ESKOM

CONTENTS

VISION

To provide the world's lowest-cost electricity for growth and prosperity

MISSION

To satisfy all our customers' electricity needs in the most cost-effective way

STRATEGY

To develop Eskom as a business that maximises the value of its products and services to South Africa

Eskom, South Africa's electricity utility:

has 20 power stations with a nominal capacity of 38 497 megawatts

is among the top five utilities in the world in terms of size and sales

is presently one of the lowest-cost producers of electricity in the world

supplies 98% of the country's electricity requirements, which equals more than half of the electricity generated on the African continent

is self-financing and run on strictly business principles for the benefit of its customers

sells approximately 42% of its electricity to local authorities which resell it to end-users

supplies power directly to most mines and many large industries

supplies directly to communities, small businesses and households, a service which continues to grow at more than 300 000 connections per year

operates a total network of 255 745 kilometres of power lines

has 25 426 kilometres of high-voltage transmission lines, which span the entire country, and exports power to all neighbouring countries

supports the development of a regional transmission grid to encourage cooperation and accelerate economic growth in southern Africa

supports employment equity and encourages employees to develop their potential through training

sees itself as a responsible corporate citizen and

is working towards environmental sustainability and socio-economic improvement

ELEKTROSERVE
ESKOM PROFESSIONAL ADVICE FOR COMMERCIAL SERVICES

ELEKTROWISE
ESKOM ELECTRICITY ADVICE FOR THE HOME

INDUSTRELEK
ESKOM AN ADVISORY SERVICE FOR INDUSTRY

AGRELEK
ESKOM AN ADVISORY SERVICE FOR AGRICULTURE

STATISTICS

	1996	1995	Change 1995–96 %	Average yearly change 1992–96 %
FINANCIAL/BUSINESS PERFORMANCE INDICATORS				
FINANCIAL				
Revenue, Rm	**18 687**	17 114	9,2	9,8
Net income, Rm	**3 072**	2 716	13,1	25,5
Property, plant and equipment in commission, Rm	**58 007**	51 686	12,2	7,7
Works under construction, Rm[1]	**6 395**	7 051	(9,3)	11,8
Net expenditure on property, plant and equipment, Rm	**5 364**	5 168	3,8	12,2
Net interest-bearing debt, Rm	**27 298**	27 278	0,1	0,0
Average price per kWh sold, cents	**11,30**	11,15	1,4	6,0
Average total cost per kWh sold, cents	**9,46**	9,40	0,6	4,1
BUSINESS EFFICIENCY				
Return on total assets, %	**11,7**	11,5		
Real return on total assets, %	**3,9**	3,8		

1 Includes construction materials.

	1996	1995	Change 1995–96 %	Average yearly change 1992–96 %
TECHNICAL/BUSINESS PERFORMANCE INDICATORS				
OPERATIONS				
Total electricity sold, GWh[2]	**165 370**	153 547	7,7	3,6
Coal burnt in power stations, Mt	**85,4**	79,4	7,6	3,9
Water consumed by power stations, M^3	**215 199**	214 329	0,4	(2,0)
Peak demand on integrated system, MW	**27 967**	25 133	11,3	4,6
	(24 July)	(18 July)		
ASSETS IN COMMISSION AT 31 DECEMBER				
Nominal capacity, MW	**38 497**	37 840	1,7	0,1
Net maximum capacity, MW	**36 563**	35 951	1,7	0,2
Power lines (all voltages), km	**255 745**	241 802	5,8	2,4
OTHER KEY STATISTICS				
STAFF EMPLOYED				
at 31 December, number[3]	**39 857**[4]	39 952	(0,2)	(3,1)
CUSTOMERS				
at 31 December, number (million)	**1,877**	1,568	19,7	46,5

2 Includes internal sales of 281 GWh.

3 Excludes employees of subsidiary companies.

4 Includes 398 employees taken over from Venda Electricity Corporation.

COUNCIL

DR J B MAREE OMSG SSAS (72)[AC]
Chairman
DCom (Honoris causa) (Stell), BCom (Witwatersrand)
Chairman of Nedcor Group, Nedcor Bank Limited and UAL Merchant Bank Limited. Director of the Development Bank of Southern Africa.
Appointed to the Electricity Council in 1985.

A B DICKMAN (66)[CD]
BCom (Hons) (Witwatersrand), FIBSA
Economic consultant. Director of UAL Merchant Bank Limited.
Representing the South African Chamber of Business (SACOB).
Appointed to the Electricity Council in 1985.

K J HLONGWANE (58)[C]
BA (ICI University, Texas, USA)
President of National African Federated Chamber of Commerce and Industry (NAFCOC).
Representing black business.
Appointed to the Electricity Council in 1995.

S IMMELMAN (58)[B]
BCom (Cape Town)
Chairman of Cape Joint Pension Fund. Vice-chairman of Housing Board Northern Cape and Northern Cape Local Government Association.
Representing United Municipal Executive.
Appointed to the Electricity Council in 1993.

PROF I J LAMBRECHTS (54)[EF]
DCom (Stell), MBA (Stell)
Professor of Business Management at the University of Stellenbosch. Chairman of Subcommittee for Energy of the Afrikaanse Handelsinstituut (AHI). Member of the Board of the National Electricity Regulator (NER).
Representing AHI.
Appointed to the Electricity Council in 1985.

MRS N MAJIJA (62)[EF]
Teaching diploma (St Matthew's College)
Member of South African National Civics Organisation (SANCO) Committee (Transkei Region) and of Transkei Rural Development Forum.
Representing consumers.
Appointed to the Electricity Council in 1993.

G MANTASHE (42)[EF]
Advanced diploma in Accounting
Assistant general secretary of National Union of Mineworkers (NUM).
Representing organised labour.
Appointed to the Electricity Council in 1993.

L J MNGOMEZULU (30)[A]
Representing South African National Civics Organisation (SANCO).
Appointed to the Electricity Council in 1995.

A J MORGAN (49)[ABCDEF]
Pr Eng, BSc, BEng (Elec) (Stell)
Chief executive of Eskom and chairman of the Management Board. Director of Atomic Energy Corporation and chairman of the South African National Committee of the World Energy Council.
Appointed to the Electricity Council in 1994.

D B MOSTERT (59)[EF]
BSc, BEng (Mech) (Stell), MBA (PUCHE)
Representing the Steel and Engineering Industries Federation of South Africa (SEIFSA).
Appointed to the Electricity Council in 1990.

MRS J N SEROKE (63)[A]
BA (Rhodes)
Trustee of the Women's Development Foundation.
Representing consumers.
Appointed to the Electricity Council in 1995.

C G VAN VEIJEREN (62)[D]
BSc (Agric) (Pret)
Chairman of the Agricultural Cooperative Business Chamber and Citrus Board. Director of Outspan International.
Representing South African Agricultural Union (SAAU).
Appointed to the Electricity Council in 1993.

Information provided as at 31 December 1996.

A C VAN WYK (37)[B]

BIuris (Unisa), NDA (RAU)
Deputy general secretary: Labour Relations (Mineworkers' Union).
Representing organised labour.
Appointed to the Electricity Council in 1995.

DR G P N VENTER (53)[D]

DSc (Pret)
Director general of Department of Mineral and Energy Affairs.
Deputy chairman of National Air Pollution Advisory Committee of Minister of Environmental Affairs.
Director of Atomic Energy Corporation and CEF (Pty) Limited.
Representing the Department of Mineral and Energy Affairs.
Appointed to the Electricity Council in 1992.

H WHITEHEAD (52)[B]

Pr Eng, BSc (Eng) (Natal), MBL (Unisa), FSAIEE
Executive director of Durban Electricity.
Representing the Association of Municipal Electricity Undertakings (Southern Africa) (AMEU).
Appointed to the Electricity Council in 1994.

A ON COMMUNITY DEVELOPMENT COMMITTEE
B ON TENDER COMMITTEE
C ON PERSONNEL COMMITTEE
D ON TARIFFS AND MARKETING COMMITTEE
E ON FINANCE COMMITTEE
F ON AUDIT COMMITTEE

MEMBERS RETIRED/ RESIGNED DURING 1996

DR E CALITZ (47)

DCom (Stell)
Director general of Department of Finance. Alternate governor to the International Monetary Fund.
Previously represented the Department of Finance.
Appointed to the Electricity Council in 1994.

P M DANTJIE (36)

Deputy general secretary of National Union of Metalworkers of South Africa.
Previously represented organised labour.
Appointed to the Electricity Council in 1995.

C C W KRUGER (48)

BCom (Hons) (Unisa)
Chief director: Financial Planning (Department of Finance). Director of Mossgas (Pty) Limited, CEF (Pty) Limited and SSF (Pty) Limited.
Previously alternate member to Dr E Calitz, who represented the Department of Finance.
Appointed to the Electricity Council as alternate member in 1995.

S C MOTAU (52)

MA (Journalism) (Univ of California, Berkeley, USA)
Previously Transnet general manager: Corporate Affairs.
Previously represented Transnet.
Appointed to the Electricity Council in 1995.

ESKOM'S SECRETARIAT

Megawatt Park
PO Box 1091
Johannesburg 2000
South Africa

PORTFOLIOS

CHIEF EXECUTIVE

A J Morgan (49)

Pr Eng, BSc, BEng (Elec) (Stell)
Chief executive of Eskom and chairman of the Management Board.
Joined Eskom in 1971.
Appointed to the Management Board in 1992.

Corporate audit
Corporate investigations
Electricity Council and Management Board Secretariat
Corporate business processes and controls

Generation

B T Crookes (47)

Pr Eng, BCom (Hons) (Unisa), N Dip T (Eng) (Mech)
Executive director: Generation.
Joined Eskom in 1969.
Appointed to the Management Board in 1991.

Power station operations
Fuel and water management
Generation technology
Project management

Transmission

P A Faling (48)

Pr Eng, BSc (Eng) (Mech) (Pret)
Executive director: Transmission.
Joined Eskom in 1981.
Appointed to the Management Board in 1993.

Trading and broking of bulk electricity
Transmission network capability
Maintenance, refurbishment and expansion of electricity and telecommunications network
Transmission network operations

Distribution

L J Messerschmidt (52)

Pr Eng, BSc (Eng) (Mech) (Pret), MBL (Unisa)
Executive director: Distribution.
Joined Eskom in 1967.
Appointed to the Management Board in 1990.

Customer management
Sales and customer service
Distribution business services

Finance

Dr W J Kok (45)

DCom (RAU)
Executive director: Finance.
Seconded to Eskom in 1988; joined permanent staff in 1989.
Appointed to the Management Board in 1993.

Treasury
Financial planning
Corporate finance
Corporate risk services
Corporate financial management
Eskom Finance Company

Marketing

M S Mosikili (51)

BA (UNIN), Dip Mktg (IMM), PMD (Harvard), Dip Mktg Strategy (Stanford)
Executive director: Marketing.
Joined Eskom in 1991.
Appointed to the Management Board in 1994.

Marketing strategy and implementation
Electricity pricing
Business and market development

Electrification

R S Dabengwa (38)

BSc (Hons) (Eng) (Zimbabwe), MBA (Witwatersrand)
Executive director: Electrification.
Joined Eskom in 1992.
Appointed to the Management Board in 1994.

Electrification
Distribution engineering

Technology

J A de Beer (46)

Pr Eng, BSc (Eng) (Pret), MBL (Unisa), AMP (Harvard)
Executive director: Technology.
Joined Eskom in 1978.
Appointed to the Management Board in 1993.

Research
Technology applications
Nuclear safety
Environmental management
Technical resources
Technical audit

Human resources

B A Khumalo (44)

MA (Communication) (Fairfield), AEP (Unisa)
Executive director: Human resources.
Joined Eskom in 1991.
Appointed to the Management Board in 1994.

