nominal amount.
2. The equity reserve comprises the day-one gain on initial recognition of the subordinated loan from the shareholder (refer note 13.5).
3. The cash flow hedge reserve comprises the effective portion of the cumulative net change in the fair value of cash flow hedging instruments (comprising forward exchange contracts, interest rate swaps and cross-currency swaps) related to hedged transactions that have not yet occurred. The cross-currency swap hedges foreign exchange rate risk of the future interest payments and the principal repayment on a euro-denominated loan.
4. The available-for-sale reserve comprises the cumulative net change in the fair value of available-for-sale financial assets until the investments are derecognised.
5. The cumulative net change in the fair value of derivatives that have not been designated as cash flow hedging instruments is recognised in profit or loss. The unrealised portion of the net change in fair value is not distributable and has been reallocated from a distributable reserve (accumulated profit) to a non-distributable reserve.
6. The insurance reserve is a contingency reserve created in terms of the Short-term Insurance Act, 1998.
7. The foreign currency translation reserve comprises exchange differences resulting from the translation of the results and financial position of foreign operations.
8. Accumulated profit is the amount of cumulative profit retained in the business after tax.



## Statements of cash flows

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	Restated <sup>1</sup> 2009 Rm	2010 Rm	Restated <sup>1</sup> 2009 Rm
<b>Cash flows from operating activities</b>					
Cash generated from operations	39	18 416	5 155	17 604	5 406
Net cash flows from financial trading assets		(4 908)	1 616	(4 871)	1 635
Net cash flows from financial trading liabilities		3 040	(2 330)	3 040	(2 330)
Net cash flows from current derivatives held for risk management		(4 726)	7 607	(4 726)	7 607
Net cash flows from non-current assets held-for-sale		34	–	–	–
Income taxes (paid)/refunded		(210)	(284)	–	60
Net cash from operating activities		11 646	11 764	11 047	12 378
<b>Cash flows from investing activities</b>					
Proceeds from disposal of property, plant and equipment		118	124	92	101
Proceeds from disposal of intangible assets		23	–	–	–
Proceeds from disposal of investments in equity-accounted investees		–	101	–	–
Acquisitions of property, plant and equipment		(47 466)	(43 151)	(46 946)	(43 126)
Acquisitions of intangible assets		(698)	(481)	(644)	(422)
Expenditure on future fuel supplies		(1 168)	(1 523)	(1 168)	(1 523)
Increase in deferred income		1 737	1 173	1 737	1 173
Proceeds from disposal of investments in subsidiary companies		–	17	–	–
Decrease in non-current trade and other receivables		163	157	–	(14)
Increase in non-current loans receivable		(1 343)	–	–	–
Decrease/(increase) in finance lease receivables		2	(122)	2	(122)
Non-current assets and liabilities held-for-sale		(224)	(84)	–	–
Proceeds from disposal of non-current assets held-for-sale		76	–	–	–
Dividends received – non-current assets held-for-sale		166	–	–	–
Dividends received – other		12	52	166	30
(Decrease)/increase in non-current trade and other payables		(332)	792	(500)	621
Net cash used in investing activities		(48 934)	(42 945)	(47 261)	(43 282)
<b>Cash flows from financing activities</b>					
Debt raised		60 107	53 959	60 107	53 790
Debt securities issued		16 286	10 205	16 286	10 205
Subordinated loan from shareholder <sup>2</sup>		30 000	10 000	30 000	10 000
Borrowings		13 821	33 754	13 821	33 585
Debt repaid		(20 351)	(23 492)	(20 576)	(23 492)
Debt securities issued		(2 263)	(5 085)	(2 393)	(5 085)
Borrowings		(18 088)	(18 407)	(18 183)	(18 407)
Net cash flows from financial instruments with group companies		–	–	(1 147)	(206)
Net cash flows from non-current assets held-for-sale		24	–	–	–
Decrease in investment in securities		2 806	7 366	3 051	7 768
Increase/(decrease) in finance lease liabilities		40	(27)	(50)	(22)
Net cash flows from non-current derivatives held for risk management		(4 179)	1 817	(4 179)	1 817
Interest received		1 512	3 117	1 465	3 074
Interest paid		(5 577)	(3 869)	(5 507)	(4 226)
Net cash from financing activities		34 382	38 871	33 164	38 503
Net (decrease)/increase in cash and cash equivalents		(2 906)	7 690	(3 050)	7 599
Cash and cash equivalents at beginning of the year		18 382	10 893	17 921	10 322
Cash and cash equivalents at beginning of the year transferred from/(to) non-current assets held-for-sale		65	(201)	–	–
Cash and cash equivalents at end of the year	13.1	15 541	18 382	14 871	17 921

	Note	Group		Company	
		2010 Rm	Restated <sup>1</sup> 2009 Rm	2010 Rm	Restated <sup>1</sup> 2009 Rm
<b>Reconciliation of net cash flow to movement in net debt</b>					
Net increase in debt securities issued		14 023	5 120	13 893	5 120
Net increase in borrowings		25 733	25 347	25 638	25 178
Net cash flows from financial instruments with group companies		–	–	(1 147)	(206)
Decrease in investment in securities		2 806	7 366	3 051	7 768
Increase/(decrease) in finance lease liabilities		40	(27)	(50)	(22)
Net cash flows from derivatives held for risk management		(8 905)	9 424	(8 905)	9 424
Net debt raised		33 697	47 230	32 480	47 262
Portion on subordinated loan from shareholder allocated to equity		(13 393)	(8 444)	(13 393)	(8 444)
Non-cash flow movements		20 929	3 647	19 728	3 730
Cash and cash equivalents at beginning of the year transferred (from)/to non-current assets held-for-sale		(65)	201	–	–
Net increase/(decrease) in cash and cash equivalents for the year		2 906	(7 690)	3 050	(7 599)
Movement in net debt for the year		44 074	34 944	41 865	34 949
Net debt at beginning of the year		50 011	15 067	52 316	17 367
Net debt at end of the year		94 085	50 011	94 181	52 316
<b>Analysis of net debt</b>					
Debt securities issued	13	62 202	47 577	60 679	47 577
Borrowings	13	43 771	26 607	43 247	26 178
Finance lease liabilities	13, 26	684	552	1 039	806
Financial instruments with group companies	13, 10	–	–	(564)	574
Derivatives held for risk management	13, 15	8 158	1 575	8 158	1 575
		114 815	76 311	112 559	76 710
Cash and cash equivalents	13	(15 541)	(18 382)	(14 871)	(17 921)
Investment in securities	13	(5 189)	(7 918)	(3 507)	(6 473)
Net debt at end of the year		94 085	50 011	94 181	52 316

1. Refer note 44.

2. Includes R23 445 million (2009: R1 575 million) which is included in borrowings (refer note 13.5). The remainder of the balance is recognised in equity.

# Notes to the consolidated financial statements

for the year ended 31 March 2010

## 1. General information

Eskom Holdings Limited (Eskom), a public company and holding company of the group, is incorporated and domiciled in the Republic of South Africa. Eskom is a vertically integrated operation that generates, transmits and distributes electricity to industrial, mining, commercial, agricultural, redistributors, and residential customers and to international customers in southern Africa. The nature of the businesses of the significant operating subsidiaries is set out in note 9.

## 2. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these separate and consolidated financial statements are set out below. These policies have been consistently applied to all years presented, unless otherwise stated.

### 2.1 Basis of preparation and measurement

#### *Statement of compliance*

The consolidated financial statements of Eskom at and for the year ended 31 March 2010 comprise the company and its subsidiaries (together referred to as the group) and the group's interest in associates and joint ventures. The separate and consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) and in the manner required by the Public Finance Management Act, 1 of 1999, and the Companies Act of South Africa, 61 of 1973, as amended.

#### *Basis of measurement*

The separate and consolidated financial statements are prepared on the historical basis except for the following financial instruments which are measured at fair value:

- embedded derivative assets and liabilities
- financial instruments classified under held-for-trading
- financial instruments classified under available-for-sale

The preparation of financial statements in conformity with IFRS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements, are disclosed in note 4.

#### *Functional and presentation currency*

Items included in the financial statements of each of the group's entities are measured using the currency of the primary economic environment in which the entity operates (functional currency). The consolidated financial statements are presented in rand (rounded to the nearest million unless otherwise stated), which is the company's functional and presentation currency.

#### *Changes in accounting policies and comparability*

The group has adopted certain new standards, amendments and interpretations to existing standards which were effective for the group for the financial year beginning on or after 1 April 2009. The effects of adopting these standards are discussed in note 44.

#### *Standards, interpretations and amendments to published standards that are not yet effective*

The following new standards, amendments and interpretations to existing standards have been published that are applicable for future accounting periods but have not been adopted early by the group:

#### **IAS 24 Related party disclosures (effective 1 January 2011) (revised)**

The revised IAS 24 provides a partial exemption for government-related entities. The revised standard still requires disclosures that are important to users of financial statements but eliminates requirements to disclose information that is costly to gather and of less value to users. It achieves this balance by requiring disclosure about these transactions only if they are individually or collectively significant. The revised standard also amends the definition of a related party. The standard is applicable retrospectively. The group is still determining the impact of the revised standard on the financial statements.

#### **IAS 27 Consolidated and separate financial statements (effective 1 July 2009) (revised)**

In accordance with the amended IAS 27, acquisitions of additional non-controlling equity interests in subsidiaries have to be accounted for as equity transactions. Disposals of equity interests while retaining control are also accounted for as equity transactions. When control of an investee is lost, the resulting gain or loss relating to the transaction will be recognised in profit or loss.

It has always been the group's accounting policy to treat all acquisitions of additional interests in subsidiaries, as well as disposals of interests in subsidiaries, as equity transactions. The

group will, however, change its accounting policy relating to the loss of control when an equity interest is retained. In future, when control is lost through sale or otherwise, the resulting gain or loss recognised in profit or loss will include any remeasurement to fair value of the retained equity interest.

The amendments to IAS 27 also require that losses (including negative *other comprehensive income* as detailed in the revised IAS 1) have to be allocated to the non-controlling interest even if doing so causes the non-controlling interest to be in a deficit position. The group will in future change its accounting policies on the allocation of losses to non-controlling interests. In the past, losses were allocated only until the non-controlling interests had a zero balance. The amendments to IAS 27 have resulted in consequential amendments being made to IAS 28 *Investment in associates* and IAS 31 *Interest in joint ventures*.

#### **IAS 32 Financial instruments: Presentation (effective 1 February 2010)**

The amendment to IAS 32 in respect of the classification of rights issues states that rights issues offered *pro rata* to all of an entity's existing shareholders in the same class for a fixed amount of currency, should be classified as equity regardless of the currency in which the exercise price is denominated. The amendment is not expected to have an impact on the group's financial statements.

#### **IAS 39 Financial instruments: Recognition and measurement (effective 1 July 2009)**

IAS 39 provides additional guidance on the designation of a hedged item. The amendment clarifies the designation of a one-sided risk in a hedged item and inflation in a financial hedged item. The group is still determining the impact of the amendment on the financial statements.

#### **IAS 39 Financial instruments: Recognition and measurement and IFRIC 9: Reassessment of embedded derivatives (effective 1 July 2009)**

The amendments to IAS 39 and IFRIC 9 clarify that on reclassification of a financial asset out of the *fair value through profit or loss* category, all embedded derivatives have to be assessed and, if necessary, separately accounted for in the financial statements.

The amendments will not have an impact on the group's financial statements as the group does not intend to reclassify any of its financial assets out of the *fair value through profit or loss* category.

#### **IFRS 1 First-time adoption of International Financial Reporting Standards (effective 1 July 2010)**

The amendment to IFRS 1 relieves first-time adopters of IFRS from providing the additional disclosures included in

*Amendments to IFRS 7 Financial instruments: Disclosures* which require enhanced disclosures about fair value measurements and liquidity risk of financial instruments. The amendment will not have an impact on the group's financial statements.

#### **IFRS 2 Share-based payment (effective 1 January 2010) (amended)**

IFRS 2 provides that an entity receiving goods or services in a share-based payment transaction, that is settled by any other entity in the group or any shareholder of such an entity in cash or other assets, is now required to recognise the goods or services received in its financial statements. This amendment is not expected to have a significant impact on the group's financial statements.

#### **IFRS 3 Business combinations (effective 1 July 2009) (revised)**

IFRS 3 applies to all new business combinations that occur after 1 April 2010. The statement requires that all transaction costs be expensed and the contingent purchase consideration be recognised at fair value on acquisition date. For successive share purchases, any gain or loss, on the difference between the fair value and the carrying amount of the previously held equity interest in the acquiree, will have to be recognised in profit or loss. For future business combinations, the group will change its accounting policy to be in line with the revised IFRS 3.

#### **IFRS 5 Non-current assets held-for-sale and discontinued operations (effective 1 January 2010)**

The amendment to IFRS 5 specifies the disclosures required in respect of non-current assets (or disposal groups) classified as held-for-sale or discontinued operations. Disclosures in other IFRS do not apply to such assets (or disposal groups) unless those IFRS require specific disclosures in respect of non-current assets (or disposal groups) classified as held-for-sale or discontinued operations; or disclosures about measurement of assets and liabilities within a disposal group that are not within the scope of the measurement requirement of IFRS 5 and such disclosures are not already provided in the other notes to the financial statements.

#### **IFRS 9 Financial instruments (effective 1 January 2013)**

IFRS 9 addresses the initial measurement and classification of financial assets and replaces the relevant sections of IAS 39 *Financial instruments: Recognition and measurement*. IFRS 9 retains but simplifies the mixed measurement model and establishes two primary measurement categories for financial assets: amortised cost and fair value. The basis of classification depends on the entity's business model and the contractual cash flow characteristics of the financial asset. The group is still determining the impact of the standard on the financial statements.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

(continued)

#### 2.1 Basis of preparation and measurement (continued)

*Standards, interpretations and amendments to published standards that are not yet effective (continued)*

##### **IFRIC 14 IAS 19 – The limit on a defined benefit asset, minimum funding requirements and their interaction (effective 1 January 2011) (amended)**

The amendment applies in the limited circumstances when an entity is subject to minimum funding requirements and makes an early payment of contributions to cover those requirements. The amendment permits such an entity to treat the benefit of such an early payment as an asset on the basis that the entity has a future economic benefit. The amendment is not expected to have an impact on the group's financial statements.

##### **IFRIC 17 Distribution of non-cash assets to owners (effective 1 July 2009)**

IFRIC 17 provides guidance on when and how a liability for certain distributions of non-cash assets is recognised and measured, and how to account for settlement of that liability. The interpretation is currently expected to have no impact on the financial statements.

##### **IFRIC 19 Extinguishing financial liabilities with equity instruments (effective 1 July 2010)**

IFRIC 19 provides guidance on how to account for the extinguishment of a financial liability by the issue of equity instruments. The interpretation clarifies the requirements of IFRS when an entity renegotiates the terms of a financial liability with its creditor and the creditor agrees to accept the entity's shares or other equity instruments to settle the financial liability fully or partially. The interpretation is not expected to have an impact on the group's financial statements.

##### *Standards, interpretations and amendments to published standards that are effective and applicable to the group*

The following standards, interpretations and amendments were effective and applicable to the group for the year ended 31 March 2010, but had no impact on the financial statements:

- IAS 23 *Borrowing costs*
- IAS 32 *Financial instruments: Presentation*
- IFRS 1 *First-time adoption of International Financial Reporting Standards* and IAS 27 *Consolidated and separate financial statements*
- IFRS 2 *Share-based payment*
- IFRIC 13 *Customer loyalty programmes*
- IFRIC 15 *Agreements for the construction of real estate*
- IFRIC 16 *Hedges of a net investment in a foreign operation*

The following standards, interpretations and amendments were effective and applicable to the group for the year

ended 31 March 2010 and had an impact on the financial statements:

- IFRIC 18 *Transfers of assets from customers*
- IFRS 7 *Financial instruments: Disclosures*
- IFRS 8 *Operating segments*
- IAS 1 *Presentation of financial statements*

##### *Various improvements to IFRS*

A number of standards have been amended as part of the International Accounting Standards Board's (IASB) annual improvement project. Management is in the process of considering the relevant amendments to the standards and determining the financial implications and impact on the group.

### 2.2 Consolidation

#### *Investment in subsidiaries*

Subsidiaries are all entities (including special-purpose entities) over which the group has the power to govern the financial and operating policies to obtain benefits from the activities of the entity. The existence and effect of potential voting rights that are currently exercisable or convertible are considered when assessing whether the group controls another entity. Subsidiaries are consolidated from the date on which control is transferred to the group. They are de-consolidated from the date that control ceases.

Investments in subsidiaries are accounted for at cost less impairment losses in the separate financial statements of the company.

#### *Business combinations*

The purchase method of accounting is used to account for the acquisition of subsidiaries by the group. The cost of an acquisition is measured as the fair value of the assets given, equity instruments issued and liabilities incurred or assumed at the date of exchange, plus costs directly attributable to the acquisition. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date, irrespective of the extent of any non-controlling interest. The excess of the cost of acquisition over the fair value of the group's share of the identifiable net assets acquired is recorded as goodwill. If the cost of acquisition is less than the fair value of the net assets of the subsidiary acquired, the difference is recognised directly in profit or loss.

Inter-company transactions, balances and unrealised gains on transactions between group companies are eliminated. Unrealised losses are also eliminated, but are considered an impairment indicator of the asset transferred. Accounting policies of subsidiaries have been changed where necessary, to ensure consistency with the policies adopted by the group.

#### **Transactions with non-controlling interests**

The group applies a policy of accounting for transactions with non-controlling interests as transactions with parties external to the group. Disposals to non-controlling interests result in gains or losses for the group that are recorded in profit or loss. Purchases from non-controlling interests result in goodwill, being the difference between any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary.

#### **Investment in equity-accounted investees**

Associates are all entities over which the group has significant influence but no control over the financial and operating policies, generally linked to a shareholding of between 20% and 50% of the voting rights.

Joint ventures are contractual arrangements whereby two or more parties undertake an economic activity that is subject to joint control.

Investments in associates and joint ventures are accounted for at cost less impairment losses in the separate financial statements of the company. These investments are accounted for using the equity method of accounting and are initially recognised at cost in the financial statements of the group. The group's investment in associates and joint ventures includes goodwill (net of any accumulated impairment loss) identified on acquisition.

The group's share of its associates' and joint ventures' post-acquisition profits or losses is recognised in profit or loss within *share of profit of equity-accounted investees*, and its share of post-acquisition movement in reserves is recognised in reserves. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the group's share of losses in an associate or joint venture equals or exceeds its interest in the associate or joint venture, including any other unsecurable receivables, the group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate or joint venture.

Unrealised gains on transactions between the group and its associates or joint ventures are eliminated to the extent of the group's interest in the associates or joint ventures. Unrealised losses are also eliminated, unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of associates or joint ventures have been changed where necessary to ensure consistency with the policies adopted by the group.

### **2.3 Segment reporting**

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating

decision-maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the group executive committee (Exco).

An operating segment is a component of the group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the group's other components. An operating segment's results are reviewed regularly by Exco to make decisions about resources to be allocated to the segment and assess performance, and for which discrete financial information is available.

### **2.4 Foreign currency translation**

#### **Transactions and balances**

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains or losses resulting from the settlement of such transactions and from the translation at year end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in profit or loss, except when recognised in other comprehensive income for qualifying cash flow hedges.

Changes in the fair value of monetary securities denominated in foreign currency classified as available-for-sale are analysed between translation differences resulting from changes in the amortised cost of the security, and other changes in the carrying amount of the security. Translation differences relating to changes in the amortised cost are recognised in profit or loss and other changes in the carrying amount are recognised in other comprehensive income within *available-for-sale financial assets*.

Translation differences on non-monetary financial assets are reported as part of the fair value gain or loss. Translation differences on non-monetary financial assets and liabilities, such as equities held at fair value through profit or loss, are recognised in profit or loss as part of the fair value gain or loss. Translation differences on non-monetary financial assets, such as equities classified as available-for-sale, are recognised in other comprehensive income within *available-for-sale financial assets*.

Foreign loans are initially recognised at the exchange rate prevailing at transaction date and are translated at spot at every reporting date. The exchange differences resulting from the mark to spot on foreign loans, except foreign loans accounted for in terms of cash flow hedge accounting, are recognised in profit or loss within *finance income* or *finance cost*.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

*(continued)*

#### 2.4 Foreign currency translation *(continued)*

##### *Foreign operations*

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated to rand at exchange rates at the reporting date. The income and expenses of foreign operations, excluding foreign operations in hyperinflationary economies, are translated to rand at the average exchange rate. The group does not have any foreign operations in hyperinflationary economies.

Foreign currency differences arising as a result of the above are recognised in other comprehensive income within *foreign currency translation reserve*.

#### 2.5 Property, plant and equipment

Land and buildings comprise mainly office, power station, substation, workshop and related buildings.

Property, plant and equipment is stated at cost less accumulated depreciation and impairment losses. Cost includes:

- any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management
- the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period
- borrowing costs (refer note 2.7)

Costs may also include transfers from equity of any gains or losses on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognised. All other repairs and maintenance are charged to profit or loss during the financial period in which they are incurred.

Works under construction are stated at cost which includes cost of materials and direct labour and any costs incurred in bringing it to its present location and condition. Materials used in the construction of property, plant and equipment are stated at weighted average cost.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives, as follows:

	Years
Buildings and facilities	10 to 40
Plant – Generation	6 to 80
– Transmission	5 to 40
– Distribution	10 to 35
– Test, telecommunication and other plant	3 to 20
Equipment and vehicles	1 to 10

The depreciation method, residual values and useful lives of assets are reviewed, and adjusted if appropriate, at each reporting date.

Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Gains or losses on disposals are determined by comparing proceeds with the carrying amount. These gains or losses are included in profit or loss within *other income* or *other operating expenses*.

#### 2.6 Intangible assets

##### *Goodwill*

Goodwill represents the excess of the cost of an acquisition over the fair value of the group's share of the net identifiable assets of the acquired subsidiary/associate/joint venture at the date of acquisition. Goodwill on acquisition of subsidiaries is included in *intangible assets*. Goodwill on acquisition of associates and joint ventures is included in *investments in equity-accounted investees* and is tested for impairment as part of the overall balance. Separately recognised goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed. Gains or losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold.

Goodwill is allocated to cash-generating units for the purpose of impairment testing. The allocation is made to those cash-generating units or groups of cash-generating units that are expected to benefit from the business combination in which the goodwill arose. The group allocates goodwill to each business segment in each country in which it operates.

##### *Licences*

Licences are shown at historical cost. Licences have a finite useful life and are carried at cost less accumulated amortisation and impairment losses. Amortisation is calculated using the straight-line method to allocate the cost of licences over their estimated useful life.

### Computer software

Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software. These costs are amortised over their estimated useful lives. If software is integral to the functionality of related equipment, then it is capitalised as part of the equipment.

Costs associated with developing or maintaining computer software programmes are recognised as an expense as incurred. Costs that are directly associated with the development of identifiable and unique software products controlled by the group, and that will probably generate economic benefits exceeding costs beyond one year, are recognised as *intangible assets* and amortised as above. Costs include employee costs incurred as a result of developing software and an appropriate portion of relevant overheads.

### Rights

Rights consist mainly of servitudes and rights of way under power lines. Rights are not amortised as they have an indefinite useful life. A servitude right is granted to Eskom for an indefinite period. The life of the servitude will remain in force as long as the transmission or distribution line is used to transmit electricity.

A servitude will only become impaired if the line to which the servitude is linked is derecognised. In practice a derecognised line will be refurbished or replaced by a new line. The likelihood of the impairment of a servitude right is remote.

### Concession assets

Concession assets consist of rights to charge for the usage of the infrastructure under service concession arrangements (refer note 19). Concession assets are capitalised on the basis of the cost of capital expenditure incurred in respect of service concession arrangements (which is the fair value at initial recognition), including borrowing costs on qualifying capital expenditures. Subsequent to initial recognition, the concession assets are measured at cost less accumulated amortisation and impairment losses. Concession assets are amortised over their estimated useful life, which is the concession period during which they are available for use.

### Research and development

Research expenditure is recognised as an expense as incurred. Costs incurred on development projects (relating to the design and testing of new or improved products) are recognised as intangible assets when the following criteria are fulfilled:

- it is technically feasible to complete the intangible asset so that it will be available for use or sale

- management intends to complete the intangible asset and use or sell it
- there is an ability to use or sell the intangible asset
- it can be demonstrated how the intangible asset will generate probable future economic benefits
- adequate technical, financial and other resources to complete the development and to use or sell the intangible asset are available
- the expenditure attributable to the intangible asset during its development can be measured reliably

Research and other development expenditure that do not meet these criteria is recognised in profit or loss within *other operating expenses*. Development costs previously recognised as an expense are not recognised as an asset in a subsequent period. Capitalised development costs are recorded as *intangible assets* and amortised from the point at which the asset is ready for use on a straight-line basis over its useful life.

## 2.7 Capitalisation of borrowing costs

Borrowing costs attributable to the construction of qualifying assets are capitalised as part of the cost of these assets over the period of construction to the extent that the assets are financed by borrowings. The capitalisation rate applied is the weighted average of the borrowing costs applicable to the borrowings of the entities in the group unless an asset is financed by a specific loan, in which case the specific rate is used.

## 2.8 Service concession arrangements

A service concession arrangement is an arrangement involving an operator constructing and/or upgrading, operating and maintaining infrastructure used to provide a public service for a specified period of time. The operator is paid for its services over the period of the arrangement. The arrangement is governed by a contract that sets out performance standards, mechanisms for adjusting prices and arrangements for arbitrating disputes. The grantor (the party that grants the service arrangement) controls the infrastructure, and the operator is required to return to the grantor the infrastructure at the end of the arrangement.

### Intangible asset

The group recognises an intangible asset arising from a service concession arrangement to the extent that it receives a right to charge for the usage of the concession infrastructure. Intangible assets received as consideration for providing construction services in a service concession arrangement are measured at fair value upon initial recognition. Subsequent to initial recognition, the intangible asset is measured at cost less accumulated amortisation and impairment losses.



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

(continued)

#### 2.8 Service concession arrangements (continued)

**Intangible asset (continued)**

Intangible assets arising from a service concession arrangement are included within *intangible assets* under concession assets.

**Financial asset**

The group recognises a financial asset arising from a service concession arrangement to the extent that it has an unconditional right to receive cash or another financial asset from or at the direction of the grantor, for the construction, upgrade or operation services of concession assets. Financial assets recognised as a result of the service concession arrangement are measured at fair value upon initial recognition. Subsequent to initial recognition, the financial asset is accounted for in accordance with IAS 39 *Financial Instruments: Recognition and measurement* (refer note 2.11, non-derivative financial instruments).

Financial assets arising from a service concession arrangement are included within *trade and other receivables* under other receivables (refer note 17).

**Construction or upgrade services**

The group accounts for revenue and costs relating to construction or upgrade services in accordance with IAS 11 *Construction contracts*.

**Operation services**

The group accounts for revenue relating to operation services in accordance with IAS 18 *Revenue*.

**Contractual obligations to maintain and restore the infrastructure**

The group accounts for the contractual obligations to maintain or restore the infrastructure in accordance with IAS 37 *Provisions, contingent liabilities and contingent assets*. The provision to restore the infrastructure is included within *provisions*.

#### 2.9 Leases

A lease is an agreement whereby the lessor conveys to the lessee, in return for a payment, or series of payments, the right to use an asset for an agreed period of time.

**Finance leases – where the group is the lessee**

The group leases certain property, plant and equipment. Leases of property, plant and equipment where the group has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the lease's commencement at the lower of the fair value of the leased asset and the present value of the minimum lease payments.

Each lease payment is allocated between the liability and finance charges so as to achieve a constant rate on the finance balance outstanding. The corresponding rental obligations, net of finance charges, are included in other short-term and other long-term payables. The interest element of the finance cost is charged to profit or loss within *finance cost* over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The property, plant and equipment acquired under finance leases are depreciated or amortised over the shorter of the useful life of the asset and the lease term.

Finance lease liabilities are derecognised in accordance with the derecognition requirements for financial liabilities (refer note 2.11). Derivatives embedded in leases are accounted for in accordance with the requirements for embedded derivatives (refer note 2.11).

Cost plus coal contracts are treated as finance leases where the group is the lessee.

**Finance leases – where the group is the lessor**

When property, plant and equipment are leased out under a finance lease, the present value of the lease payments is recognised as a receivable. The difference between the gross receivable and the present value of the receivable is disclosed as unearned finance income within *finance lease receivables*.

Lease income is recognised over the term of the lease using the net investment method, which reflects a constant periodic rate of return.

Finance lease receivables are assessed for impairment and derecognised in accordance with the requirements for financial assets (refer note 2.11). Derivatives embedded in leases are accounted for in accordance with the requirements for embedded derivatives (refer note 2.11).

Premium power supplies are treated as finance leases where the group is the lessor.

**Fair value**

The fair value of finance lease receivables and finance lease liabilities is determined by discounting the future cash flows with respect to the finance lease at the interest rate implicit in the lease.

**Operating leases**

Leases where substantially all of the risks and rewards of ownership are not transferred to the group are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged

to profit or loss within *other operating expenses* on a straight-line basis over the period of the lease.

Leases where substantially all of the risks and rewards of ownership are not transferred to the lessee (ie the group is the lessor) are classified as operating leases. Payments received under operating leases are recognised in profit or loss within *other income* on a straight-line basis over the period of the lease.

## 2.10 Impairment of non-financial assets

Assets that have an indefinite useful life, for example land, are not subject to amortisation or depreciation and are tested annually for impairment. Assets that are subject to amortisation or depreciation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets other than goodwill that were subject to impairment are reviewed for possible reversal of the impairment at each reporting date. Impairment (loss)/reversal is recognised in profit or loss within *net impairment (loss)/reversal*.

## 2.11 Financial instruments

### 2.11.1 Non-derivative financial instruments

#### Recognition, measurement and derecognition of financial assets

Non-derivative financial assets comprise *investment in securities, financial instruments with group companies, financial trading assets, loans receivable, trade and other receivables, finance lease receivables and cash and cash equivalents*.

Cash and cash equivalents comprise balances with local and international banks, monies in call accounts, short-term assets and money market assets with an original maturity of less than 90 days. Bank overdrafts are shown within *borrowings* in current liabilities on the statement of financial position.

All non-derivative financial assets are recognised on the date of commitment to purchase (trade date). Non-derivative financial assets are derecognised when the rights to receive cash flows from the investments have expired or the group has transferred substantially all the risks and rewards of ownership. Realised gains or losses on derecognition are determined using the FIFO (first in first out) method.

Non-derivative financial assets plus any directly attributable transaction costs are recognised initially at fair value. Directly

attributable transaction costs related to financial assets at fair value through profit or loss are recognised in profit or loss on initial recognition when incurred. Subsequent to initial recognition, non-derivative financial assets are measured per asset category (as stated below). The appropriate classification of the financial asset is determined at the time of commitment to acquire the financial asset.

When entering into a transaction, the financial instrument is recognised initially at the transaction price which is the best indicator of fair value. Where fair value of the financial instrument is different from the transaction price a day-one gain or loss may arise. The day-one gain or loss is immediately recognised in profit or loss (except for embedded derivatives and the subordinated loan from shareholder) within *net fair value gain/(loss) on financial instruments, excluding embedded derivatives*, provided that the fair value has been determined based on market-observable data.

#### Held-to-maturity investments

Held-to-maturity investments are non-derivative financial assets with fixed or determinable payments and fixed maturity that management has both the ability and intent to hold to maturity.

Subsequent to initial recognition, held-to-maturity investments are measured at amortised cost using the effective interest method, less any accumulated impairment losses.

The amortised cost of a financial asset is the amount at which the financial asset is measured at initial recognition minus principal payments, plus or minus the cumulative amortisation using the effective interest method and minus any reduction for impairment or uncollectibility.

The effective interest rate is the rate that discounts the estimated future cash receipts of the financial asset exactly to its net carrying amount.

#### Financial assets at fair value through profit or loss

An instrument is classified at fair value through profit or loss if it is held-for-trading or is designated as such upon initial recognition. An instrument may only be designated at fair value through profit or loss when certain criteria are met. The group has elected not to designate financial assets at fair value through profit or loss.

A financial asset is classified as held-for-trading if it is:

- acquired for the purpose of selling it in the short term
- part of a portfolio of identified financial instruments that is managed together and for which there is evidence of a recent pattern of short-term profit taking
- a derivative instrument

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

*(continued)*

#### 2.11 Financial instruments *(continued)*

##### 2.11.1 Non-derivative financial instruments *(continued)*

*Financial assets at fair value through profit or loss (continued)*

Subsequent to initial recognition, changes in the fair value of these financial assets are recognised in profit or loss within *net fair value gain/(loss) on financial instruments, excluding embedded derivatives*.

*Loans and receivables*

The trade and other receivables of the group are classified as loans and receivables. Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market, other than:

- those that management intends to sell immediately or in the short term, which are classified as held-for-trading
- those that upon initial recognition are designated as available-for-sale
- those for which the group may not recover substantially all of its initial investment, other than because of credit deterioration, which shall be classified as available-for-sale

Subsequent to initial recognition, loans and receivables are measured at amortised cost using the effective interest method, less any accumulated impairment losses.

*Available-for-sale assets*

Available-for-sale financial assets are those assets that are designated as such or do not qualify to be classified as fair value through profit or loss, held-to-maturity or loans and receivables.

Subsequent to initial recognition, available-for-sale financial assets are measured at fair value and changes therein, other than impairment losses and foreign exchange gains and losses (for monetary items), are recognised in other comprehensive income within *available-for-sale financial assets*. When the asset is derecognised, the cumulative gain or loss in equity is transferred to profit or loss.

*Fair value*

The fair values of trading assets, available-for-sale assets and assets carried at amortised cost are based on quoted bid prices. For assets that are not quoted in an active market, valuation techniques are used. Where pricing models are used, inputs are based on market-related measures at the reporting date. Where discounted cash flow techniques are used, estimated future cash flows are based on management's best estimates and the discount rate is a market-related rate for a financial asset with similar terms and conditions at the reporting date.

The fair value of trade and other receivables is estimated as the present value of future cash flows, discounted at the market rate of interest at the reporting date.

*Impairment (held-to-maturity investments, loans and receivables)*

A review for impairment indicators is carried out at each financial year end to determine whether there is any objective evidence that a financial asset not carried at fair value through profit or loss is impaired. A financial asset is considered to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that asset. In the case of equity securities classified as available-for-sale, a significant or prolonged decline in the fair value of the security below its cost is considered to be an indicator that the securities are impaired.

An impairment loss in respect of a financial asset measured at amortised cost is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the original effective interest rate. An impairment loss in respect of an available-for-sale financial asset is calculated by reference to its fair value.

Individually significant financial assets are tested for impairment on an individual basis. The remaining financial assets are assessed collectively in groups that share similar credit risk characteristics.

All impairment losses are recognised in profit or loss within *net impairment loss*. In the case of available-for-sale financial assets, the cumulative loss – measured as the difference between the acquisition cost and the current fair value, less any impairment loss on that financial asset previously recognised in profit or loss – is removed from other comprehensive income and recognised in profit or loss.

An impairment loss is reversed if the reversal can be related objectively to an event occurring after the impairment loss was recognised. For financial assets carried at amortised cost and available-for-sale financial assets that are debt securities, the reversal is recognised in profit or loss within *net impairment loss*. For available-for-sale financial assets that are equity securities, a subsequent increase in fair value is recognised directly in other comprehensive income.

Where an asset has been impaired, the carrying amount of the asset is reduced through an allowance account.

**Recognition, measurement and derecognition of financial liabilities**

Non-derivative financial liabilities comprise *debt securities issued, borrowings, financial instruments with group companies, financial trading liabilities, finance lease liabilities and trade and other payables*.

Non-derivative financial liabilities are recognised initially at fair value plus any directly attributable transaction costs except for financial liabilities at fair value through profit or loss. Directly attributable transaction costs related to liabilities recognised at fair value through profit or loss are recognised in profit or loss on initial recognition when incurred. Subsequent to initial recognition, non-derivative financial liabilities are measured at amortised cost or fair value as per the relevant liability category (as described below).

All non-derivative financial liabilities are recognised on the date of commitment (trade date) and are derecognised when the obligation expires, is discharged or cancelled. Realised gains and losses are determined using the FIFO method.

*Financial liabilities at fair value through profit or loss (held-for-trading)*

An instrument is classified at fair value through profit or loss if it is held-for-trading or is designated as such upon initial recognition. An instrument may only be designated at fair value through profit or loss when certain criteria are met. The group has not elected to designate financial liabilities at fair value through profit or loss.

A financial liability is classified as held-for-trading if it is:

- incurred principally for the purpose of selling or repurchasing it in the near term
- part of a portfolio of identified financial instruments that is managed together and for which there is evidence of a recent pattern of short-term profit taking, or
- a derivative instrument

Subsequent to initial recognition, financial liabilities at fair value through profit or loss continue to be measured at fair value.

*Financial liabilities at amortised cost*

Financial liabilities that are not held-for-trading are classified as financial liabilities at amortised cost. Debt securities issued, including foreign loans, that are not held-for-trading are classified as held at amortised cost. Subsequent to initial recognition, these liabilities are measured at amortised cost using the effective interest method. The *trade and other payables* of the group are classified as financial liabilities at amortised cost.

*Fair value*

The fair value of *financial trading liabilities* is based on quoted offer prices. For liabilities that are not quoted in an active market, valuation techniques are used. Where pricing models are used, inputs are based on market-related measures at the reporting date. Where discounted cash flow techniques are used, estimated future cash flows are based on management's best estimates and the discount rate is a market-related rate for a financial liability with similar terms and conditions at the reporting date.

**2.11.2 Financial guarantees****Recognition**

Financial guarantees are contracts that require the group to make specified payments to reimburse the holder for a loss that may occur because a specified receivable fails to make payment when due in accordance with the terms of a debt instrument.

Financial guarantee liabilities are initially recognised at fair value, and the initial fair value is amortised over the life of the financial guarantee. The guarantee liability is subsequently carried at the higher of this amortised cost and the present value of any expected payment (when a payment under the guarantee has become probable). Financial guarantees are included within other liabilities.

**Fair value**

Financial guarantees are valued initially by taking into account discounted future cash flows adjusted according to the probability of occurrence of the trigger event. The resultant guarantee is raised as a liability, with the costs being charged to profit or loss. The unprovided portion is disclosed as a contingent liability. As a result of using discounted cash flows, interest rate risk may arise due to the possibility of the actual yields on assets being different from the rates assumed in the discounting process.

**2.11.3 Derivative financial instruments and hedging activities****Recognition**

A derivative is a financial instrument whose value changes in response to an underlying variable, requires little or no initial investment and is settled at a future date. All derivatives are classified as held-for-trading instruments, unless they meet the criteria for hedge accounting and have been designated for purposes of applying hedge accounting. Derivatives are initially recognised at fair value and re-measured subsequently at fair value. Fair values are obtained from quoted market prices, discounted cash flow models and options pricing models which consider current market and contractual prices for the underlying instruments as well as the time value of money.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

*(continued)*

#### 2.11 Financial instruments *(continued)*

##### 2.11.3 Derivative financial instruments and hedging activities

*(continued)*

###### Recognition *(continued)*

All derivative instruments of the group are included in the statement of financial position as derivatives held for risk management. Realised and unrealised gains or losses for derivatives used for economic hedging are recognised in profit or loss within *net fair value gain/(loss) on financial instruments, excluding embedded derivatives*. Realised and unrealised gains or losses for derivatives used for cash flow hedging are recognised in other comprehensive income within *cash flow hedges*.

###### Hedge accounting

The method of recognising the resulting gain or loss on the derivative depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. Derivatives can be designated as:

- hedges of the fair value of recognised liabilities and assets (fair value hedge)
- hedges of a particular risk associated with a recognised liability, asset or a highly probable forecast transaction (cash flow hedge)
- hedges of a net investment in a foreign operation (net investment hedge)

The group applies only cash flow hedge accounting.

The group documents, at the inception of the transaction, the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

Movements on the hedging reserve are shown in other comprehensive income within *cash flow hedges*. The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining period of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining period of the hedged item is less than 12 months. Trading derivatives are classified as current assets or liabilities.

###### Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income within *cash flow hedges*. The gain or loss relating to the ineffective

portion and the forward points portion which is not designated (as part of the hedge) is recognised immediately in profit or loss within *net fair value gain/(loss) on financial instruments, excluding embedded derivatives*.

When the forecast transaction occurs, any cumulative gain or loss existing in equity at that time is included in the initial cost or other carrying amount of the asset or liability.

When a hedging instrument expires, is sold or a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in other comprehensive income until the forecast transaction occurs. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to profit or loss within the relevant expense category.

###### Economic hedging

Certain derivative instruments do not qualify for hedge accounting and are used for economic hedging. Changes in the fair value of these derivative instruments are recognised in profit or loss within *net fair value gain or loss on financial instruments, excluding embedded derivatives*.

##### 2.11.4 Repurchase and resale agreements

Securities sold subject to repurchase agreements are disclosed in the financial statements as financial assets. The liability to the counterparty is recorded as repurchase agreements and is included in *financial trading liabilities*.

Securities purchased under agreements to resell are recorded as repurchase agreements and are included in *financial trading assets*.

The difference between the sale and repurchase price or purchase and resale price is treated as interest accrued over the life of the repurchase or resale agreement using the effective-yield method.

##### 2.11.5 Embedded derivatives

###### Recognition

An embedded derivative is a component of a hybrid (combined) instrument that also includes a non-derivative host contract, with the effect that some of the cash flows of the combined instrument vary in a way similar to those of a standalone derivative. An embedded derivative causes some or all of the cash flows that otherwise would be required by the contract to be modified according to a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, or other variable. The hybrid contract is the entire contract and the host contract is the main body of the contract excluding the embedded derivative.

An embedded derivative is separated from the host contract and accounted for as a derivative if:

- the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract
- a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative and
- the combined instrument is not measured at fair value with changes in fair value recognised in profit or loss

The determination of the host contract of an electricity contract (which includes an embedded derivative) is based on the standard electricity tariff specified in the contract and where no standard tariff is specified, the tariff that would normally apply to such a customer:

#### Fair value

Embedded derivatives are disclosed separately from *derivatives held for risk management*. The changes in fair value are included in *net fair value gain/(loss) on embedded derivatives* in profit or loss. The impact of the fair value gains or losses is taken into account in the calculation of current and deferred taxation.

Embedded derivatives that are not separated are effectively accounted for as part of the hybrid instrument.

Non-option based derivatives are separated on terms that result in a fair value at the date of inception of zero. Option-based derivatives are separated on the terms stated in the contracts and will not necessarily have a fair value equal to zero at the initial recognition of the embedded derivative resulting in day-one gains. These day-one gains or losses are spread equally over the period of the agreement. The fair value will depend on the strike price at inception.

The valuation at initial recognition is adjusted for cash flows since inception. The value of the embedded derivatives which involve a foreign currency is first determined by calculating the future cash flows and then discounting the cash flows by using the relevant interest rate curve and only then is the net present value of the cash flows converted at the relevant rand/foreign currency spot rate to the reporting currency.

The determination of the host contract of an electricity contract is based on the standard electricity tariff specified in the contract and where no standard tariff is specified, the tariff that would normally apply to such a customer:

The fair value of the embedded derivative is determined on the basis of its terms and conditions. If this is not possible, then the value of the embedded derivative is determined by

fair valuing the whole contract and deducting from it the fair value of the host contract.