Human resources leadership
Human resources centralised services
Organisational development
Human resources development
Industrial relations
Remuneration and benefits

Growth and development

Mrs D D Mokgatle (40)

LLB (Witwatersrand), BProc (UNIN), H Dip Tax Law (Witwatersrand)
Executive director: Growth and development.
Joined Eskom in 1991.
Appointed to the Management Board in 1996.

Corporate strategy
Public affairs
Communication
RDP coordination
Eskom International
Legal services

Services

V T L Ngubeni (41)

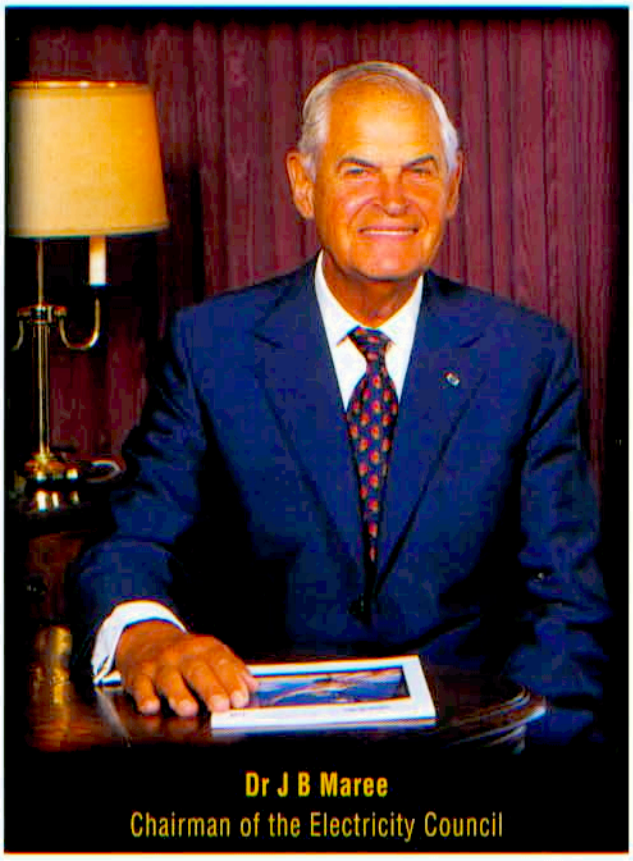
BA Admin (Botswana and Swaziland)
Executive director: Services.
Joined Eskom in 1993.
Appointed to the Management Board in 1995.

Information management
Properties
Consulting services
Business services
Commercial resource management

RESIGNED DURING 1996

Mrs D N M Mokhobo (48)
Previously executive director: Growth and development. Joined Eskom in 1992. Appointed to the Management Board in 1995. Resigned on 30 November 1996.

Information provided as at 31 December 1996.



Dr J B Maree
Chairman of the Electricity Council

introduction

We had a good year and successfully managed the business against a background of continuing change in the industry and in our country.

Financial performance has been satisfactory with a sales growth of 7,8%[1], a revenue growth of 9,2% and a real return on assets of 3,9%. The balance sheet continued to strengthen with the debt-equity ratio improving to 1,25 compared to 1,45 in 1995. As a result of forward planning the impact of the decline in the rand was minimised. The organisation performed very well with all operational indicators being satisfactory and some outstanding technical achievements, particularly in the area of plant performance.

world's lowest-cost producer

Eskom continues to benchmark itself against other utilities worldwide and for a long period it has been Eskom's goal to become the world's lowest-cost producer of electricity. Business efficiency has improved year by year and has allowed a steady reduction in the real price of electricity, which today is 67% of the 1985 price.

In the light of the immense efforts it required, it is of great satisfaction to all at Eskom that the latest international surveys indicate that South Africans now enjoy the cheapest electricity in the world.

improving quality of life

During the year, 307 047 homes were electrified. We are currently electrifying a thousand homes every day, changing the lives of five thousand South Africans in the previously disadvantaged sections of the community. Electricity brings them an improved quality of life, the means to participate in the economy and to become part of the technical world.

improving technical performance

The three core businesses, Generation, Transmission and Distribution, are all upgrading technical performance. They also have in place long-term maintenance and refurbishment programmes, designed to optimise the life of existing plant.

At the request of the National Electricity Regulator (NER), two working groups, comprising representatives of Eskom and municipal supply undertakings, worked under the auspices of the National Rationalisation of Standards Project to prepare national standards for the quality of supply and quality of service to end-use electricity customers. After extensive consultation with customers, the NER adopted the *Quality of Supply Standards* in November 1996 for phased implementation from 31 January 1997. These represent a world first in the adoption of a set of national standards for the regulation of an electricity supply industry.

people – a key resource

Human resources, in terms of skills, motivation and job satisfaction, are of course key to our ongoing success. The organisation needs to constantly change and adapt to be reflective of the wider environment. This is particularly so in regard to employment opportunities

1 Excludes internal sales.

and gender and employment equity. Increasing democratisation of the workplace remains a strong business imperative. Equally important is the need to maintain stability and balance. In all these areas Eskom has performed well and in many instances has been a leader in making changes.

The new Labour Relations Amendment Act and the proposed employment equity legislation will directly affect the way in which the organisation is managed. Because Eskom has for some time been positioning itself to remain aligned with changes taking place in the country, it is anticipated that the new legislation will have a minimal effect on operations.

services payments and non-technical losses

As a result of a great deal of management attention there is an encouraging trend of improved payment in many areas. Non-payment for services, however, remains a concern for Eskom.

Non-technical losses, some of which have their origins in increasing white-collar and other crime, is an area of increased management focus. In order to limit the perturbing increase in the crime rate, Eskom has put its weight behind a number of very positive initiatives involving business and the security and law enforcement agencies. During the year, a full-scale campaign to increase awareness of ethical business behaviour has been instituted throughout the organisation.

governance of eskom

Amendments, which dealt with the Electricity Council, were made to the Eskom Act during 1995. At the beginning of March, the Minister for Public Enterprises reconstituted the Council in terms of the 1995 legislation.

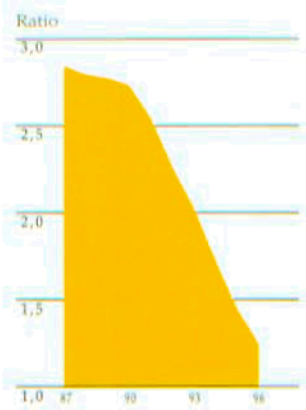
Business efficiency has improved year by year and the real price of electricity today is 67% of the 1985 price.

Government is giving consideration to the future structure and governance of Eskom as well as to whether it should become a tax and dividend paying entity. In determining Eskom's tax regime, Government would clearly have to give consideration to the treatment of the cost of Eskom's electrification programme.

A stable management team has been maintained which remains focused on the achievement of the organisation's goals. Equitable conditions of service and benefits, including a strong and viable independent pension fund, increasing transparency and a constructive approach to labour and work issues, have all contributed to this same stability throughout the organisation.

The pressures resulting from the decision of the Government to restructure state assets and the debates around privatisation absorbed executive time and attention and continue to have an influence on the management of the organisation. Government is moving at a measured pace to put policy in place. There are a number of issues which need to be settled before clarity is obtained about the structure of Eskom itself and the electricity industry as a whole. It would be in the organisation's interests if matters are decided and settled as soon as possible.

Debt : equity



regulation

In 1996, Eskom continued to cooperate and to maintain a healthy relationship with the National Electricity Regulator (NER). During 1995, the NER issued three separate electricity supply licences to Eskom's Generation, Transmission and Distribution businesses, in accordance with the Electricity Act, 1987. Each licence specifies the duties of the licensee, the terms of the licence and the conditions of supply to be met. A requirement of the supply licence is that separate financial information be prepared for each business. With effect from 1 January 1996, Eskom implemented a financial framework that will enable this to take place. The ability to allocate costs more exactly will enable Eskom to manage and control these entities more effectively.

the electricity supply industry

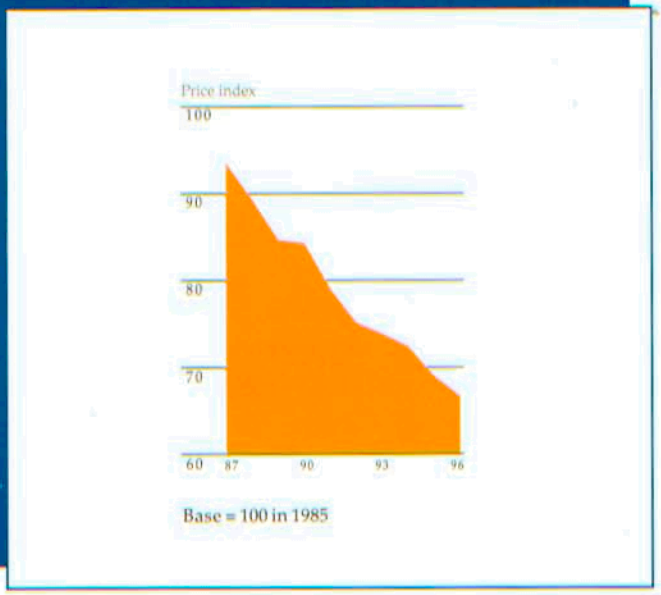
Discussions surrounding the restructuring and transformation of the electricity supply industry (ESI) continue. The Electricity Working Group which was constituted by the Department of Mineral and Energy Affairs, in conjunction with the NER, has submitted its report to Government. The report contained recommendations regarding the shape of the future ESI.

The key recommendations are that the entire electricity industry should move to cost-reflective tariffs, with separate transparent taxes to fund electrification and local authority services, and that the distribution industry be consolidated into a limited number of independent, financially viable regional distributors.

The Government's decision regarding the nature, size and the number of distributors has to take account of financial and infrastructural capabilities of the local authorities, which constitute the bulk of the more than 400 existing redistributors. There will undoubtedly be a limited number of distributors in the future, but the exact number and nature of these have yet to be finalised. The great challenge of the future will clearly be the management of a smooth transition to a smaller number of distributors.

Eskom is committed to maintaining a positive and stable working relationship with all of its customers. It continues to work closely with bulk suppliers, municipalities, large and small customers so as to limit the impact on them of the turbulence resulting from change.

Real average price per kWh
Deflated by consumer price index



international relations

To ensure adequate generation capacity in the longer term, for the benefit of the region as a whole, and to actively manage resources, Eskom continues to have constructive dialogue with the other countries in the southern African region.

The members of the Southern African Power Pool continue to develop mutually acceptable legal and regulatory standards. A number of possible future joint ventures and other power supply initiatives are being investigated at utility level.

Progress on the rehabilitation of the high-voltage direct-current lines between South Africa and Cahora Bassa has proceeded according to schedule, and it is expected that power will flow from this source into the South African grid by the middle of 1997.

The opening up of Mozambique led to the proposal that a large aluminium smelter be erected in that

country. Eskom has been invited to play a significant role in the provision of electricity and the matter is currently under negotiation. If concluded, this project will be of significant benefit to Mozambique and further encourage cooperation in the whole region.

The South African and Mozambican governments have entered into an agreement to develop a so-called "Maputo corridor". This should stimulate many new economic activities, as well as the transport of goods between the port of Maputo and Gauteng. The development of the Maputo corridor is a national priority and Eskom is participating actively in this exciting project.

outlook

Our future success depends on Government creating a positive environment within which business can operate, on business leaders building world-class companies that are able to compete internationally, and on Government and business working closely together in pursuit of the common goal of a strong economy.

Government has spelled out its macro-economic strategy and is now in the process of implementation. Considerable strides have been made in putting policy into place and it is anticipated that this will continue at an accelerated pace in the coming year. An environment is being created within which both public and private sector organisations can concentrate on their task of using resources effectively, being efficient, competitive and creating wealth.