Where there is no active market for the embedded derivatives, valuation techniques are used to ascertain their fair values. Financial models are developed incorporating valuation methods, formulae and assumptions. The valuation methods include the following:

- swaps: electricity tariff is swapped for a commodity in a foreign currency
- forwards: electricity tariff or other revenue or expenditure is based on a foreign currency
- options: electricity tariff or other revenue is based on an embedded derivative floor or cap on foreign consumer or production price indices or interest rates. The Monte Carlo simulation technique is used to produce various cap and floor strike prices

The fair value of embedded derivatives is adjusted, where applicable, to take into account the inherent uncertainty relating to the future cash flows of embedded derivatives such as liquidity, model risk and other economic factors.

The more important assumptions, which include the following, are obtained either with reference to the contractual provisions of the relevant contracts or from independent market sources where appropriate:

- spot and forward commodity prices
- spot and forward foreign currency exchange rates
- spot and forward interest rates
- forecast sales volumes
- spot and forward consumer and foreign production price indices
- spot and forward electricity prices
- liquidity, model risk and other economic factors

## 2.12 Inventories

### *Coal, maintenance spares and consumables*

Inventories are stated at the lower of cost and net realisable value. Cost is determined on the weighted average basis and includes expenditure incurred in acquiring inventories, production and conversion costs and other costs incurred in bringing inventory to present location and condition.

### *Nuclear fuel*

Nuclear fuel is stated at the lower of cost and net realisable value. Cost is determined on the FIFO basis. Nuclear fuel consists of raw materials, fabricated fuel assemblies and fuel in reactors.

Net realisable value is the estimated selling price in the ordinary course of business, less applicable variable selling expenses. Costs of inventories include the transfer from equity of any gains/losses on qualifying cash flow hedges relating to purchases of raw materials.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

(continued)

#### 2.13 Future fuel supplies

##### Coal

Non-refundable advances to suppliers, together with related borrowing costs thereon, are deferred in the statement of financial position within *future fuel supplies* and amortised against the cost of coal supplied on the basis of the estimated life of the asset procured by the suppliers.

Repayable advances to suppliers are capitalised, and the related interest earned is credited to profit or loss within *finance income* and the refunds are repaid in terms of the agreements.

##### Nuclear

Fuel assemblies in the process of fabrication are stated at cost within *future fuel supplies*, which includes the non-refundable advance payments made in terms of the agreement. Hedge accounting is applied to foreign exchange contracts entered into with respect to the purchase of nuclear fuel, with the effective portion being capitalised during the fabrication period. Advance payments in terms of agreements are capitalised.

#### 2.14 Share capital

Ordinary shares are classified as equity.

#### 2.15 Equity reserve

The subordinated loan from the shareholder is held at amortised cost. The market value of the loan at inception is calculated for each tranche utilising the expected cash flows which are discounted at market rates to determine the effective interest rates. The effective interest rates for each tranche remain constant over the life of the loan tranche. The future cash flows are re-assessed annually and the loans are remeasured at each reporting period. Although the loan is interest bearing, the interest payment terms could potentially be favourable and are dependent on the liquidity and gearing of Eskom. The change in the loan value with respect to interest amortised and the remeasurement is reflected in the profit or loss in *finance cost* and is eligible for capitalisation as borrowing costs.

#### 2.16 Income tax

Income tax expense comprises current and deferred tax. Income tax expense is recognised in profit or loss except to the extent that it relates to items recognised in other comprehensive income, in which case it is recognised in other comprehensive income.

Current tax is expected tax payable on taxable income for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

#### 2.17 Deferred tax

Deferred tax is recognised, using the statement of financial position method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. Deferred tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction, affects neither accounting nor taxable profit or loss. However, deferred tax is provided in respect of the temporary differences arising on the assets and provisions created in respect of decommissioning and nuclear waste management and closure, pollution control and rehabilitation. Deferred tax is determined using tax rates (and laws) enacted or substantively enacted at the reporting date and that are expected to apply when the related deferred tax asset is realised or the deferred tax liability is settled.

Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised. Deferred tax assets are reviewed at each reporting date and reversed if it is no longer probable that the related tax benefits will be realised.

Deferred tax is provided on temporary differences arising on investments in subsidiaries and associates, except where the timing of the reversal of the temporary difference is controlled by the group and it is probable that the temporary difference will not reverse in the foreseeable future.

#### 2.18 Payments received in advance

Payments received in advance consist mainly of upfront capital contributions for the construction of assets and funding for electrification. From 1 July 2009, upfront capital contributions are recognised in profit or loss within *other revenue, excluding electricity revenue* when the customer is connected to the electricity network.

#### 2.19 Deferred income

##### Cross-border leases

Income realised on cross-border lease transactions is deferred. This income is recognised over the period that Eskom is exposed to the risk of a cancellation event on the contract and is allocated to profit or loss on the same basis as the risk exposure profile.

##### Grants

Government grants received relating to the creation of electrification assets are included in non-current liabilities as *deferred income* and are credited to profit or loss within *depreciation and amortisation expense* on a straight-line basis over the expected useful lives of the related assets when these assets have been placed in commercial operation.

Government grants which become receivable as compensation for expenses or losses already incurred, or for the purpose of giving immediate financial support to the entity with no future related costs are recognised in profit or loss within *other income* for the period in which they become receivable.

#### *Capital contributions received from customers*

Contributions paid in advance by electricity customers relating to the construction of regular distribution and transmission assets (with a standard supply) are credited to profit or loss within *other revenue, excluding electricity revenue* on a straight-line basis over the expected useful lives of the related assets when these assets have been placed in commercial operation up to 30 June 2009. From 1 July 2009 the contributions paid in advance are credited to profit or loss within *other revenue, excluding electricity revenue* when the customer is connected to the electricity network (refer note 2.18).

### 2.20 Insurance contracts

The group, through its subsidiary – Escap Limited (Escap), issues contracts that transfer insurance risk. An insurance contract is one under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder or other beneficiary, if a specified uncertain future event (the insured event) adversely affects the policyholder or other beneficiary. The group insures accident and health, engineering, guarantee, liability, motor, property, transportation and miscellaneous classes of short-term insurance business.

At each reporting date, liability adequacy tests are performed to ensure the adequacy of the claims liabilities. In performing these tests, current best estimates of future contractual cash flows and claims handling and administration expenses are used. Where a shortfall is identified an additional provision is made and the company recognises the deficiency in profit or loss.

Contracts are entered into with reinsurers, under which the group is compensated for losses on one or more contracts issued by it and that meet the classification requirements for insurance contracts. The benefits to which Escap is entitled under its reinsurance contracts held are recognised as reinsurance assets in the statement of financial position. Amounts recoverable are dependent on the expected claims and benefits arising under the related reinsured insurance contracts. Amounts due from or due to reinsurers are measured consistently with the amounts associated with the reinsured insurance contracts and in accordance with the terms of each reinsurance contract. Reinsurance liabilities are primarily premiums payable for reinsurance contracts and are recognised as an expense when due. Reinsurance

assets and liabilities are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less provision for impairment.

A full contingency reserve of 10% of net premium income is maintained in Escap Limited in terms of the Short-term Insurance Act, 53 of 1998.

### 2.21 Employee benefits

#### *Annual and performance bonus*

The group recognises a liability for annual and performance bonuses. A liability for annual bonuses is accrued on a proportionate basis as services are rendered. A provision for performance bonus is raised on the estimated amount payable in terms of the incentive scheme which is based on the employee's performance in the applicable year.

#### *Occasional and service leave*

The group recognises a liability for occasional and service leave as the leave is of a long-term nature. An actuarial valuation is performed on an annual basis for occasional and service leave. The accrued liabilities are determined by valuing all future leave expected to be taken and payments expected to be made in respect of benefits up to the valuation date. Allowance has been made in the calculations for the assumed benefit options employees will exercise, as well as salary increases and investment returns up to the date the benefit is received. All actuarial gains or losses and past service costs are recognised immediately in profit or loss within *employee benefit expense*. The present values of the benefit are determined by using the yield of long-dated corporate bonds (or government bonds where high-quality corporate bonds are not available).

#### *Pension obligations*

Retirement benefits are provided for employees through the Eskom Pension and Provident Fund. Contributions to the fund are based on a percentage of pensionable emoluments and are expensed in the period in which they are incurred.

#### *Post-retirement medical aid obligations*

The liability for post-retirement medical aid is the present value of the obligation by using long-dated corporate bonds (or government bonds where high-quality corporate bonds are not available) which have maturities similar to the liability. Provision is made by accounting, through profit or loss, for the estimated cost over the expected period to retirement of the employees. The cost to the employer, in the form of employer contributions, is determined by using the projected unit credit method, with actuarial valuations being carried out at reporting date. Actuarial gains or losses are recognised in other comprehensive income within *net actuarial gain or loss on post-retirement medical aid benefits* immediately. No deferred recognition mechanism is applied.



## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 2. Summary of significant accounting policies

*(continued)*

#### 2.21 Employee benefits *(continued)*

*Post-retirement medical aid obligations (continued)*

The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement. All employees qualify for post-retirement medical aid, except for new employees appointed on or after 1 June 2003 at a managerial level.

#### 2.22 Provisions

Provisions are recognised when the group has a present legal or constructive obligation as a result of a past event, when it is probable that an outflow of resources will be required to settle the obligation and when the amount can be reliably estimated. Provisions are not recognised for future operating losses.

Provisions are determined by discounting the expected future cash flows using a pre-tax discount rate that reflects current market assessments of the time value of money and, where appropriate, the risks specific to the liability. The increase in the provision due to the passage of time is recognised as *finance cost*.

The provisions below are restated on an annual basis to reflect changes in measurement that result from changes in the estimated timing or amount of the outflow of resources embodying economic benefits required to settle the obligation, or a change in discount rate, which shall be accounted for as follows:

- changes in the liability shall be added to, or deducted from, the cost of the related asset in the current period
- the amount deducted from the cost of the asset shall not exceed its carrying amount. The excess shall be recognised in profit or loss
- any additions to the cost of an asset shall be reviewed in terms of the normal impairment principles

#### *Decommissioning and nuclear waste management*

##### **Nuclear and other generation plant**

A provision is raised for the estimated decommissioning cost of nuclear and other generation plant and capitalised to the cost of nuclear or other generation plant when it is commissioned. The estimated cost of decommissioning at the end of the productive life of plant is based on engineering estimates and reports from independent experts. Decommissioning costs capitalised to the cost of nuclear or other generation plant is written off on a straight-line basis over the estimated useful life of the plant.

##### **Spent nuclear fuel**

A provision is raised, over the life of the plant, for the management of spent nuclear fuel assemblies and radioactive

waste. The charge to profit or loss is based on the latest available cost information and is included in *primary energy*.

#### *Closure, pollution control and rehabilitation*

Expenditure on property, plant and equipment for pollution control is capitalised and depreciated over the useful lives of the assets. The cost of current ongoing programmes to prevent and control pollution and to rehabilitate the environment is charged to profit or loss within *primary energy* as incurred, unless a present legal or constructive obligation exists to recognise such expenditure, in which case a provision is created based on the best estimates available.

A provision is raised for the estimated cost of closure, pollution control and rehabilitation during and at the end of the life of the mines where a legal or constructive obligation exists to pay coal suppliers. Closure, pollution control and rehabilitation costs capitalised are written off over the estimated useful life of the power station.

#### *Service concession arrangements*

A provision is raised for contractual obligations to maintain and restore the infrastructure (refer note 2.8). These contractual obligations to maintain or restore infrastructure, except for any upgrade element, are recognised and measured at the best estimate of the expenditure that would be required to settle the present obligation at the end of the reporting period.

#### 2.23 Revenue recognition

Revenue comprises the fair value of the consideration received or receivable for the sale of goods and services in the ordinary course of the group's activities. Revenue is shown, net of value added tax, estimated returns, rebates and discounts, but includes the 2c/kWh environmental levy introduced from 1 July 2009.

The group recognises revenue when the amount of revenue can be reliably measured, it is probable that future economic benefits will flow to the entity and specific criteria have been met for each of the group's activities as described below. The amount of revenue is not considered to be reliably measured until all contingencies relating to the sale have been resolved. The group bases its estimates on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

Revenue is recognised as follows:

##### *Sale of goods*

Sale of goods is recognised when significant risks and rewards of ownership have passed and the collectibility of the related receivable is reasonably assured.

Electricity revenue is recognised when electricity is consumed by the customer.

**Sale of services**

Sale of services is recognised in the reporting period in which the services are rendered, by reference to the stage of completion of the specific transaction assessed on the basis of the actual service provided as a proportion of the total services to be provided.

**Other revenue**

Other revenue is recognised when the significant risks and rewards of ownership are transferred to the buyer and the amount of revenue can be measured reliably.

**Construction contracts**

Contract revenue includes the initial amount agreed in the contract plus any variations in contract work to the extent that it is probable that they will result in revenue and can be measured reliably. As soon as the outcome of a construction contract can be estimated reliably, contract revenue is recognised in profit or loss within *other revenue*, excluding *electricity revenue* in proportion to the stage of completion of the contract.

The stage of completion is assessed by reference to the contract costs incurred to the reporting date as a percentage of total estimated costs for each contract. When an outcome of a construction contract cannot be estimated reliably, contract revenue is recognised only to the extent of contract costs incurred that are likely to be recoverable. An expected loss on a contract is recognised immediately in profit or loss.

**Service concession arrangements**

Revenue relating to construction or upgrade services under a service concession arrangement (refer note 2.8) is recognised based on the stage of completion of the work performed, consistent with the group's accounting policy on recognising revenue on construction contracts.

Operation or service revenue is recognised in the period in which the services are provided by the group. When the group provides more than one service in a service concession arrangement the consideration received is allocated by reference to the relative fair values of the services delivered.

**2.24 Finance income**

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

**2.25 Finance cost**

Finance cost comprises interest payable on borrowings and interest resulting from the unwinding of discount on liabilities. Borrowing costs which are not capitalised (refer note 2.7) are recognised in profit or loss using the effective interest method.

**2.26 Dividend income**

Dividend income is recognised when the right to receive payment is established.

**2.27 Dividend distribution**

Dividend distribution to the shareholder is recognised as a liability in the financial statements of the group in the period in which the dividends are approved by the shareholder.

**2.28 Non-current assets and liabilities held-for-sale**

Assets and liabilities which meet the definition of held-for-sale under IFRS 5 *Non-current assets held-for-sale and discontinued operations*, except for assets excluded from the scope of IFRS 5 for measurement purposes, are stated at the lower of their carrying amount and fair value less costs to sell if their carrying amount is recovered principally through a sale transaction rather than through continuing use.

**3. Financial risk management**

The group has an integrated risk management framework. The group's approach to risk management is based on risk governance structures, risk management policies, risk identification, measurement and reporting. Three types of risks are reported as part of the risk profile, namely operational, strategic and business continuity risks. Operational risks are events, hazards, variances or opportunities which could influence the achievement of Eskom's compliance and operational objectives. For Eskom, a strategic risk is a significant unexpected or unpredictable change or outcome beyond what was factored into the organisation's strategy and business model which could have an impact on the group's performance. Business continuity risks are those events, hazards, variances and opportunities which could influence the continuity of Eskom. One of the key risks for Eskom, identified both under the operational and strategic risk categories, is the financial sustainability of Eskom. The financial risks, as defined by IFRS 7 *Financial instruments: Disclosures*, and the management thereof, form part of this key risk area. For more information on risk, refer to page 292 in the Corporate governance report and page 18 in the Sustainability reporting in Eskom section.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

The board of directors (the board) has delegated the management of enterprise-wide risk to the risk management committee which operates through various subcommittees. One of the committee's objectives is to ensure that the group is not unduly exposed to financial risks. Most of the financial risks arising from financial instruments are managed in the centralised treasury function of the group, except for instruments such as trade and finance lease receivables and trade and finance lease payables which are managed by the other divisions and subsidiaries.

The group's exposure to risk, its objectives, policies and processes for managing the risk and the methods used to measure it have been consistently applied in the years presented, unless otherwise stated.

The exposure of the centralised treasury function to the major financial risks is unique to its activities and therefore different to those of the divisions and subsidiaries within the Eskom group. A distinction is therefore made between the treasury department and other divisions and subsidiaries in the group in respect of financial risk management where relevant.

The group has exposure to the following risks as a result of its financial instruments:

- credit risk (refer note 3.1)
- market risk (refer note 3.2)
- liquidity risk (refer note 3.3)

#### 3.1 Credit risk

Credit risk is the risk of financial loss to the group if a customer or other counterparty (including government and financial institutions) to a financial instrument fails to meet its contractual obligations. Credit risk arises primarily from the sale of goods and services in the ordinary course of business and the centralised treasury activities. Credit risk includes counterparty risk and delivery or settlement risk.

Counterparty risk is the risk that a counterparty is unable to meet its financial and/or contractual obligations during the period of a transaction. Delivery or settlement risk is the risk that a counterparty does not deliver on its contractual commitment on maturity date (including the settlement of money and delivery of securities).

##### 3.1.1 Management of credit risk

###### Financial instruments managed by the treasury function

Credit risk arises from cash and cash equivalents, investment in securities, derivatives held for risk management, financial trading assets and deposits made with counterparties. Processes are in place to identify, measure, monitor, control and report credit risk. The objective of Eskom's credit risk management framework is firstly to protect cash and

investments and, secondly to project and maximise the rate of return of financial market investments.

###### Responsibility and governance

The treasury credit risk committee, a subcommittee of the risk management committee, manages counterparty credit risk which arises from the treasury activities in the financial markets. This committee is chaired by the finance director and reports on a quarterly basis to the risk management committee. The activities of the committee are guided by the terms of reference that are updated and approved by the risk management committee.

The terms of reference set out the minimum acceptable standards to be adhered to by those responsible for credit-related transactions within the treasury department. The terms of reference are aligned to the Exco credit risk governance standards and are supplemented by appropriate policies and procedures.

The committee:

- assesses the credit quality of counterparties and types of instruments used
- approves credit limits
- facilitates and manages the issuing of financial guarantees by the group
- ensures that transactions with counterparties are supported by trading agreements, where applicable
- approves methodologies used for the management of counterparty exposure

The senior credit risk adviser in the risk assessment division provides feedback on all treasury credit risk-related matters to the treasury management, finance director, treasury credit risk committee and risk management committee.

The management of credit risk is governed by the following policies:

- trading in financial instruments is conducted and entered into with selected counterparties after credit limits have been authorised. Individual risk limits are set based on internal and external ratings in line with limits set by the board. All credit limits are approved by the treasury credit risk committee. The use of credit limits is regularly monitored
- only banks and financial institutions with an independent minimum rating of A1 are accepted. If there are no independent ratings, the credit quality of the counterparty is assessed, taking into account its financial position, past experience and other factors
- all exposures are mark-to-market. Transaction or close-out netting takes place in accordance with the terms and conditions of the underlying trading agreements
- minimum credit-rating requirements for financial institutions are maintained to assess the risk categories by

rating class and to ascertain the probability of default inherent in each rating class

- approved concentration risk parameters and collateral management procedures are in place

Concentration of credit risk is managed by setting credit risk limits at a counterparty-specific level. Concentration credit risk limits are used as second tier limits in relation to counterparty credit limits. Counterparty-specific exposure is monitored against a set concentration of credit risk limits in relation to the total credit risk exposure to all counterparties.

#### Credit risk measurement, monitoring and reporting

Risk is measured by determining a default probability per counterparty (expressed through an internal risk rating) which is then applied to the market value of the investment placed to determine the capital at risk.

The treasury department's policies and practices are designed to preserve the independence and integrity of decision making and ensure credit risks are accurately assessed, properly approved, continually monitored and actively managed.

Aggregate credit exposure, hold-limit exceptions and risk profile changes are reported to Exco and the risk management committee on a quarterly basis. There is regular detailed reporting of limit utilisation, limit breaches and customer concentrations to ensure these are appropriately managed and monitored.

Impairment assessments are performed to evaluate the credit risk exposure. The assessments focus on the following areas:

- significant financial difficulty of the issuer or counterparty
- high probability of bankruptcy
- breach of contract

#### Financial instruments managed by other divisions and subsidiaries

##### (a) Electricity receivables

Eskom supplies electricity to customers in its licensed areas of supply. A large proportion of the residential customers are on a prepaid basis.

Eskom's exposure to credit risk is influenced by the individual characteristics of each customer. In monitoring credit risk, customers are grouped according to their credit characteristics, including whether they are large or small power users, geographic location, ageing profile, security (deposits and guarantees) held and payment history.

The main classes of electricity receivables are international, local large and local small power users.

Electricity supply agreements are entered into with key international customers who comprise utility companies and governments of neighbouring countries. These customers are not required to provide any security unless they default on their payment terms.

Key large power users comprise mainly South African commercial, industrial and mining customers. Some key large power users are not required to provide any security if they have an acceptable credit rating from an approved rating agency. New customers are required to provide security equivalent to the value of three months' estimated consumption. Existing customers are required to provide security to the value of three months' consumption if they default on their payment terms.

Non-key customers (other than large power users and small power users) are required to provide security equivalent to between one to three months' consumption at the commencement of the supply agreement. The level of security is reviewed when a customer defaults on their payment obligation or requires additional electricity supply capacity in which case they are required to either provide security or increase their existing security to an amount equivalent to between one to three months' of recent consumption before supply will commence. Redistributors are not required to provide any security and are currently re-evaluated based on their payment history to determine if any security is necessary. Eskom is currently developing a municipal model to manage any associated risk exposure.

Payment terms vary between customer classes as follows:

- key international customers: 10 to 45 days
- key and other large power users:  
individually negotiated up to a maximum of 15 days
- small power users: 30 days

Interest is charged at market-related rates on balances in arrears.

The group has well-established credit control procedures that monitor activity on customer accounts and allow for remedial action should the customer not comply with payment terms. These procedures include an internal collection process, follow up with the customer either telephonically or in person, negotiations of mutually acceptable payment arrangements and the issue of a notice of disconnection of supply and letters of demand. Non-payment will result in disconnection of supply and the customer's account being closed. The legal collection process is pursued thereafter.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.1 Credit risk *(continued)*

##### 3.1.1 Management of credit risk *(continued)*

###### Financial instruments managed by other divisions and subsidiaries *(continued)*

###### (a) Electricity receivables *(continued)*

The decision to impair overdue amounts is assessed on the probability of recovery based on the customer's credit risk profile.

Progress on the collection process is reviewed on a regular basis and if it is evident that the amount will not be recovered, it is recommended for write-off in terms of the Eskom policy and delegation of authority. The process of recovery continues unless it is confirmed that there is no prospect of recovery or the costs of such action will exceed the benefits to be derived. Amounts written off are determined after taking into account the value of the security held.

The total cumulative allowance for impairment for electricity receivables at 31 March 2010 was R2,15 billion (2009: R2,69 billion) (refer note 3.1.2(a)). A substantial portion relates to outstanding debt in problematic areas. The collection of revenue from small power users in Soweto remains a challenge. The enhancement of credit control strategies and monitoring of payment levels in this area continue to receive management attention. The payment levels from these customers, expressed as a percentage of billed revenue, was 32% (2009: 33%).

Eskom is currently testing the strategy of secured split metering and debt recovery via prepayment as a key approach to minimise the risk of non-collection. Significant stakeholder and political support at local and national government level is required to ensure the successful rollout of this new strategy going forward.

In addition, the following strategies are currently in operation and are largely successful in other high-risk areas of non-paying customers. These include:

- disconnections
- conversion to prepayment
- increased internal debt management capacity
- use of debt collectors
- payment arrangements
- focus on early identification and letters of demand
- increased securities
- efficient internal process, for example system automation of credit and collections such as automated notices and letters of demand

###### (b) Other trade receivables

Eskom Enterprises (Pty) Limited provides plant life-cycle support, plant maintenance work, network protection and measurement mainly to Eskom. Credit exposure is managed, among others, by setting credit limits which are reviewed and approved by management on a regular basis. Ongoing credit evaluations are performed on the financial position of debtors. Interest is charged on balances in arrears. In the event of default, a collection process is initiated. Impairment is considered on an individual account basis. Debtors are considered to be impaired when alternative collection methods to recover outstanding debt has failed.

###### (c) Other receivables

Other receivables include recoverable work, employee debtors, inter-group balances (company only) and sundry debtors.

Recoverable work is mainly project work carried out by Eskom on behalf of external parties. The projects include repairing damaged power lines, moving of power lines or underground cables and engineering-related work.

###### (d) Finance lease receivables

Finance lease receivables mainly comprise premium power supply contracts. The supply of electricity to customers may be either in the form of standard or premium power supply.

A standard supply is the least-cost technically acceptable solution as defined in the Distribution Network Code whereas the premium power supply is where the customer's requirement exceeds the specifications of a standard supply. Premium supply customers may already have a standard supply from Eskom but wish to reserve dedicated additional equipment to provide a backup supply. This is achieved through the installation of dedicated premium supply equipment for which the customer is required to pay the full capital costs.

Connection charges for premium supply contracts can be repayable on a monthly basis over a maximum period of 25 years.

The credit risk exposure resulting from premium supply contracts is managed in a similar manner as for the standard supply contracts. Security is required from customers for premium supply assets which covers irrecoverable costs in the event of the early termination of the supply contract. Premium supply customers

have maintained a good payment history with Eskom over the years. The standard payment terms are also applicable to the connection charge relating to the premium supply equipment which is billed monthly to the customer:

(e) *Insurance activities*

Escap Limited (Escap), a 100% subsidiary of Eskom, acts as the primary insurer for the group. It insures the accident and health, engineering liability, motor, property, transportation and miscellaneous classes of the short-term insurance business. It also insures motor vehicles in terms of Eskom's employee vehicle allowance scheme.

Escap self-insures the group up to agreed limits by risk category whereafter the risks are covered by the reinsurance market.

**Reinsurers**

The creditworthiness of reinsurers is regularly assessed by the Escap risk management committee, especially prior to finalisation of any contract. Minimum credit ratings and credit limits per counterparty are set. The major reinsurers used during the financial year had market security ratings of A- or higher (based on Standard and Poor's ratings). Although there was a write-off of R6,7 million in the prior year, Escap has not experienced any other write-offs in the past three years, and management is confident that the group's exposure in respect of the possibility of default by its reinsurers remains minimal.

(f) *Loans receivable*

Home and personal loans are made available to employees in the group via Eskom Finance Company (Pty) Limited (EFC). Credit risk policies are in place which require various criteria to be met prior to the approval of a loan. These criteria include the valuation of property, affordability and credit history of the employee.

The amounts advanced are secured by first mortgages over the property purchased and are repayable over an average period of up to 26 years. The risk of default by the employee is reduced as the monthly instalments are deducted from the employee's salary. Employees who are no longer in the employ of the group are required to arrange for a monthly debit order to settle the monthly instalment. Loans are not extended where the purchase price of the property exceeds its open market value. The weighted average

individual loan amount as a percentage of the total home loan book at 31 March 2010 was 0,01% (2009: 0,01%).

In the event of default, the debtor is notified verbally and in writing. If payment has not been received for a period exceeding three months, a process to foreclose on the loan is initiated and the property is sold by public auction or repossessed. Should the property be sold by public auction, a reserve value is set that takes into account the value of the property, arrear rates and taxes, legal costs and commissions payable. If the reserve value is not achieved, the property is repossessed and is held for resale.

EFC entered into a securitisation arrangement with Nqaba Finance I (Pty) Limited (Nqaba), a special-purpose entity. The securitising of the home loan book converted the loan assets into marketable securities traded on the South African Bond Exchange. The special purpose entity is consolidated in the annual financial statements of the EFC group. EFC is the preferential shareholder of Nqaba which entitles it to all the residual profits (residual cash after priority payments).

EFC provides a first-loss credit enhancement loan equal to 2% of the notes in issue which bears interest at 30% per annum. At 31 March 2010 the loan was R63 million (2009: R39 million). As servicer of Nqaba, EFC earns a servicing fee equal to 0,35% of the quarterly outstanding loan book balance. At the end of the financial year, the net asset value of Nqaba was R16 million (2009: R26 million).

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.1 Credit risk *(continued)*

##### 3.1.2 Credit exposure

The carrying amount of financial assets represents the maximum credit exposure at the reporting date (refer note 13). The following table represents an analysis per credit rating level (as determined by rating agencies) of the credit risk of financial assets, except for embedded derivatives, trade and other receivables and financial instruments with group companies.

	Investment in securities			Financial trading assets	Cash and cash equivalents	Derivatives held for risk management	Finance lease receivables
	Held-to-maturity	Loans and receivables	Available-for-sale				
	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>2010</b>							
<b>Group</b>							
AAA	-	-	1 934	5 022	-	-	-
AA	-	-	-	-	1	-	-
A1+	-	-	2 137	1 078	7 915	104	-
A1	-	549	-	-	7 267	8	-
A2	-	-	-	-	-	-	4
Unrated	-	569	-	4	358	-	541
	-	1 118	4 071	6 104	15 541	112	545
<b>Company</b>							
AAA	-	-	1 934	5 022	-	-	-
AA	-	-	-	-	1	-	-
A1+	-	-	1 024	527	7 857	104	-
A1	-	549	-	-	6 783	8	-
A2	-	-	-	-	-	-	4
Unrated	-	-	-	4	230	-	541
	-	549	2 958	5 553	14 871	112	545
<b>2009</b>							
<b>Group</b>							
AAA	-	-	1 873	-	394	-	-
AA+	-	-	-	-	-	-	4
AA	-	-	-	-	1	-	-
AA-	-	-	-	-	-	-	3
A+	-	-	-	-	381	-	-
A1+	-	-	3 109	517	12 216	1 555	-
A1	104	2 427	-	407	5 378	282	-
BBB-	-	-	-	-	-	-	9
Unrated	-	405	-	-	12	-	531
	104	2 832	4 982	924	18 382	1 837	547
<b>Company</b>							
AAA	-	-	1 873	-	394	-	-
AA+	-	-	-	-	-	-	4
AA	-	-	-	-	1	-	-
AA-	-	-	-	-	-	-	3
A+	-	-	-	-	-	-	-
A1+	-	-	2 069	155	12 144	1 555	-
A1	104	2 427	-	407	5 378	282	-
BBB-	-	-	-	-	-	-	9
Unrated	-	-	-	-	4	-	531
	104	2 427	3 942	562	17 921	1 837	547

No credit limits were exceeded during the reporting period, nor does management expect any losses from non-performance by these counterparties.

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
The maximum exposure to credit risk for trade and other receivables per class was:					
<i>Electricity receivables</i>		<b>6 964</b>	4 810	<b>6 964</b>	4 810
International		<b>297</b>	176	<b>297</b>	176
Local large power users		<b>5 535</b>	3 812	<b>5 535</b>	3 812
Local small power users		<b>1 109</b>	786	<b>1 109</b>	786
Service delivery framework <sup>1</sup>		<b>23</b>	36	<b>23</b>	36
<i>Other trade receivables</i>		<b>300</b>	305	<b>–</b>	–
International		<b>32</b>	26	<b>–</b>	–
Local		<b>268</b>	279	<b>–</b>	–
<i>Other receivables</i>		<b>2 146</b>	3 099	<b>1 306</b>	2 286
Recoverable work		<b>67</b>	106	<b>67</b>	106
Employee debtors		<b>47</b>	43	<b>47</b>	43
Inter-company debtors		<b>–</b>	–	<b>223</b>	704
Reinsurance debtors		<b>424</b>	437	<b>–</b>	–
Value added tax receivable		<b>207</b>	1 064	<b>193</b>	1 064
Concession debtors		<b>517</b>	655	<b>–</b>	–
Sundry debtors		<b>884</b>	794	<b>776</b>	369
Total trade and other receivables	17	<b>9 410</b>	8 214	<b>8 270</b>	7 096
The analysis per credit rating level of the credit risk of trade and other receivables was:					
AAA		<b>2</b>	–	<b>2</b>	–
AA+		<b>32</b>	–	<b>32</b>	–
AA		<b>287</b>	–	<b>287</b>	–
AA-		<b>527</b>	–	<b>527</b>	–
A+		<b>301</b>	1 064	<b>301</b>	1 064
A1+		<b>584</b>	557	<b>201</b>	454
A1		<b>38</b>	–	<b>38</b>	–
A3		<b>200</b>	38	<b>200</b>	38
BBB-		<b>43</b>	–	<b>43</b>	–
Unrated		<b>7 396</b>	6 555	<b>6 639</b>	5 540
		<b>9 410</b>	8 214	<b>8 270</b>	7 096
The maximum exposure to credit risk for loans receivable was (classified as non-current assets held-for-sale in 2009):					
		<b>4 116</b>	–		
The maximum exposure to credit risk for non-current assets held-for-sale was:					
<i>Trade and other receivables</i>	22	<b>–</b>	344		
<i>Loans receivable</i>	22	<b>–</b>	2 787		
<i>Finance lease receivables</i>	22	<b>–</b>	26		
		<b>–</b>	3 157		

1. Negotiated agreement with stakeholders in residential areas which is a specific initiative aimed at resolving the non-payment of accounts.







## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 3. Financial risk management (continued)

#### 3.1 Credit risk (continued)

##### 3.1.2 Credit exposure (continued)

#### (b) Other trade receivables

##### Group

	Carrying amount Rm	Not past due Rm	Not impaired Days past due				Not past due Rm	Impaired Days past due			
			0-30 Rm	31-60 Rm	61-90 Rm	>90 Rm		0-30 Rm	31-60 Rm	61-90 Rm	>90 Rm
<b>2010</b>											
<i>Individually assessed for impairment</i>											
<i>International</i>	<b>32</b>	<b>16</b>	<b>15</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Gross	<b>32</b>	<b>16</b>	<b>15</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Impairment	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Local</i>	<b>268</b>	<b>205</b>	<b>13</b>	<b>7</b>	<b>10</b>	<b>17</b>	<b>16</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Gross	<b>281</b>	<b>205</b>	<b>13</b>	<b>7</b>	<b>10</b>	<b>17</b>	<b>17</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>11</b>
Impairment	<b>(13)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(1)</b>	<b>-</b>	<b>-</b>	<b>(1)</b>	<b>(11)</b>
Total carrying amount	<b>300</b>										
<b>2009</b>											
<i>International</i>	26	25	-	-	-	-	-	-	-	-	1
Gross	29	25	-	-	-	-	-	-	-	-	4
Impairment	(3)	-	-	-	-	-	-	-	-	-	(3)
<i>Local</i>	279	237	32	4	-	6	-	-	-	-	-
Gross	287	237	32	4	-	6	-	-	-	-	8
Impairment	(8)	-	-	-	-	-	-	-	-	-	(8)
Total carrying amount	<b>305</b>										

#### (c) Other receivables

Other receivables comprise mainly receivables for which there are no specific repayment terms.

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<i>Recoverable work</i>	<b>67</b>	106	<b>67</b>	106
Gross	<b>67</b>	106	<b>67</b>	106
Impairment	<b>-</b>	-	<b>-</b>	-
<i>Employee receivables</i>	<b>47</b>	43	<b>47</b>	43
Gross	<b>48</b>	45	<b>48</b>	45
Impairment	<b>(1)</b>	(2)	<b>(1)</b>	(2)
<i>Inter-company receivables</i>	<b>-</b>	-	<b>223</b>	704
Gross	<b>-</b>	-	<b>223</b>	704
Impairment	<b>-</b>	-	<b>-</b>	-
<i>Reinsurance receivables</i>	<b>424</b>	437	<b>-</b>	-
Gross	<b>424</b>	437	<b>-</b>	-
Impairment	<b>-</b>	-	<b>-</b>	-
<i>Value added tax receivable</i>	<b>207</b>	1 064	<b>193</b>	1 064
Gross	<b>207</b>	1 064	<b>193</b>	1 064
Impairment	<b>-</b>	-	<b>-</b>	-
<i>Concession receivables</i>	<b>519</b>	655	<b>-</b>	-
Gross	<b>521</b>	665	<b>-</b>	-
Impairment	<b>(2)</b>	(10)	<b>-</b>	-
<i>Sundry receivables</i>	<b>882</b>	794	<b>776</b>	369
Gross	<b>1 097</b>	964	<b>991</b>	539
Impairment	<b>(215)</b>	(170)	<b>(215)</b>	(170)
Total carrying amount	<b>2 146</b>	3 099	<b>1 306</b>	2 286

Factors considered for impairment per class include:

- Sundry and employee receivables: long-outstanding debt or amounts handed over to debt collectors.



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.1 Credit risk *(continued)*

##### 3.1.2 Credit exposure *(continued)*

Note	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
(f) <i>Security relating to amounts receivable</i>				
The security held against <i>trade and other receivables</i> for the group comprises guarantees and deposits. The estimate of the fair value of the security held is:				
<i>Electricity receivables</i>	<b>2 674</b>	2 252	<b>2 674</b>	2 252
Local large power users	<b>1 935</b>	1 601	<b>1 935</b>	1 601
Local small power users	<b>734</b>	649	<b>734</b>	649
Service delivery framework	<b>5</b>	2	<b>5</b>	2
<i>Other receivables</i>	<b>–</b>	23	<b>–</b>	23
Recoverable work	<b>–</b>	12	<b>–</b>	12
Employee debtors	<b>–</b>	4	<b>–</b>	4
Sundry debtors	<b>–</b>	7	<b>–</b>	7
Total	<b>2 674</b>	2 275	<b>2 674</b>	2 275
The total amount of the security above includes R1 935 million (2009: R1 407 million) relating to electricity receivables (international and large power users) which were not impaired and Rnil (2009: R20 million) relating to other receivables that were not impaired.				
Loans receivable secured by mortgage loans	<b>3 882</b>	2 799		
(g) <i>Allowance for impairment</i>				
The movement in the allowance for impairment in respect of <i>trade and other receivables</i> during the year was:				
Balance at beginning of the year	<b>2 157</b>	1 365	<b>2 136</b>	1 349
Impairment loss recognised (net of reversals)	<b>583</b>	832	<b>601</b>	855
Write offs	<b>(361)</b>	(40)	<b>(373)</b>	(68)
Balance at end of the year	<b>2 379</b>	2 157	<b>2 364</b>	2 136
<i>Comprising:</i>				
Electricity receivables	<b>2 148</b>	1 964	<b>2 148</b>	1 964
Other trade receivables	<b>13</b>	11	<b>–</b>	–
Other receivables	<b>218</b>	182	<b>216</b>	172
	<b>2 379</b>	2 157	<b>2 364</b>	2 136

Eskom establishes an allowance for impairment that represents its estimate of incurred losses in respect of trade and other receivables. This allowance consists of a specific loss component that relates to individual exposures, and a collective loss component established for groups of similar customers in respect of losses that have been incurred but not yet identified.

#### (h) *Financial guarantees issued*

The group's maximum exposure as a result of financial guarantees issued was R188 million (2009: R2 107 million) and R475 million (2009: R2 257 million) for the company (refer note 40.1 for more information on financial guarantees issued).

### 3.2 Market risk

Market risk is the risk that the fair value or future cash flows of financial instruments will fluctuate because of changes in foreign exchange rates, commodity prices, interest rates and equity prices.

A significant part of the market risk encountered arises from financial instruments that are managed centrally within the treasury function of the group or from contracts containing embedded derivatives.

The objective of the group's market risk management policy is to protect and enhance the statement of financial position and profit or loss by managing and controlling market risk exposures and to optimise the funding of business operations and facilitate capital expansion.

#### *Financial instruments managed by the treasury function*

The treasury department is responsible for managing market risk within the risk management framework approved by Exco and the board. The overall authority for the management of market risks within the treasury department is vested in the asset and liability committee (Alco) and the credit risk committee. Measurement and reporting occurs on a daily and/or monthly basis and is performed by an independent section within the treasury department. Financial derivatives are used to manage market risk.

#### *Financial instruments managed by other divisions and subsidiaries*

Market risk arises mainly from changes in foreign exchange rates and to a limited extent from changes in commodity prices and equity prices. The divisions and subsidiaries are responsible for identifying the exposure arising from these risks. They liaise with the centralised treasury function to hedge (economic and cash flow hedges) these exposures appropriately on their behalf.

#### **Embedded derivatives**

Eskom entered into a number of agreements to supply electricity to electricity-intensive industries where the revenue from these contracts is based on commodity prices and foreign currency rates (mainly USD) or foreign production price indices. This gives rise to embedded derivatives that require separation as a result of the different characteristics of the embedded derivative and the host contract. The contractual periods vary from one year up to a maximum of 18 years. Certain of these contracts are currently being renegotiated.

The net impact on profit or loss of changes in the fair value of the embedded derivatives for the group is a fair value gain of R2 284 million (2009: R9 514 million loss) and a fair value gain of R2 283 million (2009: R9 506 million loss) for the company. At 31 March 2010, the embedded derivative assets amounted to R110 million (2009: R1 366 million) for the group and R110 million (2009: R1 366 million) for the company. The embedded derivative liabilities at 31 March 2010 were R4 722 million (2009: R8 262 million) for the group and R4 721 million (2009: R8 260 million) for the company.

The valuation methods and inputs are discussed in the accounting policies (refer note 2.11.5, page 196) and the valuation assumptions are disclosed under critical accounting estimates and judgements (refer note 4, page 224). Risks arising from these contracts are discussed under the relevant risk areas as follows:

- currency risk (refer note 3.2.1, page 216)
- commodity risk (refer note 3.2.2, page 216)
- interest rate risk (refer note 3.2.3, page 218)
- other price risk (refer note 3.2.5, page 219)

Electricity contracts that contain embedded derivatives are considered for economic hedging. Hedging in respect of commodity risk and foreign currency exposure resulting from these embedded derivatives takes place on a short-term basis up to a maximum of five years. The South African Reserve Bank currently allows Eskom to hedge commodity price risk up to a maximum of five years with a foreign or local party.

#### **Loans receivable**

Market risks in respect of loans receivable, arise from changes in interest rates and market prices. Market risk is monitored and analysed through the treasury department and reported to the EFC finance committee. A strategy aimed at protecting the EFC group from changes in market risk that may have a negative impact on earnings has been implemented. Funds to finance operations are raised over the short term, usually for periods of three to six months, but not exceeding one year. This enables the pricing of assets to be matched with changes in the pricing of liabilities. The cost of funding is based on prevailing conditions in the South African money market. Rates charged on outstanding loans receivable are based on movements in the South African Reserve Bank repurchase rate.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.2 Market risk *(continued)*

##### 3.2.1 Currency risk

Currency risk arises primarily from purchasing imported goods and services directly from overseas or indirectly via local suppliers, foreign sales and foreign borrowings. The group is exposed to foreign exchange risk arising from future commercial transactions and recognised assets and liabilities that are denominated in a currency other than the functional currency of the group. All transactions in excess of R50 000 are hedged (ie economic or cash flow hedges). Currency exposure is identified by the business and hedged by the central treasury department. All hedging activities are conducted and managed by the treasury department. Hedging instruments consist principally of forward exchange contracts, most of which have a maturity of less than one year from the reporting date, but which are rolled over at maturity when necessary. The group also uses currency swaps. The hedging instrument is entered into once the exposure is firm and ascertainable.

The major exposure to foreign currency risk at 31 March, based on notional amounts, was (in million):

2010	EUR	USD	GBP	JPY	SEK	AUD	CHF	CAD	NOK
<b>Group</b>									
<b>Assets</b>									
Trade and other receivables	-	12	-	-	-	-	-	-	-
<b>Liabilities</b>									
Debt securities issued	(500)	-	-	-	-	-	-	-	-
Borrowings	(90)	(291)	-	(10 256)	-	-	-	-	-
Trade and other payables	(155)	(6)	(29)	(1 143)	(50)	(4)	(2)	(1)	-
<b>Gross statement of financial position exposure</b>	<b>(745)</b>	<b>(285)</b>	<b>(29)</b>	<b>(11 399)</b>	<b>(50)</b>	<b>(4)</b>	<b>(2)</b>	<b>(1)</b>	<b>-</b>
Estimated forecast sales <sup>1</sup>	-	155	-	-	-	-	-	-	-
Estimated forecast purchases <sup>2</sup>	(2 552)	(364)	(19)	(9 724)	(170)	-	(23)	(10)	(2)
<b>Gross exposure</b>	<b>(3 297)</b>	<b>(494)</b>	<b>(48)</b>	<b>(21 123)</b>	<b>(220)</b>	<b>(4)</b>	<b>(25)</b>	<b>(11)</b>	<b>(2)</b>
Derivatives held for risk management	3 299	490	49	21 123	214	3	24	11	2
Other exposures covered by company <sup>3</sup>	(7)	-	-	-	-	-	-	-	-
<b>Net exposure</b>	<b>(5)<sup>4</sup></b>	<b>(4)<sup>4</sup></b>	<b>1</b>	<b>-</b>	<b>(6)<sup>4</sup></b>	<b>(1)<sup>4</sup></b>	<b>(1)<sup>4</sup></b>	<b>-</b>	<b>-</b>
<b>Company</b>									
<b>Assets</b>									
Trade and other receivables	-	12	-	-	-	-	-	-	-
<b>Liabilities</b>									
Debt securities issued	(500)	-	-	-	-	-	-	-	-
Borrowings	(90)	(291)	-	(10 256)	-	-	-	-	-
Trade and other payables	(144)	(5)	(29)	(1 143)	(50)	(4)	(1)	(1)	-
<b>Gross statement of financial position exposure</b>	<b>(734)</b>	<b>(284)</b>	<b>(29)</b>	<b>(11 399)</b>	<b>(50)</b>	<b>(4)</b>	<b>(1)</b>	<b>(1)</b>	<b>-</b>
Estimated forecast sales <sup>1</sup>	-	155	-	-	-	-	-	-	-
Estimated forecast purchases <sup>2</sup>	(2 552)	(364)	(19)	(9 724)	(170)	-	(23)	(10)	(2)
<b>Gross exposure</b>	<b>(3 286)</b>	<b>(493)</b>	<b>(48)</b>	<b>(21 123)</b>	<b>(220)</b>	<b>(4)</b>	<b>(24)</b>	<b>(11)</b>	<b>(2)</b>
Derivatives held for risk management	3 299	490	49	21 123	214	3	24	11	2
Group exposures covered by company	(11)	(1)	-	-	-	-	(1)	-	-
<b>Net exposure</b>	<b>2</b>	<b>(4)<sup>4</sup></b>	<b>1</b>	<b>-</b>	<b>(6)<sup>4</sup></b>	<b>(1)<sup>4</sup></b>	<b>(1)<sup>4</sup></b>	<b>-</b>	<b>-</b>

2009	EUR	USD	GBP	JPY	SEK	AUD	CHF	CAD	NOK
<b>Group</b>									
<b>Assets</b>									
Investment in securities	15	–	–	–	–	–	–	–	–
Trade and other receivables	7	38	–	–	–	–	–	–	–
<b>Liabilities</b>									
Debt securities issued	(500)	–	–	–	–	–	–	–	–
Borrowings	(100)	(291)	–	(3 400)	–	–	–	–	–
Trade and other payables	(215)	(15)	(2)	(166)	(42)	–	(3)	–	–
<b>Gross statement of financial position exposure</b>									
Estimated forecast sales <sup>1</sup>	–	112	–	–	–	–	–	–	–
Estimated forecast purchases <sup>2</sup>	(3 132)	(369)	(52)	(12 210)	(324)	–	(3)	(16)	(1)
<b>Gross exposure</b>	<b>(3 925)</b>	<b>(525)</b>	<b>(54)</b>	<b>(15 776)</b>	<b>(366)</b>	<b>–</b>	<b>(6)</b>	<b>(16)</b>	<b>(1)</b>
Derivatives held for risk management	3 950	658	54	15 813	332	–	6	15	–
Other exposures covered by company <sup>3</sup>	(31)	(21)	(2)	(34)	–	–	–	–	–
<b>Net exposure</b>	<b>(6)<sup>4</sup></b>	<b>112<sup>5</sup></b>	<b>(2)</b>	<b>3</b>	<b>(34)<sup>4</sup></b>	<b>–</b>	<b>–</b>	<b>(1)<sup>4</sup></b>	<b>(1)<sup>4</sup></b>
<b>Company</b>									
<b>Assets</b>									
Investment in securities	15	–	–	–	–	–	–	–	–
Trade and other receivables	7	38	–	–	–	–	–	–	–
<b>Liabilities</b>									
Debt securities issued	(500)	–	–	–	–	–	–	–	–
Borrowings	(100)	(291)	–	(3 400)	–	–	–	–	–
Trade and other payables	(208)	(5)	(1)	(166)	(41)	–	(2)	–	–
<b>Gross statement of financial position exposure</b>									
Estimated forecast sales <sup>1</sup>	–	112	–	–	–	–	–	–	–
Estimated forecast purchases <sup>2</sup>	(3 132)	(369)	(52)	(12 210)	(324)	–	(3)	(16)	(1)
<b>Gross exposure</b>	<b>(3 918)</b>	<b>(515)</b>	<b>(53)</b>	<b>(15 776)</b>	<b>(365)</b>	<b>–</b>	<b>(5)</b>	<b>(16)</b>	<b>(1)</b>
Derivatives held for risk management	3 950	658	54	15 813	332	–	6	15	–
Group exposures covered by company	(38)	(31)	(2)	(34)	(1)	–	(1)	–	–
<b>Net exposure</b>	<b>(6)<sup>4</sup></b>	<b>112<sup>5</sup></b>	<b>(1)</b>	<b>3</b>	<b>(34)<sup>4</sup></b>	<b>–</b>	<b>–</b>	<b>(1)<sup>4</sup></b>	<b>(1)<sup>4</sup></b>

1. Represents foreign denominated sales for the next 12 months.

2. Represents future purchases contracted for.

3. Cover relates to exposure of a non-controlled wholly owned entity.

4. Cover can only be taken on firm commitments where there is certainty of 90% take up. Cover is taken out when orders are placed.

5. Cover relating to forecast sales of R103 million was taken out on 30 April 2009. In addition, cover was not taken out relating to a forecast sale of R20 million that is in dispute. Included is an amount of R12 million where cover can only be taken on firm commitments where there is certainty of 90% take up.



## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.2 Market risk *(continued)*

##### 3.2.1 Currency risk *(continued)*

The following significant exchange rates applied during the year (rand values for one unit of selected currencies):

	Average rate		Reporting date mid-spot rate	
	2010	2009	2010	2009
EUR	<b>10,90</b>	12,31	<b>9,92</b>	12,63
USD	<b>7,75</b>	8,79	<b>7,34</b>	9,49
GBP	<b>12,29</b>	14,72	<b>11,11</b>	13,57
CHF	<b>7,27</b>	7,69	<b>6,94</b>	8,33
JPY	<b>0,08</b>	0,09	<b>0,08</b>	0,10
SEK	<b>1,06</b>	1,22	<b>1,02</b>	1,15
CAD	<b>7,09</b>	7,69	<b>7,23</b>	7,69
AUD	<b>6,60</b>	6,67	<b>6,73</b>	6,67
NOK	<b>1,28</b>	1,45	<b>1,24</b>	1,41

##### Sensitivity analysis

The group is mainly exposed to euros and United States dollars. The sensitivity analysis has been performed on the same basis as the prior year. The analysis assumes that all other variables, in particular interest rates, remain constant and are:

	Group and company			
	2010 1% increase Rm	2010 1% decrease Rm	2009 1% increase Rm	2009 1% decrease Rm
<i>Profit/(loss), excluding embedded derivatives</i>				
Total exposure	<b>207</b>	<b>(219)</b>	218	(219)
Rand/euro exposure	<b>10</b>	<b>(10)</b>	125	(123)
Rand/USD exposure	<b>191</b>	<b>(203)</b>	(7)	9
<i>Equity, excluding embedded derivatives</i>				
Total exposure	<b>196</b>	<b>(200)</b>	85	(86)
Rand/euro exposure	<b>192</b>	<b>(197)</b>	13	(13)
Rand/USD exposure	<b>4</b>	<b>(4)</b>	1	(1)
<i>Profit/(loss) – embedded derivatives<sup>1</sup></i>				
Rand/USD exposure	<b>107</b>	<b>(110)</b>	422	(418)

##### 3.2.2 Commodity risk

The group is exposed to commodity risk where commodities are either used directly (eg coal or liquid fuels) or indirectly as a component of plant, equipment or inventory (eg aluminium, copper or steel). The revenue from certain customised pricing arrangements are linked to commodity prices.

The exposures are hedged economically by means of futures and/or options. Economic hedging is applied where it is practical (a relevant hedging instrument exists) based on the most optimal economic solution and in compliance with the South African Reserve Bank requirements.

The underlying exposure to commodity price risk could result in embedded derivatives. Where the embedded derivatives are closely related to the host contracts, the embedded derivatives are not accounted for separately. Where the embedded derivatives are not closely related to the host contracts, the contracts have been valued and accounted for separately.

At year end only the customised pricing arrangements gave rise to commodity-linked (aluminium) embedded derivatives (refer note 3.2 on page 213).

##### Commodities used directly

Eskom purchases coal that is used in the generation of electricity from mines and is exposed to price and supply risks. Eskom has entered into long-term supply agreements with mines to ensure continuous supply of coal. In the fixed price contracts the price escalation is fixed, whereas Eskom pays for all the operational costs of the collieries where the contracts are on a cost-plus basis. The contracts are monitored closely and managed to ensure costs are maintained within acceptable levels. All production requirements above those of the long-term contracts are supplied via short- to medium-term contracts which usually have a transport element included in the purchase price. Refer to page 109 for further information on coal.

There is also price risk exposure in the long-term primary energy water supply agreements entered into with the Department of Water Affairs (DWA) where Eskom pays for a portion of the operational costs incurred by DWA on certain of the water schemes. Refer to page 110 for further information on water.

Eskom is exposed to price risk on the diesel that is used for the generation of electricity at its open-cycle gas turbine power stations. The price of diesel is a function of the crude oil and USD exchange rates. Refer to page 111 for further information on diesel.

#### Commodities used indirectly

The exposure where commodities formed a part of plant, equipment or inventory was relatively small at year end, but is increasing as the capital expansion programme progresses. Eskom hedges all its base metal exposures (aluminium, copper, zinc and nickel) during the year via commodity swaps (refer note 15).

#### Sensitivity analysis

From a commodity perspective the group is exposed mainly to changes in the aluminium price. The sensitivity analysis has been performed on the same basis as the prior year. The analysis assumes that all other variables remain constant and the possible impact on profit or loss is:

	Group and company			
	2010 1% increase Rm	2010 1% decrease Rm	2009 1% increase Rm	2009 1% decrease Rm
<i>Profit/(loss), excluding embedded derivatives</i>				
Aluminium options	1	(1)	(14)	15
<i>Profit/(loss), including embedded derivatives<sup>1</sup></i>				
Aluminium price	91	(91)	363	(363)

The periods of the hedging instrument and that of the hedged item are not the same because of South African Reserve Bank regulations that limit the number of years which can be hedged.

### 3.2.3 Interest rate risk

Interest rate risk is the risk that the group's financial position may be adversely affected as a result of changes in interest rate levels, yield curves and spreads.

The group's interest rate risk arises mainly from short-term borrowings and forward exchange contracts. Borrowings and debt securities issued at variable rates expose the group to cash flow interest rate risk. Long-term borrowings and debt securities issued at fixed rates expose the group to fair value interest rate risk. The group's policy is to restrict the maximum effective portion of the external debt (excluding the trading portfolio which is managed within the constraints of the treasury policy and control manual) exposed to an interest rate reset within the next 12-month period to 40%.

#### Sensitivity analysis

The group analyses its interest rate exposure on a dynamic basis by conducting a sensitivity analysis. This involves determining the impact on profit or loss of defined interest rate shifts. For each simulation, the same interest rate shift is used for all currencies.

The sensitivity analysis for interest rate risk assumes that all other variables, in particular foreign exchange rates, remain constant. The calculation excludes borrowing costs capitalised in terms of the group's accounting policy. The analysis relates to variable-rate instruments and has been performed on the same basis as the prior year.

1. Impact on profit or loss is before calibration adjustments.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.2 Market risk *(continued)*

##### 3.2.3 Interest rate risk *(continued)*

The simulation is performed on a monthly basis to verify that the maximum loss potential is within the limit set by management. The results of the simulation are included in the table below.

The South African rand and the United States dollar interest rates are used in determining the fair value of embedded derivatives. The sensitivity analysis below indicates the impact on profit or loss if these rates change. The sensitivity analysis assumes that all other variables remain constant and has been prepared on the same basis as for the prior year.

	Group				Company			
	2010 +100 basis points Rm	2010 -100 basis points Rm	2009 +100 basis points Rm	2009 -100 basis points Rm	2010 +100 basis points Rm	2010 -100 basis points Rm	2009 +100 basis points Rm	2009 -100 basis points Rm
<i>Profit/(loss), excluding embedded derivatives</i>								
Rand interest rates	(19)	19	(4)	4	1	(2)	6	(6)
<i>Profit/(loss), including embedded derivatives<sup>1</sup></i>								
Rand interest rates	437	(455)	3 443	(3 842)	437	(455)	3 443	(3 842)
USD interest rates	(273)	283	(2 885)	3 189	(273)	283	(2 885)	3 189

A significant portion of the floating debt issued has been hedged with interest rate swaps. Accordingly, cash flow hedge accounting is applied and the changes due to interest rates are allocated to equity.

##### Fixed and floating rate debt

The fixed and floating rate debt percentages at 31 March were:

	Group				Company			
	2010 Fixed %	2010 Floating %	2009 Fixed %	2009 Floating %	2010 Fixed %	2010 Floating %	2009 Fixed %	2009 Floating %
Continuing operations	91	9	90	10	91	9	90	10
Non-current assets held-for-sale	-	-	27	73	-	-	-	-

##### 3.2.4 Equity price risk

Equity price risk arises from listed shares held by Escap. Changes in the fair value of equity securities held by the group will fluctuate because of changes in market prices, caused by factors specific to the individual equity issuer, or factors affecting all similar equity securities traded on the market.

All the equity investments are listed on the JSE Limited (JSE). A 2% increase in the equity portfolio at the reporting date would have increased profit or loss by R7,9 million (2009: R5 million) after tax. An equal change in the opposite direction would have decreased profit or loss by the same amount. There will be no impact on equity. The analysis assumes that all other variables remain constant and is performed on the same basis as for the prior year.

Movements of financial assets and equity prices are monitored on a monthly basis and equity price changes assessed against the JSE Shareholder Weighted Index as a benchmark.

### 3.2.5 Other price risk

Inflation price risk arises from embedded derivatives as discussed under note 3.2 on page 213. The risk arises from movements in the electricity tariffs, the United States production price index (PPI) and the South African consumer price index (CPI).

The following is the sensitivity analysis of the change in the value of the embedded derivatives (relating to customised pricing agreements) as a result of changes in electricity tariffs, the South African CPI or the United States PPI. This analysis has been performed on the same basis as the prior year. The analysis assumes that all other variables remain constant and the possible impact on profit or loss is:

	Group and company			
	2010 1% increase Rm	2010 1% decrease Rm	2009 1% increase Rm	2009 1% decrease Rm
<i>Profit/(loss), including embedded derivatives<sup>1</sup></i>				
Electricity tariffs	(95)	95	(3 085)	2 852
South African CPI	(316)	309	(3 489)	3 193
United States PPI	39	(39)	129	(134)

### 3.3 Liquidity risk

Liquidity risk is the risk that the group will not have sufficient financial resources to meet its obligations when they fall due, or will have to do so at excessive cost. This risk can arise from mismatches in the timing of cash flows from revenue and capital and operational outflows. Funding risk arises when the necessary liquidity to fund illiquid asset positions, such as building new electricity capacity, cannot be obtained at the expected terms and when required.

The objective of the group's liquidity and funding management is to ensure that all foreseeable operational, capital expansion and loan commitment expenditure can be met under both normal and stressed conditions. The group has adopted an overall statement of financial position approach, which consolidates all sources and uses of liquidity, while aiming to maintain a balance between liquidity, profitability and interest rate considerations.

The management of consolidated liquidity and funding risk is centralised in the treasury department in accordance with practices and limits set by the Exco and the board. The group's liquidity and funding management process includes:

- projecting cash flows and considering the cash required by the group and optimising the short-term liquidity requirements as well as the long-term funding
- monitoring financial position liquidity ratios
- maintaining a diverse range of funding sources with adequate back-up facilities
- managing the concentration and profile of debt maturities
- actively managing the funding risk by evaluating optimal entry points into the various markets per the official funding plan
- maintaining liquidity and funding contingency plans

Eskom has an established corporate governance structure and process for managing the risks regarding guarantees and contingent liabilities (refer note 40). All significant guarantees issued by Eskom are approved by the board, and are managed on an ongoing basis through the quarterly meetings of the treasury credit committee, and by the risk management committee of the board.

The guarantees are administratively managed by the treasury department. Updated guarantee schedules are compiled every month, taking cognisance of any changed risk factors, and are submitted to each of the committees for consideration and action, if necessary. Risk factors and assumptions affecting probability calculations are reassessed twice a year and presented to the above committees.

Eskom's guarantees are diverse and unlinked, such that a trigger event for any one guarantee is unlikely to precipitate a trigger event in respect of other guarantees.

Given that there would be forewarning of payments required in terms of the other guarantees, and considering the amounts of the guarantees, it is expected that Eskom will be able to raise the required liquidity to effect any required payments.

1. Impact on profit or loss is before calibration adjustments.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.3 Liquidity risk *(continued)*

##### *Primary sources of funding and unused facilities*

The primary sources to meet Eskom's liquidity requirements are revenue, cash inflows from maturing financial assets purchased, funds committed by government, as well as local and foreign debt issued in the market. To supplement these liquidity sources under stress conditions, overdraft facilities (for which there was no requirement to use), undrawn loans, financing and guarantee facilities are in place as indicated below.

	Currency	Group and company	
		2010 m	2009 m
Japan Bank for International Cooperation (JBIC)			
Untied facility	JPY	14 300	21 000
Tied facility	JPY	30 000	30 000
European Investment Bank	EUR	88	113
KFW Bankengruppe	EUR	–	250
General banking facilities	ZAR	2 500	700
Subordinated loan from shareholder	ZAR	20 000	50 000
Government guarantees – uncommitted	ZAR	91 116	150 000
– Domestic Multi-term Note programme	ZAR	18 110	–
African Development Bank loan facility	EUR	930	–
African Development Bank loan facility	ZAR	10 630	–
Export Credit Agency floating rate facility	EUR	530	–
Export Credit Agency fixed rate facility	EUR	250	–
Export Credit Agency loan facility	EUR	1 890	–

The World Bank has approved the South African government's request for a USD3,75 billion loan to co-finance the Medupi power station in Lephalale, Limpopo province. These funds combine favourable financing rates with a structured repayment profile. This approval clears the way for the full construction of Medupi power station and is catalytic for South Africa's commitment to renewable energy and lower carbon technologies such as large-scale solar thermal and wind power.

##### *Key indicators used for liquidity management*

##### **Duration**

Management has set minimum duration limits to help optimise returns for the group on its debt portfolio. Group policy is to ensure that the external debt portfolio (excluding the trade portfolio) has a minimum duration of five years, should it exceed R10 billion. The duration limits are independently monitored and reported to Alco on a monthly basis and to Exco and the risk management committee on a quarterly basis.

The duration (a weighted average term to maturity measure based on future cash flows) of the debt measured at fair value at 31 March was:

	Group		Company	
	2010 Years	2009 Years	2010 Years	2009 Years
Continuing operations	6,75	6,28	6,75	6,28
Non-current assets held-for-sale	–	1,70	–	–

##### **Liquid assets**

Liquid assets are investments identified as having the potential to be quickly converted into cash. These investments include negotiable certificates of deposit and floating rate notes as disclosed in investment in securities (refer note 13.1 and 13.2). The liquid assets were:

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
Continuing operations	17 408	21 234	15 627	20 824

##### **Capital expenditure ratio**

The capital expenditure ratio<sup>1</sup> measures whether there are liquid funds available to invest in capital expenditure. The capital expenditure ratio for the period was:

	Group		Company	
	2010 %	2009 %	2010 %	2009 %
Continuing operations	38	12	36	12

### Contractual cash flows

The table below indicates the contractual undiscounted cash flows of the group's financial assets and liabilities (refer note 13) on the basis of their earliest possible contractual maturity. The undiscounted cash flows in respect of the group's financial assets are presented net of impairment losses and include estimates where there are no contractual repayment terms or the receivable is past due. The cash flows of the group's financial liabilities are indicated on a gross undiscounted basis. The cash flows for derivatives are presented as gross inflows and outflows even though physically they are settled simultaneously.

The table contains only cash flows relating to financial instruments and commitments (financial guarantees and loan commitments). It does not include future cash flows expected from the normal course of business and related commodity linked pricing agreements.

	Carrying amount			Cash flows			
	Non-current	Current	Nominal inflow or outflow	0 to 3 months	4 to 12 months	1 to 5 years	More than 5 years
2010	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Group</b>							
<b>Financial assets</b>							
Investment in securities	2 392	2 797	5 962	2 192	1 277	852	1 641
Loans receivable	4 110	6	10 079	135	404	1 954	7 586
Derivatives held for risk management	–	112	1 063	287	776	–	–
Finance lease receivables	532	13	1 400	22	63	329	986
Trade and other receivables	19	9 391	9 410	8 803	588	18	1
Financial trading assets	–	6 104	7 138	487	1 720	1 090	3 841
Cash and cash equivalents	–	15 541	15 541	15 541	–	–	–
	<b>7 053</b>	<b>33 964</b>	<b>50 593</b>	<b>27 467</b>	<b>4 828</b>	<b>4 243</b>	<b>14 055</b>
<b>Financial liabilities</b>							
Debt securities issued	59 322	2 880	145 960	2 620	4 095	25 741	113 504
Borrowings	11 183	9 143	35 031	1 394	9 084	4 917	19 636
Subordinated loan from shareholder	23 445	–	77 114	–	–	8 808	68 306
Derivatives held for risk management	3 626	4 644	40 985	6 743	30 089	3 802	351
Finance lease liabilities	632	52	2 240	58	152	672	1 358
Trade and other payables	1 134	16 331	17 936	12 775	3 556	1 203	402
Financial trading liabilities	–	5 513	10 430	699	457	1 400	7 874
	<b>99 342</b>	<b>38 563</b>	<b>329 696</b>	<b>24 289</b>	<b>47 433</b>	<b>46 543</b>	<b>211 431</b>
<b>Company</b>							
<b>Financial assets</b>							
Financial instruments with group companies	–	2 461	2 571	936	1 635	–	–
Investment in securities	1 923	1 584	4 298	528	1 277	852	1 641
Derivatives held for risk management	–	112	1 063	287	776	–	–
Finance lease receivables	532	13	1 400	22	63	329	986
Trade and other receivables	23	8 247	8 270	7 659	588	22	1
Financial trading assets	–	5 553	6 027	271	825	1 090	3 841
Cash and cash equivalents	–	14 871	14 871	14 871	–	–	–
	<b>2 478</b>	<b>32 841</b>	<b>38 500</b>	<b>24 574</b>	<b>5 164</b>	<b>2 293</b>	<b>6 469</b>
<b>Financial liabilities</b>							
Financial instruments with group companies	–	1 897	1 897	161	1 736	–	–
Debt securities issued	58 538	2 141	144 438	1 882	4 095	24 957	113 504
Borrowings	10 708	9 094	34 452	1 362	8 988	4 466	19 636
Subordinated loan from shareholder	23 445	–	77 114	–	–	8 808	68 306
Derivatives held for risk management	3 626	4 644	40 985	6 743	30 089	3 802	351
Finance lease liabilities	965	74	2 595	58	173	807	1 557
Trade and other payables	797	16 370	17 636	13 246	3 124	864	402
Financial trading liabilities	–	5 513	10 430	699	457	1 400	7 874
	<b>98 079</b>	<b>39 733</b>	<b>329 547</b>	<b>24 151</b>	<b>48 662</b>	<b>45 104</b>	<b>211 630</b>

1. The ratio is calculated as cash generated from operations divided by capital expenditure (excluding finance cost capitalised) on property, plant and equipment and intangible assets.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 3. Financial risk management *(continued)*

#### 3.3 Liquidity risk *(continued)*

	Carrying amount			Cash flows			
	Non-current	Current	Nominal inflow or outflow	0 to 3 months	4 to 12 months	1 to 5 years	More than 5 years
2009	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Group</b>							
<i>Financial assets</i>							
Investment in securities	3 558	4 360	9 830	4 262	133	2 086	3 349
Derivatives held for risk management	586	1 251	6 128	1 843	3 166	710	409
Finance lease receivables	536	11	1 516	20	62	348	1 086
Trade and other receivables	23	8 191	8 214	7 486	705	21	2
Financial trading assets	–	924	927	815	112	–	–
Cash and cash equivalents	–	18 382	18 693	18 693	–	–	–
	4 703	33 119	45 308	33 119	4 178	3 165	4 846
<i>Financial liabilities</i>							
Debt securities issued	44 253	3 324	134 777	3 017	3 299	20 560	107 901
Borrowings	11 221	13 811	27 636	4 491	10 235	618	12 292
Subordinated loan from shareholder	1 575	–	10 000	–	–	–	10 000
Derivatives held for risk management	786	2 626	63 041	8 090	48 229	5 542	1 180
Finance lease liabilities	537	15	1 880	27	82	405	1 366
Trade and other payables	1 466	16 701	18 726	13 570	3 131	1 686	339
Financial trading liabilities	–	2 180	2 069	44	101	241	1 683
	59 838	38 657	258 129	29 239	65 077	29 052	134 761
<b>Company</b>							
<i>Financial assets</i>							
Financial instruments with group companies	–	1 279	1 292	1 127	165	–	–
Investment in securities	3 153	3 320	8 385	2 788	567	1 681	3 349
Derivatives held for risk management	586	1 251	6 128	1 843	3 166	710	409
Finance lease receivables	536	11	1 516	20	62	348	1 086
Trade and other receivables	23	7 073	7 096	6 394	679	21	2
Financial trading assets	–	562	565	453	112	–	–
Cash and cash equivalents	–	17 921	18 235	18 235	–	–	–
	4 298	31 417	43 217	30 860	4 751	2 760	4 846
<i>Financial liabilities</i>							
Financial instruments with group companies	–	1 853	1 915	643	1 272	–	–
Debt securities issued	44 253	3 324	134 777	3 017	3 299	20 560	107 901
Borrowings	10 794	13 809	27 164	4 491	10 235	146	12 292
Subordinated loan from shareholder	1 575	–	10 000	–	–	–	10 000
Derivatives held for risk management	786	2 626	63 041	8 090	48 229	5 542	1 180
Finance lease liabilities	761	45	2 311	44	131	619	1 517
Trade and other payables	1 297	16 248	18 104	15 836	412	1 401	455
Financial trading liabilities	–	2 180	2 069	44	101	241	1 683
	59 466	40 085	259 381	32 165	63 679	28 509	135 028

Non-current assets held-for-sale	Carrying amount			Cash flows			
	Non-current	Current	Nominal inflow or outflow	0 to 3 months	4 to 12 months	1 to 5 years	More than 5 years
	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>2010</b>							
<i>Financial assets</i>							
Cash and cash equivalents	-	9	9	9	-	-	-
<b>2009</b>							
<i>Financial assets</i>							
Loans receivable	2 779	8	7 945	113	334	1 655	5 843
Finance lease receivables	18	8	33	3	8	22	-
Trade and other receivables	-	344	344	322	22	-	-
Cash and cash equivalents	-	428	428	266	162	-	-
	2 797	788	8 750	704	526	1 677	5 843
<i>Financial liabilities</i>							
Debt securities issued	1 127	266	1 393	266	-	1 127	-
Borrowings	2	6	8	-	6	2	-
Trade and other payables	-	305	305	305	-	-	-
	1 129	577	1 706	571	6	1 129	-

### 3.4 Capital management

Eskom manages accumulated profit and the hedging, fair value, equity and insurance reserves as capital. The equity reserve comprises the day-one gains that result from the initial recognition of the subordinated loan tranches received from the shareholder. The day-one gains are included in equity as it is considered to be a contribution from the shareholder (refer note 13.5). Eskom is obliged to pay interest on the loan when the solvency and debt leverage conditions per the agreement are satisfied. Future projections result in the day-one gains.

The objective of capital management is to ensure that Eskom is sustainable over the long term. There were no changes to Eskom's approach to capital management during the financial year.

The major items that impact the equity of Eskom include:

- the revenue received from electricity sales (which is a function of price and sales volumes)
- the cost of funding the business
- the cost of operating the electricity business
- the cost of expanding the business to ensure that capacity growth is in line with electricity sales demand (funding and additional depreciation)
- taxation
- dividends

Eskom uses the Integrated Strategic Electricity Planning process which forecasts the growth in electricity demand for the long term and evaluates the alternative means to meet and manage that demand. This information flows into the planning process. The planning process will determine a forward electricity price curve which will be an indication of the size of the price increases which Eskom requires to be sustainable over the long term.

The tariff increases for the electricity business is subject to the process laid down by the National Energy Regulator of South Africa (NERSA). The current regulatory framework applicable to Eskom is a multi-year, incentive-based method of adjusting electricity prices.

The electricity business is currently in a major expansion phase. There is national consensus that the capital expansion programme continues. The funding related to new generating, transmitting and other capacity is envisaged to be obtained from cash generated by the business, shareholder support and funds borrowed on the local and overseas markets. The adequacy of price increases allowed by the regulator and the level and timing of shareholder support are key factors in the sustainability of Eskom. Eskom is in discussion with government and key stakeholders to agree on and implement an appropriate funding model. This will take into account a holistic and integrated approach to tariffs, borrowing and equity. It is clear, however, that any capacity expansion beyond the Kusile project will need to be carried out in a prefunded/project finance type manner in order to ensure the stability of Eskom's statement of financial position. Refer to page 90 and 158 for further information on electricity prices.

The debt to equity ratio plays an important role in the credit ratings given to Eskom which in turn influences the cost of funding. The debt equity ratio including long-term provisions at 31 March 2010 for the group was 1,55 (2009: 1,22) and 1,68 (2009: 1,29) for the company. The government as the sole shareholder and the board has the responsibility to ensure that the company is adequately capitalised to ensure continuity of supply and that the business is attractive to investors to enable Eskom to fund the expansion programme.



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 4. Critical accounting estimates and judgements

Estimates and judgements are evaluated continually and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

The group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

#### (a) Embedded derivatives

Eskom has entered into a number of agreements to supply electricity to electricity-intensive industries where the revenue from these contracts is linked to commodity prices and foreign currency rates (mainly USD) or foreign production price indices that give rise to embedded derivatives. Subsidiaries of Eskom Enterprises also entered into sales contracts where the revenue is based on the USD, foreign production price indices and foreign interest rates that give rise to embedded derivatives.

The embedded derivatives have been divided into three categories:

- commodity and/or foreign currency derivatives
- foreign currency or interest rate derivatives
- production price and foreign currency derivatives

#### Valuation

The fair value of embedded derivatives is determined by using a forward electricity price curve.

#### Valuation assumptions

The forward electricity price curve used to value embedded derivatives at 31 March 2010 was the applicable tariff determined by NERSA on 24 February 2010. This forward curve is based on the average electricity price increase indicated by NERSA in the price applications for the 2010/11, 2011/12 and 2012/13 financial years. These rates are 24,8%, 25,8% and 25,9% and assumes two additional annual increases of 25% and CPI thereafter. The forward electricity price curve used to value embedded derivatives at 31 March 2009 was 26,2% for the 2010 financial year, 25% plus CPI for the next two years and CPI thereafter.

The contracted electricity price used to value embedded derivatives is based on a combination of the factors in the table below over the contracted period.

Forecast sales volumes are based on the most likely future sales volumes which have been back-tested against historic volumes.

The fair value of embedded derivatives takes into account the inherent uncertainty relating to the future cash flows of embedded derivatives, such as liquidity, model risk and other economic factors.

The renegotiation of the Mozal contract has significantly reduced the value of embedded derivatives. The negotiations regarding the other commodity-linked contracts are continuing.

The following valuation assumptions for the future electricity price curve discussed above for the valuation of embedded derivatives were used and are regarded as the best estimates by the board:

Input	Unit	Year ended 31 March					
		2010	2011 <sup>1</sup>	2012 <sup>1</sup>	2013 <sup>1</sup>	2014 <sup>1</sup>	2015 <sup>1</sup>
Aluminium	USD per ton	2 262	2 408	2 495	2 568	2 633	2 688
Rand/USD	USD per rand	0,14	–	–	–	–	–
Rand interest rates	Continuous actual/365 days (%)	6,44	7,21	6,92	7,30	7,65	7,92
Dollar interest rates	Annual actual/360 days (%)	0,23	1,10	1,20	1,82	2,35	2,78
United States PPI	Year-on-year (%)	(1,63)	4,89	1,85	3,00	1,28	2,28
South African CPI	Year-on-year (%)	(2,02)	7,85	6,70	6,21	6,79	6,59

Input	Unit	Year ended 31 March					
		2009	2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>	2013 <sup>1</sup>	2014 <sup>1</sup>
Aluminium	USD per ton	1 357	1 498	1 642	1 769	1 875	1 970
Rand/USD	USD per rand	0,11	–	–	–	–	–
Rand interest rates	Continuous actual/365 days (%)	9,31	7,44	7,53	7,84	8,08	8,24
Dollar interest rates	Annual actual/360 days (%)	0,43	1,29	1,46	1,75	2,04	2,30
United States PPI	Year-on-year (%)	(0,84)	(3,62)	2,36	2,17	0,41	2,59
South African CPI	Year-on-year (%)	10,30	6,38	5,70	5,50	5,46	6,95

#### Sensitivity analysis

The approximate change in the value of embedded derivatives if one of the inputs is changed is disclosed in note 3.2 Financial risk management – market risk on page 213.

The carrying amount of the embedded derivative assets for the group and company is R110 million (2009: R1 366 million). The carrying amount of the embedded derivative liabilities for group is R4 722 million (2009: R8 262 million) and R4 721 million (2009: R8 260 million) for company.

#### (b) Post-retirement medical benefits

The group provides post-retirement medical benefits to its retirees. The post-retirement medical benefits plan is unfunded.

#### Valuation

The estimated present value of the anticipated expenditure for both in-service and retired members is actuarially valued using the projected unit method. This method treats the accrued service liability separately from the current cost liability. The accrued service liability (on the valuation assumptions) is based on the completed service to the valuation date. The current cost is the cost of providing the benefit over the next year.

#### Valuation assumptions

The principal actuarial assumptions used were:

	Group and company	
	2010 %	2009 %
Long-term interest rate before tax	<b>8,90</b>	8,75
Long-term medical aid inflation	<b>7,40</b>	7,25

#### Sensitivity analysis

The carrying amount of the provision would be an estimated R689 million (2009: R847 million) lower had the medical inflation rate used in the valuation decreased by 1% and R794 million (2009: R1 057 million) higher had the medical inflation rate increased by 1%.

The carrying amount of the post-retirement medical benefits liability for group is R7 190 million (2009: R6 238 million) and R7 033 million (2009: R6 103 million) for company.

1. Forward curve based on financial years.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 4. Critical accounting estimates and judgements *(continued)*

#### (c) Occasional and service leave

The group recognises a liability for occasional and service leave as the leave is of a long-term nature.

##### *Valuation*

An actuarial valuation is done on an annual basis for occasional and service leave. The accrued liability is determined by valuing all future leave expected to be taken and payments to be made in respect of benefits up to the valuation date. The present value of the benefits is determined by using the yield of long-dated corporate bonds (or government bonds where high quality corporate bonds are not available).

##### *Valuation assumptions*

The principal actuarial assumptions used were:

	Group and company	
	2010 %	2009 %
Long-term investment returns	8,9	8,8
Long-term general price inflation	5,4	5,3
Salary increases	6,9	6,8
Leave usage	5,0	5,0

The assumptions made in respect of resignation, death and retirement rates are the same as for the post-retirement medical aid liability.

##### *Sensitivity analysis*

Based on current experience, only 5% of the leave is utilised. If the rate at which leave is utilised is 10%, then the liability will increase by R38 million (2009: R36 million).

The carrying amount of the occasional and service leave liability for group is R781 million (2009: R705 million) and R730 million (2009: R662 million) for company.

#### (d) Decommissioning, mine closure and rehabilitation

##### *Nuclear and other generation plant, and spent nuclear fuel*

Provision is made for the estimated decommissioning cost of nuclear and other generation plant and for the management of nuclear fuel assemblies and radioactive waste.

##### *Closure, pollution control and rehabilitation*

Provision is made for the estimated cost of closure, pollution control, rehabilitation and mine employee benefits at the end of the life of the mines, where a constructive and contractual obligation exists to pay coal suppliers.

##### *Valuation*

The provision is determined by discounting the estimated decommissioning and nuclear spent fuel management costs.

##### *Valuation assumptions*

The discount rate used for nuclear plant, coal plants, spent fuel and closure, pollution control and rehabilitation was 6,4% (2009: 5,3%) for the group and company.

#### Estimated payment dates

The estimated payment dates of the costs are:

	Group and company	
	2010	2009
Nuclear plant	2025 – 2039	2025 – 2039
Coal plants	2021 – 2063	2021 – 2063
Spent nuclear fuel	2010 – 2079	2010 – 2079
Closure, pollution control and rehabilitation	2009 – 2073	2009 – 2073

#### Sensitivity analysis

The carrying amount of the provision would be an estimated R1 489 million (2009: R1 866 million) higher had the 6,4% (2009: 5,3%) real discount rate used in the calculation of the provision decreased by 1% and R1 131 million (2009: R1 565 million) lower had the 6,4% (2009: 5,3%) real discount rate increased by 1%.

#### (e) Equity portion of subordinated loan from shareholder

The value of the equity portion of the loan from the shareholder is the difference between the amount advanced and the calculated loan value on the day the tranches are drawn down. The loan value is calculated using Eskom's long-term financial plan to forecast the leverage ratio and the interest cover to determine in which years interest will be payable over the period of the loan. These expected interest flows and the capital redemption are discounted at market-related rates to determine the loan amounts. Once the equity portion of a tranche is recorded it does not change.

## 5. Segment information

Management has determined the reportable segments, as described below, based on the reports regularly provided and reviewed and used by the group Exco to make strategic decisions and assess performance of the segments. The group's reportable segments are strategic divisions that offer different services.

The following summary describes the operations in each of the group's reportable segments:

Generation	Consists of Generation and Primary Energy divisions. These divisions procure primary energy and generate electricity for sale to the Transmission and Distribution divisions.
Transmission	Consists of Transmission and Systems Operations and Planning divisions. These divisions provide, operate and maintain the transmission network for transmitting and selling bulk electricity to key large and international customers.
Distribution	The Distribution division sells electricity to redistributors, small and large customers.
Eskom Enterprises group	The Eskom Enterprises group supports the Eskom group through providing plant lifecycle support and maintenance, including return-to-service work, network protection and measurement. The Eskom Enterprises group also operates and maintains the Eskom group private telephone network and operates electricity generation concessions in Mali and Uganda.
Other operating segments	Relates to segments which are below the quantitative thresholds for determining a reportable segment in terms of IFRS 8 <i>Operating segments</i> . These include the group's insurance and employee housing loan businesses, which did not meet any of the quantitative thresholds for determining reportable segments in 2010 or in 2009.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 5. Segment information *(continued)*

The segment information provided to Exco for the reportable segments for the year ended 31 March 2010 is as follows:

	Gener- ation	Trans- mission	Distri- bution	Eskom Enter- prises group	Other operating seg- ments	Corp- orate and other	Inter- seg- ment trans- actions	Group
2010	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Continuing operations</b>								
External revenue	-	26 487	43 577	786	359	-	-	71 209
Inter-segment revenue	49 732	3 005	-	6 090	715	-	(59 542)	-
<b>Total revenue</b>	<b>49 732</b>	<b>29 492</b>	<b>43 577</b>	<b>6 876</b>	<b>1 074</b>	<b>-</b>	<b>(59 542)</b>	<b>71 209</b>
Primary energy	(26 874)	(2 224)	(2)	-	-	-	-	(29 100)
Employee benefit expense	(4 947)	(1 000)	(5 642)	(1 379)	(27)	(4 395)	-	(17 390)
Depreciation and amortisation expense	(3 100)	(618)	(2 079)	226	(1)	(154)	-	(5 726)
Net impairment (loss)/reversal	(25)	(123)	(457)	9	(11)	(49)	4	(652)
Inter-segment purchases	(1 857)	(24 275)	(30 713)	-	-	(2 697)	59 542	-
Operating expenditure	(5 379)	(781)	(3 741)	(5 546)	(564)	6 553	1 310	(8 148)
Operating profit/(loss) before net fair value gain/(loss) and net finance cost	7 550	471	943	186	471	(742)	1 314	10 193
Other income	156	207	278	10	37	1 076	(1 207)	557
Net fair value (loss)/gain on financial instruments, excluding embedded derivatives	(4 188)	85	(39)	(4)	152	(1 955)	4	(5 945)
Net fair value profit on embedded derivatives	-	2 283	-	1	-	-	-	2 284
Operating profit/(loss) before net finance cost	3 518	3 046	1 182	193	660	(1 621)	111	7 089
Net finance cost	(3 429)	(242)	(450)	147	(129)	2 821	45	(1 237)
Finance income	105	71	219	250	162	1 185	(378)	1 614
Finance cost	(3 534)	(313)	(669)	(103)	(291)	1 636	423	(2 851)
Share of (loss)/profit of equity-accounted investees	-	-	-	(3)	-	17	-	14
Profit before tax	89	2 804	732	337	531	1 217	156	5 866
Income tax	103	(724)	(442)	(221)	(147)	(575)	(74)	(2 080)
Profit for the year from continuing operations	192	2 080	290	116	384	642	82	3 786
<b>Discontinued operations</b>								
Profit for the year from discontinued operations	-	-	-	36	-	4	(206)	(166)
<b>Profit for the year</b>	<b>192</b>	<b>2 080</b>	<b>290</b>	<b>152</b>	<b>384</b>	<b>646</b>	<b>(124)</b>	<b>3 620</b>
<b>Other information</b>								
Segment assets	131 039	28 438	43 995	7 267	7 411	37 878	(10 109)	245 919
Investments in equity-accounted investees	-	-	-	18	-	178	-	196
Non-current assets held-for-sale	-	-	-	10	-	10	-	20
Total assets	131 039	28 438	43 995	7 295	7 411	38 066	(10 109)	246 135
Segment liabilities	110 425	22 752	25 647	3 702	5 895	15 461	(7 969)	175 913
Capital expenditure (including borrowing costs capitalised)	40 484	7 143	7 079	509	-	1 916	(128)	57 003

Segment information for the year ended 31 March 2009 is as follows:

	Gener- ation	Trans- mission	Distri- bution	Eskom Enter- prises group	Other operat- ing seg- ments	Corp- orate and other	Inter- seg- ment trans- actions Rm	Group
2009	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Continuing operations</b>								
External revenue	–	20 548	32 542	728	359	–	–	54 177
Inter-segment revenue	33 790	–	–	7 543	696	–	(42 029)	–
<b>Total revenue</b>	<b>33 790</b>	<b>20 548</b>	<b>32 542</b>	<b>8 271</b>	<b>1 055</b>	<b>–</b>	<b>(42 029)</b>	<b>54 177</b>
Primary energy	(23 073)	(1 810)	(1)	–	–	–	–	(24 884)
Employee benefit expense	(4 253)	(883)	(4 922)	(1 000)	(24)	(4 053)	–	(15 135)
Depreciation and amortisation expense	(2 212)	(565)	(1 882)	(171)	(2)	(86)	–	(4 918)
Net impairment (loss)/reversal	(70)	(406)	(447)	16	(4)	(88)	10	(989)
Inter-segment purchases	(3 156)	(15 948)	(19 455)	–	–	(3 470)	42 029	–
Operating expenditure	(4 992)	(777)	(4 235)	(6 701)	(921)	7 233	1 809	(8 584)
Operating (loss)/profit before net fair value gain/(loss) and net finance cost	(3 966)	159	1 600	415	104	(464)	1 819	(333)
Other Income	225	103	396	95	65	744	(1 018)	610
Net fair value (loss)/gain on financial instruments, excluding embedded derivatives	(3 122)	(36)	13	(8)	(89)	842	8	(2 392)
Net fair value (loss)/gain on embedded derivatives	–	(9 511)	–	(8)	–	5	–	(9 514)
Operating (loss)/profit before net finance cost	(6 863)	(9 285)	2 009	494	80	1 127	809	(11 629)
Net finance cost	(2 019)	153	(305)	201	(105)	900	8	(1 167)
Finance income	47	153	206	254	192	2 702	(402)	3 152
Finance cost	(2 066)	–	(511)	(53)	(297)	(1 802)	410	(4 319)
Share of profit of equity-accounted investees	–	–	–	22	–	15	–	37
(Loss)/profit before tax	(8 882)	(9 132)	1 704	717	(25)	2 042	817	(12 759)
Income tax	2 345	2 536	(416)	(192)	19	(308)	(198)	3 786
(Loss)/profit for the year from continuing operations	(6 537)	(6 596)	1 288	525	(6)	1 734	619	(8 973)
<b>Discontinued operations</b>								
(Loss)/profit for the year from discontinued operations	–	–	–	(57)	–	22	(660)	(695)
<b>(Loss)/profit for the year</b>	<b>(6 537)</b>	<b>(6 596)</b>	<b>1 288</b>	<b>468</b>	<b>(6)</b>	<b>1 756</b>	<b>(41)</b>	<b>(9 668)</b>
<b>Other information</b>								
Segment assets	93 671	22 504	38 372	7 096	3 027	40 033	(9 619)	195 084
Investments in equity-accounted investees	–	–	–	21	–	161	–	182
Non-current assets held-for-sale	–	–	–	1 005	2 877	173	(19)	4 036
Total assets	93 671	22 504	38 372	8 122	5 904	40 367	(9 638)	199 302
Segment liabilities	69 504	18 779	21 115	3 869	2 084	28 528	(6 168)	137 711
Non-current liabilities held-for-sale	–	–	–	609	2 677	3	(1 276)	2 013
Total liabilities	69 504	18 779	21 115	4 478	4 761	28 531	(7 444)	139 724
Capital expenditure (including borrowing costs capitalised)	31 864	6 665	6 615	515	–	1 955	(515)	47 099

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 5. Segment information *(continued)*

Inter-segment purchases and revenue for the 2010 financial year were allocated between the Generation, Transmission and Distribution segments based on cost recovery plus return on assets. In comparison, the 2009 inter-segment revenue and purchases allocation between segments were based on the specific allocation per Nersa's price determination which was not done for the 2010 price determination. In addition, unallocated amounts as reported in the 2009 financial period have now been allocated to the reportable segments.