I am sure that business will fully avail itself of the new opportunities that will arise and that 1997 will be a year of solid progress. I also remain completely confident that we have the leadership in Government and in business that will work together to build a vibrant economy.

appreciation

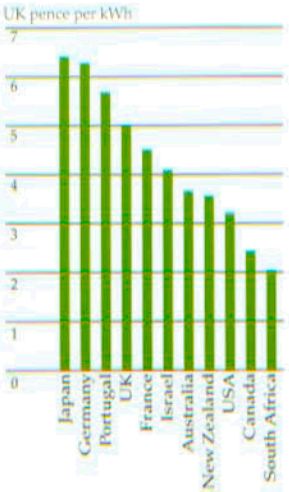
This being my last Chairman's Statement, I wish to express my appreciation to the members of the Electricity Council, members of the Management Board and members of staff for their commitment to create an efficient organisation which is respected internationally for its standards of performance and which makes a major contribution to the progress of our country and its people.

To have been Chairman of Eskom has been a great privilege. It has been enriching to be associated with competent Ministers, wise and experienced Council members, dedicated and clever executives and loyal supportive employees. In particular, it has been a great pleasure to work with Allen Morgan. He is a very professional and focused chief executive who, at the same time, is sensitive to the changes taking place in the Eskom environment.

Mr Reuel Khoza, the new chairman of Eskom, will bring new perspectives to the organisation and I am convinced that with his leadership, the inputs of the new Council and Allen Morgan's strong management team, Eskom will continue to contribute to the building of a successful South Africa.

John Maree
6 March 1997

World industrial electricity prices from a representative utility in each country



Price per kWh*, including local taxes but excluding recoverable VAT, from a representative utility in each country for a typical 2,5 MW, 40% load factor supply, as at 1 January 1996. Relative purchasing power of the respective currencies is not reflected in these values.
* Converted, using 2 December 1996 exchange rates, to UK pence per kilowatt-hour.
Source: Extract from *© Electricity Association Services Limited, International Electricity Prices – Issue 24.*

Allen Morgan
Chief Executive

introduction

Highlights

Eskom had a year of very satisfactory financial and technical results, maintaining its position as one of the leading utilities worldwide. The high sales growth of 7,8%[1] was particularly pleasing in an environment of radical and dynamic change. Net income increased from R2 716 million to R3 072 million, which represents a 13,1% increase.

The business recorded a significant improvement of 3,1% in bottom-line productivity performance for the year, which created wealth of R488 million during 1996.

Generation deserves special mention, with plant performance exceeding all expectations. Generation had set itself the goal of a unit capability factor of 90% by the year 2000 and had already accomplished this in 1996. This enhanced performance is currently valued at nearly R12 billion through the deferral of approximately 3 600 MW of new capacity.

Also, Matimba power station set a new world record for continuous performance of a coal-fired plant when it achieved 80 days of continuous running of all six units. The previous world record of 73 days was held by Duvha.

Electrification continued to go from strength to strength, with 7 047 more connections than target being made during the year. This represents an improved quality of life for millions more South Africans.

Real growth in the demand for electricity in certain load centres in South Africa is driving the need to expand and strengthen the transmission system within our borders. The growth in international sales has given additional impetus to the initiatives already in place to strengthen and develop the southern African grid. Eskom will continue to work with the members of the Southern African Power Pool (SAPP) to ensure that electricity becomes more readily available to all the people of the region.

Compacts – how has Eskom performed?

Eskom had made two separate compacts with its customers. In 1991, the organisation committed itself to reducing the real price of electricity by 20% between 1992 and 1996. Eskom's actual price reduction achieved over this period amounts to 16,8% in real terms. Considering the changes the country has undergone, Eskom's huge contribution to electrification and the problems of arrear debts, this can still be regarded as a major achievement.

In 1994, Eskom entered into a second compact that committed to reduce the real price of electricity by 15% by the year 2000. Provided no major restructuring of Eskom takes place, we are well on track to achieve this undertaking.

Eskom is determined to maintain its vision of being the world's lowest-cost producer of electricity, generating significant benefits to the South African

1 Excludes internal sales.

economy and making electricity affordable to a larger number of people. In addition, reductions in the real price of electricity can provide a major boost to the international competitiveness of energy-intensive companies based in South Africa.

For the first time in years, coal suppliers to certain power stations delivered short of requirements, resulting in considerable additional expense to Eskom. The prognosis for improvement in the performance of two Amcoal collieries is of concern and this supplier has been requested to remedy the situation as soon as possible.

Environment in which Eskom performed

During the year we have concentrated on maintaining business as usual and have pushed ahead with the drive to ensure improved efficiencies and performance in all areas of the business. In addition, there has been the need to mentally prepare, top management and the whole organisation, for the possibility of fairly radical, but as yet unspecified, changes. I am pleased to say that Eskom people have rallied to the challenges and performance generally has been very good.

Internal structural changes

As part of ongoing efforts to run the business as efficiently as possible and to remain reflective of the wider environment, an exercise to look at regrouping of functions was undertaken during the year. This sought to identify skills and processes throughout the organisation and to look at how best to redistribute these in the event of various future scenarios.

Eskom endorses Cape Town 2004 Bid

Eskom is endorsing the Cape Town 2004 Olympic Bid with a sponsorship to the value of R2,5 million in services and in kind, believing that there would be positive spin-offs for both the electricity industry and the spirit of reconciliation and development in the country.

1 Excludes internal sales.

financial management

Financial policy

Eskom, being a utility, continues to apply a financial policy of recovering the real cost of supplying electricity to customers each year and earning an appropriate real return on assets. This ensures that financial viability is maintained. The annual price increase is determined by the cost of supply, future requirements for expansion and the need, if any, to adjust the financial position. The strategy also ensures that price changes are gradual, predictable and stable. The preparation of current value financial statements demonstrates Eskom's use of current value accounting techniques to achieve this policy, which is important considering the long-term nature and asset intensity of the business.

Eskom is determined to maintain its vision of being the world's lowest-cost producer of electricity.

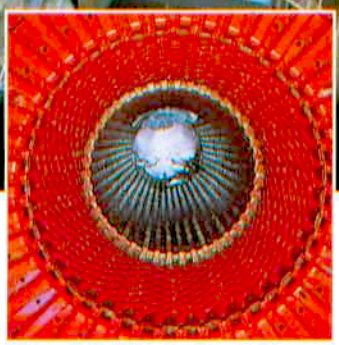
Financial performance

Together with the tariff increase of 4% and a sales increase of 7,8%[1], revenue increased by 9,2% to R18 687 million (1995: R17 114 million). Revenue received from commodity-linked agreements, although making a positive contribution, was negatively impacted by about R500 million during 1996, mainly due to low ferrochrome prices.

The increase in the sales growth from 2,8% in 1995 to 7,8% in 1996 was largely as a result of the commissioning of the new Alusaf Hillside plant, together with the large increase in demand for Eskom electricity supplies by countries in the subregion.

Operating expenditure increased by 9,8% to R12 421 million (1995: R11 315 million). Provisions were made for the cost of decommissioning power stations and the management of nuclear waste of R225 million (1995: R247 million), as well as R164 million (1995: R151 million) for post-retirement

GENERATION



Symbols of excellence. Matimba, largest direct dry-cooled coal-fired power station in the world. Some of the team which helped to run all six units for 80 days. Stator at Kendal power station. Turbine hall at Cahora Bassa. Eskom received the electricity industry's highest award, the Edison Award, for its contribution to electrification. The World Wide Fund for Nature award for environmental reporting.

medical benefits. Net operating expenditure was reduced by R236 million through the profit made on the disposal of the investment in Alusaf.

Net interest and finance charges on net interest-bearing debt increased by 3,6% to R3 194 million (1995: R3 083 million). This was mainly due to the increase in the average rate of interest on net interest-bearing debt. Net interest and finance charges were covered 2,0 times (1995: 1,9 times) by net operating income and 2,8 times (1995: 3,1 times) by cash from operating activities.

Net income increased by 13,1% to R3 072 million (1995: R2 716 million). Net income on a current value basis was R545 million (1995: R444 million). The real rate of return was 3,9% (1995: 3,8%). This rate is considered adequate taking into account the expected long-term growth rate, current and future risks to which Eskom is exposed and the stated objectives of improving the debt-equity ratio.

Net cash generated by the business amounted to R1 109 million (1995: R1 366 million) before funding activities.

Productivity gains

Improving its overall productivity performance for the benefit of all stakeholders continues to be a priority area for Eskom. For the fourth consecutive year the business recorded significant productivity improvements. The 1996 results showed an improvement of 3,1% during the year which saved the business, in financial terms, R488 million.

A significant portion of this improvement was passed on to customers through deflationary electricity price increases. This is reflected in a price underrecovery for the year of R382 million.

Results in the core business were especially favourable during the year when compared to 1995. Core business productivity improvements amounted to 4,2% (R594 million), a major portion of the gain being capacity driven, with a small contribution from improvements in operational efficiencies.

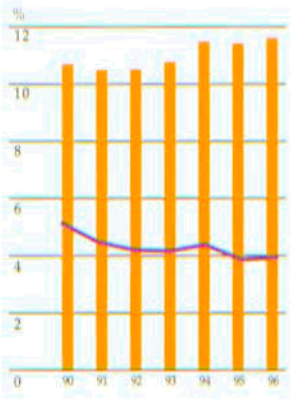
Core business performance excludes the impact of electrification, local authority and the so-called TBVC[1] electricity operations takeovers and abnormal items on the business. Because productivity is a long-term issue, it is important to look at trends. Over the past nine years the core business has registered an average productivity improvement of 2,3% per annum, which has contributed significantly to reducing the real price of electricity for the customer, as well as assisting the funding of electrification.

financial and treasury management

Financial risk management

Eskom's business operations give rise to certain exposures to the financial market which, if left unmanaged, could undermine its financial policy of stable and predictable electricity price increases to its customers. These risks are all reported into, and managed from, a central treasury operation, which has the principal objective of shielding the organisation's business activities from the volatility of the financial markets.

Return on total assets



1 Transkei, Bophuthatswana, Venda and Ciskei.

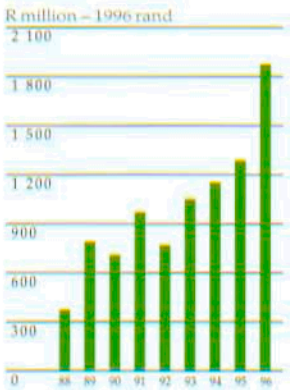
This is achieved through the implementation of proactive risk management strategies within clearly defined risk parameters and authorities, as delegated by the Electricity Council. Regular report-back of activities and results to the Electricity Council and the Management Board is complied with, as required by the G-30[1] report on international best practice.

Further adherence to the G-30 requirements is evidenced in the formal split of responsibility and reporting lines between assessment and reporting of risk on the one hand, and the management of such risk on the other. Heavy reliance is placed on the quantitative analysis of risk, such as value at risk as well as the independence and objectivity of the risk assessment function.

1996 funding

The increased funding requirement of R3 297 million was due partly to lower than expected sales revenue, but also to an increased cash requirement by subsidiary and associate companies.

Productivity improvement for all resources



Cumulative saving R9,1 billion. Represents the value of cumulative savings arising from productivity improvements since 1988.

Following its successful debut Samurai Bond Issue in October 1995, Eskom returned to this sector in April 1996 by issuing a Yen 15 billion five-year bond at a more favourable rate.

Eskom also concluded an ECU56 million Transmission Loan Facility of R425 million with the European Investment Bank, of which R100 million was utilised in 1996. This was in addition to a second drawdown to the value of R425 million from the Japan Export Import Bank (JEXIM) facility.

1997 funding

The projected 1997 Eskom funding requirement amounts to R2 200 million. Funding required by subsidiary and associate companies of R1 200 million results in an overall requirement of R3 400 million. It is envisaged that the funding would be arranged in accordance with the following plan:

Funding plan

	1996		1997
	Actual Rm	Planned Rm	Planned Rm
Eskom	2 231	1 340	2 200
Domestic market	327	170	805
Money market	135	–	–
Project finance	192	–	300
Capital market	–	170	505
Foreign market	1 904	1 170	1 395
Project finance	489	380	525
Bond issues	1 341	720	600
Export credits	74	70	40
Bank loans	–	–	230
Subsidiary and associate companies	1 066	960	1 200
Domestic money market	1 066	960	1 200
	3 297	2 300	3 400

1 Top thirty leading international bankers in the world.

Some R655 million of the total foreign requirement has been pre-funded. Proceeds from the recently concluded Club[1] facility (R230 million) and the final drawdown from the JEXIM facility (R425 million) were utilised for this purpose. The remaining R105 million represents anticipated drawdowns in terms of foreign export credit facilities (R5 million) and the European Investment Bank Transmission Loan Facility (R100 million). A partial re-financing of a DM300 million bond issue, maturing in 1997, is planned.

An amount of R300 million, representing the domestic project finance allocation, would be drawn from facilities provided by the Development Bank of Southern Africa in terms of specified electrification projects.

generation

Generation plant performance and status

Generation Group had an outstanding year with plant performance. The goal of a unit capability factor (UCF) of 90% by the year 2000 was achieved this year, placing Eskom's performance in the best quartile of the UNIPEDE[2] member countries. This is the first time ever that Eskom has achieved a UCF of 90%. This outstanding plant performance meant that we were able to meet the unexpectedly high peak demand of 27 967 MW without difficulty being experienced by our customers.

Duhva power station set a new world record (previously held by Kendal) for continuous performance of a coal-fired plant, when it achieved 73 days of continuous running of all six units. This record was in turn overtaken by Matimba a short time later with a record of 80 days.

fuel and energy management

Coal burnt

The average cost of coal burnt during 1996 rose by 9,6% from R31,99 per ton to R35,05 per ton.

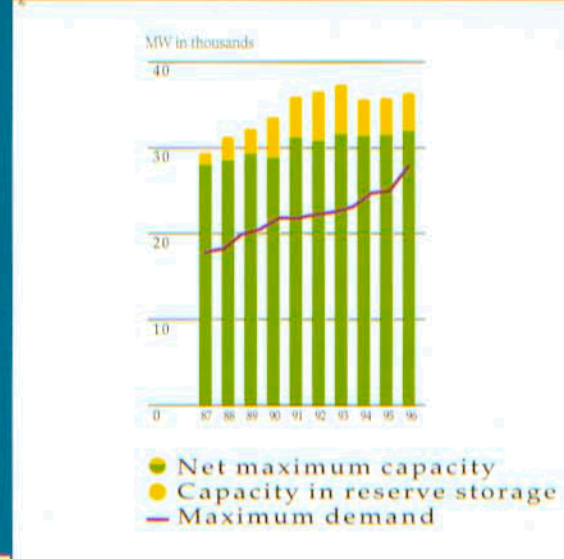
Coal bought

In 1996, Eskom bought 83,2 million tons of coal, 3,1% more than in 1995, at a cost of R35,66 per ton – an increase of R3,40 (10,5%) per ton over 1995.

Performance of coal suppliers

These costs and quantities were achieved despite production problems at various underground operations, namely Kriel, Khutala and, significantly, the New Denmark underground colliery, together with serious flooding of open pits due to the exceptionally heavy rainfall from February to April. For the first time in years, coal supplies to certain power stations fell short of requirements. This forced Eskom to transfer coal between stations, to buy extraneous spot coal and to load its power stations out of merit order. These actions resulted in considerable expense for Eskom. Most collieries, with the exception of New Denmark and Kriel, have now recovered their designed production capacity. Amcoal has been requested to address the full implications of under-performance of its collieries on an urgent basis.

Generation plant capacity and maximum demand



1 *Club invitation restricted to a limited number of banks.*
2 *International Union of Producers and Distributors of Electrical Energy (the international organisation representing the electricity supply industry).*

TRANSMISSION

Suspended as if in a giant spider's web are the men who work the wires. High-voltage transmission lines span the continent carrying electricity from the generating source to the customer. Construction and live-line maintenance are just two of the multitudinous tasks which keep the grid functioning year after year. Insulators and the nuts and bolts of the business.

A critical area requiring attention is the high rate of loss of skilled mining personnel, particularly from underground mining operations. The containment of primary energy costs is heavily dependent on the availability of competent personnel for coal production, and Eskom has requested the suppliers to give the matter their urgent attention.

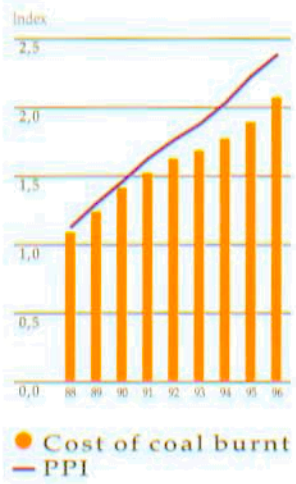
Coal supplies to Majuba

The rail link for supplying coal to Majuba power station from various sources was successfully commissioned during the year.

Gas

Natural gas exploration in Mozambique and Namibia continues and Eskom is keeping abreast of these developments. Initial indications are that, in the South African context, gas may not be an economical competitor to coal for a number of years yet. The quantities of gas discovered are small, relative to Eskom's base-load needs.

Cost of coal burnt versus production price index (PPI)



Nuclear

Following the closure of the nuclear fuel fabrication plant at the Atomic Energy Corporation, the Government has received joint recommendations from stakeholders, which will allow Eskom greater commercial freedom in procuring nuclear fuel. This will enable Eskom to significantly reduce the electricity generating costs at Koeberg nuclear power station in the future. Final approval of these recommendations is awaited from Government and preliminary negotiations with new suppliers are progressing well in anticipation of that approval.

In accordance with the above recommendations to Government, Eskom has entered into a contract to equip the spent fuel pools at Koeberg with super-high-density racks, subject to obtaining the necessary licences from the Council for Nuclear Safety. These racks will allow Koeberg to store up to 40 years' output of spent fuel in its existing pools.

The safety of Koeberg is seen to be in line with that of comparable stations overseas, with emphasis on continual improvement.

Water supply

Above-normal rainfall during the 1995-96 rainy season ensured that more than adequate water supplies were available to Eskom power stations. The year was challenging, with Eskom supporting and participating in the process of the re-drafting of the Water Act, Act No 54 of 1956. Against a background of South Africa fast approaching the status of a water-constrained country, competition for water is increasing. The tariff applicable to water from the Vaal River system has consequently increased at a rate above inflation and this trend is destined to continue for the next few years. During 1996, Eskom's coal-fired power stations consumed 215 199 Mℓ (megalitres) of water from Government water schemes to produce 163 541 GWh (gigawatt-hours) of electricity. This compares favourably with 214 329 Mℓ consumed in 1995 to produce 151 730 GWh.

Hydro generation of electricity

Eskom continued its participation in the Orange River Re-planning Study and the Vaal Augmentation Planning Study with the Department of Water Affairs and Forestry (DWA&F). Apart from seeking to optimise water supply and utilisation on a national level, these studies also explore opportunities for the mutual development of new hydro and pumped storage schemes as well as the optimisation of existing hydro schemes. Support was also provided for initiatives with member countries of the SAPP to evaluate and promote the development of new hydro facilities. In addition, Eskom and the DWA&F are investigating the potential for micro and mini hydro generation in terms of rural electricity and water supply.

transmission

Transmission plant performance

The total number and severity of transmission interruptions during 1996 showed an improvement on the previous two years. The number of low-frequency incidents (less than 49,7 hertz) also improved.

1996 Transmission system expansion

An extensive expansion programme was tackled during 1996, with over R600 million of new assets being placed into commercial operation. The map on page 75 shows the main areas where new plant has been put into service.

Exporting of power

Eskom has export contracts with Zimbabwe, Botswana, Mozambique and Namibia. The total energy exported during 1996 amounted to 4 441 GWh as compared with 1 832 GWh in 1995. While the total energy exported to all neighbouring countries amounted to 5 554 GWh (1995: 2 986 GWh), this includes energy exported to Lesotho and Swaziland, which are not direct transmission customers.

The Matimba-Bulawayo line has been in service for a full year and, in spite of some difficulties, has provided valuable support to Zimbabwe. The tie-in from this line to BPC[1] is scheduled for completion by 1998.

New and ongoing transmission expansion projects

The expansion programme for 1997 is expected to approach R1 billion. This is made up of new lines (38,5%), substation extensions (24,8%), telecommunication extensions (18,9%), refurbishment work (12,7%) and other smaller projects (5,1%).

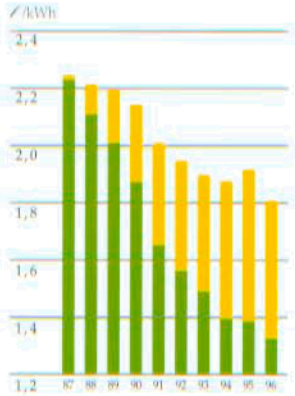
Southern African transmission grid development

One of the main reasons for expanding the transmission grid into southern Africa is to exchange energy and, ultimately, to stimulate development of the hydro generation sites in Mozambique, Angola and Zaire which could produce relatively cheap power.

Studies have been completed for a new 400 kV interconnection between the Northern Cape and

1 Botswana Power Corporation.

Specific water consumption of base-load plant



Namibia (420 km). As a further initiative a Zaire, Angola, Namibia and South Africa study is being undertaken by SNEL[1] (Zaire), ENE[2] (Angola), NamPower (Namibia) and Eskom (South Africa) to develop a transmission interconnection from Inga in Zaire via Angola and Namibia to South Africa.

Feasibility studies have been completed for the construction of two 400 kV lines, each 300 km long, from Arnot and Camden power stations to Maputo, to supply the proposed Mozal aluminium smelter at the harbour by June 1999.

Progress on Cahora Bassa

The reconstruction of the high-voltage DC line between Cahora Bassa and South Africa is progressing well, despite the difficulties and security problems that hindered the project in the early stages. Eskom and HCB[3] anticipate that Cahora Bassa will again supply South Africa and southern Mozambique from the middle of 1997.

Southern African Power Pool

The establishment of the SAPP[4] is seen as a significant step in creating a market for the buying and selling of electrical energy, with the objective of driving down the price of electricity. After the signing of the SAPP agreements in December 1995, SNEL of Zaire and ZESCO[5] of Zambia also joined the Pool in September 1996.

Other initiatives

During 1996, Eskom signed a contract with the Board of ZESCO to assist with the development of a marketing orientation, including a new corporate identity, marketing department and plan.

integrated electricity planning

Integrated electricity resource planning

Integrated Electricity Planning (IEP) is the process that selects from a full array of demand-side and supply-side options, that particular combination of actions, risks and investments which will ensure that electricity needs will be satisfied now and in the future and, in so doing, will achieve optimal value for the customer and be financially viable for Eskom.

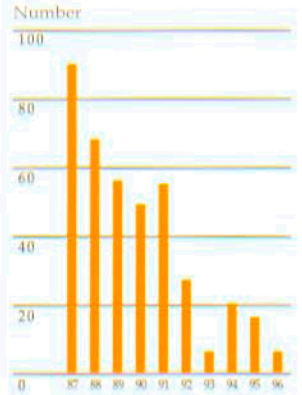
In 1996, Eskom completed its fifth revised integrated electricity plan (IEP5). The plan was shared with the National Electricity Regulator (NER) and approval was obtained from the Electricity Council to implement what is considered to be an effective combination of supply-side and demand-side initiatives as an alternative to the traditional power supply options.

The basis of IEP5 is an estimated overall growth rate in the demand for electricity of between 2,2% and 4,2% per annum in the medium term, with the longer term being in the order of 3% per annum.