Exco assesses the performance of the operating segments based on a measure of profit or loss consistent with that of the financial statements.

The amounts provided to Exco with respect to total assets and liabilities are measured in terms of IFRS. These assets and liabilities are allocated based on the operation of the segment and the physical location of the assets.

Geographical information	Group			
	Revenues		Non-current assets	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
South Africa	68 251	51 528	195 932	148 176
Foreign countries	2 958	2 649	98	90
	<b>71 209</b>	54 177	<b>196 030</b>	148 266

The group's reportable segments operate mainly in South Africa, which is Eskom's country of domicile.

Revenue is allocated based on the country in which the customer is located after eliminating inter-company transactions. There are no significant revenues derived from a single external customer by any of the reportable segments.

Non-current assets disclosed for geographical information comprises non-current assets other than deferred tax assets and financial instruments.

	Group			Company		
	Cost	Accumulated depreciation and impairment losses	Carrying value	Cost	Accumulated depreciation and impairment losses	Carrying value
2010	Rm	Rm	Rm	Rm	Rm	Rm
<b>6. Property, plant and equipment</b>						
<i>Owned assets</i>						
Land	696	–	696	668	–	668
Buildings and facilities	4 751	(1 464)	3 287	4 623	(1 413)	3 210
Plant – Generation	87 810	(32 441)	55 369	87 810	(32 441)	55 369
– Transmission	16 976	(6 482)	10 494	16 976	(6 482)	10 494
– Distribution	49 999	(19 252)	30 747	49 999	(19 252)	30 747
Regular distribution	35 132	(11 961)	23 171	35 132	(11 961)	23 171
Electrification	14 867	(7 291)	7 576	14 867	(7 291)	7 576
– Test, telecommunication and other plant	2 225	(972)	1 253	505	(383)	122
Equipment and vehicles	7 650	(3 913)	3 737	6 762	(3 700)	3 062
Total in commission	170 107	(64 524)	105 583	167 343	(63 671)	103 672
Works under construction	81 636	(253)	81 383	82 223	(214)	82 009
Construction materials	575	(1)	574	575	(1)	574
	<b>252 318</b>	<b>(64 778)</b>	<b>187 540</b>	<b>250 141</b>	<b>(63 886)</b>	<b>186 255</b>
<i>Leased assets</i>	755	(390)	365	1 230	(477)	753
Mining assets	573	(324)	249	573	(324)	249
Plant	–	–	–	31	(23)	8
Equipment and vehicles	182	(66)	116	626	(130)	496
	<b>253 073</b>	<b>(65 168)</b>	<b>187 905</b>	<b>251 371</b>	<b>(64 363)</b>	<b>187 008</b>

	Group			Company		
	Cost	Accumulated depreciation and impairment losses	Carrying value	Cost	Accumulated depreciation and impairment losses	Carrying value
2009	Rm	Rm	Rm	Rm	Rm	Rm
<b>Owned assets</b>						
Land	572	–	572	544	–	544
Buildings and facilities	3 449	(1 372)	2 077	3 358	(1 329)	2 029
Plant – Generation	80 083	(29 766)	50 317	80 083	(29 766)	50 317
– Transmission	15 139	(6 076)	9 063	15 139	(6 076)	9 063
– Distribution	43 151	(17 482)	25 669	43 151	(17 482)	25 669
Regular distribution	29 604	(10 735)	18 869	29 604	(10 735)	18 869
Electrification	13 547	(6 747)	6 800	13 547	(6 747)	6 800
– Test, telecommunication and other plant	2 270	(1 496)	774	461	(324)	137
Equipment and vehicles	6 543	(3 585)	2 958	5 926	(3 363)	2 563
Total in commission	151 207	(59 777)	91 430	148 662	(58 340)	90 322
Works under construction	46 406	(154)	46 252	46 955	(154)	46 801
Construction materials	691	–	691	691	–	691
	198 304	(59 931)	138 373	196 308	(58 494)	137 814
<b>Leased assets</b>	621	(352)	269	965	(451)	514
Mining assets	573	(310)	263	573	(310)	263
Plant	23	(18)	5	31	(23)	8
Equipment and vehicles	25	(24)	1	361	(118)	243
	198 925	(60 283)	138 642	197 273	(58 945)	138 328

**Reconciliation of movements**

	Carrying value beginning of year	Additions and transfers <sup>1</sup>	Transfer (to)/from non-current assets held-for-sale	Change in rate of decommissioning provision and cost estimate	Disposals	Impairment losses	Reversal of impairment losses	Depreciation	Carrying value end of year
2010	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Group</b>									
<b>Owned assets</b>									
Land	572	126	–	–	(2)	–	–	–	696
Buildings and facilities	2 077	1 306	–	–	(3)	–	–	(93)	3 287
Plant	85 823	18 196	–	(1 117)	(51)	(11)	3	(4 980)	97 863
Equipment and vehicles	2 958	1 523	(11)	–	(56)	–	–	(677)	3 737
Works under construction	46 252	35 178	–	–	(7)	(40) <sup>2</sup>	–	–	81 383
Construction materials	691	(116)	–	–	–	–	–	(1)	574
	138 373	56 213	(11)	(1 117)	(119)	(51)	3	(5 751)	187 540
<b>Leased assets</b>	269	92	50	–	–	–	–	(46)	365
Mining assets	263	–	–	–	–	–	–	(14)	249
Plant	5	(5)	–	–	–	–	–	–	–
Equipment and vehicles	1	97	50	–	–	–	–	(32)	116
Total property, plant and equipment	138 642	56 305	39	(1 117)	(119)	(51)	3	(5 797)	187 905

1. Included in additions and transfers are borrowing costs capitalised of R8 234 million (2009: R3 436 million) for the group and company.

2. Impairment recognised because of the uncertainty surrounding the completion of identified projects.



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Carrying value beginning of year	Additions and transfers <sup>1</sup>	Transfer (to)/from non-current assets held-for-sale	Change in rate of decommissioning provision and cost estimate	Disposals	Impairment losses	Reversal of impairment losses	Depreciation	Carrying value end of year
	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>6. Property, plant and equipment (continued)</b>									
<b>Reconciliation of movements (continued)</b>									
<b>2010</b>									
<b>Company</b>									
<b>Owned assets</b>									
Land	544	126	-	-	(2)	-	-	-	668
Buildings and facilities	2 029	1 271	-	-	(2)	-	-	(88)	3 210
Plant	85 186	17 976	-	(1 117)	(37)	(11)	3	(5 268)	96 732
Equipment and vehicles	2 563	1 180	-	-	(45)	-	-	(636)	3 062
Works under construction	46 801	35 255	-	-	(7)	(40) <sup>1</sup>	-	-	82 009
Construction materials	691	(116)	-	-	-	-	-	(1)	574
	<b>137 814</b>	<b>55 692</b>	<b>-</b>	<b>(1 117)</b>	<b>(93)</b>	<b>(51)</b>	<b>3</b>	<b>(5 993)</b>	<b>186 255</b>
<b>Leased assets</b>	<b>514</b>	<b>285</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(46)</b>	<b>753</b>
Mining assets	263	-	-	-	-	-	-	(14)	249
Plant	8	-	-	-	-	-	-	-	8
Equipment and vehicles	243	285	-	-	-	-	-	(32)	496
Total property, plant and equipment	<b>138 328</b>	<b>55 977</b>	<b>-</b>	<b>(1 117)</b>	<b>(93)</b>	<b>(51)</b>	<b>3</b>	<b>(6 039)</b>	<b>187 008</b>

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
Borrowing costs on general borrowings are capitalised at an average rate of 10,03% (2009: 9,60%). Borrowing costs on funds borrowed specifically for the purpose of obtaining a qualifying asset are capitalised at the actual rate obtained for the specific funds borrowed. The average specific rate for the year was 19,70% (2009: 11,08%). This rate includes the capitalisation of the remeasurement of the subordinated loan from the shareholder. The amounts capitalised during the year were	37	8 234	3 436	8 234	3 436
Details of land and buildings are available for examination at the registered offices of the respective businesses.					
Included in generation plant are assets leased to an international party and leased back under cross-border lease agreements with a carrying value of		-	3 456	-	3 456
The cross-border lease transaction was terminated on 15 April 2009. Eskom has thereby been released from all the financial and operating obligations which arose due to this agreement.					
The total depreciation charge for property, plant and equipment is disclosed in profit or loss in the following categories:		5 797	5 023	6 039	4 861
Depreciation and amortisation expense	33	5 783	5 009	6 025	4 847
Primary energy		14	14	14	14

7. Intangible assets	Group			Company		
	Cost	Accumulated amortisation and impairment losses	Carrying value	Cost	Accumulated amortisation and impairment losses	Carrying value
	Rm	Rm	Rm	Rm	Rm	Rm
<b>2010</b>						
Rights	<b>839</b>	<b>(222)</b>	<b>617</b>	<b>838</b>	<b>(221)</b>	<b>617</b>
Computer software	<b>2 627</b>	<b>(2 002)</b>	<b>625</b>	<b>2 520</b>	<b>(1 960)</b>	<b>560</b>
Concession assets	<b>81</b>	<b>(18)</b>	<b>63</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>3 547</b>	<b>(2 242)</b>	<b>1 305</b>	<b>3 358</b>	<b>(2 181)</b>	<b>1 177</b>
<b>2009</b>						
Rights	642	(222)	420	641	(221)	420
Computer software	2 144	(1 776)	368	2 081	(1 761)	320
Concession assets	79	(16)	63	-	-	-
<b>Total</b>	<b>2 865</b>	<b>(2 014)</b>	<b>851</b>	<b>2 722</b>	<b>(1 982)</b>	<b>740</b>
<b>Reconciliation of movements</b>	Carrying value beginning of year	Additions and transfers	Transfer from non-current assets held-for-sale	Amortisation	Disposals	Carrying value end of year
	Rm	Rm	Rm	Rm	Rm	Rm
<b>2010</b>						
<b>Group</b>						
Rights	<b>420</b>	<b>197</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>617</b>
Computer software	<b>368</b>	<b>476</b>	<b>1</b>	<b>(220)</b>	<b>-</b>	<b>625</b>
Concession assets	<b>63</b>	<b>25</b>	<b>-</b>	<b>(2)</b>	<b>(23)</b>	<b>63</b>
<b>Total</b>	<b>851</b>	<b>698</b>	<b>1</b>	<b>(222)</b>	<b>(23)</b>	<b>1 305</b>
<b>Company</b>						
Rights	<b>420</b>	<b>197</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>617</b>
Computer software	<b>320</b>	<b>447</b>	<b>-</b>	<b>(207)</b>	<b>-</b>	<b>560</b>
<b>Total</b>	<b>740</b>	<b>644</b>	<b>-</b>	<b>(207)</b>	<b>-</b>	<b>1 177</b>

Amortisation of intangible assets of R222 million (2009: R150 million) for the group and of R207 million (2009: R139 million) for the company is included within *depreciation and amortisation expense* (refer note 33) in profit or loss.

1. Impairment recognised because of the uncertainty surrounding the completion of identified projects.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>8. Investment in equity-accounted investees</b>					
Investment in associates	8.1	–	–	–	–
Investment in joint ventures	8.2	<b>196</b>	182	<b>95</b>	95
		<b>196</b>	182	<b>95</b>	95
<b>8.1 Investment in associates</b>					
Balance at beginning of the year		–	–	–	–
Share of profit <sup>1</sup>		–	11	–	–
Disposal of investment		–	(11)	–	–
Balance at end of the year		–	–	–	–
Directors' valuation		–	–	–	–

The group's share of the results of its principal associates, all of which are unlisted, and its share of the assets (including goodwill) and liabilities are:

Name	Country of incorporation	Assets Rm	Liabilities Rm	Revenues Rm	Profit Rm	Interest held %
<b>Group</b>						
<b>2010</b>						
<i>Directly held</i>						
Uitenhage Electricity Supply Company (Pty) Limited <sup>2,3</sup>	South Africa	<b>10</b>	<b>9</b>	<b>40</b>	–	<b>33</b>
Western Power Corridor Company (Pty) Limited	Botswana	–	–	–	–	<b>20</b>
		<b>10</b>	<b>9</b>	<b>40</b>	–	
<b>2009</b>						
<i>Directly held</i>						
Uitenhage Electricity Supply Company (Pty) Limited <sup>2,3</sup>	South Africa	11	10	38	–	33
Western Power Corridor Company (Pty) Limited	Botswana	–	–	–	–	20
<i>Indirectly held</i>						
Ash Resources (Pty) Limited <sup>4,5</sup>	South Africa	–	–	–	11	–
		11	10	38	11	

Where the above entities' financial year ends differ from that of Eskom, financial information has been obtained from published information or management accounts as appropriate.

## 8.2

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
Balance at beginning of the year	182	173	95	95
Share of profit <sup>1</sup>	14	26	–	–
Other movements	–	(17)	–	–
Balance at end of the year	196	182	95	95
Directors' valuation	222	182	203	160

Investments are accounted for at cost in the company. The share of profits since acquisition is accounted for in the group.

The group's share of the results of its principal joint ventures, all of which are unlisted, and its share of the assets (including goodwill) and liabilities are:

Name	Main business	Country of incorporation	Interest held %	Non-current assets Rm	Current assets Rm	Non-current liabilities Rm	Current liabilities Rm	Profit/(loss) Rm	Investment at cost Rm	Indebtedness Rm
<b>Group</b>										
<b>2010</b>										
<i>Directly held</i>										
Motraco – Mozambique Transmission Company SARL <sup>4</sup>	Electricity transmission	Mozambique	33	252	98	146	59	17	95	–
<i>Indirectly held</i>										
Trans Africa Projects (Pty) Limited <sup>4</sup>	Engineering services	South Africa	50	3	56	–	41	(3)	–	–
Trans Africa Projects Limited (Mauritius) <sup>4</sup>	Engineering services	Mauritius	50	–	–	–	–	–	–	–
Transpoint (Pty) Limited	Telecommunications	South Africa	50	–	–	–	–	–	–	–
				<b>255</b>	<b>154</b>	<b>146</b>	<b>100</b>	<b>14</b>	<b>95</b>	<b>–</b>
<b>2009</b>										
<i>Directly held</i>										
Motraco – Mozambique Transmission Company SARL <sup>4</sup>	Electricity transmission	Mozambique	33	368	129	235	103	15	95	–
<i>Indirectly held</i>										
Trans Africa Projects (Pty) Limited <sup>4</sup>	Engineering services	South Africa	50	2	56	–	37	11	–	–
Trans Africa Projects Limited (Mauritius) <sup>4</sup>	Engineering services	Mauritius	50	–	–	–	–	–	–	–
Transpoint (Pty) Limited	Telecommunications	South Africa	50	–	–	–	–	–	–	–
				370	185	235	140	26	95	–

1. Share of profit is after tax.

2. Year end is 30 June.

3. The company ceased trading on 30 November 2008 and is expected to be wound up during the 2011 financial year.

4. Year end is 31 December.

5. The investment was disposed of during the 2009 financial year.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>9. Investment in subsidiaries</b>				
Shares at cost			388	388
Indebtedness			1 953	1 953
Provision for impairment			–	–
Total interest in subsidiaries			2 341	2 341
Directors' valuation <sup>1</sup>			5 167	4 790
Aggregate attributable after tax profits of subsidiary companies	539	525		
Aggregate attributable after tax losses of subsidiary companies	–	(29)		

Financial instruments with subsidiaries are disclosed in note 10.

Name	Main business	Country of incorporation	Issued/ stated share capital R	Interest held %	Investment at cost Rm	Indebtedness Rm
<b>2010</b>						
<b>Directly held</b>						
Eskom Finance Company (Pty) Limited <sup>2</sup>	Finance (employee housing loans)	South Africa	4 000	100	4	–
Escap Limited	Insurance	South Africa	379 500 000	100	380	–
Gallium Insurance Company Limited <sup>3,5</sup>	Insurance	Isle of Man	4 000 000	100	4	–
Eskom Enterprises (Pty) Limited	Non-regulated electricity supply industry activities and electricity supply and related services outside South Africa	South Africa	99 000	100	4	1 953 <sup>6</sup>
PN Energy Services (Pty) Limited <sup>7</sup>	Maintenance of electrical and telecommunication distribution network	South Africa	1 500 000	100	4	–
The National Navigation Collieries and Estate Company Limited	Dormant	South Africa	1 542 850	100	4	–
<b>Indirectly held</b>						
Golang Coal (Pty) Limited	Coal exports	South Africa	1 000	67	–	–
Eskom Enterprises Global West Africa <sup>5,8</sup>	Operations management	Nigeria	100	100	–	–
Eskom Energie Manantali SA <sup>5,8</sup>	Energy supply	Mali	1 000	100	–	–
Eskom Uganda Limited <sup>5,8</sup>	Operations management	Uganda	100	100	–	–
Pebble Bed Modular Reactor (Pty) Limited <sup>9</sup>	Reactor driven generation project	South Africa	100	100	–	–
Technology Services International (Pty) Limited	Technical consulting	South Africa	100	100	–	–
Rotek Industries (Pty) Limited	Maintenance and services	South Africa	4 000	100	–	–
Rosherville Properties (Pty) Limited	Properties	South Africa	1	100	–	–
Roshcon (Pty) Limited <sup>10</sup>	Construction	South Africa	1	100	–	–
Airborne Laser Solutions (Pty) Limited	Aerial surveying technologies	South Africa	1	100	–	–
South Dunes Coal Terminal (Pty) Limited	Coal exports	South Africa	4 000	50	–	–
arivia.kom (Pty) Limited <sup>3,10,11</sup>	Information technology services	South Africa	1 709 616	59	–	–
					388	1 953

Name	Main business	Country of incorporation	Issued/stated share capital R	Interest held %	Investment at cost Rm	Indebtedness Rm
<b>2009</b>						
<b>Directly held</b>						
Eskom Finance Company (Pty) Limited <sup>3</sup>	Finance (employee housing loans)	South Africa	4 000	100	<sup>4</sup>	–
Escap Limited	Insurance	South Africa	379 500 000	100	380	–
Gallium Insurance Company Limited <sup>3,5</sup>	Insurance	Isle of Man	4 000 000	100	4	–
Eskom Enterprises (Pty) Limited	Non-regulated electricity supply industry activities and electricity supply and related services outside South Africa	South Africa	99 000	100	<sup>4</sup>	1 953 <sup>6</sup>
PN Energy Services (Pty) Limited <sup>7</sup>	Maintenance of electrical and telecommunication distribution network	South Africa	1 500 000	100	4	–
The Natal Navigation Collieries and Estate Company Limited	Dormant	South Africa	1 542 850	100	<sup>4</sup>	–
<b>Indirectly held</b>						
Golang Coal (Pty) Limited	Coal exports	South Africa	1 000	67	–	–
Eskom Enterprises Global West Africa <sup>5,8</sup>	Operations management	Nigeria	100	100	–	–
Eskom Energie Manantali SA <sup>5,8</sup>	Energy supply	Mali	1 000	100	–	–
Eskom Uganda Limited <sup>5,8</sup>	Operations management	Uganda	100	100	–	–
Pebble Bed Modular Reactor (Pty) Limited <sup>9</sup>	Reactor driven generation project	South Africa	100	100	–	–
Technology Services International (Pty) Limited	Technical consulting	South Africa	100	100	–	–
Rotek Industries (Pty) Limited	Maintenance and services	South Africa	4 000	100	–	–
Rosherville Properties (Pty) Limited	Properties	South Africa	1	100	–	–
Roshcon (Pty) Limited <sup>10</sup>	Construction	South Africa	1	100	–	–
Airborne Laser Solutions (Pty) Limited	Aerial surveying technologies	South Africa	1	100	–	–
Lunsemfwa Hydro Power Company <sup>5,8,12</sup>	Operations and maintenance services	Zambia	1 825	51	–	–
South Dunes Coal Terminal (Pty) Limited	Coal exports	South Africa	4 000	50	–	–
arivia.kom (Pty) Limited <sup>3,10</sup>	Information technology services	South Africa	1 709 616	59	–	–
					388	1 953

1. Includes investments classified as non-current assets held-for-sale.

2. Eskom Finance Company (Pty) Limited was reclassified as part of continuing operations during the 2010 financial year.

3. Classified as non-current assets and liabilities held-for-sale (refer note 22).

4. Nominal.

5. Issued/stated capital in foreign currency.

6. The equity loan to Eskom Enterprises (Pty) Limited is interest free.

7. The activities of PN Energy Services (Pty) Limited is being integrated into Eskom.

8. Year end is 31 December.

9. Pebble Bed Modular Reactor (Pty) Limited is not consolidated as it is not considered to be controlled by Eskom Enterprises.

10. The subsidiaries of arivia.kom (Pty) Limited and Roshcon (Pty) Limited have not been disclosed.

11. The investment in arivia.kom (Pty) Limited was disposed of during the 2010 financial year.

12. The investment in Lunsemfwa Hydro Power Company was disposed of during the 2009 financial year.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 10. Financial instruments with group companies

	Eskom Finance Company Rm	Eskom Enterprises Rm	Escap Rm	Carrying value Rm	Fair value Rm
<b>2010</b>					
<b>Financial assets</b>					
<i>Loans and receivables</i>					
Loan to subsidiaries	2 454	7	–	2 461	2 461
<i>Maturity analysis</i>	2 454	7	–	2 461	2 461
Non-current	–	–	–	–	–
Current	2 454	7	–	2 461	2 461
<b>Financial liabilities</b>					
<i>Liabilities at amortised cost</i>					
Borrowings	27	1 244	626	1 897	1 897
Commercial paper	–	–	626	626	626
Loan from subsidiaries	27	1 244	–	1 271	1 271
<i>Maturity analysis</i>	27	1 244	626	1 897	1 897
Non-current	–	–	–	–	–
Current	27	1 244	626	1 897	1 897
<b>2009</b>					
<b>Financial assets</b>					
<i>Available-for-sale financial assets</i>					
Investment in securities – Floating rate notes	551	–	–	551	551
<i>Loans and receivables</i>					
Loan to subsidiaries	721	7	–	728	728
	1 272	7	–	1 279	1 279
<i>Maturity analysis</i>	1 272	7	–	1 279	1 279
Non-current	–	–	–	–	–
Current	1 272	7	–	1 279	1 279
<b>Financial liabilities</b>					
<i>Liabilities at amortised cost</i>					
Borrowings	–	1 384	469	1 853	1 853
Commercial paper	–	–	436	436	436
Loan from subsidiaries	–	1 384	33	1 417	1 417
<i>Maturity analysis</i>	–	1 384	469	1 853	1 853
Non-current	–	–	–	–	–
Current	–	1 384	469	1 853	1 853

The loan to and from subsidiaries is payable on demand. The effective interest rate on commercial paper is 7,34% (2009: 11,77%). Commercial paper is payable within 12 months.

The above balances exclude trade and other receivables and payables balances between Eskom and group companies. These balances are disclosed as part of *trade and other receivables* and *trade and other payables*.

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>11. Future fuel supplies</b>					
<b>Coal</b>		<b>3 397</b>	3 132	<b>3 397</b>	3 132
Balance at beginning of the year		<b>3 132</b>	2 543	<b>3 132</b>	2 543
Additions		<b>656</b>	856	<b>656</b>	856
Amortised during the year <sup>1</sup>		<b>(293)</b>	(233)	<b>(293)</b>	(233)
Transfer to inventories		<b>(98)</b>	(34)	<b>(98)</b>	(34)
<b>Nuclear</b>		<b>371</b>	378	<b>371</b>	378
Balance at beginning of the year		<b>378</b>	42	<b>378</b>	42
Additions		<b>368</b>	667	<b>368</b>	667
Amortised during the year <sup>1</sup>		<b>(3)</b>	(3)	<b>(3)</b>	(3)
Transfer from equity		<b>(51)</b>	(66)	<b>(51)</b>	(66)
Transfer to inventories		<b>(321)</b>	(262)	<b>(321)</b>	(262)
		<b>3 768</b>	3 510	<b>3 768</b>	3 510
<b>12. Deferred tax</b>					
<b>Deferred tax assets</b>					
Balance at beginning of the year		<b>56</b>	8	<b>–</b>	–
Transfer from profit or loss	38	<b>23</b>	70	<b>–</b>	–
Transfer to deferred tax liabilities		<b>–</b>	(22)	<b>–</b>	–
		<b>79</b>	56	<b>–</b>	–
<b>Comprising</b>		<b>79</b>	56	<b>–</b>	–
Property, plant and equipment		<b>(22)</b>	(15)	<b>–</b>	–
Provisions		<b>90</b>	68	<b>–</b>	–
Other		<b>11</b>	3	<b>–</b>	–
<b>Deferred tax liabilities</b>					
Balance at beginning of the year		<b>6 098</b>	10 229	<b>5 871</b>	10 220
Transfer from/(to) profit or loss	38	<b>1 839</b>	(3 924)	<b>1 636</b>	(4 161)
Transfer to statement of comprehensive income		<b>(2 675)</b>	(184)	<b>(2 673)</b>	(188)
Transfer from deferred tax assets		<b>–</b>	(22)	<b>–</b>	–
Other		<b>–</b>	(1)	<b>–</b>	–
		<b>5 262</b>	6 098	<b>4 834</b>	5 871
<b>Comprising</b>		<b>5 262</b>	6 098	<b>4 834</b>	5 871
Property, plant and equipment		<b>17 296</b>	14 619	<b>17 102</b>	14 557
Inventories		<b>654</b>	406	<b>654</b>	406
Provisions		<b>(5 181)</b>	(5 205)	<b>(5 180)</b>	(5 168)
Tax losses		<b>(3 974)</b>	(2 814)	<b>(3 969)</b>	(2 809)
Embedded derivative assets and liabilities		<b>(1 291)</b>	(1 930)	<b>(1 291)</b>	(1 930)
Available-for-sale financial assets		<b>57</b>	62	<b>57</b>	62
Cash flow hedges		<b>134</b>	2 714	<b>134</b>	2 714
Post-retirement medical aid benefits		<b>(104)</b>	(15)	<b>(104)</b>	(15)
Payments received in advance		<b>(2 816)</b>	(1 853)	<b>(2 816)</b>	(1 853)
Other		<b>487</b>	114	<b>247</b>	(93)
Unused tax losses available for offset against future taxable income		<b>14 513</b>	10 050	<b>14 175</b>	10 032

1. Amortisation of future fuel is included in profit or loss within primary energy.



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 13. Financial instruments

#### Accounting classifications and fair values

The classification of each class of financial assets and liabilities, and their fair values are:

2010	Note	Held-for-trading Rm	Held-to-maturity Rm	Loans and receivables Rm	Available-for-sale Rm	Liabilities at amortised cost Rm	Other assets and liabilities <sup>1</sup> Rm	Total carrying amount Rm	Fair value Rm
<b>Group</b>									
<b>Financial assets</b>									
<b>Non-current</b>									
		–	–	4 598	1 923	–	532	7 053	7 053
Investment in securities	13.2	–	–	469	1 923	–	–	2 392	2 392
Embedded derivative assets	14.1	–	–	–	–	–	–	–	–
Derivatives held for risk management	15	–	–	–	–	–	–	–	–
Finance lease receivables	16	–	–	–	–	–	532	532	532
Loans receivable	13.10	–	–	4 110	–	–	–	4 110	4 110
Trade and other receivables	17	–	–	19	–	–	–	19	19
		<b>6 471</b>	<b>–</b>	<b>25 318</b>	<b>2 148</b>	<b>–</b>	<b>137</b>	<b>34 074</b>	<b>34 074</b>
<b>Current</b>									
Finance lease receivables	16	–	–	–	–	–	13	13	13
Loans receivable	13.10	–	–	6	–	–	–	6	6
Investment in securities	13.2	–	–	649	2 148	–	–	2 797	2 797
Embedded derivative assets	14.1	–	–	–	–	–	110	110	110
Derivatives held for risk management	15	98	–	–	–	–	14	112	112
Trade and other receivables <sup>2</sup>	17	–	–	9 391	–	–	–	9 391	9 391
Financial trading assets	13.3	6 104	–	–	–	–	–	6 104	6 104
Cash and cash equivalents	13.1	269	–	15 272	–	–	–	15 541	15 541
		<b>6 471</b>	<b>–</b>	<b>29 916</b>	<b>4 071</b>	<b>–</b>	<b>669</b>	<b>41 127</b>	<b>41 127</b>
<b>Total financial assets</b>									
<b>Financial liabilities</b>									
<b>Non-current</b>									
		767	–	–	–	95 084	8 074	103 925	105 423
Debt securities issued	13.4	–	–	–	–	59 322	–	59 322	60 154
Borrowings	13.5	–	–	–	–	34 628	–	34 628	35 294
Embedded derivative liabilities	14.2	–	–	–	–	–	4 583	4 583	4 583
Derivatives held for risk management	15	767	–	–	–	–	2 859	3 626	3 626
Finance lease liabilities	26	–	–	–	–	–	632	632	632
Trade and other payables	27	–	–	–	–	1 134	–	1 134	1 134
		<b>6 120</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>28 354</b>	<b>4 228</b>	<b>38 702</b>	<b>38 883</b>
<b>Current</b>									
Trade and other payables <sup>2</sup>	27	–	–	–	–	16 331	–	16 331	16 331
Finance lease liabilities <sup>2</sup>	26	–	–	–	–	–	52	52	52
Debt securities issued	13.4	–	–	–	–	2 880	–	2 880	2 885
Borrowings	13.5	–	–	–	–	9 143	–	9 143	9 319
Financial trading liabilities	13.3	5 513	–	–	–	–	–	5 513	5 513
Embedded derivative liabilities	14.2	–	–	–	–	–	139	139	139
Derivatives held for risk management	15	607	–	–	–	–	4 037	4 644	4 644
		<b>6 887</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>123 438</b>	<b>12 302</b>	<b>142 627</b>	<b>144 306</b>
<b>Total financial liabilities</b>									

2010	Note	Held-for-trading Rm	Held-to-maturity Rm	Loans and receivables Rm	Available-for-sale Rm	Liabilities at amortised cost Rm	Other assets and liabilities <sup>1</sup> Rm	Total carrying amount Rm	Fair value Rm
<b>Company</b>									
<b>Financial assets</b>									
<b>Non-current</b>									
		-	-	23	1 923	-	532	2 478	2 478
Investment in securities	13.2	-	-	-	1 923	-	-	1 923	1 923
Embedded derivative assets	14.1	-	-	-	-	-	-	-	-
Derivatives held for risk management	15	-	-	-	-	-	-	-	-
Finance lease receivables	16	-	-	-	-	-	532	532	532
Trade and other receivables	17	-	-	23	-	-	-	23	23
<b>Current</b>		<b>5 920</b>	<b>-</b>	<b>25 859</b>	<b>1 035</b>	<b>-</b>	<b>137</b>	<b>32 951</b>	<b>32 951</b>
Financial instruments with group companies	10	-	-	2 461	-	-	-	2 461	2 461
Finance lease receivables <sup>2</sup>	16	-	-	-	-	-	13	13	13
Investment in securities	13.2	-	-	549	1 035	-	-	1 584	1 584
Embedded derivative assets	14.1	-	-	-	-	-	110	110	110
Derivatives held for risk management	15	98	-	-	-	-	14	112	112
Trade and other receivables <sup>2</sup>	17	-	-	8 247	-	-	-	8 247	8 247
Financial trading assets	13.3	5 553	-	-	-	-	-	5 553	5 553
Cash and cash equivalents	13.1	269	-	14 602	-	-	-	14 871	14 871
<b>Total financial assets</b>		<b>5 920</b>	<b>-</b>	<b>25 882</b>	<b>2 958</b>	<b>-</b>	<b>669</b>	<b>35 429</b>	<b>35 429</b>
<b>Financial liabilities</b>									
<b>Non-current</b>									
		767	-	-	-	93 488	8 407	102 662	104 160
Debt securities issued	13.4	-	-	-	-	58 538	-	58 538	59 370
Borrowings	13.5	-	-	-	-	34 153	-	34 153	34 819
Embedded derivative liabilities	14.2	-	-	-	-	-	4 583	4 583	4 583
Derivatives held for risk management	15	767	-	-	-	-	2 859	3 626	3 626
Finance lease liabilities	26	-	-	-	-	-	965	965	965
Trade and other payables	27	-	-	-	-	797	-	797	797
<b>Current</b>		<b>6 120</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29 502</b>	<b>4 249</b>	<b>39 871</b>	<b>40 052</b>
Financial instruments with group companies	10	-	-	-	-	1 897	-	1 897	1 897
Trade and other payables <sup>2</sup>	27	-	-	-	-	16 370	-	16 370	16 370
Finance lease liabilities <sup>2</sup>	26	-	-	-	-	-	74	74	74
Debt securities issued	13.4	-	-	-	-	2 141	-	2 141	2 146
Borrowings	13.5	-	-	-	-	9 094	-	9 094	9 270
Financial trading liabilities	13.3	5 513	-	-	-	-	-	5 513	5 513
Embedded derivative liabilities	14.2	-	-	-	-	-	138	138	138
Derivatives held for risk management	15	607	-	-	-	-	4 037	4 644	4 644
<b>Total financial liabilities</b>		<b>6 887</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>122 990</b>	<b>12 656</b>	<b>142 533</b>	<b>144 212</b>

1. Includes finance lease receivables and payables, embedded derivatives and derivatives used for cash flow hedges.

2. The carrying amounts of these financial instruments approximate their fair values. The effect of discounting is not expected to be material.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 13. Financial instruments *(continued)*

#### Accounting classifications and fair values *(continued)*

		Held-for-trading	Held-to-maturity	Loans and receivables	Available-for-sale	Liabilities at amortised cost	Other assets and liabilities <sup>1</sup>	Total carrying amount	Fair value
2009	Note	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Group</b>									
<b>Financial assets</b>									
<b>Non-current</b>									
		586	100	1 620	1 861	–	1 671	5 838	5 835
Investment in securities	13.2	–	100	1 597	1 861	–	–	3 558	3 555
Embedded derivative assets	14.1	–	–	–	–	–	1 135	1 135	1 135
Derivatives held for risk management	15	586	–	–	–	–	–	586	586
Finance lease receivables	16	–	–	–	–	–	536	536	536
Trade and other receivables	17	–	–	23	–	–	–	23	23
		1 451	4	27 808	3 121	–	966	33 350	33 365
<b>Current</b>									
Finance lease receivables	16	–	–	–	–	–	11	11	11
Investment in securities	13.2	–	4	1 235	3 121	–	–	4 360	4 375
Embedded derivative assets	14.1	–	–	–	–	–	231	231	231
Derivatives held for risk management	15	527	–	–	–	–	724	1 251	1 251
Trade and other receivables <sup>2</sup>	17	–	–	8 191	–	–	–	8 191	8 191
Financial trading assets	13.3	924	–	–	–	–	–	924	924
Cash and cash equivalents	13.1	–	–	18 382	–	–	–	18 382	18 382
<b>Total financial assets</b>		<b>2 037</b>	<b>104</b>	<b>29 428</b>	<b>4 982</b>	<b>–</b>	<b>2 637</b>	<b>39 188</b>	<b>39 200</b>
<b>Financial liabilities</b>									
<b>Non-current</b>									
		123	–	–	–	58 515	9 419	68 057	68 040
Debt securities issued	13.4	–	–	–	–	44 253	–	44 253	43 701
Borrowings	13.5	–	–	–	–	12 796	–	12 796	13 331
Embedded derivative liabilities	14.2	–	–	–	–	–	8 219	8 219	8 219
Derivatives held for risk management	15	123	–	–	–	–	663	786	786
Finance lease liabilities	26	–	–	–	–	–	537	537	537
Trade and other payables	27	–	–	–	–	1 466	–	1 466	1 466
		2 900	–	–	–	33 836	1 964	38 700	38 655
<b>Current</b>									
Trade and other payables <sup>2</sup>	27	–	–	–	–	16 701	–	16 701	16 701
Finance lease liabilities <sup>2</sup>	26	–	–	–	–	–	15	15	15
Debt securities issued	13.4	–	–	–	–	3 324	–	3 324	3 154
Borrowings	13.5	–	–	–	–	13 811	–	13 811	13 936
Financial trading liabilities	13.3	2 180	–	–	–	–	–	2 180	2 180
Embedded derivative liabilities	14.2	–	–	–	–	–	43	43	43
Derivatives held for risk management	15	720	–	–	–	–	1 906	2 626	2 626
<b>Total financial liabilities</b>		<b>3 023</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>92 351</b>	<b>11 383</b>	<b>106 757</b>	<b>106 695</b>

		Held-for-trading	Held-to-maturity	Loans and receivables	Available-for-sale	Liabilities at amortised cost	Other assets and liabilities <sup>1</sup>	Total carrying amount	Fair value
2009	Note	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>Company</b>									
<b>Financial assets</b>									
<b>Non-current</b>									
		586	100	1 215	1 861	–	1 671	5 433	5 430
Investment in securities	13.2	–	100	1 192	1 861	–	–	3 153	3 150
Embedded derivative assets	14.1	–	–	–	–	–	1 135	1 135	1 135
Derivatives held for risk management	15	586	–	–	–	–	–	586	586
Finance lease receivables	16	–	–	–	–	–	536	536	536
Trade and other receivables	17	–	–	23	–	–	–	23	23
		1 089	4	26 957	2 632	–	966	31 648	31 663
<b>Current</b>									
Financial instruments with group companies	10	–	–	728	551	–	–	1 279	1 279
Finance lease receivables <sup>2</sup>	16	–	–	–	–	–	11	11	11
Investment in securities	13.2	–	4	1 235	2 081	–	–	3 320	3 335
Embedded derivative assets	14.1	–	–	–	–	–	231	231	231
Derivatives held for risk management	15	527	–	–	–	–	724	1 251	1 251
Trade and other receivables <sup>2</sup>	17	–	–	7 073	–	–	–	7 073	7 073
Financial trading assets	13.3	562	–	–	–	–	–	562	562
Cash and cash equivalents	13.1	–	–	17 921	–	–	–	17 921	17 921
		1 675	104	28 172	4 493	–	2 637	37 081	37 093
<b>Total financial assets</b>									
<b>Financial liabilities</b>									
<b>Non-current</b>									
		123	–	–	–	57 919	9 643	67 685	67 668
Debt securities issued	13.4	–	–	–	–	44 253	–	44 253	43 701
Borrowings	13.5	–	–	–	–	12 369	–	12 369	12 904
Embedded derivative liabilities	14.2	–	–	–	–	–	8 219	8 219	8 219
Derivatives held for risk management	15	123	–	–	–	–	663	786	786
Finance lease liabilities	26	–	–	–	–	–	761	761	761
Trade and other payables	27	–	–	–	–	1 297	–	1 297	1 297
		2 900	–	–	–	35 234	1 992	40 126	40 081
<b>Current</b>									
Financial instruments with group companies	10	–	–	–	–	1 853	–	1 853	1 853
Trade and other payables <sup>2</sup>	27	–	–	–	–	16 248	–	16 248	16 248
Finance lease liabilities <sup>2</sup>	26	–	–	–	–	–	45	45	45
Debt securities issued	13.4	–	–	–	–	3 324	–	3 324	3 154
Borrowings	13.5	–	–	–	–	13 809	–	13 809	13 934
Financial trading liabilities	13.3	2 180	–	–	–	–	–	2 180	2 180
Embedded derivative liabilities	14.2	–	–	–	–	–	41	41	41
Derivatives held for risk management	15	720	–	–	–	–	1 906	2 626	2 626
		3 023	–	–	–	93 153	11 635	107 811	107 749
<b>Total financial liabilities</b>									

1. Includes finance lease receivables and payables, embedded derivatives and derivatives used for cash flow hedges.

2. The carrying amounts of these financial instruments approximate their fair values. The effect of discounting is not expected to be material.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Group				Company			
	2010 Carrying value Rm	2010 Fair value Rm	2009 Carrying value Rm	2009 Fair value Rm	2010 Carrying value Rm	2010 Fair value Rm	2009 Carrying value Rm	2009 Fair value Rm
<b>13. Financial instruments</b>								
<i>(continued)</i>								
<b>13.1 Cash and cash equivalents</b>								
Bank balances	7 114	7 114	1 252	1 252	6 489	6 489	841	841
Unsettled deals	269	269	394	394	269	269	394	394
Fixed deposits	8 158	8 158	16 736	16 736	8 113	8 113	16 686	16 686
	<b>15 541</b>	<b>15 541</b>	18 382	18 382	<b>14 871</b>	<b>14 871</b>	17 921	17 921
Made up as follows:	<b>15 541</b>	<b>15 541</b>	18 382	18 382	<b>14 871</b>	<b>14 871</b>	17 921	17 921
Held-for-trading	269	269	–	–	269	269	–	–
Loans and receivables	15 272	15 272	18 382	18 382	14 602	14 602	17 921	17 921
<b>13.2 Investment in securities</b>								
<b>Held-to-maturity</b>								
Preference shares	–	–	104	96	–	–	104	96
<i>Maturity analysis</i>	–	–	104	96	–	–	104	96
Non-current	–	–	100	92	–	–	100	92
Current	–	–	4	4	–	–	4	4
<b>Loans and receivables</b>	<b>1 118</b>	<b>1 118</b>	2 832	2 852	<b>549</b>	<b>549</b>	2 427	2 447
Preference shares	–	–	2 142	2 154	–	–	2 142	2 154
Foreign fixed deposits	–	–	183	199	–	–	183	199
Fixed deposits	–	–	102	94	–	–	102	94
Loan to Richards Bay Coal Terminal	569	569	405	405	–	–	–	–
Deposit – cross-border lease	549	549	–	–	549	549	–	–
<i>Maturity analysis</i>	<b>1 118</b>	<b>1 118</b>	2 832	2 852	<b>549</b>	<b>549</b>	2 427	2 447
Non-current	469	469	1 597	1 602	–	–	1 192	1 197
Current	649	649	1 235	1 250	549	549	1 235	1 250
<b>Available-for-sale</b>	<b>4 071</b>	<b>4 071</b>	4 982	4 982	<b>2 958</b>	<b>2 958</b>	3 942	3 942
Government bonds	1 933	1 933	1 873	1 873	1 933	1 933	1 873	1 873
Negotiable certificates of deposits	2 136	2 136	1 040	1 040	1 025	1 025	–	–
Floating rate notes	–	–	2 069	2 069	–	–	2 069	2 069
Other	2	2	–	–	–	–	–	–
<i>Maturity analysis</i>	<b>4 071</b>	<b>4 071</b>	4 982	4 982	<b>2 958</b>	<b>2 958</b>	3 942	3 942
Non-current	1 923	1 923	1 861	1 861	1 923	1 923	1 861	1 861
Current	2 148	2 148	3 121	3 121	1 035	1 035	2 081	2 081
Total investment in securities	<b>5 189</b>	<b>5 189</b>	7 918	7 930	<b>3 507</b>	<b>3 507</b>	6 473	6 485
<i>Maturity analysis</i>	<b>5 189</b>	<b>5 189</b>	7 918	7 930	<b>3 507</b>	<b>3 507</b>	6 473	6 485
Non-current	2 392	2 392	3 558	3 555	1 923	1 923	3 153	3 150
Current	2 797	2 797	4 360	4 375	1 584	1 584	3 320	3 335

### Encumbered assets

Eskom has concluded sale and repurchase transactions of commercial paper, comprising Eskom bonds and government bonds, with approved counterparties. Application of trade date accounting resulted in the continued recognition of this commercial paper even though legal title has passed from Eskom to the counterparty. At year end, Eskom has sold, and is committed to repurchase commercial paper after year end with a fair value of R2 825 million (2009: R5 508 million). Of this amount, R2 156 million (2009: R4 775 million) relates to government securities and R669 million (2009: R733 million) relates to Eskom bonds.

No impairment loss was recognised on the held-to-maturity, loans and receivables and available-for-sale investment in securities.

	Group				Company			
	2010 Carrying value Rm	2010 Fair value Rm	2009 Carrying value Rm	2009 Fair value Rm	2010 Carrying value Rm	2010 Fair value Rm	2009 Carrying value Rm	2009 Fair value Rm
<b>13.3 Financial trading assets and liabilities</b>								
<b>Financial trading assets</b>								
Negotiable certificates of deposits	803	803	558	558	803	803	558	558
Repurchase agreements	1 552	1 552	4	4	1 552	1 552	4	4
Other money market securities	4	4	–	–	4	4	–	–
Listed shares	551	551	362	362	–	–	–	–
Government bonds	3 194	3 194	–	–	3 194	3 194	–	–
	<b>6 104</b>	<b>6 104</b>	924	924	<b>5 553</b>	<b>5 553</b>	562	562
<b>Financial trading liabilities</b>								
Eskom bonds	3 681	3 681	1 035	1 035	3 681	3 681	1 035	1 035
Short-sold government bonds	315	315	468	468	315	315	468	468
Commercial paper issued	798	798	673	673	798	798	673	673
Repurchase agreements	11	11	4	4	11	11	4	4
Unsettled deals	708	708	–	–	708	708	–	–
	<b>5 513</b>	<b>5 513</b>	2 180	2 180	<b>5 513</b>	<b>5 513</b>	2 180	2 180
<b>13.4 Debt securities issued</b>	<b>62 202</b>	<b>63 039</b>	47 577	46 855	<b>60 679</b>	<b>61 516</b>	47 577	46 855
Eskom bonds	52 452	52 479	38 156	37 471	52 452	52 479	38 156	37 471
Electrification participation notes	980	985	1 082	1 093	980	985	1 082	1 093
Promissory notes	159	213	136	195	159	213	136	195
Commercial paper	1 523	1 523	–	–	–	–	–	–
Eurorand zero coupon bonds	2 127	2 890	1 882	2 704	2 127	2 890	1 882	2 704
Foreign bonds	4 961	4 949	6 321	5 392	4 961	4 949	6 321	5 392
<b>Maturity analysis</b>	<b>62 202</b>	<b>63 039</b>	47 577	46 855	<b>60 679</b>	<b>61 516</b>	47 577	46 855
Non-current	59 322	60 154	44 253	43 701	58 538	59 370	44 253	43 701
Current	2 880	2 885	3 324	3 154	2 141	2 146	3 324	3 154

Included in total debt securities issued is an amount of R21 875 million (2009: R13 659 million) that relates to bonds held by related parties in the form of state entities. Bonds are bearer instruments and it is therefore unknown if the initial counterparty still holds the bonds.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 13. Financial instruments *(continued)*

#### 13.4 Debt securities issued *(continued)*

Currency	Security Number	Interest rate		Nominal		Maturity Date	Group		Company		
		2010	2009	2010	2009		2010	2009	2010	2009	
		%	%	m	m		Carrying value	Rm	Carrying value	Rm	
Eskom bonds				<b>51 505</b>	37 400		<b>52 452</b>	38 156	<b>52 452</b>	38 156	
ZAR	EI60	–	14,59	–	79	Nov 09	–	81	–	81	
ZAR	EL15 <sup>1</sup>	<b>3,00</b>	–	<b>4 000</b>	–	Jun 15	<b>4 181</b>	–	<b>4 181</b>	–	
ZAR	ES18 <sup>1</sup>	<b>9,55</b>	–	<b>6 160</b>	–	Apr 18	<b>6 314</b>	–	<b>6 314</b>	–	
ZAR	EI70 <sup>2</sup>	<b>10,13</b>	10,13	<b>11 805</b>	11 805	Aug 19	<b>14 482</b>	14 607	<b>14 482</b>	14 607	
ZAR	ES09	–	14,51	–	2 209	Jun 09	–	2 276	–	2 276	
ZAR	ES23 <sup>1</sup>	<b>9,73</b>	–	<b>4 450</b>	–	Jan 23	<b>4 617</b>	–	<b>4 617</b>	–	
ZAR	ES26 <sup>1</sup>	<b>9,09</b>	8,96	<b>12 431</b>	10 169	Apr 26	<b>11 637</b>	9 568	<b>11 637</b>	9 568	
ZAR	ES33 <sup>1</sup>	<b>8,68</b>	8,68	<b>12 659</b>	13 138	Sep 33	<b>11 221</b>	11 624	<b>11 221</b>	11 624	
Electrification participation notes	ZAR	EPN	<b>20,70</b>	20,30	<b>796</b>	796	Apr 10	<b>980</b>	1 082	<b>980</b>	1 082
Promissory notes					<b>320</b>	320		<b>159</b>	136	<b>159</b>	136
ZAR	PN04	<b>16,03</b>	16,03	<b>90</b>	90	Feb 12	<b>68</b>	58	<b>68</b>	58	
ZAR	PN05	<b>16,10</b>	16,10	<b>60</b>	60	Feb 13	<b>39</b>	33	<b>39</b>	33	
ZAR	PN06	<b>16,13</b>	16,13	<b>60</b>	60	Feb 14	<b>33</b>	28	<b>33</b>	28	
ZAR	PN07	<b>15,34</b>	15,34	<b>20</b>	20	Aug 20	<b>4</b>	4	<b>4</b>	4	
ZAR	PN08	<b>15,08</b>	15,08	<b>20</b>	20	Aug 21	<b>4</b>	3	<b>4</b>	3	
ZAR	PN09	<b>14,80</b>	14,80	<b>35</b>	35	Aug 22	<b>6</b>	5	<b>6</b>	5	
ZAR	PN10	<b>14,61</b>	14,61	<b>35</b>	35	Aug 23	<b>5</b>	5	<b>5</b>	5	
Eurorand zero coupon bonds				<b>17 500</b>	17 500		<b>2 127</b>	1 882	<b>2 127</b>	1 882	
ZAR	n/a	<b>13,92</b>	13,92	<b>2 000</b>	2 000	Dec 18	<b>638</b>	561	<b>638</b>	561	
ZAR	n/a	<b>13,35</b>	13,35	<b>8 000</b>	8 000	Aug 27	<b>907</b>	801	<b>907</b>	801	
ZAR	n/a	<b>11,88</b>	11,88	<b>7 500</b>	7 500	Dec 32	<b>582</b>	520	<b>582</b>	520	
Foreign bonds EUR				<b>500</b>	500	Mar 13	<b>4 961</b>	6 321	<b>4 961</b>	6 321	
				<b>1 526</b>	–		<b>1 523</b>	–	<b>–</b>	–	
Commercial paper	ZAR	n/a	–	<b>742</b>	–	May 10	<b>739</b>	–	<b>–</b>	–	
	ZAR	n/a	–	<b>784</b>	–	May 11	<b>784</b>	–	<b>–</b>	–	
Total							<b>62 202</b>	47 577	<b>60 679</b>	47 577	

	Group				Company			
	2010 Carrying value Rm	2010 Fair value Rm	2009 Carrying value Rm	2009 Fair value Rm	2010 Carrying value Rm	2010 Fair value Rm	2009 Carrying value Rm	2009 Fair value Rm
<b>13.5 Borrowings</b>	<b>43 771</b>	<b>44 613</b>	26 607	27 267	<b>43 247</b>	<b>44 089</b>	26 178	26 838
Direct placings	988	1 010	5 510	5 688	988	1 010	5 510	5 688
Export credit facilities	5 830	6 306	1 559	1 621	5 830	6 306	1 559	1 621
Floating rate notes	3 835	4 126	3 847	4 146	3 835	4 126	3 847	4 146
Commercial paper	9 149	9 190	13 189	13 313	9 149	9 190	13 189	13 313
Subordinated loan from shareholder	23 445	23 457	1 575	1 572	23 445	23 457	1 575	1 572
Bank overdraft	–	–	3	3	–	–	3	3
Unsettled deals	–	–	495	495	–	–	495	495
Rand loans	524	524	429	429	–	–	–	–
<b>Maturity analysis</b>	<b>43 771</b>	<b>44 613</b>	26 607	27 267	<b>43 247</b>	<b>44 089</b>	26 178	26 838
Non-current	34 628	35 294	12 796	13 331	34 153	34 819	12 369	12 904
Current	9 143	9 319	13 811	13 936	9 094	9 270	13 809	13 934

	Currency	2010		2009		Maturity Date	Group		Company	
		Interest rate %	2009 %	Nominal m	2009 m		2010 Carrying value Rm	2009 Carrying value Rm	2010 Carrying value Rm	2009 Carrying value Rm
Direct placings				984	2 993		988	5 510	988	5 510
	ZAR	5,00	5,00	–	1	Sep 11	–	1	–	1
	ZAR	–	12,25	–	2 000	Aug 28	–	2 039	–	2 039
	USD	–	2,78	–	291	Sep 28	–	2 765	–	2 765
	ZAR	7,39	9,83	984	701	Sep 31	988	705	988	705
Export credit facilities				12 581	3 514		5 830	1 559	5 830	1 559
	EUR	1,16	5,07	90	114	May 19	865	1 230	865	1 230
	JPY	1,41	1,48	10 200	3 400	May 20	805	329	805	329
	USD	1,54	–	291	–	Aug 28 <sup>1</sup>	2 132	–	2 132	–
	ZAR	8,54	–	2 000	–	Aug 28 <sup>1</sup>	2 028	–	2 028	–
Floating rate notes <sup>1</sup>				3 800	3 800		3 835	3 847	3 835	3 847
	ZAR	–	10,75	–	3 800	Mar 10	–	3 847	–	3 847
	ZAR	7,87	–	1 800	–	Aug 26	1 817	–	1 817	–
	ZAR	8,04	–	2 000	–	Aug 33	2 018	–	2 018	–
Commercial paper				9 590	13 805		9 149	13 189	9 149	13 189
	ZAR	–	12,26	–	1 352	Apr 09	–	1 345	–	1 345
	ZAR	–	12,63	–	2 374	Jun 09	–	2 339	–	2 339
	ZAR	–	11,97	–	3 415	Sep 09	–	3 291	–	3 291
	ZAR	–	10,18	–	6 664	Mar 10	–	6 214	–	6 214
	ZAR	7,18	–	1 187	–	Apr 10	1 170	–	1 170	–
	ZAR	7,51	–	2 703	–	Jun 10	2 633	–	2 633	–
	ZAR	7,50	–	5 700	–	Sep 10	5 346	–	5 346	–
Subordinated loan from shareholder				40 000	10 000		23 445	1 575	23 445	1 575
	ZAR	7,52	7,96	5 000	5 000	Dec 38	3 072	1 195	3 072	1 195
	ZAR	8,95	9,82	5 000	5 000	Mar 39	3 197	380	3 197	380
	ZAR	9,43	–	7 500	–	Jun 39	4 464	–	4 464	–
	ZAR	9,15	–	7 500	–	Sep 39	4 316	–	4 316	–
	ZAR	9,57	–	7 500	–	Dec 39	4 122	–	4 122	–
	ZAR	8,81	–	7 500	–	Mar 40	4 274	–	4 274	–
Bank overdraft				–	–		–	3	–	3
Unsettled deals				–	–		–	495	–	495
Rand loans				524	429		–	–	–	–
<b>Total</b>							<b>43 771</b>	26 607	<b>43 247</b>	26 178

1. Government guaranteed.

2. Earliest in a range of maturity dates is indicated for this instrument.



## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 13. Financial instruments (*continued*)

#### 13.5 Borrowings (*continued*)

##### *Subordinated loan from shareholder*

The group negotiated a subordinated loan of R60 billion (2009: R60 billion) from the shareholder. The draw down for the year was R30 billion (2009: R10 billion). Eskom is obliged to pay interest on the loan when Eskom is solvent and the debt leverage conditions per the agreement are satisfied. The interest on the subordinated loan is not cumulative.

The loan has been classified as a financial liability in accordance with IAS 32 *Financial instruments: Presentation* and has been measured at amortised cost. The loan was initially measured at fair value and the difference between the fair valued amount and the advanced amount accounted for under *borrowings* gave rise to a day-one gain. This day-one gain is disclosed in equity, under *equity reserve* (refer page 182). The amounts drawn down in the previous year were remeasured at their initial effective rate due to expected changes in cash flows based on Eskom's current long-term financial view.

#### 13.6 Collateral obtained

Eskom has called upon security deposits and guarantees from customers who have defaulted on their accounts. The carrying amount of the security deposits and guarantees which were called upon is R81 million (2009: R30 million).

#### 13.7 Collateral held

Eskom has bought commercial paper from approved counterparties and has committed to sell this commercial paper back to the counterparties in the following financial year. Although Eskom has legal title to the commercial paper at year end, it has not been recognised as such on the statement of financial position due to the application of trade date accounting. This has also resulted in the recognition of a loan receivable with a fair value of R2 824 million (2009: R5 425 million) at year end. Of this amount, R2 155 million (2009: R1 035 million) relates to government securities and R669 million (2009: R4 386 million) to Eskom bonds. The total loan receivable is secured by commercial paper of an equivalent fair value.

#### 13.8 Collateral placed

Eskom has provided collateral security in the form of letters of credit from banks in respect of the cross-border lease transactions. Assets to the value of Rnil (2009: R2 144 million), included under loans and receivables, Rnil (2009: R100 million), included under held-to-maturity and Rnil (2009: R530 million), included under derivatives held for risk management, have been pledged to the letter of credit providers. The collateral has been provided to hedge the beneficiary against its exposure to the loss of its remaining investment in the cross-border leases and the cost of replacing the transaction in the event of cancellation or default. The calculation of the beneficiary's exposure is influenced by pledged securities in the form of US treasury notes which are marked-to-market semi-annually. The exposure amount was adjusted accordingly.

The cross-border lease transaction was terminated on 15 April 2009 (refer note 6). Pursuant to the termination of the cross-border lease transaction, the letters of credit mentioned above are being negotiated for termination in stages with the issuing banks, depending on the maturity of the underlying structures. The carrying amount of the collateral placed of Rnil (2009: R905 million) matured and was returned to Eskom. The unwinding of the remaining assets linked to the letters of credit is being negotiated.

In terms of the credit support annexure of the International Swaps and Derivatives Association/International Securities Market Association agreements, Eskom placed R459 million (2009: Rnil) reflected in available-for-sale assets as collateral as a result of changes in the market value of the financial instruments traded in the market.

### 13.9 Fair value hierarchy

The table below analyses financial instruments carried at fair value. The different levels have been identified as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (ie as prices) or indirectly (ie derived from prices).

Level 3: inputs for the financial asset or financial liability that are not based on observable market data (unobservable inputs).

	Note	Level 1 Rm	Level 2 Rm	Level 3 Rm	Total Rm
<b>2010</b>					
<b>Group</b>					
Investment in securities classified as available-for-sale	13.2	1 933	2 138	–	4 071
Embedded derivative assets	14.1	–	–	110	110
Derivatives held for risk management	15	–	112	–	112
Financial trading assets	13.3	3 746	2 358	–	6 104
		<b>5 679</b>	<b>4 608</b>	<b>110</b>	<b>10 397</b>
Embedded derivative liabilities	14.2	–	–	4 722	4 722
Derivatives held for risk management	15	–	8 270	–	8 270
Financial trading liabilities	13.3	3 996	1 517	–	5 513
		<b>3 996</b>	<b>9 787</b>	<b>4 722</b>	<b>18 505</b>
<b>Company</b>					
Investment in securities classified as available-for-sale	13.2	1 933	1 025	–	2 958
Embedded derivative assets	14.1	–	–	110	110
Derivatives held for risk management	15	–	112	–	112
Financial trading assets	13.3	3 195	2 358	–	5 553
		<b>5 128</b>	<b>3 495</b>	<b>110</b>	<b>8 733</b>
Embedded derivative liabilities	14.2	–	–	4 721	4 721
Derivatives held for risk management	15	–	8 270	–	8 270
Financial trading liabilities	13.3	3 996	1 517	–	5 513
		<b>3 996</b>	<b>9 787</b>	<b>4 721</b>	<b>18 504</b>
<b>2009</b>					
<b>Group</b>					
Investment in securities classified as available-for-sale	13.2	1 873	3 109	–	4 982
Embedded derivative assets	14.1	–	–	1 366	1 366
Derivatives held for risk management	15	–	1 837	–	1 837
Financial trading assets	13.3	362	562	–	924
		<b>2 235</b>	<b>5 508</b>	<b>1 366</b>	<b>9 109</b>
Embedded derivative liabilities	14.2	–	–	8 262	8 262
Derivatives held for risk management	15	–	3 412	–	3 412
Financial trading liabilities	13.4	1 503	677	–	2 180
		<b>1 503</b>	<b>4 089</b>	<b>8 262</b>	<b>13 854</b>
<b>Company</b>					
Investment in securities classified as available-for-sale	13.2	1 873	2 069	–	3 942
Embedded derivative assets	14.1	–	–	1 366	1 366
Derivatives held for risk management	15	–	1 837	–	1 837
Financial trading assets	13.3	–	562	–	562
		<b>1 873</b>	<b>4 468</b>	<b>1 366</b>	<b>7 707</b>
Embedded derivative liabilities	14.2	–	–	8 260	8 260
Derivatives held for risk management	15	–	3 412	–	3 412
Financial trading liabilities	13.4	1 503	677	–	2 180
		<b>1 503</b>	<b>4 089</b>	<b>8 260</b>	<b>13 852</b>

There have been no transfers between the fair value hierarchy levels (2009: no transfers).

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 13. Financial instruments *(continued)*

#### 13.9 Fair value hierarchy *(continued)*

A reconciliation has been performed for fair value measurements in level 3 of the fair value hierarchy as follows:

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>Embedded derivative assets</b>				
Carrying value beginning of year	1 366	7 702	1 366	7 696
Net fair value loss on embedded derivatives <sup>1</sup>	(1 256)	(6 336)	(1 256)	(6 330)
Carrying value at end of year	110	1 366	110	1 366
<b>Embedded derivative liabilities</b>				
Carrying value beginning of year	8 262	5 084	8 260	5 084
Net fair value (loss)/gain on embedded derivatives <sup>1</sup>	(3 540)	3 178	(3 539)	3 176
Carrying value at end of year	4 722	8 262	4 721	8 260

Refer note 3.2 for a sensitivity analysis disclosing the effect of fair value changes that would result if one or more of the inputs were to be changed.

	Group	
	2010 Rm	2009 Rm
<b>13.10 Loans receivable</b>		
Secured by mortgages	3 893	–
Other	241	–
	4 134	–
Allowance for impairment	(18)	–
	4 116	–
<b>Maturity analysis</b>		
Non-current	4 110	–
Current	6	–

In prior years the loans receivable advanced by EFC were included under *non-current assets held-for-sale*. Refer to note 22.

	Current		Non-current		Total non-current	Total
	1 year Rm	1 – 5 years Rm	After 5 years Rm		Rm	Rm

### 14. Embedded derivative assets and liabilities

#### 14.1 Embedded derivative assets

##### 2010

##### Group

Commodity and/or foreign currency

110	–	–	–	110
-----	---	---	---	-----

##### Company

Commodity and/or foreign currency

110	–	–	–	110
-----	---	---	---	-----

##### 2009

##### Group

Commodity and/or foreign currency

231	235	900	1 135	1 366
-----	-----	-----	-------	-------

##### Company

Commodity and/or foreign currency

231	235	900	1 135	1 366
-----	-----	-----	-------	-------

1. Included within net fair value loss on embedded derivatives in profit or loss.

	Current	Non-current		Total	Total
	1 year	1 – 5 years	After	non-current	
	Rm	Rm	5 years	Rm	Rm
			Rm		
<b>14.2 Embedded derivative liabilities</b>					
<b>2010</b>					
<b>Group</b>					
Commodity and/or foreign currency	–	3 291	1	3 292	3 292
Foreign currency or interest rate	1	–	–	–	1
PPI and foreign currency	138	965	326	1 291	1 429
	<b>139</b>	<b>4 256</b>	<b>327</b>	<b>4 583</b>	<b>4 722</b>
<b>Company</b>					
Commodity and/or foreign currency	–	3 291	1	3 292	3 292
PPI and foreign currency	138	965	326	1 291	1 429
	<b>138</b>	<b>4 256</b>	<b>327</b>	<b>4 583</b>	<b>4 721</b>
<b>2009</b>					
<b>Group</b>					
Commodity and/or foreign currency	27	2 353	4 463	6 816	6 843
Foreign currency or interest rate	2	–	–	–	2
PPI and foreign currency	14	336	1 067	1 403	1 417
	43	2 689	5 530	8 219	8 262
<b>Company</b>					
Commodity and/or foreign currency	27	2 353	4 463	6 816	6 843
PPI and foreign currency	14	336	1 067	1 403	1 417
	41	2 689	5 530	8 219	8 260

The embedded derivative instruments comprise a combination of swaps, forwards and options.

The liability has been significantly reduced as a result of renegotiating certain special pricing agreements relating to commodity linked revenue contracts.

	Assets	Liabilities	Notional amount
	Rm	Rm	Rm
<b>15. Derivatives held for risk management</b>			
<b>2010</b>			
<b>Group and company</b>			
<b>Derivatives held for economic hedging</b>	<b>98</b>	<b>1 374</b>	<b>10 451</b>
Foreign exchange derivatives	38	1 090	7 208
Swaps	–	767	2 790
Foreign exchange contracts	38	299	3 899
Cross-border lease	–	24	519
Interest rate derivatives	–	1	637
Forward rate agreements	–	1	637
Commodity derivatives	60	283	2 606
Aluminium options	–	184	337
Swaps	60	99	2 269
<b>Derivatives held for cash flow hedging</b>	<b>14</b>	<b>6 896</b>	<b>43 979</b>
Foreign exchange contracts	14	4 037	31 323
Interest rate swap	–	355	3 800
Cross-currency swap	–	2 504	8 856
<b>Total derivatives held for risk management</b>	<b>112</b>	<b>8 270</b>	
<b>Maturity analysis</b>	<b>112</b>	<b>8 270</b>	
<b>Derivatives held for economic hedging</b>	<b>98</b>	<b>1 374</b>	
Non-current	–	767	
Current	98	607	
<b>Derivatives held for cash flow hedging</b>	<b>14</b>	<b>6 896</b>	
Non-current	–	2 859	
Current	14	4 037	

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

	Assets	Liabilities	Notional amount
	Rm	Rm	Rm
<b>15. Derivatives held for risk management</b> <i>(continued)</i>			
<b>2009</b>			
<b>Group and company</b>			
<b>Derivatives held for economic hedging</b>	1 113	843	17 232
Foreign exchange derivatives	615	559	10 477
Swaps	530	36	519
Foreign exchange contracts	85	523	9 958
Interest rate derivatives	57	4	3 726
Forward rate agreements	–	4	936
Swaps	57	–	2 790
Commodity derivatives	441	280	3 029
Aluminium options	437	66	2 570
Swaps	4	214	459
<b>Derivatives held for cash flow hedging</b>	724	2 569	52 217
Foreign exchange contracts	724	1 415	41 492
Interest rate swap	–	463	3 800
Cross-currency swap	–	691	6 925
<b>Total derivatives held for risk management</b>	<b>1 837</b>	<b>3 412</b>	
<b>Maturity analysis</b>	1 837	3 412	
Derivatives held for economic hedging	1 113	843	
Non-current	586	123	
Current	527	720	
Derivatives held for cash flow hedging	724	2 569	
Non-current	–	663	
Current	724	1 906	

The hedging practices and accounting treatment are disclosed in note 2.11.3 in the accounting policies (refer page 195).

The group uses forward exchange contracts, cross-currency swaps and interest rate swaps for cash flow hedging. Only the changes in cash flows attributable to movements in the spot exchange rates are hedged.

- Foreign exchange contracts: used to hedge the changes in the cash flows resulting from the purchase of services and goods denominated mainly in US dollars, euro and yen.
- Cross-currency swap: used to hedge the currency risk arising from the fixed rate bonds (denominated in euro and yen) issued by the group.
- Interest rate swaps: used to hedge the interest expense variability of the issued floating rate notes.

During the year R154 million (2009: R405 million) was recognised in profit or loss as ineffectiveness arising from cash flow hedges. In 2009 a spot adjustment from the implied spot rate of R13,85 to the actual spot rate of R13,04 on the day that the euro cross-currency swap was re-couped resulted in a R405 million loss recycled out of equity to profit or loss. There were no transactions for which cash flow hedge accounting had to be ceased in the current or comparative financial years as a result of highly probable cash flows no longer being expected to occur.

### Cash flow hedges

The periods in which the cash flows of derivatives designated as cash flow hedges are expected to occur are:

	Carrying amount Rm	Undiscounted cash flows Rm	0 to 3 months Rm	4 to 12 months Rm	1 to 5 years Rm	More than 5 years Rm
<b>2010</b>						
<b>Group and company</b>						
Forward exchange contracts						
Assets	14	(120)	31	(151)	-	-
Liabilities	(4 037)	(31 203)	(5 231)	(25 972)	-	-
Interest rate swaps						
Liabilities	(355)	(888)	(17)	(50)	(124)	(697)
Cross-currency swaps						
Liabilities	(2 504)	(2 852)	(85)	123	(3 123)	233
	<b>(6 882)</b>	<b>(35 063)</b>	<b>(5 302)</b>	<b>(26 050)</b>	<b>(3 247)</b>	<b>(464)</b>

### 2009

#### Group and company

Forward exchange contracts						
Assets	724	441	20	421	-	-
Liabilities	(1 415)	(2 374)	(56)	(2 318)	-	-
Interest rate swaps						
Liabilities	(463)	(1 295)	10	(49)	(76)	(1 180)
Cross-currency swaps						
Liabilities	(691)	(904)	(6)	(14)	(990)	106
	<b>(1 845)</b>	<b>(4 132)</b>	<b>(32)</b>	<b>(1 960)</b>	<b>(1 066)</b>	<b>(1 074)</b>

Gains or losses recognised in the hedging reserve in equity are recognised in profit or loss in the periods during which the hedged forecast transaction affects profit or loss. The periods in which the cash flows associated with derivatives are expected to impact profit or loss are:

	Carrying amount Rm	Undiscounted cash flows Rm	0 to 3 months Rm	4 to 12 months Rm	1 to 5 years Rm	More than 5 years Rm
<b>2010</b>						
<b>Group and company</b>						
Forward exchange contracts						
Assets	14	(120)	31	(151)	-	-
Liabilities	(4 403)	(31 569)	(5 237)	(25 977)	(186)	(169)
Interest rate swaps						
Liabilities	(355)	(888)	(17)	(50)	(124)	(697)
Cross-currency swaps						
Liabilities	(2 504)	(2 852)	(85)	123	(3 123)	233
	<b>(7 248)</b>	<b>(35 429)</b>	<b>(5 308)</b>	<b>(26 055)</b>	<b>(3 433)</b>	<b>(633)</b>
<b>2009</b>						
<b>Group and company</b>						
Forward exchange contracts						
Assets	724	441	20	421	-	-
Liabilities	(7 957)	(8 916)	(106)	(2 517)	(232)	(6 061)
Interest rate swaps						
Liabilities	(463)	(1 295)	10	(49)	(76)	(1 180)
Cross-currency swaps						
Liabilities	(691)	(904)	(6)	(14)	(990)	106
	<b>(8 387)</b>	<b>(10 674)</b>	<b>(82)</b>	<b>(2 159)</b>	<b>(1 298)</b>	<b>(7 135)</b>

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

Note	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>16. Finance lease receivables</b>				
Gross receivables	1 400	1 516	1 400	1 516
Unearned finance income	(855)	(969)	(855)	(969)
Present value of minimum lease payments	545	547	545	547
<i>Maturity analysis of gross receivables from finance leases</i>				
Due within one year	85	82	85	82
Due between one and five years	329	348	329	348
Due after five years	986	1 086	986	1 086
	1 400	1 516	1 400	1 516
Future finance charges	(855)	(969)	(855)	(969)
	545	547	545	547
<i>Maturity analysis of net investment in finance leases</i>				
<b>Non-current</b>	532	536	532	536
Due between one and five years	62	66	62	66
Due after five years	470	470	470	470
<b>Current</b>				
Due within one year	13	11	13	11
	545	547	545	547
The finance lease receivables are raised in terms of IFRIC 4 <i>Determining whether an arrangement contains a lease</i> .				
Average implicit rate (%)	13	13	13	13
<b>17. Trade and other receivables</b>				
Trade receivables	9 315	7 090	9 112	6 774
Other receivables	2 474	3 281	1 522	2 458
	11 789	10 371	10 634	9 232
Allowance for impairment of trade and other receivables 3.1.2(g)	(2 379)	(2 157)	(2 364)	(2 136)
	9 410	8 214	8 270	7 096
<i>Maturity analysis</i>				
Non-current	19	23	23	23
Current	9 391	8 191	8 247	7 073
<b>18. Inventories</b>				
Coal	2 838	2 741	2 838	2 741
Nuclear fuel	929	945	929	945
Maintenance spares and consumables	3 611	2 895	3 520	2 752
	7 378	6 581	7 287	6 438

The group and company reversed R2 million of a previous inventory write-down (2009: Rnil). The amount reversed has been included in *net impairment loss* in profit or loss (refer note 34).

## 19. Service concession arrangements

The Eskom Group operates two service concessions for the generation and/or transmission of electricity, through its operations in Mali and Uganda.

### Mali

Eskom Energie Manantali (EEM) entered into an operation and maintenance agreement with La Société de Gestion de L'Energie de Manantali (SOGEM) in 2001 to operate and maintain a 200MW hydro-electricity facility in Mali and supply power to the national electrical companies in Mali, Senegal and Mauritania. The dam, hydro-electric generating plant and eastern and western transmission networks together constitute the "energy assets" in terms of the agreement. The concession period is 15 years (ends December 2017).

EEM is entitled to a fixed annual fee to operate the concession. Although EEM is responsible for the billing of electricity supplied, it merely collects and distributes the proceeds from the sale of electricity. The annual fee does not cover additional expenditure to be incurred on the energy assets.

EEM is responsible for the day-to-day maintenance, repairs and replacement of the energy assets. In terms of this requirement, a fund is to be set up by SOGEM, to which EEM is to contribute 10% of annual revenues to cover the cost of major overhauls. This fund has not yet been set up. EEM has, however, made provisions amounting to 10% of revenues.

The assets remain the property of SOGEM and will revert to them at the end of the concession period. At that point EEM will have no further obligations in respect of the energy assets. The agreement does not contain a renewal option.

A provision of R198 million (2009: R101 million) has been raised in the group as an onerous contract as the expected future operating costs exceed the expected future revenue. A claim was recently lodged with SOGEM for the reimbursement of expenditure on the energy assets. Given the uncertainty of the outcome of the claim, it is not considered prudent to recognise an asset.

### Uganda

Eskom Uganda Limited (Eskom Uganda) entered into an operation and maintenance agreement with Uganda Electricity Generation Company Limited (UEGCL) in 2002, which is linked to a power purchase agreement concluded with Uganda Electricity Transmission Company Limited (UETCL). In terms of the agreements, Eskom Uganda operates and maintains two hydro-electric power stations in Uganda, from which it supplies electricity to UETCL. The dams, powerhouses, related switchyard facilities, high voltage substation, land and movable property together constitute the "energy assets" in terms of the agreement. The concession period is 20 years (ends in December 2023).

Eskom Uganda is entitled to receive revenue from UETCL, based on electricity supplied at tariffs regulated by the Electricity Regulatory Authority of Uganda. It also receives a fee to cover it for investment in additional energy assets where required. This has been recognised as an intangible asset.

The plant remains the property of UEGCL and will revert to UEGCL at the end of the concession period. At that point Eskom Uganda will have no further obligations in respect of the plant.



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 19. Service concession arrangements *(continued)*

	<b>Eskom Manantali Rm</b>	<b>Eskom Uganda Rm</b>	<b>2010 Total Rm</b>	2009 Total Rm
<b>Income statements</b>				
Revenue	<b>79</b>	<b>144</b>	<b>223</b>	266
(Loss)/profit for the year before tax	<b>(118)</b>	<b>22</b>	<b>(96)</b>	(110)
Taxation	<b>-</b>	<b>(7)</b>	<b>(7)</b>	(5)
<b>(Loss)/profit for the year after tax</b>	<b>(118)</b>	<b>15</b>	<b>(103)</b>	(115)
<b>Statements of financial position</b>				
Property, plant and equipment	<b>35</b>	<b>-</b>	<b>35</b>	27
Intangible assets	<b>-</b>	<b>63</b>	<b>63</b>	63
Inventory	<b>23</b>	<b>19</b>	<b>42</b>	32
Trade and other receivables <sup>1</sup>	<b>614</b>	<b>38</b>	<b>652</b>	1 002
Cash and cash equivalents	<b>44</b>	<b>37</b>	<b>81</b>	74
<b>Total assets</b>	<b>716</b>	<b>157</b>	<b>873</b>	1 198
Provisions	<b>253</b>	<b>13</b>	<b>266</b>	154
Borrowings	<b>26</b>	<b>19</b>	<b>45</b>	65
Trade and other payables <sup>1</sup>	<b>649</b>	<b>36</b>	<b>685</b>	1 003
Other liabilities	<b>-</b>	<b>9</b>	<b>9</b>	13
<b>Total liabilities</b>	<b>928</b>	<b>77</b>	<b>1 005</b>	1 235

	<b>Group</b>		<b>Company</b>	
	<b>2010 R</b>	2009 R	<b>2010 R</b>	2009 R
<b>20. Share capital</b>				
<b>Authorised</b>				
1 000 ordinary shares of R1 each	<b>1 000</b>	1 000	<b>1 000</b>	1 000
<b>Issued</b>				
1 ordinary share of R1	<b>1</b>	1	<b>1</b>	1

In terms of the memorandum and articles of association, the unissued share capital is under the control of the Government of the Republic of South Africa, represented by the Department of Public Enterprises, as the sole shareholder.

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>21. Payments made in advance</b>				
Payments made in advance	4 207	6 115	4 178	6 035
Environmental rehabilitation trust fund	62	52	62	52
	<b>4 269</b>	6 167	<b>4 240</b>	6 087
<i>Maturity analysis</i>	<b>4 269</b>	6 167	<b>4 240</b>	6 087
Non-current	<b>2 856</b>	5 081	<b>2 856</b>	5 081
Current	<b>1 413</b>	1 086	<b>1 384</b>	1 006

Payments made in advance to suppliers are primarily to reserve manufacturing capacity for the future construction of assets and for future goods and services. These amounts will be used as partial settlement towards the future amounts payable to the suppliers. There is no contractual right to receive a refund in cash or another financial instrument from the suppliers. In the event of default or non-performance, there are performance bonds in place that can be used to recover outstanding payments made in advance.

Payments made in advance also includes contributions made by Eskom to an environmental rehabilitation trust fund. The fund was established to fund Eskom's financial obligation in respect of the rehabilitation of certain coal mines from which Eskom sources its coal for the generation of electricity. Eskom's access to the fund assets is restricted as the Department of Energy (DoE) will only release the funds once a mine closure certificate is obtained.

## 22. Non-current assets and liabilities held-for-sale

A discontinued operation is a component which has been disposed of or is classified as held-for-sale as it is intended to be sold and it represents a separate major line of business or geographical area of operations.

### Directly held subsidiary – Eskom Finance Company (Pty) Limited

The assets and liabilities of Eskom Finance Company (Pty) Limited (EFC) have historically been presented as held-for-sale in comparative periods following the approval of the Eskom board of directors in prior financial periods to dispose of the company. As a result of events and circumstances beyond Eskom's control, albeit that an active programme and plan was implemented, attempts to dispose of the company as a going concern did not materialise. The process was not actively pursued during the current financial period, as Eskom is reassessing the business model and strategic role of the company to the group. Taking cognisance of the above, and the uncertainty surrounding the future role of the company, the activities of EFC have been reclassified to continuing operations during the current year.

### Directly held subsidiary – Gallium Insurance Company Limited

The assets and liabilities of Gallium Insurance Company Limited (Gallium) have been presented as held-for-sale after approval by the Eskom Board of Directors to close down the company. A commutation/novation agreement was entered into between Gallium and Escap Limited (Escap) in respect of the insurance business written by Gallium between March 2006 and March 2009. This has the effect of transferring any potential claim liabilities to Escap. The closure of Gallium is expected to be completed by 31 March 2011.

### Indirectly held subsidiaries, associates and joint ventures

The investment in arivia.com (Pty) Limited (arivia) was previously classified as non-current assets held-for-sale. The company was disposed of on 4 January 2010.

During the year, certain aviation assets in Eskom Enterprises were classified as held-for-sale in terms of IFRS 5.

1. Includes concession debtors of R519 million (2009: R655 million) which relates to amounts to be collected by EEM on behalf of SOGEM which will settle the outstanding amount included in trade and other payables.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 22. Non-current assets and liabilities held-for-sale *(continued)*

A consolidated analysis of the results of these discontinued operations, and the result recognised on the remeasurement of assets is:

	<b>arivia.kom</b>	<b>Gallium</b>	<b>Total before inter- company elimina- tions</b>	<b>Inter- company elimina- tions</b>	<b>2010 Total</b>	2009 Total
	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>
<b>Income statements</b>						
Revenue	<b>1 174</b>	–	<b>1 174</b>	<b>(566)</b>	<b>608</b>	557
Other income	<b>2</b>	–	<b>2</b>	–	<b>2</b>	1
Employee benefit expense	<b>(335)</b>	–	<b>(335)</b>	–	<b>(335)</b>	(797)
Net impairment reversal/(loss)	<b>34</b>	–	<b>34</b>	–	<b>34</b>	(195)
Depreciation and amortisation expense	<b>(24)</b>	–	<b>(24)</b>	–	<b>(24)</b>	(28)
Loss on disposal of investment	<b>(8)</b>	–	<b>(8)</b>	–	<b>(8)</b>	–
Other operating expenses	<b>(812)</b>	<b>(1)</b>	<b>(813)</b>	<b>566</b>	<b>(247)</b>	(447)
Operating profit/(loss) before net finance income	<b>31</b>	<b>(1)</b>	<b>30</b>	–	<b>30</b>	(909)
Finance income	<b>19</b>	<b>5</b>	<b>24</b>	<b>(7)</b>	<b>17</b>	44
Finance cost	<b>(4)</b>	–	<b>(4)</b>	–	<b>(4)</b>	(2)
Profit/(loss) before tax	<b>46</b>	<b>4</b>	<b>50</b>	<b>(7)</b>	<b>43</b>	(867)
Income tax	<b>(10)</b>	–	<b>(10)</b>	<b>(199)</b>	<b>(209)</b>	172
<b>Profit/(loss) for the year from discontinued operations</b>	<b>36</b>	<b>4</b>	<b>40</b>	<b>(206)</b>	<b>(166)</b>	(695)

The loss from discontinued operations includes operating expenditure which will still be incurred by the continuing operations after these entities have been disposed of.



## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 22. Non-current assets and liabilities held-for-sale *(continued)*

#### 22.1 Accounting classifications and fair values

The classification of each class of financial assets and liabilities for all discontinued operations, and their fair values are:

	Held-for- trading	Held-to- maturity	Loans and receivables	Available- for-sale	Liabilities at amortised cost	Other assets and liabilities	Total carrying amount	Fair value
	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>2010</b>								
<b>Financial assets</b>								
Cash and cash equivalents	-	-	9	-	-	-	9	9
<b>2009</b>								
<b>Financial assets</b>								
<b>Non-current assets</b>								
Loans receivable	-	-	2 779	-	-	18	2 797	2 779
Finance lease receivables	-	-	-	-	-	18	18	18
<b>Current</b>								
Loans receivable	-	-	8	-	-	-	8	8
Trade and other receivables	-	-	344	-	-	-	344	344
Cash and cash equivalents	-	-	428	-	-	-	428	428
Finance lease receivables	-	-	-	-	-	8	8	8
<b>Total financial assets</b>	-	-	3 559	-	-	26	3 585	3 585
<b>Financial liabilities</b>								
<b>Non-current</b>								
Debt securities issued	-	-	-	-	1 129	-	1 129	1 129
Borrowings	-	-	-	-	2	-	2	2
<b>Current</b>								
Trade and other payables	-	-	-	-	305	-	305	305
Debt securities issued	-	-	-	-	266	-	266	266
Borrowings	-	-	-	-	6	-	6	6
<b>Total financial liabilities</b>	-	-	-	-	1 706	-	1 706	1 706

	2010 Rm	2009 Rm
<b>22.2 Finance lease receivables</b>		
Gross receivables	-	33
Unearned finance income	-	(7)
Present value of minimum lease payments	-	26
<b>Maturity analysis of gross receivables from finance leases</b>		
Due within one year	-	11
Due between one and five years	-	22
Unearned finance income	-	33
	-	(7)
	-	26
<b>Maturity analysis of net investment in finance leases</b>		
<b>Non-current</b>		
Due between one and five years	-	18
<b>Current</b>		
Due within one year	-	8
	-	26

	<b>Government grant</b>	<b>Capital contributions received from customers</b>	<b>Cross-border lease</b>	<b>2010 Total</b>	2009 Total
	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>	<b>Rm</b>
<b>23. Deferred income</b>					
<b>Group and company</b>					
Balance at beginning of the year	4 439	1 569	22	6 030	5 182
Additions and transfers	1 173	564	–	1 737	1 173
Income recognised	(279)	(88)	(22)	(389)	(325)
Balance at end of the year	5 333	2 045	–	7 378	6 030
<b>Maturity analysis</b>	5 333	2 045	–	7 378	6 030
Non-current	5 019	2 017	–	7 036	5 536
Current	314	28	–	342	494

	Note	<b>Group and company</b>	2009
		<b>2010</b>	<b>Rm</b>
		<b>Rm</b>	<b>Rm</b>
The total income recognised for the group and company of R389 million (2009: R325 million) is disclosed in profit or loss in the following categories:			
<i>Depreciation and amortisation expense</i>	33	(279)	(241)
<i>Other income</i>	30	(22)	(22)
<i>Other revenue</i>		(88)	(62)
		<b>(389)</b>	<b>(325)</b>

#### Government grant

The government's transitional electrification programmes are managed by Eskom on behalf of the DoE. The funding for the electrification of homes is provided by the DoE. Eskom retains ownership of and responsibility for the electrification assets created upon conclusion of the agreement.