Supply side

On the supply side, Eskom has decided not to commit new capacity or a new energy source until at least the end of 1997. This decision is supported by the undertaking of Eskom's generation business to improve

Low-frequency incidents
Below 49,7 hertz



Low frequency is an indicator of imbalance of instantaneous supply and demand due to unexpected unit trips and/or immediate shortages on the electrical system.

1 Société Nationale d'Electricite.
2 Empresa Nacional de Electricidade.
3 Hidroelectrica de Cahora Bassa.
4 Southern African Power Pool.
5 Zambia Electricity Supply Corporation Limited.

DISTRIBUTION

Motor cycle inspection of distribution lines in open country. Lines, substations, service – all links in the chain bringing electricity to customers. Small welding business. Spray painting shop. A newly electrified customer who was so pleased to receive electricity that he sculptured his home to resemble a cow, traditionally a symbol of wealth and happiness.

plant availability to 90% by the year 2000 which could considerably defer the need for additional plant.

In the interim, several supply-side initiatives are planned to ensure that, when new capacity is required, the most cost-effective options are implemented.

Demand side

On the demand side, Eskom strives to significantly improve customers' demand patterns by providing incentives to consume less energy over times of peak demand in favour of off-peak periods, coupled with encouragement to utilise electrical energy more efficiently.

Strategies that encourage customers to use electricity more efficiently not only conserve resources but will also result in lower power station emission levels with a corresponding environmental benefit.

Environment

Eskom entered into a partnership with the Endangered Wildlife Trust (EWT). This will enable Eskom to tap into EWT's extensive network and knowledge of wildlife management and, together with EWT, develop measures to mitigate and reduce the adverse impact that powerlines have on wildlife and sensitive ecosystems. This includes a programme employing advanced technology to study the flight and migratory behaviour of cranes and should ultimately contribute to their preservation.

Eskom is presently a major player in industry's collaborative effort to contribute to the Consultative National Environmental Policy Process (CONNEPP) Green Paper, which will lead to environmental policy legislation for sustainable development.

Internationally, close collaboration on environmental management was established with members of the SAPP as well as the respective electricity utilities, or so-called E-7, of the G-7 countries.

We were gratified that the 1995 Eskom Environmental Annual Report received recognition from the World Wide Fund for Nature (WWF) as the best report of its kind. A separate Environmental Report will again be published for 1996 in which full particulars of policies, management systems, socio-environmental programmes and performance are provided.

the distribution business

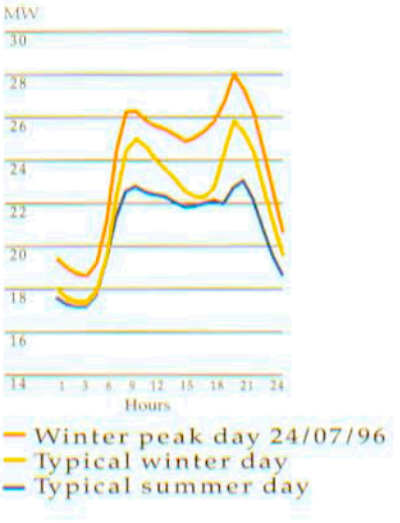
Electrification

During the year, 307 047 new electrification connections were made. Eskom's electrification programme increasingly moved into rural areas and the capital cost per connection was R3 417 against a target of R3 538. Of concern, however, is the fact that initial sales of electricity to these customers were on average only between 80 and 90 kWh per month, which is not sufficient for on-going viability. Actions are in hand to boost consumption.

Non-grid electrification of schools

Eskom has developed an ambitious programme aimed at the non-grid electrification of 16 400 rural schools by the year 2000. The programme is founded on photovoltaic

Electricity demand patterns



technology and has been expanded to incorporate community liaison skills, project management capabilities and training of locally based black contractors.

From the R56 million, allocated by the South African Government, 987 rural schools have already received stand-alone photovoltaic systems, since 1995, mainly to provide lighting. The programme also provides a TV set, video recorder and overhead projector to each school electrified.

Local authority bulk arrears

The Bulk Debt Agreement, a vehicle to encourage payment for current accounts and arrears since 1 July 1995, was offered to all municipalities with bulk debt accumulated prior to 30 June 1995. This agreement calls for bulk debt incurred prior to 30 June 1995 to be placed in a suspense account which will eventually be written off, provided that current accounts, plus arrears accumulated since 1 July 1995, are paid. This arrangement should enable the municipalities to improve their levels of service and payment, without being burdened by the debts of the past.

The level of payment in areas where Eskom supplies directly to some 300 000 customers in 150 previous black local authority areas, has also improved during the year. The countrywide average rand payment level in these areas is approaching 62%, a significant improvement from the 10-20% only three years ago. A solid improvement in this aspect of the business is foreseen over the next year.

Non-technical losses

Electricity theft through tampering and by-passing of meters remains a concern. However, the strategies implemented during 1996 started to show positive results during the last quarter of the year.

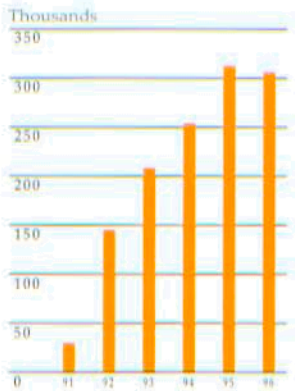
Financial position of local authorities

The deteriorating position of certain local authorities, largely as a result of the prolonged culture of non-payment for services, poses a major threat to Eskom. During 1996, however, Eskom succeeded in breaking the tendency of some local authorities to utilise bulk supplies as credit providers, by taking tough action against defaulters.

Future structure of distribution industry

Many issues will remain difficult or impossible to address until the future of the industry has been decided, including the levelling of the playing fields in the electricity supply industry (ESI), issues around reducing cross-subsidisation wherever possible, and making tariffs applicable to municipal redistributors cost-reflective. The NER has not yet seen its way clear to issue permanent licences for the distribution industry, nor has it used the licensing process to effect changes. In view of the non-viability of many municipal distributors, a way will have to be found to ensure the continuation of electricity distribution in the absence of any clear and early decisions regarding the structure of the industry.

Eskom electrification connections



Flexible pricing

The range of tariffs being offered has been further expanded by the promulgated time-of-use tariffs and interruptible pricing options. Customised pricing agreements are also offered to customers. As a result, better usage has been made of surplus capacity, particular customer needs have been satisfied and profits have been generated through flexible pricing options.

Cross-subsidisation in Eskom

Cross-subsidisation of one group of customers by another distorts the true economic price signal and can cause inefficient economic decisions. The issue of cross-subsidisation is of national concern and is being addressed by the Government at national level, the NER and all participants in the ESI.

Existing cross-subsidisation includes geographically remote areas, specific groups of customers deemed to be in the national interest and the normal pooling of customers for pricing practices.

Work is currently being undertaken to quantify and to model the national subsidies applied by Eskom. This issue will be addressed as part of the National Energy Policy, specifically in respect of the ESI structure, cost-reflective tariffs and cross-subsidisation.

Non-electricity products

During 1996, Eskom extended its initiatives beyond the traditional boundaries of marketing only electricity.

To support the possible commercialisation of some non-core business functions, strategies and programmes were implemented to position non-electricity products in a competitive external market. The concept of branding was applied to the organisation's airline, conference facilities, bond financing division, catering and accommodation, resulting in increased profits in these areas.

technology

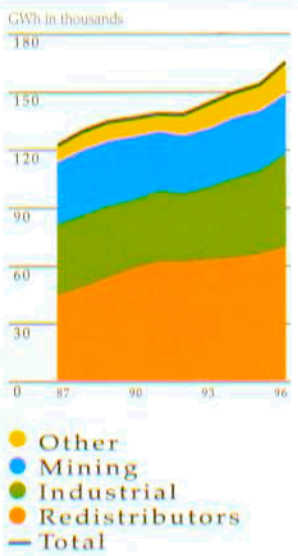
Technology management

Eskom operates a technology management process based upon core technologies. During 1996, a comprehensive technology plan was drawn up, both to position Eskom to meet organisational objectives and to support future supply-side and demand-side technologies which could affect Eskom's future energy mix.

During 1996, the Technology Group extended its services to the external market and positioned itself for further development in this regard. In particular, mechanisms for the commercialisation of research outputs and the establishment of a Power Technology Institute for South and Southern Africa will be finalised in 1997. Whichever scenario finally evolves for the future of Eskom, technology and associated research are essential tools to ensure that Eskom remains competitive in world markets.

The South African Power Utility Research Advisory Board continued to give an invaluable national perspective to Eskom's research and development portfolio, which in 1996 amounted to R58 million (1995: R37 million).

Sales by category



COMMUNITY INVOLVEMENT

Eskom contributes to community viability through its diverse community projects, particularly in disadvantaged rural communities. A poultry farm in a container, a self-help waste recycling business, training centres where basic technical skills are taught, the development of agricultural small-holdings. These only touch on the rich variety of such projects.

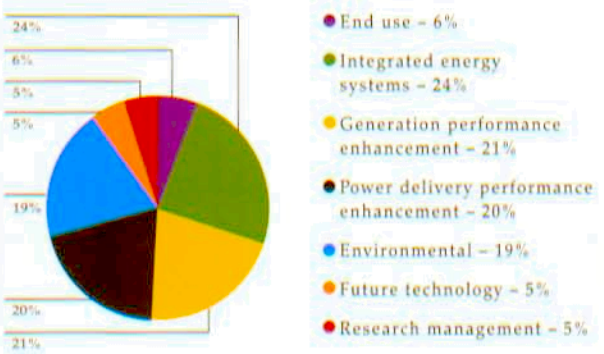
It is estimated that, in 1996, research provided a return of 5,5:1 (1995: 5,1:1) in avoided costs and direct cost reductions. In addition, significant non-quantifiable benefits in the social, environmental and customer satisfaction areas were realised. The budget for the 1997 research portfolio has increased to R110 million, with a major focus on integrated energy initiatives, while activities in other areas remain at approximately the same level.

International contact and co-operation

Eskom has signed a three-year agreement for the two-way exchange of technology and staff development with the Electricity Power Research Institute (EPRI) which has more than 700 utilities among its membership and its headquarters in the United States.

In addition to relationships with EPRI and the International Electricity Research Exchange, the Technology Group interfaces widely with international research organisations.

Main research programmes



human resources

Labour relations

The Labour Relations Amendment Act, Act No 42 of 1996, is an enabling Act with the purpose of advancing economic development, social justice, labour harmony and employee participation in the workplace. Eskom's Unfolding Vision Agreement and industrial relations system are well positioned in terms of the Act and all existing Eskom collective agreements will be deemed to be agreements concluded in terms of the new Act.

Employment and Occupational Equity Green Paper

The Green Paper on Employment and Occupational Equity outlines proposals to enhance overall social and economic equity in the workplace. Eskom is proactively assessing its current policies, directives and practices against the background and intent of this Green Paper.

Competency-based remuneration

Eskom is currently researching a new remuneration structure emphasising a competency-based philosophy. The implementation of this framework is being negotiated with the trade unions in the Central National Forum for implementation to commence during 1997.

Succession planning and skills retention

The Management Board recognises the importance of identifying key skills amongst senior managers that are regarded as essential to the achievement of Eskom's objectives. Processes and mechanisms have been put in place for the retention of these skills and to ensure succession planning. Succession plans are in place for those senior managers whose skills have been identified as crucial for the organisation.

Adult basic development

The programme to improve numeracy and literacy levels among 11 000 employees is in place. Detail is

provided in the Directors' Report section of this document.

Ethics pact

During the year, the Eskom written code of ethics was distributed and a series of workshops was held to ensure that all employees were aware of the contents and clearly understood their obligations in this regard.

AIDS

The threat posed by the AIDS epidemic to our country and its people continued to receive attention. A response team was set up to establish the likely size of the epidemic, to quantify the impact on key components of the business and to develop response strategies to minimise the impact on individuals and the organisation, in terms of its ability to deliver electricity and electrification.