#### Capital contributions received from customers

Contributions relating to the construction of electricity network assets that were paid in advance by electricity customers up to 30 June 2009 were recognised as deferred income (refer note 2.19).

#### Cross-border lease

The deferred income arose from benefits realised through the cross-border lease transaction concluded between Eskom and Edison Capital over certain generating plant (refer note 6). The present value of the lease and leaseback commitments was settled in full on commencement of the transaction and a profit resulted. The cross-border lease transaction was terminated on 15 April 2009.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>24. Retirement benefit obligations</b>					
Post-retirement medical benefits	24.2	<b>7 190</b>	6 238	<b>7 033</b>	6 103
Gratuities	24.3	<b>8</b>	7	<b>–</b>	–
		<b>7 198</b>	6 245	<b>7 033</b>	6 103
<i>Maturity analysis</i>		<b>7 198</b>	6 245	<b>7 033</b>	6 103
Non-current		<b>6 988</b>	6 061	<b>6 823</b>	5 919
Current		<b>210</b>	184	<b>210</b>	184
The total charge in profit or loss and other comprehensive income is disclosed in the following categories:					
<i>Pension benefits</i>	24.1	<b>1 179</b>	983	<b>1 108</b>	930
<i>Post-retirement medical benefits</i>	24.2	<b>1 136</b>	838	<b>1 114</b>	817
<i>Gratuities</i>	24.3	<b>1</b>	–	<b>–</b>	–
		<b>2 316</b>	1 821	<b>2 222</b>	1 747
<b>24.1 Pension benefits</b>					
The amounts recognised in profit or loss are:					
Contributions	32	<b>1 179</b>	983	<b>1 108</b>	930
The total charge is included in <i>employee benefit expense</i> in profit or loss.					
The net benefit asset at the reporting date is not accounted for in the financial statements. The rules of the Eskom Pension and Provident Fund state that any deficit on the valuation of the fund will be funded by increases in future contributions or reductions in benefits. If there is a substantial surplus on the valuation of the fund, future contributions may be decreased or benefits may be improved as determined by the trustees of the fund.					
The Eskom Pension and Provident Fund is registered in terms of the Pension Funds Act, 1956 as amended. All employees are members of the fund. Contributions comprise 20,8% of pensionable emoluments of which members pay 7,3%. The assets of the fund are held separately from those of the group in respect of funds under the control of the trustees.					
The fund was actuarially valued on the IAS 19 <i>Employee Benefits</i> basis on 31 March 2010 (previous valuation at 31 March 2009). The actuarial present value of retirement benefits at 31 March 2010 was R52 216 million (2009: R47 566 million), while the fair value of the fund's assets was R60 345 million (2009: R48 946 million).					
The principal actuarial assumptions used were:					
Long-term investment return before tax (%)		<b>8,9</b>	8,8	<b>8,9</b>	8,8
Future general salary increases (%)		<b>6,9</b>	6,8	<b>6,9</b>	6,8
Future pension increases (inflation) (%)		<b>5,4</b>	5,3	<b>5,4</b>	5,3
In-service mortality		<b>SA56-62 composite plus allowance for HIV PA (90) less 1 year</b>	SA56-62 composite plus allowance for HIV PA (90) less 1 year	<b>SA56-62 composite plus allowance for HIV PA (90) less 1 year</b>	SA56-62 composite plus allowance for HIV PA (90) less 1 year
Pensioner mortality		<b>SA56-62 composite plus allowance for HIV PA (90) less 1 year</b>	SA56-62 composite plus allowance for HIV PA (90) less 1 year	<b>SA56-62 composite plus allowance for HIV PA (90) less 1 year</b>	SA56-62 composite plus allowance for HIV PA (90) less 1 year

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>24.2 Post-retirement medical benefits</b>					
The group has anticipated expenditure in terms of continued contributions to medical aid subscriptions in respect of employees who retire. The estimated present value of the anticipated expenditure for both in-service and retired members was calculated by independent actuaries.					
Present value of unfunded obligations		<b>7 190</b>	6 238	<b>7 033</b>	6 103
Unrecognised actuarial losses		–	–	–	–
Liability in the statement of financial position		<b>7 190</b>	6 238	<b>7 033</b>	6 103
<i>Movement in the liability</i>					
Balance at beginning of the year		<b>6 238</b>	5 562	<b>6 103</b>	5 447
Total expense charged to profit or loss and other comprehensive income		<b>1 136</b>	838	<b>1 114</b>	817
Contributions paid		<b>(184)</b>	(162)	<b>(184)</b>	(161)
Balance at end of the year		<b>7 190</b>	6 238	<b>7 033</b>	6 103
The amounts recognised in profit or loss and other comprehensive income are:					
Current service cost		<b>285</b>	265	<b>263</b>	244
Finance cost		<b>534</b>	518	<b>534</b>	518
Net actuarial loss recognised for the year		<b>317</b>	55	<b>317</b>	55
		<b>1 136</b>	838	<b>1 114</b>	817
The charge is disclosed in profit or loss and statement of comprehensive income in the following categories:					
Employee benefit expense	32	<b>285</b>	265	<b>263</b>	244
Finance cost	37	<b>534</b>	518	<b>534</b>	518
Net actuarial loss recognised for the year		<b>317</b>	55	<b>317</b>	55
		<b>1 136</b>	838	<b>1 114</b>	817
Refer note 4(b) for the sensitivity analysis and principal actuarial assumptions used.					
<b>24.3 Gratuities</b>					
The estimated cost of gratuities is accounted for over the potential working life of the qualifying employees based on the assessment by independent actuaries, which takes into account the probability of employees remaining in the applicable group company's employment.					
<i>Movement in the liability</i>					
Balance at beginning of the year		<b>7</b>	8	–	–
Total expense charged to profit or loss (current service cost)		<b>1</b>	–	–	–
Payments made		–	(1)	–	–
Balance at end of the year		<b>8</b>	7	–	–
The total charge is disclosed in profit or loss in the following category:					
Employee benefit expense	32	<b>1</b>	–	–	–



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Power station-related environmental restoration <sup>1</sup>	Mine-related closure, pollution control and rehabilitation <sup>2</sup>	Leave <sup>3</sup>	Annual and performance bonus <sup>4</sup>	Other <sup>5</sup>	2010 Total	2009 Total
	Rm	Rm	Rm	Rm	Rm	Rm	Rm
<b>25. Provisions</b>							
<b>Group</b>							
Balance at beginning of the year	6 578	1 563	705	1 123	412	10 381	7 124
Provision raised/(reversed) for the year	(1 016)	(112)	265	1 736	499	1 372	3 048
Raised/(reversed) to the income statement	(442)	–	265	1 736	499	2 058	2 177
Capitalised to property, plant and equipment, inventory and future fuel	(574)	(112)	–	–	–	(686)	871
Finance cost	280	168	–	–	–	448	1 431
Unwinding of discount	844	171	–	–	–	1 015	964
Change in discount rate applied to provision	(564)	(3)	–	–	–	(567)	467
Provisions used	–	–	(189)	(1 479)	(29)	(1 697)	(1 222)
Balance at end of the year	5 842	1 619	781	1 380	882	10 504	10 381
<b>Maturity analysis</b>	5 842	1 619	781	1 380	882	10 504	10 381
Non-current	5 842	1 619	734	–	299	8 494	8 883
Current	–	–	47	1 380	583	2 010	1 498
<b>Company</b>							
Balance at beginning of the year	6 578	1 563	662	1 041	133	9 977	6 716
Provision raised/(reversed) for the year	(1 016)	(112)	256	1 705	13	846	3 030
Raised/(reversed) to the income statement	(442)	–	256	1 705	13	1 532	2 159
Capitalised to property, plant and equipment, inventory and future fuel	(574)	(112)	–	–	–	(686)	871
Finance cost	280	168	–	–	–	448	1 431
Unwinding of discount	844	171	–	–	–	1 015	964
Change in discount rate applied to provision	(564)	(3)	–	–	–	(567)	467
Provisions used	–	–	(188)	(1 425)	(17)	(1 630)	(1 200)
Balance at end of the year	5 842	1 619	730	1 321	129	9 641	9 977
<b>Maturity analysis</b>	5 842	1 619	730	1 321	129	9 641	9 977
Non-current	5 842	1 619	730	–	3	8 194	8 731
Current	–	–	–	1 321	126	1 447	1 246

1. Provision is made for the estimated decommissioning cost of nuclear and other generation plant and for the management of nuclear fuel assemblies and radioactive waste (refer note 4d).
2. Provision is made for the estimated cost of closure, pollution control, rehabilitation and mine employee benefits at the end of the life of the mines, where a constructive and contractual obligation exists to pay coal suppliers (refer note 4d).
3. The group recognises a liability for occasional and service leave as the leave is of a long-term nature (refer note 4c).
4. The annual bonus equals one month's salary for employees on Tuned Assessment of Skills and Knowledge (TASK) grading levels 1 to 13. Employees on TASK grading levels 14 to 26 can choose to spread their bonus amount over the year or take it as a 13th cheque. The performance bonus is based on the performance of the company and employees.
5. Includes provision made for contractual obligations to maintain and restore the infrastructure under service concession arrangements, onerous contracts and guarantees.

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>26. Finance lease liabilities</b>				
Gross finance lease liabilities to subsidiaries	–	–	661	435
Other gross finance lease liabilities	2 240	1 880	1 934	1 876
Gross finance lease liabilities	2 240	1 880	2 595	2 311
Future finance charges on finance leases	(1 556)	(1 328)	(1 556)	(1 505)
Present value of finance lease liabilities	684	552	1 039	806
<i>Maturity analysis of gross lease liability</i>				
Due within one year	210	109	231	175
Due between one and five years	672	405	807	619
Due after five years	1 358	1 366	1 557	1 517
	2 240	1 880	2 595	2 311
Future finance charges	(1 556)	(1 328)	(1 556)	(1 505)
	684	552	1 039	806
<i>Maturity analysis of net lease liability</i>				
<b>Non-current</b>	632	537	965	761
Due between one and five years	145	36	280	167
Due after five years	487	501	685	594
<b>Current</b>				
Due within one year	52	15	74	45
	684	552	1 039	806
The finance lease liabilities are raised in terms of IFRIC 4 <i>Determining whether an arrangement contains a lease</i> .				
Average implicit interest rate or incremental borrowing rate (%)	17	18	17	18
<b>27. Trade and other payables</b>				
Trade and other payables	13 027	13 985	13 478	14 370
Accruals	3 298	3 253	2 549	2 246
Deposits	1 140	929	1 140	929
	17 465	18 167	17 167	17 545
<i>Maturity analysis</i>				
Non-current	1 134	1 466	797	1 297
Current	16 331	16 701	16 370	16 248
Non-current trade and other payables consist mainly of retention payables that are payable after 12 months.				
<b>28. Payments received in advance</b>				
Upfront capital contributions	1 782	1 547	1 782	1 547
Grant funding	658	471	658	471
Other	438	167	357	99
	2 878	2 185	2 797	2 117
<i>Maturity analysis</i>				
Non-current	995	714	995	714
Current	1 883	1 471	1 802	1 403
Payments received in advance are allocated to deferred income when the related assets have been placed in commercial operation (refer note 2.18).				
The total charge to profit or loss relating to upfront capital contributions for the group and the company since 1 July 2009 amounted to R111 million.				

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>29. Revenue</b>					
Electricity revenue		<b>69 834</b>	52 996	<b>69 834</b>	52 996
Other revenue, excluding electricity revenue		<b>1 375</b>	1 181	<b>230</b>	94
		<b>71 209</b>	54 177	<b>70 064</b>	53 090
<b>30. Other income</b>					
Insurance proceeds		–	–	<b>279</b>	342
Management fee income		–	27	<b>641</b>	601
Government grant		–	149	–	149
Deferred income	23	<b>22</b>	22	<b>22</b>	22
Net surplus on disposal of property, plant and equipment		–	34	–	47
Operating lease income		<b>180</b>	146	<b>187</b>	151
Dividend income		<b>12</b>	52	<b>166</b>	30
Sale of scrap		<b>111</b>	80	<b>111</b>	80
Other income		<b>232</b>	100	<b>183</b>	–
		<b>557</b>	610	<b>1 589</b>	1 422
<b>31. Net fair value loss on financial instruments, excluding embedded derivatives</b>					
Gain on financial trading assets held-for-trading		<b>318</b>	181	<b>166</b>	181
Gain on financial trading liabilities held-for-trading		<b>1</b>	55	<b>1</b>	55
Loss on financial trading assets held-for-trading		<b>(46)</b>	(90)	<b>(46)</b>	(1)
Loss on financial trading liabilities held-for-trading		<b>(294)</b>	(478)	<b>(294)</b>	(478)
Net loss on derivatives held for risk management (economic hedges) held-for-trading <sup>1</sup>		<b>(6 391)</b>	(1 425)	<b>(6 391)</b>	(1 425)
Net loss on financial liabilities measured at amortised cost		<b>621</b>	(230)	<b>621</b>	(230)
Ineffective portion of changes in fair value of cash flow hedges (reclassified from equity)		<b>(154)</b>	(405)	<b>(154)</b>	(405)
		<b>(5 945)</b>	(2 392)	<b>(6 097)</b>	(2 303)
<b>32. Employee benefit expense</b>					
Salaries and other staff costs		<b>15 719</b>	13 644	<b>14 438</b>	12 706
Pension benefits	24.1	<b>1 179</b>	983	<b>1 108</b>	930
Post-retirement medical aid benefits	24.2	<b>285</b>	265	<b>263</b>	244
Gratuities	24.3	<b>1</b>	–	–	–
Direct training and development		<b>206</b>	243	<b>175</b>	222
		<b>17 390</b>	15 135	<b>15 984</b>	14 102
<b>33. Depreciation and amortisation expense</b>					
Depreciation of property, plant and equipment	6	<b>5 783</b>	5 009	<b>6 025</b>	4 847
Amortisation and impairment of intangible assets	7	<b>222</b>	150	<b>207</b>	139
Deferred income recognised (government grant on electrification)	23	<b>(279)</b>	(241)	<b>(279)</b>	(241)
		<b>5 726</b>	4 918	<b>5 953</b>	4 745

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>34. Net impairment loss</b>					
Impairment		<b>666</b>	1 005	<b>668</b>	1 026
Property, plant and equipment	6	<b>51</b>	155	<b>51</b>	155
Inventory		<b>20</b>	18	<b>16</b>	16
Loans receivable		<b>12</b>	–	<b>–</b>	–
Trade and other receivables (net of reversals)	3.1.2 (g)	<b>583</b>	832	<b>601</b>	855
Reversal		<b>(5)</b>	(6)	<b>(5)</b>	(5)
Property, plant and equipment	6	<b>(3)</b>	(6)	<b>(3)</b>	(5)
Inventory	18	<b>(2)</b>	–	<b>(2)</b>	–
Bad debts recovered		<b>(9)</b>	(10)	<b>(9)</b>	(10)
		<b>652</b>	989	<b>654</b>	1 011
<b>35. Other operating expenses</b>					
Managerial, technical and other fees		<b>1 799</b>	1 988	<b>1 787</b>	1 969
Research and development		<b>197</b>	207	<b>197</b>	207
Operating lease expense		<b>334</b>	247	<b>288</b>	243
Auditors' remuneration <sup>2</sup>		<b>60</b>	57	<b>47</b>	44
Onerous contract		<b>97</b>	101	<b>–</b>	–
Net loss on disposal of property, plant and equipment		<b>1</b>	–	<b>1</b>	–
Loss on disposal of shares		<b>–</b>	90	<b>–</b>	–
Repairs and maintenance, transport and other expenses		<b>5 660</b>	5 894	<b>7 702</b>	8 521
		<b>8 148</b>	8 584	<b>10 022</b>	10 984
<b>36. Finance income<sup>3</sup></b>					
Held-to-maturity investments		<b>–</b>	45	<b>–</b>	45
Loans and receivables		<b>1 121</b>	1 943	<b>1 056</b>	1 856
Interest income		<b>1 303</b>	1 954	<b>1 238</b>	1 867
Exchange differences		<b>(182)</b>	(11)	<b>(182)</b>	(11)
Available-for-sale financial assets		<b>439</b>	1 061	<b>282</b>	941
Interest received from subsidiaries		<b>–</b>	–	<b>166</b>	159
Interest earned on finance lease receivables		<b>54</b>	103	<b>73</b>	103
		<b>1 614</b>	3 152	<b>1 577</b>	3 104

1. Includes forward exchange contract premium of R3 498 million (2009: R2 531 million) for the group and company.

2. There were no non-audit services rendered by the group's statutory auditors.

3. Finance income includes preference dividends received of R105 million (2009: R273 million) for both the group and the company.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Note	Group		Company	
		2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>37. Finance cost</b>					
Debt securities issued		3 864	3 864	3 703	3 673
Interest expense		4 726	3 845	4 565	3 654
Exchange differences		–	(107)	–	(107)
Cash flow hedges reclassified from equity		(862)	126	(862)	126
Borrowings		6 138	1 846	6 108	1 839
Interest expense		1 796	1 860	1 766	1 858
Exchange differences		(930)	(68)	(930)	(73)
Subordinated loan from shareholder <sup>1</sup>		5 272	22	5 272	22
Cash flow hedges reclassified from equity		–	32	–	32
Borrowing costs capitalised to property, plant and equipment <sup>2</sup>	6	(8 234)	(3 436)	(8 234)	(3 436)
Unwinding of discount		1 549	1 482	1 549	1 482
Post-retirement medical benefit	24.2	534	518	534	518
Provisions	25	1 015	964	1 015	964
Change in discount rate of provisions		(567)	467	(567)	467
Interest paid to subsidiaries		–	–	175	231
Interest paid on finance lease payables		101	96	146	123
		<b>2 851</b>	<b>4 319</b>	<b>2 880</b>	<b>4 379</b>
<b>38. Income tax</b>					
Current tax		260	208	–	–
Current year		266	223	–	–
Over provision in prior years		(6)	(15)	–	–
Secondary tax on companies		2	–	–	–
Deferred tax	12	1 816	(3 994)	1 636	(4 161)
Reversal/(originating) of temporary differences		2 971	(1 829)	2 800	(2 033)
Tax losses		(1 160)	(1 867)	(1 160)	(1 867)
Originating tax loss for the current period		(1 352)	(1 861)	(1 352)	(1 861)
Tax loss prior year adjustment		192	(6)	192	(6)
Over/(under) provision in prior years		5	(298)	(4)	(261)
Tax from discontinued operations		2	–	–	–
Total income tax in profit or loss		<b>2 080</b>	<b>(3 786)</b>	<b>1 636</b>	<b>(4 161)</b>

	2010			2009		
	Before tax Rm	Tax benefit Rm	Net of tax Rm	Before tax Rm	Tax (expense)/benefit Rm	Net of tax Rm
<b>Income tax recognised in other comprehensive income</b>						
<b>Group</b>						
Available-for-sale financial assets	(25)	7	(18)	33	(9)	24
Cash flow hedges – effective portion of changes in fair value	(8 501)	2 579	(5 922)	(477)	178	(299)
Effective portion of changes in fair value	(8 450)	2 565	(5 885)	(411)	160	(251)
Net amount transferred to initial carrying amount of hedged items	(51)	14	(37)	(66)	18	(48)
Foreign currency translation differences	13	–	13	2	–	2
Net actuarial loss on post-retirement medical aid benefits	(317)	89	(228)	(55)	15	(40)
	<b>(8 830)</b>	<b>2 675</b>	<b>(6 155)</b>	(497)	184	(313)
<b>Company</b>						
Available-for-sale financial assets	(17)	5	(12)	17	(5)	12
Cash flow hedges	(8 501)	2 579	(5 922)	(477)	178	(299)
Effective portion of changes in fair value	(8 450)	2 565	(5 885)	(411)	160	(251)
Net amount transferred to initial carrying amount of hedged items	(51)	14	(37)	(66)	18	(48)
Foreign currency translation differences	–	–	–	–	–	–
Net actuarial loss on post-retirement medical aid benefits	(317)	89	(228)	(55)	15	(40)
	<b>(8 835)</b>	<b>2 673</b>	<b>(6 162)</b>	(515)	188	(327)

	Group		Company	
	2010 %	2009 %	2010 %	2009 %
<b>Reconciliation of effective tax rate</b>				
Taxation as a percentage of profit before tax	<b>35,44</b>	29,67	<b>33,92</b>	29,09
Taxation effect of:				
Exempt income	<b>0,48</b>	(0,94)	<b>0,87</b>	(0,63)
Expenses not deductible for tax purposes	<b>(2,94)</b>	1,99	<b>(2,81)</b>	1,44
Controlled foreign operations income	<b>(0,03)</b>	0,05	<b>(0,02)</b>	0,04
Prior year adjustment	<b>(3,35)</b>	(2,38)	<b>(3,89)</b>	(1,86)
Secondary tax on companies	<b>(0,03)</b>	–	–	–
Deferred tax asset not raised	<b>(1,52)</b>	–	–	–
Other	<b>(0,05)</b>	(0,39)	<b>(0,07)</b>	(0,08)
Standard tax rate	<b>28</b>	28	<b>28</b>	28

1. Finance cost on the subordinated loan from shareholder includes R4 570 million (2009: Rnil) relating to the remeasurement of the loan.
2. Borrowing cost capitalised includes R4 570 million (2009: Rnil) relating to the remeasurement of the subordinated loan from the shareholder.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>39. Cash generated from operations</b>				
Profit/(loss) before tax	<b>5 866</b>	(12 759)	<b>4 823</b>	(14 298)
Adjustments for:	<b>13 689</b>	20 284	<b>13 563</b>	21 289
Depreciation and amortisation expense	<b>5 726</b>	4 918	<b>5 953</b>	4 745
Depreciation expense – primary energy	<b>14</b>	14	<b>14</b>	14
Net impairment loss (excluding bad debts recovered)	<b>661</b>	999	<b>663</b>	1 021
Net loss/(surplus) on disposal of property, plant and equipment	<b>1</b>	(34)	<b>1</b>	(47)
Net loss on disposal of shares	<b>–</b>	90	<b>–</b>	–
Increase in provisions	<b>2 344</b>	2 390	<b>1 795</b>	2 350
Decrease in deferred income	<b>(110)</b>	(84)	<b>(110)</b>	(84)
Amortisation of future fuel	<b>296</b>	236	<b>296</b>	236
Other non-cash items	<b>–</b>	(44)	<b>–</b>	–
Finance income	<b>(1 614)</b>	(3 152)	<b>(1 577)</b>	(3 104)
Finance cost	<b>2 851</b>	4 319	<b>2 880</b>	4 379
Dividend income	<b>(12)</b>	(52)	<b>(166)</b>	(30)
Net fair value loss on financial instruments including embedded derivatives	<b>3 661</b>	11 906	<b>3 814</b>	11 809
Share of profit of equity-accounted investees	<b>(14)</b>	(37)	<b>–</b>	–
Non-current assets held-for-sale	<b>(115)</b>	(1 185)	<b>–</b>	–
	<b>19 555</b>	7 525	<b>18 386</b>	6 991
Changes in working capital	<b>(1 139)</b>	(2 370)	<b>(782)</b>	(1 585)
Increase in inventories	<b>(334)</b>	(2 374)	<b>(383)</b>	(2 530)
Increase in trade and other receivables	<b>(1 762)</b>	(3 804)	<b>(1 775)</b>	(2 814)
Decrease in loans receivable	<b>2</b>	–	<b>–</b>	–
Decrease/(increase) in payments made in advance	<b>1 898</b>	(1 911)	<b>1 847</b>	(1 890)
Increase in trade and other payables	<b>245</b>	6 248	<b>663</b>	6 174
Expenditure incurred on provisions	<b>(1 881)</b>	(1 386)	<b>(1 814)</b>	(1 361)
Increase in payments received in advance	<b>693</b>	857	<b>680</b>	836
	<b>18 416</b>	5 155	<b>17 604</b>	5 406

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>40. Guarantees and contingent liabilities</b>				
Eskom issues guarantees for strategic and business purposes to facilitate other business transactions.				
<b>40.1 Financial guarantees</b>				
<b>(a) Long-term debt raised by Motraco</b>				
Mozambique Transmission Company SARL (Motraco), a private joint venture company between Eskom, Electricidade de Mocambique and Swaziland Electricity Board, owns transmission lines connecting the South African, Mozambican and Swaziland national grids to establish a secure source of electrical power for the Mozal aluminium smelter in Maputo, Mozambique.				
Eskom has guaranteed the long-term debt raised by Motraco. At 31 March 2010 the outstanding amount was USD26 million (2009: USD32 million), which translates into R188 million (2009: R304 million). The loans of USD26 million mature on 6 September 2019. The guarantees would be triggered if Motraco was unable to meet its obligations in terms of the long-term debt.				
The risk of default resulting from the political risk in Mozambique is mitigated through a guarantee arranged with an established international insurance company, which specialises in facilitating investments in high risk, low income countries.				
The risk adjusted credit exposure of Motraco is calculated by applying a rating agency's annual default probabilities. Applying the default probability of 0,24% (2009: 0,26%), the financial liability in respect of these guarantees is calculated as R1 million at 31 March 2010 (2009: R1 million). This amount has been raised as a provision in the current year, and is included in <i>other provisions</i> (refer note 25).				
The default probability trend into the future is seen to be positive, and changes in variables will not have a significant impact on profit or loss.				
No payments have been made in terms of these guarantees since their inception in 1999.				
The unprovided portion, disclosed as a contingent liability amounted to	<b>187</b>	303	<b>187</b>	303
<b>(b) Letters of credit for the cross-border lease transactions</b>				
Eskom has provided collateral security in the form of letters of credit from banks in respect of the cross-border lease transaction (refer note 6). The collateral security has been provided to hedge the beneficiary against its exposure to the loss of its remaining investment in the cross-border leases and the cost of replacing the transaction in the market if the lease and leaseback transactions are cancelled.				
Eskom is ultimately responsible for meeting any potential losses to the banks that may arise should a cancellation event occur. A cancellation event will occur if there is an event of default, an event of loss of the asset, or economic obsolescence of the asset.				
The calculation of the beneficiary's exposure is influenced by pledged securities in the form of US treasury notes that are marked-to-market semi-annually. The exposure amount is adjusted accordingly.				
Eskom has guaranteed the payment and facility-related obligations of a special purpose company, established as part of the cross-border lease transaction, in favour of all parties to whom the company has such obligations in terms of the lease and leaseback operative documents.				
In terms of the cross-border lease, Eskom's potential liability of USDnil (2009: USD283 million) has been fully collateralised, with USDnil (2009: USD419 million) having been deposited with the providers of letters of credit.				
At 31 March 2010 the amount guaranteed was USDnil (2009: USD190 million) which, at the year end exchange rate, translates to	-	1 803	-	1 803
The cross-border lease agreement was terminated on 15 April 2009.				



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>40. Guarantees and contingent liabilities</b> <i>(continued)</i>				
<b>40.1 Financial guarantees</b> <i>(continued)</i>				
<b>(c) EFC loans to Eskom group employees</b>				
Eskom Finance Company (Pty) Limited (EFC) has granted loans (secured by mortgage bonds on the properties) to employees of the Eskom group. Eskom group companies have issued guarantees to EFC to the extent to which the loan values of employees exceed the current value of the mortgage security. At 31 March 2010 the guaranteed amounts were R303 million (2009: R161 million) for the group and R287 million (2009: R150 million) for the company.				
Historically EFC has absorbed any losses incurred, and has not called up any guarantee payments. Eskom's guarantee exposure is therefore governed by the default probability of EFC, which is influenced by the risk of significant fluctuations in interest rates that might cause employees to default on their repayments.				
The risk adjusted credit exposure of EFC is calculated by applying a rating agency's annual default probabilities. The default probability for the unsecured portion of the EFC loan book (representing 10% of the loan book) is calculated at 28% (2009: 26%), while the secured portion of the loan book (90% of the loan book) is calculated at 0,10% (2009: 0,52%). Applying the combined default probability, the financial liability in respect of this guarantee is calculated for the company at R1 million (2009: R2 million). This amount has been included as a provision in Eskom in the current year, and is included in <i>other provisions</i> (refer note 25).				
Changes in variables will not have a significant impact on profit or loss.				
The unprovided portion, disclosed as a contingent liability amounted to	–	–	<b>286</b>	148
<b>Summary of financial guarantees</b>				
Unprovided portion	<b>187</b>	2 106	<b>473</b>	2 254
Amounts provided in other provisions	<b>1</b>	1	<b>2</b>	3
Total financial guarantees	<b>188</b>	2 107	<b>475</b>	2 257
<b>40.2 Other guarantees</b>				
<b>(a) Guarantees to SARS for customs duty</b>				
Customs duty and import VAT are normally due upon declaration of imported goods at the port of entry (harbour or airport). The South African Revenue Services (SARS) allows Eskom up to a maximum of 37 days after declaration date before the customs duty and import VAT must be settled on the deferment account. SARS requires Eskom to provide a bank guarantee to secure the debt when it becomes due.				
All conditions of the deferral of the customs duty and import VAT have been met. The total amount disclosed as a contingent liability amounted to	<b>183</b>	183	<b>183</b>	183

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
(b) <b>Eskom Pension and Provident Fund</b>				
Eskom has indemnified the Eskom Pension and Provident Fund against any loss resulting from negligence, dishonesty or fraud by the fund's officers or trustees.				
(c) <b>Eskom Enterprises performance bonds</b>				
Eskom Enterprises (Pty) Limited has performance bonds totalling R43 million (2009: R54 million) with respect to various contracts. The probability of having to pay out in terms of the performance bonds is calculated after assessing the likelihood of meeting the contract deliverables. Probable future payments are then discounted and the amount raised as a liability.				
The project management processes in place confirm that all but one of the contracts should meet the project deliverables. As a result of this contractual dispute, the R27 million (2009: R35 million) performance bond for this contract has a high probability of being called up. The full amount has been raised as a provision in the current year and is included in <i>other provisions</i> (refer note 25).				
Eskom Enterprises (Pty) Limited has not been required to make any previous performance bond payments.				
The total amount disclosed as a contingent liability amounted to	<b>16</b>	19	–	–
(d) <b>Conflict of interest guarantee</b>				
A subsidiary of Eskom Enterprises (Pty) Limited issued a conflict of interest guarantee to a customer, that restricts Eskom Enterprises from trading outside a specific area in Mali. There is currently no possibility of Eskom Enterprises trading outside the specified area. The total contingent liability amounts to	<b>51</b>	65	–	–
(e) <b>Rental guarantees</b>				
Some Eskom Enterprises group companies issued rental guarantees to various property owners to guarantee the rental on the properties they occupy. The guarantees have various dates of expiry. The total amount disclosed as a contingent liability amounted to	<b>15</b>	10	–	–
<b>40.3 Other contingent liabilities</b>				
(a) <b>Legal claims</b>				
Legal claims are in process against Eskom as a result of contractual disputes with various parties. On the basis of the evidence available it appears that no obligation is present. The claims are disclosed as a contingent liability and amounted to	<b>71</b>	434	<b>152</b>	434
(b) <b>Pledges</b>				
South Dunes Coal Terminal (Pty) Limited signed a loan agreement with Investec Bank for the funding of the Richards Bay Coal Terminal Phase V expansion project. All rights, title and interest in and to the loan to Richards Bay Coal Terminal, the South Dunes Coal Terminal (Pty) Limited Throughput Agreement Rights and Entitlement and certain other accounts are pledged as security for the loan. The unused loan facility, disclosed as a contingent liability, amounts to	–	50	–	–

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>41. Commitments</b>				
<b>41.1 Capital expenditure</b>				
Estimated capital expenditure	<b>227 206</b>	213 805	<b>224 995</b>	211 181
Contracted	<b>113 061</b>	99 446	<b>112 520</b>	98 990
Approved, not yet contracted for	<b>114 145</b>	114 359	<b>112 475</b>	112 191
The expenditure is expected to be incurred as follows:	<b>227 206</b>	213 805	<b>224 995</b>	211 181
Due within one year	<b>65 594</b>	76 101	<b>64 489</b>	75 404
Due between two and five years	<b>159 005</b>	135 324	<b>157 899</b>	133 397
Due after five years	<b>2 607</b>	2 380	<b>2 607</b>	2 380
This expenditure will be financed through shareholder support, debt (refer to funding strategy on page 44 for further information) and internally generated funds.				
<b>41.2 Operating leases</b>				
<b>Group as lessee</b>				
The future minimum lease payments payable under non-cancellable operating leases are:				
Due within one year	<b>199</b>	127	<b>182</b>	111
Due between two and five years	<b>95</b>	70	<b>87</b>	60
Due after five years	<b>103</b>	57	<b>94</b>	51
Due after five years	<b>1</b>	–	<b>1</b>	–
<b>Group as lessor</b>				
The future minimum lease payments receivable under non-cancellable operating leases are:				
Due within one year	<b>589</b>	1 004	<b>589</b>	1 004
Due between two and five years	<b>59</b>	88	<b>59</b>	88
Due after five years	<b>261</b>	317	<b>261</b>	317
Due after five years	<b>269</b>	599	<b>269</b>	599
<b>41.3 Supply of water</b>				
Eskom has entered into long-term agreements with the Department of Water Affairs to reimburse the department for the cost incurred in supplying water to Eskom. This cost is regarded as part of <i>primary energy</i> in profit or loss.				
<b>41.4 Coal</b>				
Eskom has entered into long-term agreements with suppliers for coal purchases. The annual cost of coal is regarded as part of <i>primary energy</i> in profit or loss.				

## 42. Related-party transactions

The group is 100% controlled by its shareholder, the government, represented by the Minister of Public Enterprises.

Eskom (and its subsidiaries) constitute a Schedule 2 public entity in terms of the Public Finance Management Act. The related party disclosure is required in terms of IAS 24 *Related Party Disclosures* and the specific guidance given by the South African Institute of Chartered Accountants.

The related parties of Eskom consist mainly of government departments, state-owned enterprises, subsidiaries of Eskom and other public entities in the national sphere of government, as well as key management personnel of Eskom or its shareholder and close family members of these related parties. The list of public entities in the national sphere of government was provided by National Treasury on its website [www.treasury.gov.za](http://www.treasury.gov.za). It also provided the names of subsidiaries of public entities.

The comparative information has been based on the list of public entities and their subsidiaries effective at 31 March 2009.

In addition, related parties comprise associates and joint ventures of the group and post-retirement benefit plans for the benefit of employees.

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
The following transactions were carried out with related parties:				
<b>Sales of goods and services<sup>1</sup></b>	<b>3 452</b>	2 589	<b>4 237</b>	3 463
Shareholder; including government departments	454	349	322	252
State-owned enterprises in the national government sphere	1 866	1 144	1 854	1 081
Eskom subsidiaries	–	–	929	1 034
Eskom associates	–	3	–	3
Joint ventures in which Eskom is a partner	1 132	1 093	1 132	1 093
<b>Government grant funding for electrification</b>				
Department of Energy	1 427	1 027	1 427	1 027
<b>Purchases of goods and services<sup>2</sup></b>	<b>2 145</b>	1 756	<b>9 500</b>	10 845
Shareholder; including government departments	593	469	593	468
State-owned enterprises in the national government sphere	324	306	301	303
Eskom subsidiaries	–	–	7 449	9 144
Joint ventures in which Eskom is a partner	49	–	49	–
Eskom Pension and Provident Fund (contributions)	1 179	981	1 108	930
<b>Finance income</b>	<b>262</b>	141	<b>428</b>	300
Shareholder; including government departments	1	141	1	141
State-owned enterprises in the national government sphere	261	–	261	–
Eskom subsidiaries	–	–	166	159
<b>Finance cost</b>	<b>6 319</b>	1 011	<b>6 494</b>	1 242
Shareholder; including government departments	5 274	1 011	5 274	1 011
State-owned enterprises in the national government sphere	1 045	–	1 045	–
Eskom subsidiaries	–	–	175	231
<b>Lease income</b>	<b>68</b>	37	<b>75</b>	42
State-owned enterprises in the national government sphere	68	37	68	37
Eskom subsidiaries	–	–	7	5
<b>Lease expenses</b>	<b>1</b>	–	<b>3</b>	1
State-owned enterprises in the national government sphere	1	–	1	–
Eskom subsidiaries	–	–	2	1
<b>Finance lease finance cost</b>				
Eskom subsidiaries	–	–	45	27
<b>Environmental levy</b>				
State-owned enterprises in the national government sphere	3 699	–	3 699	–
<b>Receivables and amounts owed by related parties</b>	<b>4 959</b>	2 380	<b>5 395</b>	4 277
Shareholder; including government departments	4 705	1 835	4 686	1 814
State-owned enterprises in the national government sphere	133	162	127	107
Eskom subsidiaries	–	–	461	1 973
Joint ventures in which Eskom is a partner	121	383	121	383
<b>Allowance for impairment losses</b>	<b>171</b>	454	<b>170</b>	452
Shareholder; including government departments	170	164	170	164
State-owned enterprises in the national government sphere	1	2	–	–
Joint ventures in which Eskom is a partner	–	288	–	288

1. Goods and services are sold to related parties on an arm's length basis at market-related prices.

2. Goods and services are bought from related parties on an arm's length basis at market-related prices.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

	Group		Company	
	2010 Rm	2009 Rm	2010 Rm	2009 Rm
<b>42. Related-party transactions <i>(continued)</i></b>				
<b>Guarantees</b>	<b>175 975</b>	175 975	<b>175 975</b>	175 975
Shareholder, including government departments	<b>175 970</b>	175 970	<b>175 970</b>	175 970
State-owned enterprises in the national government sphere <sup>1</sup>	<b>5</b>	5	<b>5</b>	5
<b>Payables and amounts owed to related parties<sup>2</sup></b>	<b>62 703</b>	24 436	<b>64 395</b>	28 032
Shareholder, including government departments	<b>62 329</b>	23 687	<b>62 329</b>	23 687
– Borrowings	<b>22 329</b>	13 687	<b>22 329</b>	13 687
– Subordinated loan from shareholder	<b>40 000</b>	10 000	<b>40 000</b>	10 000
State-owned enterprises in the national government sphere	<b>370</b>	749	<b>370</b>	749
Eskom subsidiaries	<b>–</b>	–	<b>1 692</b>	3 596
Eskom Pension and Provident Fund	<b>4</b>	–	<b>4</b>	–
<b>Payments made in advance</b>				
Eskom subsidiaries	<b>–</b>	–	<b>–</b>	4
<b>Payments received in advance</b>				
State-owned enterprises in the national government sphere	<b>158</b>	–	<b>158</b>	–
<b>Indirect transactions – assets at nominal value</b>	<b>4 195</b>	1 873	<b>4 195</b>	2 412
Eskom subsidiaries	<b>–</b>	–	<b>–</b>	539
Government bonds	<b>4 195</b>	1 873	<b>4 195</b>	1 873
<b>Indirect transactions – liabilities at nominal value</b>				
Short-sold government bonds	<b>315</b>	468	<b>315</b>	468
<b>Loans to subsidiaries</b>				
Eskom subsidiaries	<b>–</b>	–	<b>796</b>	1 853

### 43. Events after the reporting date

There were no significant events after the reporting date.

1. The guarantees from state-owned enterprises are for future or unpaid electricity consumption accounts.

2. Purchase transactions with related parties are at an arm's length basis with payment terms of 30 days from invoice date.

## 44. Restatement of comparatives

### New and revised standards and interpretations

The following new, revised and amended standards and interpretations were implemented during the financial year, but had no significant impact on the financial statements:

- IAS 23 *Borrowing costs*
- IAS 32 *Financial instruments: Presentation*
- IFRS 1 *First-time adoption of International Financial Reporting Standards* and IAS 27 *Consolidated and separate financial statements*
- IFRS 2 *Share-based payment*
- IFRIC 13 *Customer loyalty programmes*
- IFRIC 15 *Agreements for the construction of real estate*
- IFRIC 16 *Hedges of a net investment in a foreign operation*

The following new and revised standards and interpretations, which had an impact on the financial statements, were implemented during the financial year:

- IFRS 7 *Financial instruments: Disclosures*
- IFRS 8 *Operating segments*
- IAS 1 *Presentation of financial statements*
- IFRIC 18 *Transfers of assets from customers*

### IFRS 7 *Financial instruments: Disclosures*

The implementation of the amendment to IFRS 7 *Financial instruments: Disclosures* did not result in a restatement of comparative figures as the amendment is in respect of disclosure requirements. The amendment introduces a three-tier hierarchy disclosure for fair value measurement based on the significant inputs (refer note 13.9) and also clarifies and enhances existing disclosure about the nature and extent of liquidity risk arising from financial instruments.

### IFRS 8 *Operating segments*

As of 1 April 2009, the group determines and presents its operating segments based on the information that is internally provided to the group executive committee (Exco), which is the group's chief operating decision maker. This change in accounting policy is due to the adoption of IFRS 8 *Operating segments*. Previously, operating segments were determined and presented in accordance with IAS 14 *Segment reporting*. Comparative segment information has been represented in conformity with the transitional requirements of such standard. The change in accounting policy did not result in a financial impact on the financial statements as the change is in respect of disclosure requirements. Refer note 5.

### IAS 1 *Presentation of financial statements*

The effect of the restatement of comparative figures to comply with the new IAS 1 *Presentation of financial statements* and the reclassification of other line items on the statements of financial position, statements of comprehensive income, statements of changes in equity and statements of cash flows is indicated below.

### IFRIC 18 *Transfers of assets from customers*

The group also implemented IFRIC 18 *Transfers of assets from customers* which is prospectively effective for the transfer of assets from customers received on or after 1 July 2009. The group has previously (up to 30 June 2009) credited the contribution paid in advance by electricity customers relating to the construction of regular distribution and transmission assets to profit or loss on a straight-line basis over the expected useful lives of the related assets when these assets were placed into commercial operation. From 1 July 2009, the contributions paid in advance are credited to profit or loss within *other revenue* when the customer is connected to the electricity network.

### Eskom Finance Company (Pty) Limited (EFC)

The results of Eskom Finance Company (Pty) Limited (EFC), a 100% held subsidiary, was classified as a non-current asset held-for-sale in the previous financial years. The results of EFC was treated as continuing operations for the 2010 financial year. The comparative information for the group in the consolidated income statement has been restated in line with IFRS 5 *Non-current assets held-for-sale and discontinued operations* to reflect the results of EFC as a continuing operation (refer note 22). This is presented below:

### Statement of financial position at 31 March 2009

There have been no restatements made to the statement of financial position at 31 March 2009.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 44. Restatement of comparatives *(continued)*

	Group			Company		
	Previously reported Rm	Adjustments Rm	Restated Rm	Previously reported Rm	Adjustments Rm	Restated Rm
<b>Income statement for the year ended 31 March 2009</b>						
<b>Continuing operations</b>						
<b>Revenue</b>	53 826	351	54 177	53 090	–	53 090
Primary energy	(25 351)	467	(24 884)	(25 351)	467	(24 884)
Employee benefit expense	(15 166)	31	(15 135)	(14 157)	55	(14 102)
Depreciation and amortisation	(4 916)	(2)	(4 918)	(4 745)	–	(4 745)
Net impairment loss	(1 213)	224	(989)	(1 239)	228	(1 011)
Other operating expenses	(8 591)	7	(8 584)	(10 996)	12	(10 984)
Operating (loss)/profit before net fair value loss and net finance cost	(1 411)	1 078	(333)	(3 398)	762	(2 636)
Other income	586	24	610	1 422	–	1 422
Net fair value loss on financial instruments, excluding embedded derivatives	(2 370)	(22)	(2 392)	(2 281)	(22)	(2 303)
Net fair value loss on embedded derivatives	(9 514)	–	(9 514)	(9 506)	–	(9 506)
Operating (loss)/profit before net finance cost	(12 709)	1 080	(11 629)	(13 763)	740	(13 023)
Net finance cost	(314)	(853)	(1 167)	(590)	(685)	(1 275)
Finance income	3 370	(218)	3 152	3 322	(218)	3 104
Finance cost	(3 684)	(635)	(4 319)	(3 912)	(467)	(4 379)
Share of profit of equity-accounted investees	37	–	37	–	–	–
<b>Loss before tax</b>	(12 986)	227	(12 759)	(14 353)	55	(14 298)
Income tax	3 805	(19)	3 786	4 176	(15)	4 161
<b>Loss for the year from continuing operations</b>	(9 181)	208	(8 973)	(10 177)	40	(10 137)
<b>Discontinued operations</b>						
Loss for the year from discontinued operations	(527)	(168)	(695)	–	–	–
<b>Loss for the year</b>	(9 708)	40	(9 668)	(10 177)	40	(10 137)

	Group			Company		
	Previously reported Rm	Adjustments Rm	Restated Rm	Previously reported Rm	Adjustments Rm	Restated Rm
<b>Statements of comprehensive income for the year ended 31 March 2009</b>						
<b>Loss for the year</b>	(9 708)	40	(9 668)	(10 177)	40	(10 137)
Other comprehensive loss	–	(313)	(313)	–	(327)	(327)
Available-for-sale financial assets – net change in fair value	–	33	33	–	17	17
Cash flow hedges						
Effective portion of changes in fair value	–	(411)	(411)	–	(411)	(411)
Changes in fair value	–	(816)	(816)	–	(816)	(816)
Ineffective portion of changes in fair value recycled to profit or loss	–	405	405	–	405	405
Net amount transferred to initial carrying amount of hedged items	–	(66)	(66)	–	(66)	(66)
Foreign currency translation	–	2	2	–	–	–
Net actuarial loss on post-retirement medical aid benefits	–	(55)	(55)	–	(55)	(55)
Income tax on other comprehensive income	–	184	184	–	188	188
<b>Total comprehensive loss for the year</b>	<b>(9 708)</b>	<b>(273)</b>	<b>(9 981)</b>	<b>(10 177)</b>	<b>(287)</b>	<b>(10 464)</b>

**Statements of changes in equity**

There have been no restatements to the statement of changes in equity.

**Statements of cash flows for the year ended 31 March 2009**

<b>Cash flows from operating activities</b>	12 762	–	12 762	13 013	–	13 013
Cash generated from operations	5 133	22	5 155	5 384	22	5 406
Net cash flows from current derivatives held for risk management	7 629	(22)	7 607	7 629	(22)	7 607



## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 45. Directors' remuneration<sup>1</sup>

#### Remuneration philosophy

Eskom links management remuneration to the performance of the organisation and an individual's contribution. Market factors are also crucial as rewards and remuneration must be kept at levels that will assist us in retaining key leadership skills. Basic salary is augmented by short- and long-term incentives.

International and local benchmarks are considered to ensure executive packages are aligned with those offered by companies of similar stature to Eskom. We aim to remunerate in line with the median of the market to recruit and retain the best management team to lead our business.

The executive remuneration strategy is constantly reviewed to stay aligned with the Department of Public Enterprises remuneration guidelines and abreast with best practices.

#### Remuneration committee

The human resources and remuneration committee helps the board to apply policy relating to the remuneration of directors and executives as set by our shareholder. The policy also covers the nomination of executives for senior positions and conditions of service. Refer page 292.

The committee enhances business performance by:

- approving, guiding and influencing key human resources policies and strategies
- monitoring compliance with the Employment Equity Act
- guiding strategies to achieve equity in Eskom
- approving the principles governing reward and incentive schemes

#### Non-executive directors

Remuneration of non-executive directors is benchmarked against the norms for companies of similar size and is in line with guidelines issued by the shareholder. Remuneration proposals from the human resources and remuneration committee are forwarded to the board. The board then makes recommendations to the shareholder.

Non-executive directors receive a fixed monthly fee and are reimbursed for out-of-pocket expenses incurred in fulfilling their duties.

#### Executive management committee (Exco) members

The committee makes recommendations to the board concerning the remuneration of the chief executive, and approves the remuneration of the other Exco members. The remuneration is considered in accordance with a framework approved by the shareholder. The board recommendation on the remuneration of the chief executive has to be approved by the shareholder.

Factors influencing the remuneration of the Exco members include level of skill, experience, contribution to organisational performance and success of the group. Remuneration includes a basic package and short and long-term incentives.

Every year, the human resources and remuneration committee reviews the structure of these packages to ensure an appropriate balance between fixed and variable remuneration and short and long-term incentives and rewards.

The finance director, chief operating officers and managing directors have permanent employment contracts based on Eskom's standard conditions of service. Six months' notice is required.

### Remuneration structure

The remuneration of the Exco members includes the following components:

#### Guaranteed amount

They receive a guaranteed pay package with remuneration based on cost to company. This comprises a fixed cash portion and compulsory benefits (medical aid, life cover and pension). The guaranteed amount is reviewed annually to keep remuneration in line with the market.

#### Short-term incentives

These reward the achievement of individual predetermined performance objectives and targets as set by the chief executive in performance contracts with each Exco member. The human resources and remuneration committee approves the targets set for the chief executive.

The short-term incentive scheme is calculated as a percentage of pensionable earnings.

#### Long-term incentives

These are designed to attract, retain and reward the Exco members for meeting the organisational objectives set by the shareholder. A market-benchmarked long-term incentive and deferred bonus scheme have been approved effective from 1 April 2005.

#### Long-term incentive scheme

A number of performance shares (award performance shares) were awarded to the Exco members on 1 April 2005, 2006, 2007 and 2008. Award performance shares and deferred bonus shares to be awarded as at 1 April 2009 are deferred pending the outcome of an investigation into the remuneration policy of state-owned enterprises.

The value of the performance shares is deemed to be R1 at grant date, and is escalated at a money-market rate to determine the value at reporting date.

The board has set performance conditions in line with the Eskom business plan and shareholder compact over a three-year performance period. Performance covers financial and non-financial targets in areas such as ensuring business sustainability of Eskom, ensuring reliability of supply to all South Africans, ensuring that future power needs for South Africa are adequately provided for and supporting the developmental objectives of South Africa, with an agreed weighting in each category.

Awards only vest if, and to the extent that, these targets are met. Potential vesting percentages range from 0% to 100%. A threshold and a stretch target are set for each measure, with an expected (on target) vesting of 50%.

Performance parameters are complemented by a set of gatekeeper conditions. If gatekeeper requirements are not met, the board at its discretion may adjust the vesting percentages even though targets have been met.

The following gatekeeper conditions trigger a review of vesting percentages:

- if the lost-time incident rate is greater than 0,31
- if the sustainability committee gives an unfavourable safety report
- if Eskom's audited annual financial statements show a financial loss
- if the auditors qualify Eskom's annual financial statements
- if a significant PFMA contravention occurs
- enhancement of Eskom's reputation

The vesting period for award performance shares is three years from the date of grant. At the end of that period, the human resources and remuneration committee decides the amounts to be paid in line with:

- the percentage of award performance shares that vest, based on the performance conditions achieved
- the value of the award performance shares based on the grant value, escalated at a money market rate

In addition to the performance conditions, vesting of award performance shares is dependent on the scheme participant remaining in Eskom's employment throughout the vesting period. The award lapses if employment ceases during the vesting period (other than for permitted reasons).

1. Includes remuneration of Exco members (chief executive, finance director, chief operating officers and managing directors) who are senior executives and not directors of Eskom.

## Notes to the consolidated financial statements *continued*

for the year ended 31 March 2010

### 45. Directors' remuneration *(continued)*

#### *Deferred bonus scheme*

Eskom offered bonus shares to the Exco members, non-Exco members and senior general managers participating in the scheme. Participants had the right to accept a certain number of bonus shares as a percentage of their annual bonus after tax. Eskom determined the value of the bonus shares at R1 escalated at a money market rate over the three-year performance period. Participants then receive a matching amount equal to the value of the bonus shares at the end of the performance period in addition to the value of the accepted bonus shares.

If employment ceases (other than for permitted reasons) during the performance period, only the value (without any matching award) of the bonus shares which were originally accepted by the participant will be paid. Payment is made on termination of employment.

#### *Share awards – vested*

Award performance shares awarded on 1 April 2007 vested on 31 March 2010 with an expected vesting rate of 31,02%, due to the achievement of non-financial performance conditions over the three-year period. The cash value of the vested shares is payable in June 2010 at R1,34 per share based on the money market rate.

Deferred bonus shares taken up on 1 April 2007 became fully vested and qualified for the one-for-one share match on 31 March 2010 in terms of the scheme. These shares are valued at R1,34 per share. The remuneration value of the bonus shares therefore adds up to R0,34 per share (related to the interest earned at a money market rate) plus R1,34 per share related to the matching share.

Shares vested on 31 March 2010 are:

Name	Award performance shares vested on 31 March 2010	Award performance shares vested on 31 March 2010 at a rate of 31,02%	Award performance shares payable at R1,34 per share	Deferred bonus shares vested on 31 March 2010	Deferred bonus shares at R1,68 per share
	Number	Number	R	Number	R
BA Dames	1 974 000	612 335	820 529	–	–
EL Johnson	1 190 000	369 138	494 645	94 441	158 661
SJ Lennon	1 599 845	496 272	665 004	–	–
Other <sup>1</sup>	7 794 603	2 417 886	3 239 967	210 252	353 223

#### *Share awards – vesting*

The current estimated vesting values of the award performance shares is R1,28 per share for the 1 April 2008 awards (vesting 31 March 2011). The value of the performance shares allocated does not take into account the impact of performance conditions over the applicable three-year performance periods. The value estimated for the 2008 bonus shares is R1,28 per share. The vesting percentage of 26,9% is an estimate.

Shares awarded on 1 April 2008 are:

Name	Outstanding award performance shares vesting on 31 March 2011	Award performance shares vesting on 31 March 2011 at a rate of 26,9%	Award performance shares payable in June 2011 at R1,28 per share	Deferred bonus shares vesting on 31 March 2011	Deferred bonus shares payable in June 2011 at R1,56 per share
	Number	Number	R	Number	R
BA Dames	2 122 050	570 831	730 664	–	–
EL Johnson	1 642 200	441 752	565 442	–	–
SJ Lennon	1 715 834	461 559	590 796	150 000	234 000
Other <sup>1</sup>	13 477 829	3 625 536	4 640 686	497 449	776 020

**Scheme details**

The details of the scheme are:

	Long-term incentive plan <sup>2</sup>	Deferred bonus plan <sup>2</sup>	Long-term incentive plan	Deferred bonus plan
Date of grant	1 April 2009	1 April 2009	1 April 2008	1 April 2008
Number granted	–	–	25 649 031	647 449
Contractual life	3 years	3 years	3 years	3 years
Vesting conditions	Variable vesting depending on the achievement of performance conditions	Three-year service period	Variable vesting depending on the achievement of performance conditions	Three-year service period
Method of settlement	Cash	Cash	Cash	Cash
Expected attrition of employee (%)	–	–	–	–
Expected outcome of performance conditions (%)	–	–	26,90	Not applicable
<b>Reconciliation of performance share movements</b>	<b>2010 Number</b>	<b>2010 Number</b>	2009 Number	2009 Number
Number of performance shares				
Outstanding at beginning of year	56 260 002	1 192 508	74 345 360	2 441 158
Granted during the year	–	647 449	25 649 031	–
Forfeited during the year	(12 264 771)	–	(12 956 274)	(162 067)
Settled during the year	(12 478 871)	(887 815)	(15 298 866)	(1 020 259)
Adjustment in performance share value	–	–	(15 479 249)	(681 004)
Adjustment to deferred bonus plan	–	–	–	614 680
Outstanding at end of year	31 516 360	952 142	56 260 002	1 192 508
Carrying amount of liability (R'000)	9 307	1 144	16 979	1 816
Intrinsic value of liabilities relating to vested rights (R'000)	9 307	1 144	16 979	1 816

1. Non-Exco F-Band employees.

2. Award performance shares and deferred bonus shares to be awarded effective 1 April 2009 were deferred pending the outcome of an investigation into the remuneration policy of state-owned enterprises.

## Notes to the consolidated financial statements continued

for the year ended 31 March 2010

### 45. Directors' remuneration<sup>1</sup> (continued)

#### Share awards – vested and paid

Shares awarded on 1 April 2006 and redeemed during the year are:

Name	Award performance shares redeemed in December 2009 <sup>2</sup> R'000	Deferred bonus shares redeemed in December 2009 <sup>2</sup> R'000	2010 Total R'000	2009 Total R'000
BA Dames	756	–	756	728
SJ Lennon	785	215	1 000	890
ME Letlape	–	–	–	815
PJ Maroga	835	222	1 057	681
B Nqwababa	–	–	–	679
Other <sup>1</sup>	4 250	1 072	5 322	4 795
	<b>6 626</b>	<b>1 509</b>	<b>8 135</b>	<b>8 588</b>

#### Details of emoluments paid

The following schedule sets out the emoluments due to the directors of Eskom for the current year (other than the share awards above):

Name	Salaries/fees R'000	Short-term bonus payment <sup>1</sup> R'000	Short-term bonus payment <sup>2</sup> R'000	Other payments <sup>3</sup> R'000	2010 Total R'000	2009 Total R'000
<b>Directors</b>						
<b>Non-executive directors</b>						
R Godsell <sup>4</sup>	613	–	–	369	982	740
VM Moosa <sup>5</sup>	–	–	–	–	–	350
PM Makwana <sup>6</sup>	1 311	–	–	55	1 366	478
M Bello <sup>7</sup>	–	–	–	–	–	133
LC Cele	478	–	–	–	478	478
BM Count <sup>7</sup>	–	–	–	–	–	166
D Dube <sup>8</sup>	398	–	–	–	398	282
LG Josefsson	542	–	–	–	542	582
H B Lee <sup>8</sup>	313	–	–	–	313	221
WV Lucas-Bull	449	–	–	–	449	449
E Marshall <sup>9</sup>	–	–	–	–	–	199
J Mirenge <sup>8</sup>	427	–	–	–	427	302
JR Modise	495	–	–	–	495	495
V Mohanlal Rowjee <sup>7</sup>	–	–	–	–	–	133
AJ Morgan <sup>10</sup>	535	–	–	–	535	535
SA Mpambani <sup>7</sup>	–	–	–	–	–	142
U Zikalala <sup>11</sup>	449	–	–	–	449	449
<b>Executive directors</b>						
PJ Maroga <sup>12</sup>	3 447	–	1 266	54	4 767	4 960
B Nqwababa <sup>13</sup>	–	–	–	–	–	2 168
PS O'Flaherty <sup>14</sup>	825	289	–	–	1 114	–
Total directors	<b>10 282</b>	<b>289</b>	<b>1 266</b>	<b>478</b>	<b>12 315</b>	<b>13 262</b>
<b>Exco members</b>						
BE Bulunga <sup>17</sup>	371	130	–	–	501	–
BA Dames <sup>15</sup>	3 295	1 219	946	230	5 690	2 979
EL Johnson <sup>16</sup>	2 859	1 001	717	38	4 615	2 535
SJ Lennon	2 308	783	587	29	3 707	2 139
ME Letlape <sup>18</sup>	–	–	–	–	–	1 471
Total Exco members	<b>8 833</b>	<b>3 133</b>	<b>2 250</b>	<b>297</b>	<b>14 513</b>	<b>9 124</b>

	2010 R'000	2009 R'000
<b>Housing loans to Exco members at 31 March</b>		
PJ Maroga <sup>12</sup>	–	3 009
BA Dames	<b>3 231</b>	3 287
EL Johnson	<b>542</b>	883
	<b>3 773</b>	7 179
<p>The interest rate loan from Eskom Finance Company (Pty) Limited at 31 March 2010 was 8,5% (2009: 12,5%). The loans are repayable over a maximum period of 30 years.<sup>19</sup></p> <p>The following board and Exco members were directors of Eskom directly held subsidiary companies. Fees paid for attendance of meetings were all paid to Eskom Holdings.</p>		
<i>Eskom Enterprises (Pty) Limited<sup>20</sup></i>		
BA Dames	–	–
EL Johnson	–	–
SJ Lennon	–	–
B Nqwababa <sup>21</sup>	–	–
<i>Eskom Finance Company (Pty) Limited<sup>22</sup></i>		
B Nqwababa <sup>21</sup>	–	10
<i>Escap Limited<sup>22</sup></i>		
B Nqwababa <sup>21</sup>	–	27
PS O'Flaherty <sup>23</sup>	<b>10</b>	–

1. Short-term incentive bonus awarded for the 2010 financial year.

2. The board deferred allocation in respect of the short-term incentive awards for the 2009 financial year. A targeted saving of R22 billion was set by the board and achieved in December 2009. Payments were made in December 2009.

3. Fees related to security services and operating vehicle expenditure.

4. Appointed as chairman of the board on 17 July 2008. Resigned as chairman of the board on November 2009.

5. Conclusion of contract on 17 July 2008.

6. Appointed as acting chairman/chief executive on 12 November 2009.

7. Resigned from the board effective 17 July 2008.

8. Appointed to the board on 17 July 2008.

9. Deceased September 2008.

10. Resigned from the board effective 31 March 2010.

11. Surname changed from Nene to Zikalala.

12. Resigned as chief executive and member of the board effective October 2009.

13. Resigned from Eskom and board on 31 December 2008.

14. Appointed as finance director and member of the board on 1 January 2010. In addition, the director was paid a two year retention bonus of R1,3 million. Should the director leave the company in the period to 31 December 2010, then the full amount is repayable to the company; and should the director leave the company in the year ending 31 December 2011, then half of the bonus is repayable to the company.

15. Appointed as chief officer Generation on 1 February 2008.

16. Appointed as chief officer Networks and Customer Services on 1 February 2008.

17. Appointed as managing director on 1 February 2010.

18. Resigned from Eskom effective 31 December 2008.

19. On resignation the terms and conditions of the loan are renegotiated.

20. Paid by Eskom.

21. Resigned from the board on 31 December 2008.

22. Fees paid to Eskom.

23. Appointed to the board on 1 January 2010.







# Ensuring best practice

## Corporate governance

- 288 Introduction
- 288 Companies Act and King III Report
- 288 Shareholding and shareholder compact
- 288 Governing bodies
- 292 Compliance with Public Finance Management Act (PFMA)
- 292 Integrated risk management
- 293 Ethical business conduct
- 293 Internal control
- 293 Assurance and forensics
- 294 Security risk management
- 294 Nuclear safety
- 294 Corporate citizenship and sustainability
- 295 Subsidiaries

## Corporate governance

### Introduction

As a state-owned enterprise (SOE), it is critical for Eskom to fulfil its mandate in a manner that is in keeping with governance best practices and, in particular, with regard to accountability, transparency, fairness and responsibility.

The year under review remained demanding for Eskom. It was marked by interaction with various stakeholders and more importantly with NERSA and customers regarding the company's application for a multi-year price determination (MYPD). Also notable is the interaction between Eskom and its shareholder on issues affecting the organisation, including the leadership of the company. It was necessary for the governance processes, systems and structures (governance framework) to deal with a number of issues in a coherent and effective manner.

The leadership is well aware of the challenges regarding funding for the capital expansion programme and this remains a priority. At the same time Eskom had to focus on the operations of the business and there was a need for in-depth consideration of a number of issues. The increased engagements have been beneficial to Eskom's governance processes, and the company has committed to improve its communication with stakeholders.

More frequent meetings of the board of directors and the executive management committee were required. These challenges demand astute governance practices that will ensure that the business remains sustainable in the long term.

### Companies Act and King III report

The company has adhered to the statutory duties and responsibilities imposed by the Companies Act as augmented by the Public Finance Management Act (PFMA). Eskom's systems and processes are reviewed to ensure that compliance is monitored in this regard. In addition, Eskom is also guided on best practices by international developments as well as the King reports on Corporate Governance for South Africa (King II – 2002 until King III came into effect in 2009) and the Protocol on Corporate Governance in the Public Sector – 2002.

To ensure that Eskom's governance framework continues to be of a superior standard and is aligned with statutory and governance best practice developments, a Companies Act task team and a King III task team were established in 2009. The objectives of the teams are to ensure compliance with the new Companies Act, 2008, which comes into effect later in 2010, and application of King III principles and practices, which came into effect in March 2010, respectively. Eskom

welcomes these developments and are using them as an opportunity for the organisation to review its entire governance framework (2010 Governance Review). To this end provisions impacting Eskom's operations are being identified, assessed and addressed; gaps, if any, are filled through action plans and regular monitoring and reporting to the various governance structures. Eskom is at an advanced stage of readiness for the implementation of the new Companies Act and King III.

### Shareholding and shareholder compact

The government of the Republic of South Africa is Eskom's sole shareholder. The shareholder representative is the Minister of Public Enterprises.

Each year, Eskom, in consultation with the Minister of Public Enterprises, agrees on its performance objectives, measures and indicators in line with government treasury regulations under the PFMA. The annual targets are annexed to a list of principles agreed between Eskom and its shareholder (the shareholder compact) and regular reports are provided. The performance of the organisation against the performance objectives is indicated in the shareholder compact on page 34.

The compact does not interfere with the normal principles of company law. The relationship between the shareholder and board is preserved. The board ensures that proper internal controls are in place and that Eskom is effectively managed. The compact promotes good governance by helping to clarify the board and shareholder roles and responsibilities and ensures consensus on Eskom's mandate and key objectives.

A special and an annual general meeting were held during the year.

### Governing bodies

#### Composition of the board

Eskom has a unitary board structure with a majority of independent non-executive directors. The directors, appointed by the shareholder, are drawn from diverse backgrounds (local and international). Their contributions to the board, consisting of a wide range of experience and professional skills, are invaluable. These skills are supplemented at committee level by external committee members. Ms S Sebotsa, an external committee member, resigned in February 2010.

The chairman of the board, Mr RM Godsell, and the chief executive, Mr PJ Maroga resigned in November and October 2009, respectively. Mr Makwana was appointed as the acting chairman and granted the executive powers of a chief executive to fill the vacated position on

the board of directors as an interim measure. In effect, Mr Makwana became an acting chairman with executive powers. Eskom is cognisant of the governance risk of having an executive chairman, although it strives to adhere to best governance principles and practices. The unusual circumstances that Eskom faced necessitated that, as an interim measure, a suitably experienced, skilled and available person be appointed to lead Eskom through a difficult period.

Mr AJ Morgan resigned as a non-executive director at the end of March 2010 after serving on the board for nine years. Mr PS O'Flaherty was appointed as the executive director responsible for the finance function in January 2010. At the end of the period under review, the board comprised eight non-executive directors, one executive director and the executive chairman.

Eskom's articles of association stipulate that the shareholder will, after consulting the board, appoint a chairman, chief executive and non-executive directors. The remaining executive directors are appointed by the board after obtaining shareholder approval. The shareholder is in the process of filling the vacancies on the Eskom board.

Good corporate governance requires that the composition of the board be reviewed on a regular basis. The rotation of directors at regular intervals is accepted as standard practice since it ensures that the board remains dynamic and does not become stagnant in terms of its thinking and abilities. However, it is important that the process is managed in such a way that the rotation of directors does not lead to a disruption in the operations of the business and that the board is well-balanced in terms of skills, expertise and demographics (race, gender and people with disabilities).

The term of office of non-executive directors is a maximum of three years; this will be subject to review at the next annual general meeting. Retiring directors are eligible for re-appointment.

Executive directors are full-time employees and as such are subject to Eskom's conditions of service.

Board meetings are scheduled annually in advance. Special meetings are convened as necessary to address specific issues. Directors or external committee members unable to attend meetings may use electronic communication facilities. The attendance of the 14 board meetings during the reporting period is reflected below.

### Delegation of authority

The board has the authority to lead, control, manage and conduct the business of Eskom, including the authority to delegate its powers.

Its aim is to ensure that Eskom remains a sustainable and viable business of global stature. Its responsibilities are facilitated by a well-developed governance structure through board committees, including the executive management committee (Exco), as well as subcommittees of Exco and a comprehensive delegation-of-authority framework. This framework assists decision making without diluting director accountability and responsibility.

Integral to the 2010 Governance Review is an analysis of the mandates, composition and level of authority delegated to the governing structures within Eskom to ensure that its governance system continues to support the company's strategic objectives and is adaptable to the changing Eskom environment. It is anticipated that this review will lead to a rationalisation of committees, speedier decision making and cost efficiencies, thereby enhancing corporate governance in Eskom.

### Board evaluation and performance

A performance evaluation of the board and individual directors is conducted at the end of the financial year. Any shortcomings are addressed and areas of strength consolidated. The performance of board committees is evaluated against their terms of reference. The human resources and remuneration committee facilitates the evaluation of senior management.

### Director induction and orientation

New directors and external committee members have to complete an induction programme to improve their understanding of Eskom's legislative framework, governance processes, delegation of authority and business operations. Continual training programme that addresses the needs of each director or group of directors is in place. Directors are briefed on new legislation and regulations. The induction and training include visits to certain business sites. Awareness and training on the new Companies Act and King III has been conducted and will continue.

### Board and board committee meeting attendance

As a result of the challenges facing the company, additional board meetings were held during the year and these are reflected in the meeting attendance table below. The purpose of the additional briefing sessions was to keep directors informed of key developments as they unfolded and to allow directors an opportunity to express their views on the developments and strategies on an ongoing basis. Eskom directors were called on to commit significant additional time to the business of Eskom during this critical period.

## Corporate governance continued

Members	Board	Audit	Investment and finance	Tender	Sustainability	Human resources and development	Risk management	Exco	Governance and nominations	General meetings
<b>Number of meetings</b>	<b>14</b>	<b>7</b>	<b>6</b>	<b>10</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>13</b>	<b>1</b>	<b>1</b>
M Makwana	12	3	1	–	–	5	–	6	1	1
JP Maroga <sup>1</sup>	6	–	3	–	2	3	–	5	–	–
R Godsell <sup>2</sup>	9	–	–	–	–	3	–	–	–	–
LCZ Cele	13	7	–	10	–	–	–	–	–	–
D Dube	12	–	–	10	–	5	–	–	1	1
LG Josefsson	6	3	–	–	4	–	–	–	–	1
WE Lucas-Bull	10	–	6	–	3	1 <sup>3</sup>	–	–	–	–
HB Lee	4	–	1	–	–	–	–	–	–	–
JRD Modise	11	7	–	–	–	–	4	–	–	–
AJ Morgan <sup>4</sup>	12	–	5	7	–	–	4	–	–	1
U Zikalala <sup>5</sup>	9	–	–	10	4	–	4	–	–	1
J Mirenge	9	5	5	–	–	–	–	–	–	1
PS O'Flaherty <sup>6</sup>	2	2	2	–	–	–	–	4	–	–
<b>External board members</b>										
BL Fanaroff	–	–	–	–	4	4	–	–	–	–
MJ Husain	–	–	–	4	–	–	–	–	–	–
MM Matutu	–	–	–	–	4	–	–	–	–	–
S Sebotsa <sup>7</sup>	–	–	3	–	–	–	–	–	–	–
<b>Executive management</b>										
BA Dames	–	–	–	–	–	–	–	13	–	–
E Johnson	–	–	–	–	–	–	–	12	–	–
SJ Lennon	–	–	–	–	–	–	–	13	–	–
E Pule <sup>8</sup>	–	–	–	–	–	–	–	10	–	–
I du Plessis <sup>9</sup>	–	–	–	–	–	–	–	10	–	–
BE Bulunga <sup>10</sup>	–	–	–	–	–	–	–	3	–	–

1. Member resigned on 28 October 2009.

2. Member resigned on 8 November 2009.

3. Member joined committee late in the year.

4. Member resigned with effect from 31 March 2010.

5. Member changed surname from Nene.

6. Member was appointed with effect from 1 January 2010.

7. External committee member resigned with effect from 30 February 2010.

8. Member released from acting position on 31 January 2010.

9. Member released from acting position on 31 December 2009.

10. Member was appointed on 1 February 2010.

### Directors' remuneration

Please refer to note 45 to the annual financial statements for details of directors' remuneration.

### Company secretarial function

Directors have unrestricted access to the advice and service of the company secretary. Directors may seek independent professional advice with the authority of the board and at Eskom's expense, should they deem this necessary.

The company secretary monitors Eskom's compliance with the PFMA, the Companies Act and other relevant legislation, and reports to the board on these issues.

Ms Terresa Nonkululeko Msomi resigned as company secretary at the end of December 2009, and Ms Bongivi Mbomvu was appointed in her place on 1 April 2010.

### Board committees

Several committees assist the board in carrying out its responsibilities. Their recommendations and reports to the board ensure transparency and full disclosure of committee activities. Each committee operates within terms of reference that define the composition, role, responsibilities and delegated authority of the committee. The board from time to time sets up committees for specific (*ad hoc*) purposes. All committees, except Exco, comprise a majority of independent non-executive directors. An independent non-executive director serves as chairman in each case. Committee meeting attendance is reflected above.

In addition to the terms of reference, a board committee exercises its delegated authority in accordance with specific policies approved by the board from time to time.

### Audit committee

The committee comprised four independent non-executive directors until November 2009, when Mr Makwana was appointed as acting chairman and stopped being a member. The committee monitors the internal control system to protect Eskom's interests and assets.

The committee also reviews any accounting and auditing concerns raised by internal and external audit, the annual financial statements and the interim reports, the accompanying reports to shareholders, the preliminary announcement of results and any other announcement regarding the company's results or other financial information to be made public. Refer to page 175 for the report of the audit committee detailing how it carried out its functions.

The committee ensures that an effective internal audit function is in place and that the roles and functions of external audit and internal audit are sufficiently clarified and co-ordinated to provide an objective overview of the operational effectiveness of the company's systems of internal control, risk management, governance and reporting. The committee also has to assess the performance of the internal audit function, and the adequacy of available internal audit resources.

In addition, the committee considers and appropriately deals with any complaints received relating to the financial statements, accounting practices or internal audit, whether from within or outside of Eskom.

The committee considers and makes recommendations on the appointment and retention of the external auditors and ensures that such appointments comply with legislation, the fees paid and the terms of engagement, pre-approves the nature and extent of any non-audit services and evaluates their independence, objectivity and effectiveness.

The assurance and forensic general manager and the external auditors have unrestricted access to the chairman of the committee and the chairman of the board. The committee reviews the accuracy, reliability and credibility of statutory financial reporting. It also reviews the annual financial statements and the Eskom group annual report, as presented by management prior to board approval.

Seven committee meetings were held during the review period. They were also attended by the external auditors, the finance director and relevant company officials.

### Investment and finance committee

The committee currently comprises four independent non-executive directors, the acting chairman and finance director. Ms S Sebotsa, an external committee member, resigned as a member of the committee. The committee reviews the investment strategy and makes recommendations to the board. It evaluates and approves business cases for new ventures or projects, approves criteria and guidelines for investments and approves investments within its delegated authority. Investment decisions are made within a framework of policies that guide such decisions and which are approved by the board.

Six committee meetings were held during the period under review.

### Tender committee

The committee comprises four independent non-executive directors, and Mr MJ Husain, an external committee member. The tender committee assists the board decisions, tenders and contracts within its delegated authority and approves procurement policies. It ensures that Eskom's procurement system, which drives its approved investments, is equitable, transparent, competitive and cost effective.

Ten committee meetings were held.

## Corporate governance continued

### **Sustainability committee**

The committee comprises three independent non-executive directors, the acting chief executive and Messrs BL Fanaroff and MM Matutu, external committee members. This committee deals with integrated sustainability issues and makes recommendations on policies, strategies and guidelines, particularly related to safety, health, environment, quality and nuclear issues.

The committee also scrutinises nuclear safety at Eskom facilities to ensure that standards exceed all regulatory and internal requirements and remain consistent with international best practice.

Four committee meetings were held.

### **Human resources and remuneration committee**

This committee comprises two independent non-executive directors, the acting chairman of the board and Mr BL Fanaroff, an external committee member.

The committee, *inter alia*, makes recommendations on remuneration and other human resources-related policies.

Five committee meetings were held.

### **Nomination and governance committee**

The committee comprises two independent non-executive directors and the acting chief executive. It deals with board and committee composition, succession planning, board and committee training and evaluation and exercises oversight of governance matters, including ethics.

One meeting was held.

### **Risk management committee**

The committee comprises three independent non-executive directors and the finance director. Synergy between the risk management committee and the audit committee is achieved by having the chairman of the audit committee as a member of the risk management committee. The committee ensures that the company's risk management strategies and processes are aligned with best practice.

Four committee meetings were held during the year, covering the integrated risk management strategy and processes, risk tolerance and appetite, risk accountabilities, major risk exposures and emerging

risks. Further information on the risk management processes is set out on page 18.

### **Executive management committee (Exco)**

The Exco comprises the chief executive, the finance director and three divisional managing directors. Mr Makwana has chaired the Exco since November 2009. The committee assists the chief executive in guiding the overall direction of the business and in exercising executive control. Its task is to assist with the effective management of the day-to-day operations of the business.

Thirteen Exco meetings were held. Attendance is reflected above. Exco is assisted by its procurement, operations, investment and capital assurance, nuclear management and sustainability and safety subcommittees.

## **Compliance with the Public Finance Management Act (PFMA)**

The board is the accounting authority in terms of the PFMA and Eskom is listed as a Schedule 2 public entity. This Act also applies to subsidiaries and entities owned or controlled by Eskom. They are also classified as Schedule 2 entities.

The PFMA regulates financial management and governance. Eskom ensures that all directors and employees are aware of the provisions of the PFMA through regular training programmes. Directors comply with their fiduciary duties as set out in the PFMA. Board responsibilities are also specified in the PFMA.

## **Integrated risk management**

The effective management of risk is central to the achievement of Eskom's vision of together, building the power-base for sustainable growth and development in South Africa. By understanding and managing risk, we can provide greater certainty and security for our employees, our customers and all our stakeholders.

The Eskom board, through the risk management committee, acknowledges its overall accountability for ensuring an effective results-driven, IRM process. Exco has implemented a risk monitoring system that enables management to respond appropriately to all significant risks that could impact on business objectives.

Responsibility for the management of risk resides with line management in all divisions and projects. Those accountable for the management of risks also ensure that the necessary controls remain in place and are effective at all times. Control effectiveness focuses on

improving our ability to manage risk effectively, so that we can quickly and confidently act on opportunities to improve and sustain the quality and continuity of supply, create value and achieve sustained growth.

Risk management in Eskom is performed at departmental, regional, divisional and subsidiary level and is reported upward to corporate (bottom-up). After consolidation of these integrated risk reports, Exco and the board risk management committee review and evaluate the risk profile to determine the major operational, strategic and business continuity risks (top-down).

### Ethical business conduct

Good corporate governance is about effective ethical leadership, which requires leadership that demonstrates ethics in decision making, leads by example and oversees the management of ethics within the organisation.

Eskom's board is accountable for Eskom's ethics management programme and the operational responsibilities lie with Exco assisted by the ethics office, which is located within the corporate governance department.

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.

Following the implementation of Eskom's code of ethics, *The Way*, in 2009, the supplementary code procedure was developed through stakeholder engagement. The latter provides assistance to directors and employees in applying the code of ethics in their daily activities and decision making, in dealing with specific ethics issues in the workplace, and providing information regarding other ethics-related policies that have to be complied with.

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 proposed new Companies Act and King III. A separate electronic declaration system and procedure for board members has also been developed, which replaces the manual declaration process. Eskom is also a signatory to the UN Global Compact that includes an anti-corruption clause, as well as the World Economic Forum's Partnership Against Corruption Initiative.

Besides these developments, Eskom provided ongoing ethics awareness, training, and an ethics advisory service, which are essential to maintaining an ethical culture within the workplace. The board and Exco are kept informed of the ethical culture and issues of concern through quarterly ethics status reports.

### Internal control

Management is responsible for establishing an effective internal control environment, which is developed and maintained on an ongoing basis to provide reasonable assurance to the board regarding:

- the integrity and reliability of the financial statements
- the safeguarding of Eskom's assets
- economic and efficient use of resources
- compliance with applicable legislation and regulations
- the verification of the accomplishment of established goals and objectives
- the detection and minimisation of fraud, potential liability, loss and material misstatement

These controls are contained in organisational policies and procedures, structures and approval frameworks, and they provide direction, establish accountability and ensure adequate segregation of duties. They each contain self-monitoring mechanisms.

The board ensures that an effective internal control framework is established and maintained. The internal audit function within the assurance and forensic department monitors the operation of the internal control systems and reports findings and recommendations for improvement to management and the audit committee.

The audit committee monitors and evaluates the duties and responsibilities of management, and of internal and external audit to ensure that all major issues reported have been satisfactorily resolved. Finally, the audit committee reports all important matters considered necessary to the board.

### Assurance and forensics

During the period under review the corporate departments of audit, technical audit, technical investigations as well as forensic and anti-corruption were integrated into the assurance and forensic department (AFD).

## Corporate governance continued

In line with the requirements of the PFMA and good governance, AFD provides the audit committee and management with independent, objective assurance, consulting and forensic services designed to add value to and improve Eskom's operations. The department brings a systematic, disciplined approach to the evaluation and improvement of the effectiveness of risk management, control and governance processes.

AFD is governed by international standards and best practices, published by recognised professional institutes.

A risk-based audit approach is followed by assurance and forensic. The audit plan is based on the risk assessment and other considerations, such as the achievement of organisational business objectives. The audit plan is updated as required (minimum quarterly) to reflect significant changes in the risk profile resulting from changes in the business operations, changes in customer needs or regulatory requirements.

AFD is supported by the board and audit committee and is authorised to have unrestricted access to all functions, records, property and personnel. External auditors independently audit and report on the financial statements and the sustainability indicators reflected in this report. These reports are included on pages 169 and 176.

### Security risk management

The board ensures that an integrated crime prevention plan is implemented to minimise exposure to criminal acts, particularly fraud. The security risk management department addresses these threats. Its work covers crime prevention, detection, response and investigation.

Where serious fraud, corruption and irregularities are suspected, forensic investigations (a department of assurance and forensic) establish the facts to enable management to deal appropriately with the matter and prevent a recurrence.

### Nuclear safety

The nuclear safety assurance function is kept independent from the electricity production function by dividing Eskom's nuclear infrastructure into two. The nuclear business area is directly accountable to the chief officer (generation business) for all aspects of electricity production at Koeberg power station, including safety. The nuclear safety and assurance section, a separate department in generation business, with its own technical experts and resources,

provides independent assurance on nuclear safety and compliance with licence requirements.

In line with international best practice, Eskom has a three-tier system of nuclear safety governance. The sustainability committee of the board (the top tier) dedicates several meetings a year to nuclear matters. The meetings are attended by international nuclear experts who bring a broad perspective to the deliberations. The middle tier, the nuclear management subcommittee presided over by the chief officer of the generation business, monitors, reviews and makes recommendations on issues such as nuclear policy, standards, benchmarks and rules and Eskom's overall business requirements. The third tier, the safety review committees, brings together experts from various parts of Eskom to evaluate nuclear safety issues and make recommendations to senior management and other tiers.

### Corporate citizenship and sustainability

In Eskom's view, being a good corporate citizen means that its business must be run in an ethical manner, taking into account its impact on all stakeholders. In addition, it means that Eskom needs to contribute to the realisation of the hopes and aspirations of South Africa.

This includes contributing to a safe working environment, environmental responsibility, promoting the Accelerated and shared growth initiative for South Africa (AsgiSA) and corporate social responsibility and improving the life of all South Africans.

The chief executive, as chief safety officer and chairman of Exco's sustainability and safety subcommittee, is accountable for overall sustainability and safety performance.

The sustainability and safety subcommittee guides our strategy and sets performance targets on sustainability, occupational health and safety and environmental matters, in line with Eskom's safety health and environment policy, the National Environmental Management Act, 107 of 1998, as amended, and the Occupational Health and Safety Act, 85 of 1993, as amended. Strategies are reviewed by the sustainability committee of the board.

Exco's operations subcommittee assesses occupational health, safety and environmental performance and reviews major incidents to ensure that corrective action is taken.



The objective of government's AsgiSA programme is to promote economic growth and halve poverty and unemployment by 2014. Eskom's contribution to this initiative as well as rural development is centrally co-ordinated and facilitated through the corporate services division. Eskom's most significant contribution to AsgiSA is through its core business of supplying reliable electricity. Eskom also leverages associated activities, including its corporate social investment (CSI) programmes, for the development of the disadvantaged.

Eskom's CSI contributes to the development of the disadvantaged and promotes, *inter alia*, skills development, job creation, education and health. Many CSI initiatives are executed by the Eskom Development Foundation.

### Subsidiaries

Eskom Enterprises (Pty) Limited and its subsidiaries, a wholly owned subsidiary of Eskom Holdings, provides lifecycle support and plant maintenance, network protection and support for the build programme for all Eskom divisions. It also has subsidiaries in South Africa, Mali and Uganda.

Eskom's other wholly owned operating subsidiaries include Eskom Finance Company (Pty) Limited, Eskom Development Foundation and Escap Limited.

All Eskom's subsidiaries are subject to Eskom group policies, governance and financial control. They comply with the PFMA and Companies Act, or their equivalent legislation where they are foreign-registered, and follow good governance principles and practices.

While each subsidiary remains accountable to Eskom through a formal shareholder compact, Eskom is also developing a subsidiary governance framework in accordance with principle 2.24 of King III to facilitate the flow of information between the holding company and its subsidiary companies.