Eskom recognises that the HIV and AIDS threat is a national problem and needs the commitment of all concerned. It is policy to work closely with non-government organisations and Government departments that are tackling the problem.

Medical aid

The Eskom Medical Aid Society (EMAS) discontinued its operations with effect from 31 December 1996. A new medical aid managed health care scheme, ESMED, was registered from 1 January 1997. This change arose from the view that EMAS could not be sustained as a viable concern in the longer term. The new ESMED enables compliance with the impending National Health Insurance legislation and provides equal benefits for all Eskom employees, whilst ensuring that it will be able to sustain benefits within affordable contribution levels.

Supervisory development

Recognising the vital role they play, Eskom has introduced an integrated leadership development process for first-line supervisors. Training opportunities within an accredited learning system, aligned with the National Qualifications Framework, are available.

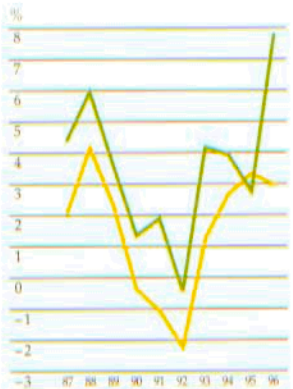
Investment in community well-being

Eskom makes a contribution to self-empowerment through development programmes for indigent, historically disadvantaged communities, particularly in rural areas, with emphasis on women and the youth. The partnership methodology used focuses on education by means of school improvement programmes from early childhood through to secondary schooling and teacher development. This approach has been approved by Government.

Eskom makes available R50 million of its own funding per year for the electrification of schools, education and community development projects and small and medium enterprise development.

A Small Business Development (SBD) franchise and support programme is aimed at supporting electricity-intensive franchisors in the emerging

Real GDP growth versus Eskom sales growth



Provisional figure for 1996 GDP

markets. SBD identifies and screens entrepreneurs for the franchisors and provides them with business skills training and marketing assistance, and facilitates funding and leveraging finance through banks with whom cooperation agreements have been reached.

To date, some 295 franchisees have been supported in terms of training, marketing assistance and funding facilitation. In addition to the franchisees, about 150 other businesses were established and 245 entrepreneurs were trained in business management skills.

future outlook

The year under review was one of relatively high growth but indications are that this is unlikely to be sustained in the medium term. I believe that it is vital for South Africa that Eskom maintains its strong focus on the business of delivering cost-effective and reliable electricity supplies.

Indications are that the changes to the ESI which have been discussed for some time, will begin to take place on a gradual rather than a big bang approach during the coming year. The introduction of a newly constituted Electricity Council will help to invigorate the process and to give direction for the future.

There is a big challenge ahead in sustaining the very fine technological performance of the past year. We will need to pay much greater attention to safety matters. Safety improvements can be achieved only by everyone taking full accountability and also working towards much tighter organisational discipline.

We will continue to put our energies into addressing customer needs and customer relations, as we are very much aware that satisfied customers are the ultimate measure of our success as a business.

acknowledgements

To make Eskom the fine utility that it is, takes ongoing efforts from a lot of people. To all these people I would like to express my thanks and appreciation. Special thanks firstly to my colleagues, all the employees of Eskom and members of the Management Board for their particular support, hard work and dedication. Also, to members of the Electricity Council for their commitment and insightful guidance during this period of change.

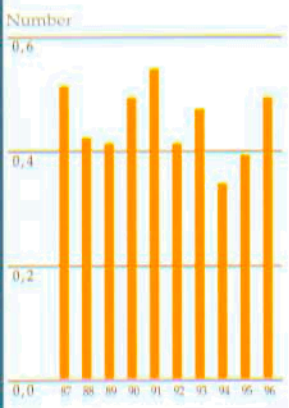
But above all, I would like to express my appreciation to Dr John Maree for many years of valuable guidance, direction and mentoring. From my personal point of view, it has been both a privilege and quite exceptional experience to work closely with him. I wish both Dr and Mrs Maree a happy and fulfilling road forward.

To the representatives of organised labour I express my appreciation for their efforts to provide for the needs of their constituents. I look forward to our future discussions being both positive and mutually rewarding.

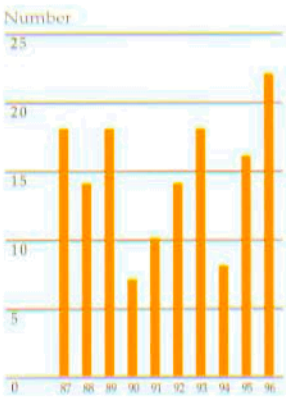
I thank our customers for their continued support and assure them again that we will continue to address their electricity needs into the future.

Allen Morgan
27 February 1997

Disabling injuries per 200 000 work hours exposure



Eskom fatalities



SEVEN YEAR FINANCIAL REVIEW

	1996	1995	1994	1993	1992	1991	1990
	Rm	Rm	Rm	Rm	Rm	Rm	Rm
FINANCIAL POSITION							
Reserves	**21 893**	18 821	16 105	13 837	12 191	10 702	9 700
Net interest-bearing debt	**27 298**	27 278	27 884	28 027	27 616	27 266	26 590
Total assets	**53 770**	50 625	47 364	44 397	42 455	40 245	38 717
Net assets	**50 730**	47 276	44 778	42 260	40 115	38 231	36 521
OPERATIONS							
Revenue	**18 687**	17 114	15 417	13 793	12 649	11 726	10 736
Operating expenditure	**12 421**	11 315	9 963	9 000	8 173	7 498	6 589
Net interest and finance charges	**3 194**	3 083	3 186	3 147	2 987	3 240	3 302
Net income	**3 072**	2 716	2 268	1 646	1 489	988	845
CASH FLOW							
Cash from operating activities	**8 809**	9 631	7 998	6 819	6 625	5 825	5 892
Net financing charges	**(2 090)**	(2 430)	(2 492)	(2 642)	(2 288)	(2 854)	(2 835)
Net cash from operating activities	**6 719**	7 201	5 506	4 177	4 337	2 971	3 057
Net capital expenditure	**(5 610)**	(5 835)	(4 735)	(4 041)	(4 041)	(3 335)	(3 662)
Net cash generated/(utilised)	**1 109**	1 366	771	136	296	(364)	(605)
Debt raised	**1 934**	4 338	1 714	2 582	3 316	2 903	5 457
Debt repaid	**(4 459)**	(4 551)	(2 783)	(3 701)	(1 748)	(2 158)	(3 502)
Decrease/(increase) in investments	**1 416**	(1 153)	298	983	(1 864)	(381)	(1 350)
Net cash generated/(utilised)	**(1 109)**	(1 366)	(771)	(136)	(296)	364	605

RATIOS

PROFITABILITY AND ASSET MANAGEMENT							
Net asset turn	0,37	0,36	0,34	0,33	0,32	0,31	0,29
Return on total assets, %	**11,65**	11,45	11,52	10,80	10,54	10,51	10,71
GEARING							
Debt:equity	**1,25**	1,45	1,73	2,03	2,27	2,55	2,74
Interest cover	**1,96**	1,88	1,71	1,52	1,50	1,30	1,26
Value created per employee, R'000	**330**	293	262	230	205	171	150

DEFINITIONS OF RATIOS

Net asset turn – Revenue divided by net assets
Return on total assets – Net operating income expressed as a percentage of total assets
Debt:equity – Net interest-bearing debt divided by reserves
Interest cover – Net operating income divided by net interest and finance charges
Value created per employee – Value created divided by number of employees at 31 December as per value added statement

VALUE ADDED STATEMENT

Value added is the wealth created by Eskom through the generation, transmission, distribution and selling of electrical energy.

Value created from the sale of electricity is the excess of turnover over the costs of generation, transmission and distribution, comprising primary energy, materials, services and abnormal items.

The value added statement shows the total wealth created, how it was distributed to meet certain obligations and reward those responsible for its creation, and the portion retained for the continued operation and expansion of Eskom.

	1996 Rm	**%**	1995 Rm	%
VALUE CREATED				
Revenue and manpower cost capitalised	**19 038**		17 445	
Less: Cost of primary energy, materials, services and abnormal items	**(5 815)**		(5 720)	
	13 223	**100**	11 725	100
VALUE DISTRIBUTED				
To remunerate employees for their services[1]	**4 278**	**32**	3 604	31
To providers of finance for monies borrowed	**3 194**	**25**	3 083	26
	7 472	**57**	6 687	57
VALUE RETAINED				
To maintain and develop operations	**5 751**	**43**	5 038	43
	13 223	**100**	11 725	100

1 Including capitalised manpower costs amounting to R351 million (1995: R331 million).

Value created increased by 13% over 1995. Similarly, value distributed to employees increased by 19% during the same period.

Value distributed to financiers decreased from 26% to 25%.

The value retained in the business for the replacement of assets has stayed at 43%, which remains relatively high. This is in line with the policy of strengthening Eskom's financial position for the benefit of existing and future customers.

PRODUCTIVITY STATEMENT

Productivity statements provide key insights into business performance by analysing the change in net income between two accounting periods in terms of the impact of productivity, inflation (price recovery) and growth.

Productivity improvement occurs through the more efficient and effective use of all operating and capital resources, which include coal, employees and assets. Price recovery is the difference between electricity price increases and inflationary changes in the prices of Eskom's resources. Growth represents the change in net income when resource quantities and prices change at the same rate as electricity sales volumes and prices, and is not directly related to productivity or price recovery.

Broadly speaking, productivity improvement creates additional wealth and thereby drives long-term business performance. Price recovery, on the other hand, indicates how wealth is distributed to the organisation's stakeholders, which include customers, employees and investors.

	1996 **Rm**	1995 Rm
Net income for the year	**3 072**	2 716
Net income for the previous year	**2 716**	2 268
Change in net income	**356**	448
Attributable to:		
Productivity improvement	**488**	224
Price underrecovery	**(382)**	(24)
Wealth reinvested in the business	**106**	200
Growth	**250**	248
	356	448

For the fourth year in succession, the organisation recorded improvements in overall productivity performance. Through this process, the business generated additional wealth of R488 million during 1996. A significant portion of this improvement has been used to fund deflationary electricity price increases. This price underrecovery amounted to R382 million for the benefit of the customer.

The organisation achieved productivity gains in the core business of R594 million, which were mainly driven through the better utilisation of capacity. A significant portion of these productivity gains was used to fund electrification and network takeovers.

Since 1988, Eskom's cumulative productivity savings, expressed in 1996 rand, amount to R9,1 billion. The major portion of these savings has been passed on to Eskom customers through a cumulative price underrecovery of R7,9 billion over the same period.

The above performance figures, derived using the methodology of the National Productivity Institute (NPI), have been audited by the NPI. This included an examination of the structure of the analysis, the appropriateness of quantity and price drivers used, the accuracy of the model, and the derivation and presentation of results. In the opinion of the NPI, the productivity statement fairly represents the overall performance of Eskom for 1996 when compared to 1995.

CORPORATE GOVERNANCE

Eskom has long subscribed to the principles of openness, integrity and accountability and seeks to comply with the generally accepted corporate practices by which corporate entities in the developed world seek to govern themselves. Eskom's compliance with these corporate practices is as follows:

GOVERNING BODIES

Eskom is governed by the Electricity Council (Council) and a Management Board (Board), established in terms of the Eskom Act of 1987. The Council is responsible for determining policy and objectives and for exercising control. The Board is responsible for managing the affairs of Eskom in accordance with the policy and objectives determined by the Council. Although Eskom therefore has a separate supervisory and management board structure, the Council and Board are considered to be fulfilling the role of directors and have a collective responsibility to provide effective corporate governance.

The members of the Council are appointed by the Minister for Public Enterprises. Appointments are for five-year terms or such shorter period as determined by the Minister at the time of appointment. With the exception of the Chief Executive of Eskom, all the members of the Council are non-executive and are representative of a wide range of stakeholders. All Council members are actively involved in, and bring independent judgement to bear on, Council deliberations and decisions.