*Eskom staff at Koeberg volunteer over weekends to tutor high school learners in maths and science.*

## Tables

### I Statistical overview

	2010	2009	2008	2007	2006
<b>Sales</b>					
Total sold (GWh) <sup>1,2</sup>	218 591	214 850	224 366	218 120	207 921
Growth/(reduction) in GWh sales (%)	1,7	(4,2)	2,9	4,9	(18,9) <sup>3</sup>
<b>Electricity output</b>					
Total produced by Eskom stations (GWh (net))	232 812	228 944	239 109	232 445	221 988
Coal-fired stations (GWh (net))	215 940	211 941	222 908	215 211	206 606
Hydro-electric stations (GWh (net))	1 274	1 082	751	2 443	1 141
Pumped storage stations (GWh (net))	2 742	2 772	2 979	2 947	2 867
Gas turbine stations (GWh (net))	49	143	1 153	62	78
Wind energy (GWh (net))	1	2	1	2	3
Nuclear power station (GWh (net))	12 806	13 004	11 317	11 780	11 293
Total purchased for Eskom system (GWh)	13 754	12 189	11 510	11 483	10 310
Total electricity for Eskom system (Eskom stations and purchased) (GWh) <sup>4</sup>	246 566	241 133	250 619	243 928	232 298
Total consumed by Eskom (GWh) <sup>5</sup>	3 695	3 816	4 136	3 937	3 814
Total available for distribution (GWh) <sup>2</sup>	242 871	237 317	246 483	239 991	228 484
<b>Plant performance indicators</b>					
Total power station nominal capacity (MW)	44 175	44 193	43 037	42 618	42 011
Total power station net maximum capacity (MW)	40 870	40 506	38 747	37 761	36 398
Peak demand on integrated Eskom system (MW)	35 850	35 959	36 513	34 807	33 461
Average energy availability – EAF (UCF) (%) <sup>6</sup>	85,2 (85,9)	85,3 (86,1)	84,8 (86,2)	87,5 (88,6)	87,4 (88,7)
Generation load factor (%) <sup>8</sup>	66,2	67,0	72,3	72,4	69,7
Integrated Eskom system load factor (EUF) (%)	77,7	78,6	85,2	82,7	79,8
<b>Environmental indicators</b>					
Specific water consumption (ℓ/kWh sent out) <sup>9</sup>	1,34 <sup>RA</sup>	1,35 <sup>RA</sup>	1,32	1,35	1,32
Significant legal contraventions reported (number) <sup>10</sup>	0	12 <sup>11</sup>	6	0	1
Customer satisfaction (Enhanced PreCare/MaxiCare) (ratio) <sup>12</sup>	99,65	99,84	97,21	100,80	101,06
Net raw water consumption (Mℓ)	316 202	323 190	322 666	313 064	291 516
Liquid fuels (diesel and kerosene) (Mℓ)	16,1 <sup>RA</sup>	28,9 <sup>LA</sup>	345,9	11,3	–
Coal burnt (Mt)	122,7	121,2	125,3	119,1	112,1
Average calorific value (MJ/kg)	19,22	19,10	18,51	19,06	19,58
Average ash content (%)	29,56	29,70	29,09	29,70	29,10
Average sulphur content (%)	0,81	0,83	0,87	0,86	0,88
Overall thermal efficiency (%)	33,1	33,4	33,4	33,9	33,8
Line losses (%)	8,5	7,9	8,0	8,4	8,2
Nitrous oxide (N <sub>2</sub> O) (t) <sup>13</sup>	2 825	2 801	2 872	2 730	3 134
Carbon dioxide (CO <sub>2</sub> ) (Mt) <sup>13</sup>	224,7 <sup>RA</sup>	221,7 <sup>RA</sup>	223,6	208,9	203,7
Sulphur dioxide (SO <sub>2</sub> ) (kt) <sup>13</sup>	1 856 <sup>RA</sup>	1 874 <sup>RA</sup>	1 950	1 876	1 763
Nitrogen oxide (NO <sub>x</sub> ) as NO <sub>2</sub> (kt) <sup>13</sup>	959 <sup>RA</sup>	957 <sup>LA</sup>	984	930	877
Relative particulate emissions (kg/MWh sent out) <sup>14</sup>	0,39 <sup>RA</sup>	0,27 <sup>RA</sup>	0,21	0,20	0,21
Particulate emissions (kt) <sup>14</sup>	88,27 <sup>RA</sup>	55,64 <sup>RA</sup>	50,84	46,08	45,76
Ash produced (Mt)	36,01 <sup>RA</sup>	36,66 <sup>LA</sup>	36,04	34,16	33,40
Ash sold (Mt)	2,0 <sup>RA</sup>	2,1	2,4	2,2	1,8
Asbestos disposed (tons) <sup>18</sup>	321,4 <sup>RA</sup>	3 590,8 <sup>LA</sup>	321	6 060	–
PCB thermally destructed (tons) <sup>18</sup>	19,1 <sup>RA</sup>	505,6 <sup>LA</sup>	17	10	–
Radiation release (mSv) <sup>15</sup>	0,0040	0,0045	0,0047	0,0034	0,0049
Low-level radioactive waste generated (cubic metres) <sup>16</sup>	137,8	140,8	180,3	94,5	90,2
Intermediate-level radioactive waste generated (cubic metres) <sup>16</sup>	47,1	23,9	16,5	49,8	52,7
Low-level radioactive waste disposed of (cubic metres) <sup>18</sup>	216,0 <sup>RA</sup>	189,0 <sup>RA</sup>	270,0	135	91,0
Intermediate-level radioactive waste disposed of (cubic metres) <sup>18</sup>	266,0 <sup>RA</sup>	473,6 <sup>RA</sup>	418,0	436	52,0
Low-level nuclear waste – fuel racks (cubic metres) (cumulative) <sup>17</sup>	0 (697)	0 (697)	0 (697)	0 (697)	0 (697)
Spent nuclear fuel, number of elements (cumulative figure)	56 (1 785)	56 (1 729)	112 (1 673)	56 (1 561)	52 (1 505)

2005 (15 months)	2004	2003	2002	2001	2000
256 453	206 799	196 980	187 957	181 511	178 193
30,5	5,0	4,8	3,5	1,8	2,8
273 404	220 152	210 218	197 737	189 590	189 307
251 914	202 171	194 046	181 651	175 223	172 362
903	720	777	2 357	2 061	1 343
3 675	2 981	2 732	1 738	1 587	2 591
–	–	–	–	–	1
–	–	–	–	–	–
16 912	14 280	12 663	11 991	10 719	13 010
12 197	9 818	8 194	9 496	9 200	5 294
285 601	229 970	218 412	207 233	198 790	194 601
5 043	4 040	3 664	2 354	2 177	3 478
280 558	225 930	214 748	204 879	196 613	191 123
42 011	42 011	42 011	42 011	42 011	41 298
36 208	36 208	36 208	36 208	36 208	35 584
34 195	34 195	31 928	31 621	30 599	29 188
89,5 (89,9) <sup>7</sup>	89,5 (90,0)	87,5 (88,7)	89,3 (91,7)	92,0 (92,5)	92,1 (92,8)
69,0	69,2	66,3	62,3	59,8	60,6
78,0	77,4	76,8	74,0	73,4	74,7
1,27 <sup>7</sup>	1,26	1,29	1,27	1,26	1,21
3 <sup>7</sup>	2	2	3	2	3
93,10	8,31	8,47	8,57	8,43	8,82
347 135	277 557	271 940	251 611	239 233	228 759
–	–	–	–	–	–
136,4	109,6	104,4	96,5	94,1	92,5
19,36	19,42	19,41	19,54	19,42	19,50
29,60	29,60	28,90	28,40	28,80	28,60
0,87	0,87	0,92	0,92	0,93	0,90
34,0	34,0	34,2	34,1	34,1	34,4
8,2 <sup>7</sup>	7,8	8,3	8,2	7,2	7,4
3 552	2 924	2 580	2 246	2 154	2 093
247,0	197,7	190,1	175,2	169,3	161,2
2 236	1 779	1 728	1 494	1 500	1 505
994	797	760	702	684	674
0,26 <sup>7</sup>	0,27	0,28	0,29	0,31	0,35
72,83	59,17	58,65	57,53	59,64	66,08
40,80	33,10	29,80	26,20	26,50	24,60
2,0	1,6	1,2	1,3	1,2	1,1
–	–	–	–	–	–
–	–	–	–	–	–
0,0079 <sup>7</sup>	0,0087	0,0123	0,0060	0,0192	0,0059
80,3	81,4	100,5	111,9	82,6	61,6
47,2	36,8	30,1	45,8	22,1	41,2
–	–	–	–	–	–
–	–	–	–	–	–
0 (697)	697	–	–	–	–
104 (1 453)	56 (1 405)	104 (1 349)	48 (1 245)	104 (1 197)	52 (1 093)

- Sales prior to 2005 include internal sales.
  - Difference between electricity available for distribution and electricity sold is due to transmission and other losses.
  - Actual sales growth was 0,8% when compared to the 12-months 1 April 2004 to 31 March 2005. And recorded as such.
  - Includes Eskom electricity produced and delivered to neighbouring countries.
  - Used by Eskom for pumped storage facilities and synchronous condenser mode of operation.
  - Capacity hours available times 100 divided by total capacity hours in a year.
  - Represents the 12-month moving average for 1 April 2004 to 31 March 2005.
  - kWh produced times 100 divided by average net maximum capacity times hours in a year.
  - Volume of water consumed per unit of generated power from coal fired power stations sent out, excluding Komati and Grootvlei power stations.
  - 2000 to 2002 reported in terms of the revised definition of the operational health dashboard. From 2008, repeat legal contraventions are included in the criteria.
  - The 2009 annual report reported the environmental legal contraventions in terms of the operational health dashboard. During the 2009/10 reporting period, one environmental legal contravention regarding illegal disposal of waste was identified following an investigation. This was a repeat legal contravention in previous year and recorded as such.
  - Reflects the environmental element of Enhanced MaxiCare. The Enhanced MaxiCare replaced the PreCare/MaxiCare from January 2005.
  - Calculated figures are based on coal characteristics and the power station design parameters. Gaseous emissions are based on coal analysis and tonnages of coal burnt in 2009/10. From 2009 includes Camden, Grootvlei and the gas turbine power stations as well as oil consumed during power station start-ups. From 2010, total CO<sub>2</sub> includes the contribution from the Underground Coal Gasification pilot project (flaring).
  - The overall particulate performance figure is based on individual power station performance. For certain power stations, emission figures are based on best estimates.
  - The limit set by the National Nuclear Regulator is ≤ 0,25mSv.
  - These are the net volumes produced in a 12-month moving window.
  - Waste as a result of re-racking of spent fuel pools at Koeberg power station.
  - Information not available for previous years.
- RA – Reasonable assurance provided by the independent assurance provider (refer page 169).
- LA – Limited assurance provided by the independent assurance provider (refer page 169).

## Tables continued

### 2. Power station capacities at 31 March 2010

Name of station	Location	Number and designed capacity of generator sets	Total nominal installed capacity	Total net maximum capacity	Generators in reserve storage nominal rating	Other generation Total rating	
		MW	MW	MW <sup>1</sup>	Number	MW	MW <sup>2</sup>
<b>Coal-fired stations (13)</b>			37 755	34 658	9	1 150	–
Amot <sup>3,9</sup>	Middelburg, Mpumalanga	1x370; 1x390; 2x396; 2x400	2 352	2 232	–	–	–
Camden <sup>3,4,10</sup>	Ermelo	2x200; 2x195; 2x190; 1x170; 1x180	1 520	1 440	–	–	–
Duvha <sup>3</sup>	Witbank	6 x 600	3 600	3 450	–	–	–
Grootvlei <sup>4</sup>	Balfour	6 x 200	1 200	760	2	400	–
Hendrina <sup>3,10</sup>	Mpumalanga	8 x 200; 1x 195; 1x 170	1 965	1 865	–	–	–
Kendal <sup>3,5</sup>	Witbank	6 x 686	4 116	3 840	–	–	–
Komati <sup>4,10</sup>	Middelburg, Mpumalanga	5 x 100; 2 x 125; 2 x 95	940	170	7	750	–
Kriel <sup>3</sup>	Bethal	6 x 500	3 000	2 850	–	–	–
Lethabo <sup>3</sup>	Viljoensdrift	6 x 618	3 708	3 558	–	–	–
Majuba <sup>3,5</sup>	Volksrust	3 x 657; 3 x 713	4 110	3 843	–	–	–
Matimba <sup>3,5</sup>	Lephalale	6 x 665	3 990	3 690	–	–	–
Matla <sup>3</sup>	Bethal	6 x 600	3 600	3 450	–	–	–
Tutuka <sup>3</sup>	Standerton	6 x 609	3 654	3 510	–	–	–
<b>Gas/liquid fuel turbine stations<sup>6</sup> (4)</b>			2 426	2 409	–	–	–
Acacia	Cape Town	3 x 57	171	171	–	–	–
Ankerlig	Atlantis	4 x 149,2; 5 x 148,3	1 338	1 327	–	–	–
Gourikwa	Mossel Bay	5 x 149,2	746	740	–	–	–
Port Rex	East London	3 x 57	171	171	–	–	–
<b>Hydro-electric stations (6)</b>			661	600	–	–	61
Colley Wobbles	Mbashe River	3 x 14	42	–	–	–	42
First Falls	Umtata River	2 x 3	6	–	–	–	6
Gariep <sup>7</sup>	Norvalspont	4 x 90	360	360	–	–	–
Ncora	Ncora River	2 x 0,4; 1 x 1,3	2	–	–	–	2
Second Falls	Umtata River	2 x 5,5	11	–	–	–	11
Vanderkloof <sup>7</sup>	Petrusville	2 x 120	240	240	–	–	–
<b>Pumped storage schemes<sup>8</sup> (2)</b>			1 400	1 400	–	–	–
Drakensberg	Bergville	4 x 250	1 000	1 000	–	–	–
Palmiet	Grabouw	2 x 200	400	400	–	–	–
<b>Wind energy (1)</b>							
Klipheuwel <sup>2</sup>	Klipheuwel	1 x 1,75; 1 x 0,66; 1 x 0,75	3	3	–	–	–
<b>Nuclear power station (1)</b>							
Koeberg <sup>3</sup>	Cape Town	2 x 965	1 930	1 800	–	–	–
<b>Total power station capacities (27)</b>			44 175	40 870	9	1 150	61

1. Difference between nominal and net maximum capacity reflects auxiliary power consumption and reduced capacity caused by age of plant and/or low coal quality.
2. Operational but not included for capacity management purposes.
3. Base-load station.
4. Return-to-service station.
5. Dry-cooled unit specifications are based on design back-pressure and ambient air temperature.
6. Stations used for peaking or emergency supplies.
7. Use restricted to peaking, emergencies and availability of water in Gariep and Vanderkloof dams.
8. Pumped storage facilities are net users of electricity. Water is pumped during off-peak periods so that electricity can be generated during peak periods.
9. At Amot two units were fully uprated and four partially uprated in the capacity increase project.
10. Due to technical constraints, some units at these stations have been de-rated.

### 3. Environmental implications of using or saving one kilowatt-hour of electricity<sup>1</sup>

If electricity consumption is measured in:

	Factor 1 (total energy sold) <sup>2</sup>	Factor 2 (total energy generated) <sup>2</sup>	KWh	MWh	GWh	TWh
Coal use	0,56	0,54	kilogram	ton	thousand tons (kT)	million tons
Water use <sup>3</sup>	1,45	1,38	litre	kilolitre	megalitre	thousand megalitres
Ash produced	165	157	gram	kilogram	ton	thousand tons (kT)
Particulate emissions	0,40	0,39	gram	kilogram	ton	thousand tons (kT)
CO <sub>2</sub> emissions <sup>4</sup>	1,03	0,98	kilogram	ton	thousand tons (kT)	million tons
SO <sub>x</sub> emissions <sup>4</sup>	8,49	8,10	gram	kilogram	ton	thousand tons (kT)
NO <sub>x</sub> emissions <sup>4</sup>	4,39	4,17	gram	kilogram	ton	thousand tons (kT)

Use of table: Multiply electricity consumption or saving by the relevant factor to determine the environmental implication.

#### Example 1 (using factor 1):

Used 90 kWh of electricity

Water consumption:  $90 \times 1,45 = 130,2$

Therefore 130,2 litres of water used

#### Example 2 (using factor 1):

Used 90 GWh of electricity

CO<sub>2</sub> emissions  $90 \times 1,03 = 92,7$

Therefore 92,7 thousand tons emitted

#### Example 3 (using factor 2):

Used 90 kWh of electricity

Water consumption:  $90 \times 1,38 = 124,2$

Therefore 124,2 litres of water used

#### Example 4 (using factor 2):

Used 90GWh of electricity

CO<sub>2</sub> emissions  $90 \times 0,98 = 88,2$

Therefore 88,2 thousand tons emitted

1. Factor 1 figures are calculated based on total energy sold by Eskom while Factor 2 figures are based on total energy generated by Eskom (but excluding electricity used for pumping water for the pumped storage schemes).  
Further information can be obtained through the Eskom environmental helpline. Contact details appear on IBC.

2. Figures represent the 12-month period from 1 April 2009 to 31 March 2010.

3. Volume of water used at all Eskom power stations.

4. Calculated figures are based on coal characteristics and the power station design parameters.  
SO<sub>2</sub> and CO<sub>2</sub> emissions are based on coal analysis and tonnages of coal burnt in 2009/10.  
From 2009 includes Camden, Grootvlei and the gas turbine power stations as well as oil consumed during power station start-ups. From 2010, total CO<sub>2</sub> includes the contribution from the Underground Coal Gasification pilot project (flaring).

## Tables continued

### 4. Transmission and distribution equipment in service at 31 March 2010

	2010	2009	2008
<b>Power lines</b>			
<b>Transmission power lines (km)<sup>1</sup></b>	<b>28 482</b>	28 243	28 164
765kV	1 153	1 153	1 153
533kV DC (monopolar)	1 035	1 035	1 035
400kV	16 582	16 343	16 190 <sup>2</sup>
275kV	7 390	7 390	7 348 <sup>2</sup>
220kV	1 333	1 333	1 333 <sup>2</sup>
132kV	989	989	1 105 <sup>2</sup>
<b>Distribution power lines (km)</b>	<b>46 018</b>	45 302	44 680
165-132kV	24 514	23 856	23 296
88-33kV	21 504	21 446	21 384
<b>Reticulation power lines (km)</b>			
22kV and lower	305 151	297 783	293 424
Total all power lines (km)	379 651	371 328	366 268
<b>Underground cables (km)</b>	<b>10 687</b>	10 379	9 921
165 – 132kV	197	179	170
22kV and lower	10 490	10 200	9 751
<b>Total transformer capacity (MVA)</b>	<b>223 398</b>	219 232	215 776
Transmission (MVA) <sup>3</sup>	123 990	122 860	122 180
Distribution and reticulation (MVA)	99 408	96 372	93 596
<b>Total transformers (number)</b>	<b>344 369</b>	333 945	324 437
Transmission (number)	399	394	387
Distribution and reticulation (number)	343 970	333 551	324 050

1. Transmission power line lengths as per Geographic Information System (GIS) distances.

2. Base of definition: transformers rated  $\geq 30$ MVA and primary voltage  $\geq 132$ kV.

3. Transformer power line lengths for 2009 have been restated to correct for one power line not reported before.

## 5. Sale of electricity and revenue per category of customer

Category	Customers		
	2010 number	2009 number	2008 number
<b>Local</b>	<b>4 463 291</b>	4 360 997	4 152 302
Redistributors	773	769	766
Residential <sup>1</sup>	4 325 550	4 223 708	4 016 689
Commercial	47 984	47 603	46 496
Industrial	2 925	2 935	2 966
Mining	1 134	1 144	1 153
Agricultural	84 415	84 329	83 722
Traction	510	509	510
<b>International</b>	<b>10</b>	10	10
Utilities	7	7	7
End users across the border	3	3	3
	<b>4 463 301</b>	4 361 007	4 152 312

Category	Sold		
	2010 GWh	2009 GWh	2008 GWh
<b>Local</b>	<b>205 364</b>	202 202	210 458
Redistributors	90 712	88 345	89 941
Residential <sup>1</sup>	10 350	10 392	10 423
Commercial	8 889	8 642	8 373
Industrial	55 816	54 815	61 510
Mining	31 733	32 177	32 373
Agricultural	5 010	4 913	4 848
Traction	2 854	2 918	2 990
<b>International</b>	<b>13 227</b>	12 648	13 908
Utilities	4 109	3 525	4 553
End users across the border	9 118	9 123	9 355
	<b>218 591</b>	214 850	224 366

### Sales to countries in southern Africa, GWh

	<b>13 227</b>	12 648	13 908
Botswana	2 684	1 959	2 181
Mozambique	8 326	8 243	8 491
Namibia	1 459	1 573	2 087
Zimbabwe	6	–	107
Lesotho	121	107	50
Swaziland	597	756	770
Zambia	33	10	222
Short-term energy market <sup>2</sup>	1	–	–

## Tables continued

### 5. Sale of electricity and revenue per category of customer (continued)

Category	Revenue		
	2010 Rm	2009 Rm	2008 Rm
<b>Local</b>	<b>66 970</b>	50 766	41 585
Redistributors	27 973	20 362	16 220
Residential <sup>1</sup>	6 622	5 493	4 599
Commercial	3 642	2 704	2 061
Industrial	15 089	11 762	10 524
Mining	9 599	7 360	5 768
Agricultural	2 954	2 225	1 723
Traction	1 091	860	690
<b>International</b>	<b>2 972</b>	2 334	1 971
Utilities	1 561	978	860
End users across the border	1 411	1 356	1 111
Gross electricity revenue	<b>69 942</b>	53 100	43 556
Less: Revenue capitalised <sup>2</sup>	(108)	(104)	(35)
Electricity revenue per note 29	<b>69 834</b>	52 996	43 521
Levies included in revenue:			
The EDI restructuring levy <sup>4</sup>	n/a	594	416
The environmental levy <sup>5</sup>	3 263	n/a	n/a

1. Prepayments and public lighting are included under residential.

2. The short-term energy market consists of all the utilities in the southern African countries that form part of the Southern African Power Pool. Energy is traded on a daily, weekly and monthly basis as there is no long-term bilateral contract.

3. Revenue from the sale of production while testing generation plant capitalised to plant.

4. The EDI restructuring levy was paid over to EDI Holdings (Pty) Ltd in 2008 and 2009 in terms of MYPD 1.

5. The environmental levy is a 2c/kWh tax, effective from 1 July 2009, payable for electricity produced from non-renewable sources (coal, nuclear and petroleum). The levy is raised on the total electricity production volumes and is recovered through sales.



## Awards



From left to right: Eddie Laubscher (National Deputy Information Officer: Eskom Holdings Limited), Lorraine Molepo (Human Rights Commission) and Mukelani Dimba (Open Democracy Advice Commission).



Eskom's Hendrina power station received a special mention at the International Du Pont Annual Safety Awards

### Golden Key Award for Public Body of the Year (2009)

The South African Human Rights Commission announced Eskom Holdings Limited the overall winner of this year's openness and responsiveness award – the Golden Key Award for Public Body of the Year (2009).

Held annually on the International Right to Know Day (28 September), the Golden Key Awards are a joint effort between the South African Human Rights Commission and the Open Democracy Advice Centre. They are aimed at giving recognition to government departments, deputy information officers and private institutions for best practice in nurturing positive sentiment to openness and setting up enabling organisational systems and procedures that promote compliance with the provisions of the Promotion of Access to Information Act (PAIA).

Eskom received the Golden Key Award for Best National Department as well as the Best Institution (overall).

### International Du Pont Annual Safety Awards

Eskom's Hendrina power station received a special mention at the International Du Pont Annual Safety Awards ceremony held in Düsseldorf, Germany on 4 November 2009.

Du Pont made the following comment on Hendrina's achievement: *"The overall quality of the projects that were sent in to apply for a total of 29 projects in 70 category entities was outstanding, which makes your achievement particularly significant."*

The project centred around the safety performance improvement at Hendrina over a three-year period which was a five-fold improvement, decreasing from a lost-time injury rate (LTIR) of 0,51 (equates to five LTIs) in 2006/7 to an all-time low of 0,10 (equates to one LTI) in 2008/9. Hendrina's total recordable injury rate (TRIR) also decreased from 2,94 to 1,64 over the same period.

## Awards continued

### Komosa Award

On 6 November 2009 Eskom was the recipient of the Komosa Award (Komosa is the Sotho word for raise up).

This award is presented by the Department of Public Works to companies in the public sector who facilitate the creation of work opportunities for poor and unemployed people in South Africa. The objective of this programme is to create 4,5 million job opportunities during the next five years.

The Development department from the Corporate Services division took up the challenge and for the 2008 financial year reported that in the Distribution division, 19 895 job opportunities were created from 2 482 projects.

In 2009, the Development department continued supporting the Expanded Public Works Programme (EPWP) initiative and reported the creation of 36 308 job opportunities. This represents 6,37% of the total of 570 019 job opportunities created in the country during this period.

The Distribution business is currently the main focus but Eskom's other divisions are in the process of being incorporated.

### Fossil Fuel Foundation Award

The Council of the Fossil Fuel Foundation of Africa recognised the outstanding achievement by the Eskom underground coal gasification project team for the development of underground coal gasification.

The implementation of this technology is considered a major achievement and will contribute to national and international efforts to use coal optimally and protect the environment. The council congratulated Eskom for the insight and courage to undertake such an ambitious project which has demonstrated the skills and expertise of South African scientists and engineers.

### Best Deal of 2009 awards

The (Global Trade Review Magazine) has honoured Eskom with a Best Deal of 2009 Award for the €1,185 billion fixed interest rate loan, covered by Coface, the French export credit agency (ECA).

This loan will be used to fund part of the eligible foreign content of Eskom's Medupi and Kusile power station turbine contracts with French supplier Alstom S & E Africa (Pty) Limited. The facility agreements were signed between Eskom as borrower and five French banks as lenders; BNP Paribas, Calyon, Société Générale, Natixis and CIC.

Eskom received another Best Deal of 2009 Award for the €705 million (USD979 million) loan concluded on 11 December 2009. The loans, covered by Germany's Euler Hermes, will be used to fund part of the foreign content of the Kusile boiler contract with Hitachi Power Europe. A total of four international lenders (KfW IpeX-Bank, HSBC, Bank of Tokyo-Mitsubishi UFJ and Deutsche Bank) and three South African lenders (Standard Bank of South Africa Limited, Nedbank Capital and Rand Merchant Bank – a division of FirstRand Bank Limited) participated in the transaction.

### Most Ideal Employer in Engineering award

Eskom was voted the Most Ideal Employer in Engineering by South Africa's engineering students on 18 December 2009.

The announcement was made at the annual Magnet Communications' Ideal Employer Awards. The awards are a culmination of the Magnet Student Survey, an independent research report conducted at 23 South African universities.

More than 26 000 students took part in the survey and once again Eskom was hailed the most desirable company to work for in South Africa.

Eskom has a holistic approach of developing engineering skills and this proved popular among the younger generation once again. The organisation has achieved this through its programmes that encourage female learners to study mathematics and science and other programmes that develop female engineers within the organisation.

## Glossary

Baseload plant	Baseload power stations, largely coal-fired and nuclear, are designed to operate continuously
Clawback	The actual over-recovery against that allowed by NERSA in the multi-year price determination or even under recovery whereby Eskom will claw back
Combined cycle	A technology for producing electricity from otherwise lost waste heat as it exits from one or more gas (combustion) turbines
Daily peak	The maximum amount of energy demanded in one day by electricity consumers
Decommissioning	Removing a facility (eg, reactor) from service, and subsequent actions of safe storage, dismantling and making the site available for unrestricted use
Demand-side management (DSM)	Planning, implementing and monitoring activities to encourage consumers to use electricity more efficiently, including both the timing and level of electricity demand
Embedded derivative	A financial instrument that causes some or all cash flows that would otherwise be required by a contract to be modified according to a specified variable such as a currency
Energy availability factor (EAF)	A measure of power station availability taking account of energy losses not under the control of plant management and internal non-engineering constraints
Energy efficiency	Programmes to reduce energy used by specific end-use devices and systems, typically without affecting the services provided
Eskom sustainability performance index (ESPI)	Index covering technical, economic, environmental and social measures to score sustainable performance
Flashover	Electrical insulation breakdown
Forced outage	Shutdown of a generating unit, transmission line or other facility for emergency reasons or a condition in which generating equipment is unavailable for load due to unanticipated breakdown
Free basic electricity (FBE)	Amount of electricity deemed sufficient to provide basic electricity services to a poor household
Human resources sustainability index (HRSI)	A measure of Eskom's ability to achieve its human resources objectives
Independent non-executive director	<p>A non-executive is director who is not a full-time salaried employee of the company or its subsidiary:</p> <ul style="list-style-type: none"> <li>• is not the representative of a shareholder</li> <li>• has not been employed by the company and is not a member of the immediate family of an individual who is, or has been in any of the past three financial years, employed by the company in any executive capacity</li> <li>• is not a professional adviser to the company</li> <li>• is not a significant supplier to, or customer of the company</li> </ul>
International financial reporting standards (IFRS)	Global accounting standards that require transparent and comparable information in general purpose financial statements issued by the International Accounting Standards Board

## Glossary continued

Independent power producer (IPP)	Any entity, other than Eskom, that owns or operates, in whole or in part, one or more independent power production facilities
Interruptible load	Load that can be interrupted in the event of capacity or energy deficiencies on the supply system
Interruptible power	Power whose delivery can be curtailed by the supplier; usually in agreement between Eskom and the customer
Kilowatt-hour (kWh)	Basic unit of electric energy equal to one kilowatt of power supplied to or taken from an electric circuit steadily for one hour; one kilowatt-hour equals 1 000 watt-hours
Load	Amount of electric power delivered or required at any specific point on a system
Load management	Activities to influence the level and shape of demand for electrical energy so demand conforms to the present supply situation, long-term objectives and constraints
Load profile	Information on a customer's electricity use over time, sometimes shown as a graph
Load shifting	The transfer of loads from peak to off-peak periods; eg, in situations where a utility does not expect to meet demand during peak periods but has excess capacity in off-peak periods
Load shedding	Scheduled and controlled power cuts by rotating available capacity between all customers when demand is greater than supply to avoid total blackouts in the supply area
Lost-time incident rate	A proportional representation of the occurrence of lost-time injuries over 12 months
Maximum demand	Highest demand of load within a specified period
Megawatt	One million watts
Megawatt-hour (MWh)	One thousand kilowatt-hours or one million watt-hours
Mid-merit power generation	Installations that generate electricity when electricity demand is higher than average
Mothballed	Plant (ie, power stations) placed in long-term storage
Non-technical losses	The difference between total losses and technical losses is referred to as non-technical losses
Outage	The period in which a generating unit, transmission line, or other facility is out of service
Off-peak	Period of relatively low system demand
Peak demand	Maximum power used in a given period, traditionally between 07:00 – 10:00 and 18:00 – 21:00

Peaking capacity	Generating equipment normally operated only during hours of highest daily, weekly or seasonal loads
Peak-load plant	Usually gas turbines or a pumped-storage scheme used during peak-load periods
Power pool	An association of two or more interconnected electricity supply systems that agree to co-ordinate operations and seek improved reliability and efficiencies
Primary Energy	Energy embodied in natural resources (eg, coal, liquid fuels, sunlight, wind, uranium)
Pumped-storage scheme	A pumped-storage scheme consists of a lower and an upper reservoir with a power station/ pumping plant between the two. During off-peak periods the reversible pump/turbines use electricity to pump water from the lower to the upper reservoir. During peak demand, water is allowed to run back into the lower reservoir through the turbines thereby generating electricity
Reserve margin	Difference between net system capability and the system's maximum load requirements (peak load or peak demand)
Spent fuel	Nuclear fuel that has been irradiated in and permanently removed from a nuclear reactor. At Koeberg power station approximately 52 fuel assemblies (one third of the fuel assemblies) are removed from each of the two reactors on average every 16 months, and stored on site in the spent fuel pools in the respective fuel buildings next to the respective reactors
Supply-side management (SSM)	Planning, implementing and monitoring supply-side activities to create opportunities for cost-effective purchase, management, generation, transmission and distribution of electricity and all other associated activities
System minutes	The international benchmark for measuring the severity of interruptions to customers. One system minute is equivalent to the loss of the entire system for one minute at annual peak
Technical losses	Technical losses are the naturally occurring losses that depend on the power systems used
Unplanned automatic grid separations (UAGS)	A measure of the reliability of the service provided to the electrical grid that logs the number of supply interruptions per operating period
Unit capability factor (UCF)	A measure of power station availability indicating how well plant is operated and maintained
Unplanned capability loss factor (UCLF)	All occasions when a power station unit has to be shut down and taken out of service. Energy losses due to outages are considered unplanned if they are not scheduled at least four weeks in advance

## Glossary continued

### Energy terms

Units of power	Units of energy
Power is generated per unit of time	Energy is power multiplied by time
Power is expressed in watts (W)	
1kW (kilowatt) = 1 000W	1kWh (kilowatt hour) = 1kW expended over one hour
1MW (megawatt) = 1 000kW	1MWh (megawatt hour) = 1 000kWh
1GW (gigawatt) = 1 000 000kW or 1 000MW	1GWh (gigawatt hour) = 1 000 000kWh or 1 000MWh

#### Voltage

1kV (kilovolt) = 1 000V

#### Presentation currency

R1 million = R1 000 000

R1 billion = R1 000 000 000

### Definitions of ratios

**Average total cost of electricity sold:** total operating expenditure and net finance cost (including fair value adjustment on financial instruments) divided by external sales.

**Debt:equity including long-term provisions:** net financial assets and liabilities plus non-current retirement benefit obligations and non-current provisions divided by total equity.

**Debt:equity:** net financial assets and liabilities divided by total equity.

**EBITDA interest coverage:** operating (loss)/profit before fair value loss on embedded derivatives and net finance cost adjusted for net impairment loss, depreciation and amortisation expense, divided by finance costs.

**Funds from operations/average total debt:** net cash from operating activities divided by the average total financial liabilities.

**Funds from operations/capex:** net cash from operating activities divided by capital expenditure.

**Funds from operations/net interest coverage:** net cash from operating activities divided by total net finance cost adjusted for borrowing cost capitalised, unwinding of discount on provisions and interest paid on finance lease.

**Interest cover:** operating (loss)/profit before fair value loss on embedded derivatives and net finance cost divided by net finance cost adjusted for borrowing cost capitalised, unwinding of discount on provisions and interest paid on finance lease.

**Liquidity:** current assets divided by current liabilities.

**Net pre-tax interest coverage:** (loss)/profit before tax adjusted by finance costs divided by finance costs.

**Return on average equity:** (loss)/profit for the year divided by average equity.

**Return on total assets:** operating (loss)/profit before fair value loss on embedded derivatives and net finance cost expressed as a percentage of total assets.

**Solvency:** total assets divided by total liabilities.

**Total operating expenditure/revenue:** total operating expenditure divided by revenue.

**Value created per employee:** value created divided by number of employees.

## Abbreviations and acronyms

AsgiSA	Accelerated and Shared Growth Initiative for South Africa	EAf	Energy availability factor – the ratio of the available energy generation over a given time period to the reference energy generation over the same time period
BEE B-BBEE	Black economic empowerment, legislated in South Africa under the Preferential Procurement Policy Framework Act, (5 of 2000) and Broad-based Black Economic Empowerment Act, (53 of 2003)	EAL	Eskom Academy of Learning
Besa	Bond Exchange of South Africa	EBITDA	Earnings before interest, tax, depreciation and amortisation
BWO	Black women-owned businesses	EDI	Electricity distribution industry, currently being restructured in RSA
CDM	Clean development mechanism (address climate change)	EFC	Eskom Finance Company
CFL	Compact fluorescent lamps	EIA	Environmental impact assessment
CO <sub>2</sub>	Carbon dioxide	ELI	Eskom learning institutions
CPI	Consumer price index	EMPs	Environmental management plans
CSDP	Competitive Supplier Development Programme	EMS	Environmental management system
CSI	Corporate social investment	EWT	Endangered Wildlife Trust
CSP	Concentrating solar plant	Exco	Eskom executive management committee
CV	Calorific value	FBE	Free basic electricity of 50kWh/month to assist low-income households (RSA)
DEA	Department of Environmental Affairs (RSA)	FGD	Flue gas desulphurisation
DoE	Department of Energy (RSA)	FPM	Fine particulate matter
DMP	Demand market participation	GDP	Gross domestic product
DPLG	Department of Provincial and Local Government	GHG	Greenhouse gas
DPE	Department of Public Enterprises (RSA)	GIS	Geographic information system
DSLl	Distribution supply loss index	GPS	Global positioning system
DWA	Department of Water Affairs (RSA)	GWh	Gigawatt-hour (1 000MWh)

## Abbreviations and acronyms continued

HRSI	Human resources sustainability index	ML	Megalitre (1 000 000 litres)
HVDC	High-voltage direct current	mSv	Millisievert
IFRS	International Financial Reporting Standards	Mt	Mega tons
ILO	International Labour Organisation	MVA	Mega volt ampere
Inep	Integrated national electrification programme	MYPD	Multi-year price determination
IPCC	Intergovernmental Panel on Climate Change	NEEA	National Energy Efficiency Agency
IPP	Independent power producer	Necsa	Nuclear Energy Corporation of South Africa (RSA)
IRM	Integrated risk management	Nepad	New Partnership for Africa's Development
Isep	Integrated strategic electricity planning	NERSA	National Energy Regulator of South Africa (RSA)
ISO 14001	This international standard specifies requirements for an environmental management system	NEMA	National Environmental Management Act
KPI	Key performance indicator	NGO	Non-governmental organisation
kt	Kilotons (1 000 tons)	NNR	National Nuclear Regulator (RSA)
kWh	Kilowatt-hour	NO <sub>x</sub> /NO <sub>2</sub>	Nitrogen oxide
kWh SO	Kilowatt-hour sent out	N <sub>2</sub> O	Nitrous oxide
LME	London Metals Exchange	NPI	National Productivity Institute
LSM	Living standards measure (indicates economic status)	OCGT	Open-cycle gas turbine
LTIR	Lost-time incidence rate	OCLF	Other capability loss factor – unplanned losses not under management control ie, weather
MMI	Monthly moving index	OEM	Original equipment manufacturer
MW	Megawatt	OHSA	Occupational Health and Safety Act
MWh	Megawatt-hour (1 000kWh)	OMS	Outage management system



PCB	Polychlorinated biphenyls	Sm <sup>3</sup>	Standard cubic metre
PBMR	Pebble-bed modular reactor	TOU	Time-of-use (tariff)
PCP	Power conservation programme	TQI	Total quality index
PCLF	Planned capability loss factor – ratio of the energy not produced over a given time period, due to planned shutdowns, to the maximum amount of energy which could be produced over the same time period	UCF	Unit capability factor
PFMA	Public Finance Management Act (RSA)	UCG	Underground coal gasification
RED	Regional electricity distributor	UCLF	Unplanned capability loss factor – ratio of the unplanned energy losses over a given time period to the maximum amount of energy which could be produced over the same time period
RSLI	Reticulation supply loss index	ULM	Utility load manager
Saavi	South African Aids Vaccine Initiative	UN	United Nations
SACECS	South African Centre for Essential Community Services	UNFCCC	United Nations Framework Convention on Climate Change
SADC	Southern African Development Community	VAT	Value added tax (RSA)
SAIDI	System average interruption duration index	VCT	Voluntary counselling and testing (HIV/Aids RSA)
SAIFI	System average interruption frequency index	Wano	World Association of Nuclear Operators
Sapp	Southern African Power Pool	WESSA	Wildlife and Environment Society of South Africa
SHE	Safety, health and environment	WBCSD	World Business Council for Sustainable Development
SMME	Small, medium and micro enterprises	ZLED	Zero liquid effluent discharge
SME	Small and medium enterprises		
SOE	State-owned enterprise		
SO <sub>2</sub>	Sulphur dioxide		
SO <sub>3</sub>	Sulphur trioxide		

## GRI index

An index to the 2010 integrated report based on the Global Reporting Initiative (GRI) sustainability reporting guideline criteria is provided in the table.

### Strategy and analysis

GRI reference	Description	Reference(s) in integrated report	Page
1.1 – 1.2	Statement from senior decision makers, on sustainability including description of impacts, risk and opportunities	Letter from the acting chairman	24 – 25
		Integrated risk management	22 – 25
		Divisional and business area overviews	38, 52, 76, 86, 94, 134, 166

### Organisational profile

GRI reference	Description	Reference(s) in integrated report	Page
2.1 – 2.10	Organisational profile: details and scale of organisation, ownership, changes and awards received	Scope of report	IFC
		Key facts	1 – 3
		Southern African grid map	5
		Organisational structure	6
		Leadership overview – letter from the acting chairman	24 – 25
		Tables	296
		Awards	303 – 304
		Corporate governance	288

### Report parameters

GRI reference	Description	Reference(s) in integrated report	Page
3.1 – 3.13	Report profile, scope and boundaries. GRI content index Assurance	Scope of report	IFC
		Countries in which we operate	IFC
		Electricity: from power station to customer	4
		Application of the GRI principles	13
		Materiality	13
		Stakeholder engagement	14
		Executive performance overview	30
		Performance against the shareholder compact	34
		Management approach	38, 52, 76, 86, 94, 134, 166
		Contact information	IBC
		Independent assurance report to the directors of Eskom Holdings Limited	169
		Statement of responsibilities and approval	174
		Independent auditors' report to the Minister of Public Enterprises	176
		GRI Index	312

## Governance, commitments and engagements

GRI reference	Description	Reference(s) in integrated report	Page
4.1 – 4.17	Governance Commitments to external initiatives Stakeholder engagement	Organisational structure	6
		Sustainability	12
		Stakeholder engagement	14
		Eskom reputation and engagement with stakeholders	17
		Risk management	18 – 19
		Board of directors	26
		Executive management committee	28
		Executive performance overview	30
		Performance in terms of the shareholder compact	34
		Employee relations	82
		Regulatory and Legal Framework	86
		Stakeholder engagement	99
		Stakeholder collaboration	137
		Corporate governance	288

## Management approach and performance indicators

### *Economic performance indicators (EC)*

GRI reference	Description	Reference(s) in integrated report	Page
EC 1	Economic performance	Financial performance overview	40
EC4	Economic performance	Funding gap	44
EC 6	Market presence	Procurement and supply chain	47
EC 8	Indirect economic impacts	Road repairs, free basic electricity	112, 161
EC 9	Indirect economic impacts	Letter from the Acting Chairman	24 – 25

## GRI index *continued*

### *Environmental performance indicators (EN)*

GRI reference	Description	Reference(s) in integrated report	Page
EN1	Materials	Electricity: from power station to customer	4
EN2	Energy	Ash disposal	296
EN3	Water	Direct energy consumption by primary energy source	296
EN5	Biodiversity	Internal energy efficiency and demand side management	56, 156
EN6	Emissions, effluents and wastes	Energy initiatives	56, 156
EN9	Product and services	Long term water strategy	110 – 111
EN14		Biodiversity	59
EN16		Total direct CO <sub>2</sub> emissions	296
EN17		NO <sub>x</sub> emissions	296
EN18		Key focus areas for the coming year	101
EN20		Air emissions (NO <sub>x</sub> , SO <sub>2</sub> , particulates)	296
EN22		Waste	58, 107, 118, 296
EN23		Legal contraventions	58
EN26		Environmental impact initiatives	54, 56, 99

*Social performance indicators: Labour practices and decent work (LA)*

GRI reference	Description	Reference(s) in integrated report	Page
LA1	Employment, occupational health and safety, training and education, diversity and equal opportunity	Human resources	79 – 81
LA2		Employee staff turnover	79
LA7		Safety	60
LA8		Health and wellness	82
LA10		Training interventions	80
LA13		Composition of board	26 – 29

*Social performance indicators: Human rights (HR)*

GRI reference	Description	Reference(s) in integrated report	Page
HR5	Freedom of association and collective bargaining	Employee relations	82

*Social performance indicators: Society (SO)*

GRI reference	Description	Reference(s) in integrated report	Page
SO1	Community, public policy	Contributing to society	68 – 73
SO5		Climate change	55 – 56

*Product responsibility performance indicators (PR)*

GRI reference	Description	Reference(s) in integrated report	Page
PR1	Customer health and safety	Safety – public safety	59 – 60



*A 400 ton generator stator at Kendal power station is lowered onto a self-propelled trailer for maintenance.*

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