In order to provide appropriate guidance and input to the Council and management, the chairperson of the Council has significantly more involvement in Eskom than the other non-executive Council members.

The Council meets regularly and monitors executive management through a structured approach to delegation, reporting and accountability. This structured approach includes reliance on various Council subcommittees.

The Board consists of a chairperson, who as chief executive is also a member of the Council, and 10 members who are appointed by the Council. The members of the Board, who are all executive, have normal employment contracts with Eskom. The continuation of their service is dependent on satisfactory performance on an ongoing basis.

In order to implement and manage the policies established by the Council, the Board and its subcommittees meet regularly.

Council and Board have access to the advice and services of Eskom's secretariat and are entitled to obtain independent professional advice, at Eskom's expense, should they deem this necessary.

FINANCIAL STATEMENTS

The Council and the Board of Eskom are responsible for the preparation and integrity of the annual financial statements and related financial information included in this annual report. The external auditors are responsible for independently reviewing and reporting on the financial statements in conformity with generally accepted auditing standards.

The financial statements are prepared in accordance with generally accepted accounting practices and incorporate full and meaningful disclosure in line with Eskom's reporting philosophy. The financial statements are based on appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

AUDITING

The Audit Committee, which comprises Council members, co-opted members and the Chief Executive, is chaired by a Council member. Committee meetings are also attended by the Board member responsible for finance, the head of Corporate Audit, the external auditors and other relevant corporate officials.

The Committee addresses appropriate policies, internal control, internal and external audit matters and such other issues as may be referred to it by the Council. The Committee meets regularly with management and the internal and external auditors. The head of Corporate Audit and the external auditors have unrestricted access to the chairperson of the Committee.

Eskom's corporate audit function is an independent appraisal function, which performs, inter alia, the functions as set out in the Reporting by Public Entities Act.

INTERNAL CONTROL

The Council has ultimate responsibility for the system of internal controls. The controls throughout Eskom focus on those critical risk areas identified by operational risk management, confirmed by executive management and endorsed by the auditors. Controls relating to these critical risk areas are closely monitored by both management and the auditors and these controls are augmented by approval frameworks, policies and organisational structures that provide for division of responsibilities and the careful selection and training of personnel.

The system contains self-monitoring mechanisms, and actions are taken to correct deficiencies as they are identified. The system is designed to provide reasonable but not absolute assurance, at appropriate cost, that assets are safeguarded and that transactions are executed and recorded in accordance with Eskom's policies and procedures.

The executive directors performed a self-assessment on the control environment in November 1995. Corporate Audit recently completed a follow-up review of the actions required to improve the control environment and concluded that the necessary actions had been taken or are taking place.

REMUNERATION

The remuneration of Council members is determined by the Minister for Public Enterprises with the concurrence of the Minister of Finance.

The remuneration of the Board is determined by the Council Personnel Committee. This Committee is chaired by the chairperson of the Council and comprises the Chief Executive and three other Council members.

The Personnel Committee takes account of external market surveys and other relevant information sources in determining levels of remuneration that appropriately reward senior executives for their contributions to Eskom's performance.

WORKER PARTICIPATION

Unions and workers participate in the determination of Eskom's policies and objectives through their representation on the Council through a variety of participative structures established to involve worker representatives in the business of Eskom. Workers also participate in normal management and leadership communication.

CODE OF ETHICS

Eskom has a written code of ethics, endorsed by the Council and the Board and all employees are made aware of its contents. The Audit Committee and the Management Review Committee[1] collectively fulfil the functions of an Ethics Council which oversees the ongoing efforts to maintain ethical behaviour within Eskom.

GENERAL

Corporate Audit completed an evaluation of Eskom's compliance with the recommendation of the King Report on corporate governance and has concluded that, where appropriate, all recommendations have been substantially complied with.

Eskom recognises that corporate governance is a dynamic area and, as such, its systems of corporate governance are reassessed on an ongoing basis to ensure that they are developed to world-class standards and continue to be relevant to Eskom's business as it evolves.

1 Management Board and senior general managers.

ANNUAL FINANCIAL STATEMENTS CONTENTS

ESKOM

CURRENCY OF FINANCIAL STATEMENTS

The financial statements are expressed in South African rand (R).
The following are approximate values of R1,00 at 31 December for selected currencies.

	1996	1995
French franc	**1,12**	1,34
German mark	**0,33**	0,39
Pound sterling	**0,13**	0,18
Swiss franc	**0,29**	0,32
Japanese yen	**24,83**	28,21
US dollar	**0,21**	0,27

APPROVAL OF THE ANNUAL FINANCIAL STATEMENTS

The annual financial statements for the year ended 31 December 1996, set out on pages 38 to 68, have been approved by the Management Board and Electricity Council and signed on their behalf on 27 February 1997 by

Dr J B Maree
Chairman of the Electricity Council

A J Morgan
Member of the Electricity Council,
Chief Executive of Eskom and
Chairman of the Management Board

REPORT OF THE INDEPENDENT AUDITORS

TO THE MINISTER FOR PUBLIC ENTERPRISES

We have audited the annual financial statements set out on pages 38 to 64.

We conducted our audit in accordance with generally accepted auditing standards. These standards require that we plan and perform the audit to obtain reasonable assurance that, in all material respects, fair presentation is achieved in the financial statements. Our audit included an evaluation of the appropriateness of the accounting policies, an examination, on a test basis, of evidence supporting the amounts and disclosures included in the financial statements, an assessment of the reasonableness of significant estimates and a consideration of the appropriateness of the overall financial statement presentation. We consider that our audit procedures were appropriate in the circumstances to express our audit opinion presented below.

We concur with the decision of the Electricity Council and the Management Board not to prepare consolidated annual financial statements as stated in the Directors' Report.

In our opinion

- the financial statements fairly present the financial position of Eskom at 31 December 1996 and the results of its operations and cash flow information for the year then ended, in conformity with generally accepted accounting practice and as required by the Eskom Act of 1987, and
- the information presented in the financial statements conforms, in all material respects, to the requirements of the Reporting by Public Entities Act of 1992.

We have examined the current value financial statements set out on pages 65 to 68. In our opinion these statements have been properly prepared on the basis set out in the notes thereto.

Deloitte & Touche
Chartered Accountants (SA)

KPMG
Chartered Accountants (SA)

Nkonki Sizwe Ntsaluba
Chartered Accountants (SA)

Johannesburg, 27 February 1997

INTRODUCTION

This report, in terms of the Reporting by Public Entities Act, Act 93 of 1992, and the Companies Act, Act 61 of 1973, addresses the performance of Eskom and relevant statutory information requirements.

The Electricity Council and the Management Board fulfil the role of directors and have pleasure in presenting their report and the audited financial statements for the year ended 31 December 1996. The financial statements fairly present the financial position of Eskom at 31 December and the results of its operations and cash flow information for the year then ended.

FUNCTION AND OBJECTIVES OF THE BUSINESS

Nature of the business

Eskom generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and to redistributors. Eskom is regulated in terms of licences granted by the National Electricity Regulator (NER), the Eskom Act of 1987 and the Electricity Act of 1987.

The objective of Eskom is to provide the means and systems by which the electricity needs of the consumer may be satisfied in the most cost-effective manner, subject to resource constraints and the national interest, and to perform such other functions as may be assigned to it by or under the Eskom Act or the Electricity Act.

OBJECTIVES

Reducing the real price of electricity

In 1991, Eskom entered into a price compact with its customers to reduce the real price of electricity by 20% between 1992 and 1996.

Over this period Eskom achieved a reduction of 16,8% which is significant, considering the following:

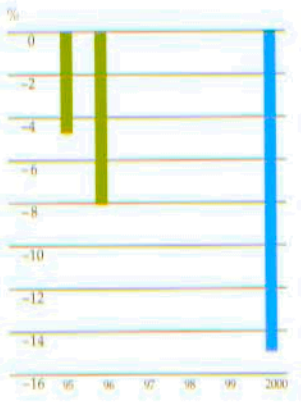
- Eskom's increased electrification programme and the impact of arrear debt.
- The average actual inflation rate of 9,8% was lower than the original projected rate of 14,1% for the period.
- The average rate of net interest and finance charges on net interest-bearing debt to Eskom increased from 13,3% to 14,9% during this period.
- The average actual gross domestic product (GDP) growth over the period is expected to be 1,6%, compared to 1,9% as originally projected by Eskom.
- Eskom's efforts to run its business more cost-effectively also contributed to the lower inflation rate as measured by the consumer price index (CPI).

The 1996 price increase was 3,4 percentage points (1995: 4,7 percentage points) below the rate of inflation as measured by the CPI.

In addition there is an RDP[1] commitment to reduce the real price of electricity by 15% between 1994 and the year 2000 and, assuming no significant structural changes occur, this commitment is well on track.

1 Reconstruction and Development Programme.

RDP compact



Electrify an additional 1 750 000 homes by the year 2000

In 1994, Eskom undertook to electrify 1 750 000 homes by the year 2000. Eskom has electrified 874 609 homes since 1 January 1994. Since the inception of Eskom's electrification programme, 1 259 520 homes have been electrified. In 1996, Eskom electrified 307 047 (1995: 313 179) homes and again exceeded the target of 300 000.

Electrification	Target 1996	Actual 1996	Actual 1995
Capital expenditure, Rm	1 000	1 049	1 055
Capital cost per connection, R	3 538	3 417	3 370
Monthly operating cost per customer, excluding depreciation, R	21	21	24
Average monthly sales to prepayment customers, kWh	87	86	78

Although the monthly consumption per connection has increased in 1996, this remains significantly lower than the amount required to generate positive returns. As is the case with certain other assets, Eskom's policy of cross-subsidation is applied in assessing the carrying value of the electrification assets.

Developing human resources

During 1996, an estimated R300 million was spent on training and education of employees. Items detailed below are included in this amount. All existing employees are encouraged to develop their potential by utilising the bursary schemes for further studies.

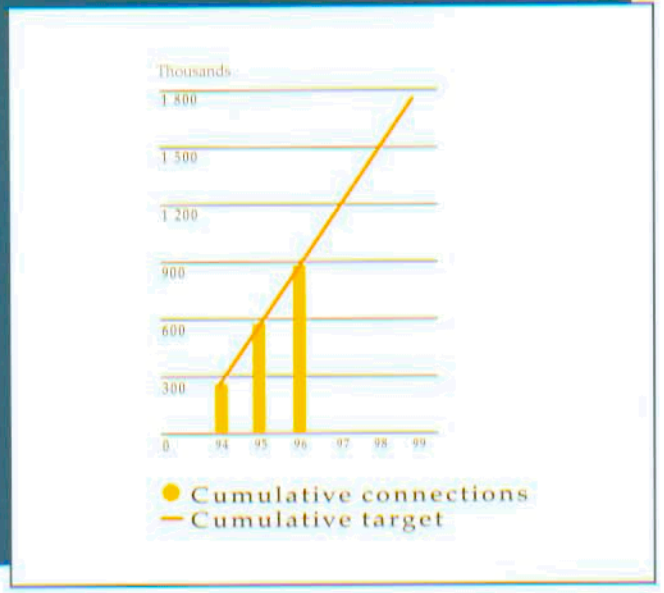
The Adult Basic Development (ABD) project was formally adopted in 1995 when a target was set of 11 000 trainees to complete the programme by the end of 1997. This includes an amount of R32 million (1995: R26 million) for ABD. Since the inception of the project, a total of 6 895 employees have undergone literacy and numeracy training with a pass rate of 57% (1995: 49%). During 1996, 1 356 (1995: 1 481) employees successfully completed the ABD programme. A further 2 745 (1995: 2 318) are currently in training.

Eskom's efforts to upgrade its skills base is starting to pay dividends. An increasing number of promotions (1 552 out of a total of 3 627) in 1996 took place in the A and B Band[1]. Of these, nearly 50% (701) were from the A Band[2]. These areas are the main focus of Eskom's human resources development endeavours.

During 1996, Eskom had 2 277 (1995: 1 990) bursars and trainees, 72% (1995: 59%) of whom were black[3].

During the year, 349 (1995: 266) black bursars and trainees completed their training at a cost of R36 million. The Management Board decision in 1995 to increase the intake for the following three years will contribute to the achievement of the RDP target of 370 black bursars and trainees completing their training each year.

RDP electrification connections



1 Refers to the Paterson job grading system.
2 General workers.
3 Blacks, Asians and Coloureds.

Employee participation

An agreement, called the Unfolding Vision Agreement, was signed between Eskom and organised labour in August 1993. The basic principle of this agreement is to enhance a culture of participation, involvement and transparency in Eskom's decision-making process through meaningful influence. Participative structures have been established at strategic, central, group and business unit levels and are regularly utilised for the sharing of information, consultation and negotiation.

An internal review highlighted that trade unions are exercising meaningful influence on all major decisions, but employees, especially lower-band levels, are in general not yet fully involved in the participative process. However, some progress has been made during the last two years.

Salary and conditions of service negotiations, Eskom medical aid, transitional phasing of gainsharing/performance bonuses and the sport and recreation policy, were some of the issues that were tabled and dealt with at the Central National Forum (CNF) during 1996. Two national issues resulting from the CNF, the revised accommodation policy and the 1994/95 gainsharing agreement, which included the 1995 salary increase and the maximum payment principle, were also concluded by arbitration and satisfactorily resolved.

During 1996, the Eskom/trade union leadership conference on *High Performance through High Involvement* took place. Both Eskom and the trade unions confirmed their commitment to employee participation as a means to achieve strategic business objectives.

Stakeholder participation

As a public entity, Eskom is required to comply with the provisions of the National Framework Agreement (NFA)[1]. As a result, a Restructuring and Transformation Committee (RTC), comprising representatives from Eskom management and the unions within Eskom, was constituted. The RTC is expected to generate options for the restructuring of Eskom.

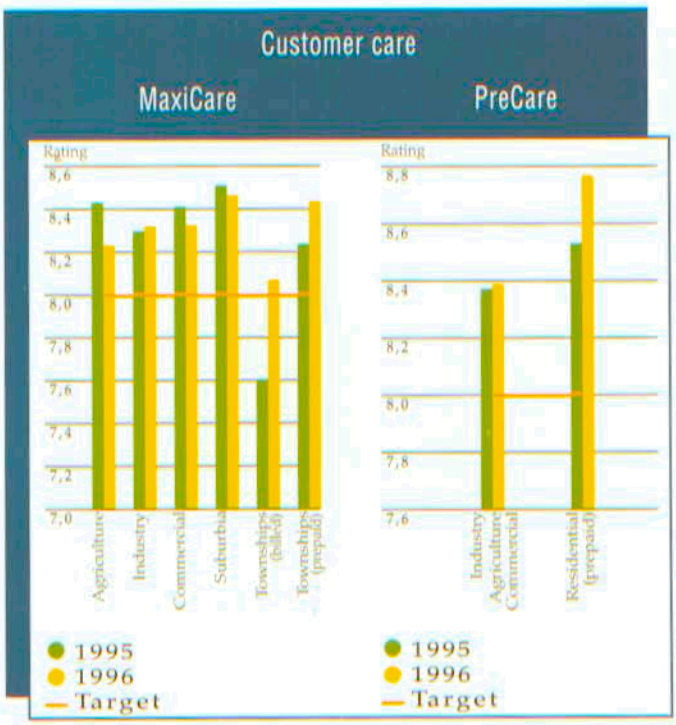
Fifteen meetings were held during 1996 at which various aspects of Eskom's business were examined for restructuring purposes, and options were generated thereon. Reports on progress made at the RTC have been sent to the Minister for Public Enterprises, at appropriate intervals.

There were difficulties with the RTC process towards the end of 1996 but, following a meeting with the Minister and all parties concerned, processes have been put in place to address these.

Satisfying customers' electricity needs

Eskom has initiated a major programme to direct the entire organisation towards meeting customer needs.

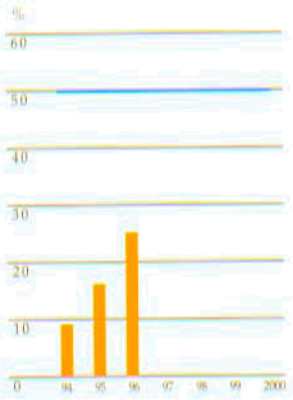
To measure Eskom's performance in the area of customer satisfaction and to identify customer needs, a statistical measurement instrument was developed and implemented during 1994. MaxiCare[2] and PreCare[3] surveys are conducted on a monthly basis by an independent party and the results are reported to the organisation. Customers rated Eskom's overall



1 *An agreement between Government, the Congress of South African Trade Unions (Cosatu), Federation of South African Labour Unions (Fedsal) and the National Council of Trade Unions (Nactu).*

2 *Customers who have been receiving electricity for longer than six months.*
3 *New customers or customers with revised contracts.*

Implementing employment equity



service quality above the targeted rating of 8 on a 10-point scale, namely 8,32 (1995: 8,27) for MaxiCare and 8,58 (1995: 8,45) for PreCare. The lower rating in some customer segments is the result of the customer survey indicating a change in the perceived customer assessment of the quality of Eskom's supply.

Implementing employment equity

Eskom's commitment to change its employee profile so that 50% of management, professional and supervisory staff will be black South Africans by the year 2000, has made excellent progress. At the end of 1996, 25% of these categories were black (1995: 16%). The increase of 39% in the number of black bursars and trainees will contribute to the achievement of this target in the future.

KEY PERFORMANCE INDICATORS

Long-term plant health

The long-term health of generation, transmission and distribution systems is assured through systematic, well-planned refurbishment and maintenance of ageing plant. Eskom Technical Audit annually reviews the Generation Five Year Technical Plan against the condition status of the plant and is of the opinion that this plan facilitates the objective of ensuring long-term plant health.

Distribution performance

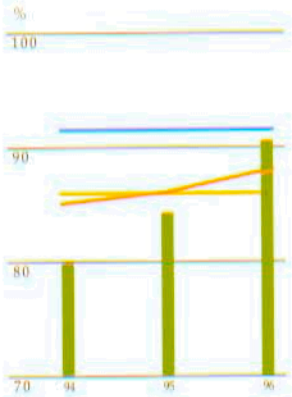
Distribution measures reliability in the different systems as reflected in the table below:

Supply loss index	Target 1996	Actual 1996	Actual 1995
Distribution	**0,18**	**0,17**	0,18
Reticulation	**1,80**	**1,76**	1,83
Composite	**9,00**	**8,68**	9,09

Generation plant performance

In 1995, Eskom made a commitment to further improve the plant availability from 80% in 1994 to 90% by the year 2000. Availability of plant is measured by the unit capability factor (UCF). The target was achieved in 1996 and this outstanding performance is reflected in the graph.

Generation plant unit capability factor (UCF)



A UNIPEDE/WANO generation plant performance indicator. UCF gives the true energy capability of the plant whereby loss, due to constraints not under plant management control, are excluded from its calculation. International achievements (median) lie within the 85% zone.

Unplanned automatic grid separations (UAGS) per 7 000 operating hours indicates the reliability of generating plant by measuring the rate at which automatic trips occur. Total number of trips, automatic and manual, was higher in 1996 than 1995. However, the duration of trip-related interruptions was reduced significantly and the longer-term trend of improved reliability continues.

Primary energy

As a result of the poor performance at certain of Eskom's coal supply collieries, the coal purchase cost was R109 million over budget.

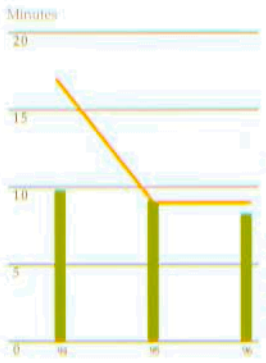
Maintaining transmission system performance

In terms of transmission system performance, there was one incident (1995: 1) with a severity greater than one system minute.

The transmission system's performance is measured by the number of system minutes that were lost over a 12-month period and is reflected in the graph.

Total transmission system interruption time

System minutes* lost per annum

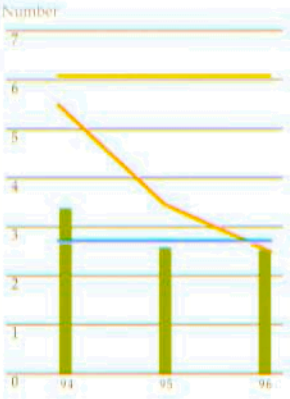


$$\text{*System minutes} = \frac{\text{Energy not supplied in MWh} \times 60}{\text{Eskom maximum demand in MW}}$$

As from 1996, system minutes reflect all transmission voltages. Before 1996, system minutes reflect only voltages of 132 kV and above.

Unplanned automatic grid separations per 7 000 operating hours

All coal-fired plant



A UNIPEDE fossil-fired plant indicator which is a measure of the reliability of service provided to the electrical grid. International achievements (median) lie within the 6,1 zone.

Safety

The disabling injury incidence rate (DIIR) continued to show an upward trend during 1996 of 0,51 (1995: 0,39), and the fatality rate of 22 (1995: 16) is unacceptably high. During 1996, a number of initiatives were identified to improve Eskom's health and safety performance. A key area included the revision of the current NOSA[1] audit system into a risk-based, health and safety audit system.

The use of DIIR as a sole indicator of health and safety performance in Eskom is currently being reviewed. During 1997, alternate systems will be proposed for the measurement of performance after discussion with line groups.

From 1997, the risk audit system will examine specific occupational health and safety risks that exist in Eskom. The specific issues that have already been embarked upon during 1996 to address Eskom's major health and safety risks include campaigns to improve fleet safety, reduce electrical contact incidents and increase public safety.

1 National Occupational Safety Association.

Business efficiency

Continued bottom-line productivity gains occurred during the year. Gains of R594 million (1995: R103 million) were achieved in the core business mainly through the better utilisation of capacity due to the relatively high sales growth. Please refer to the detailed productivity statement on page 32.

The average total cost of electricity sold was 9,46c/kWh (1995: 9,40c/kWh) against a target of 9,48c/kWh (1995: 9,19c/kWh).

Tariff restructuring

A five-year tariff plan was developed, which focused on the cost-reflectiveness of Eskom's tariffs, and the changes in tariffs for 1997 were promulgated. The main objectives of the plan are to show customers the direction to be taken for future tariff changes and to restructure tariffs, thus making them more cost-reflective by phasing out some cross-subsidisation within the tariffs. The possible impact of restructuring the electricity supply industry (ESI) was not taken into account in the tariff plan. However, cognisance was taken of the various restructuring scenarios. The plan can accommodate any of these scenarios with only minor modifications. However, the proposed changes should limit the impact on Eskom customers in any restructured ESI.

Integrated electricity planning (IEP)

During 1994, Eskom adopted a formalised Integrated Electricity Plan. In 1996, the fifth revision of the plan (IEP5) was prepared and accepted by the Electricity Council and NER. It sets out an optimal combination of the various options available for the sourcing or generation of electricity (supply side) and methods of management of its use (demand side), based on the expected load growth of 1 000 MW per annum in the longer term. IEP5 is deemed to achieve the following primary planning objectives:

- Satisfy the expected growth in electricity
- Provide optimal value to the customer
- Retain Eskom's sound financial position
- Be compatible with the strategic direction of Eskom

Given the present availability of capacity and committed supply-side generation projects, IEP5 has recommended that any decision regarding new capacity be deferred until after 1997. IEP5 was shared with the NER and approved by the Electricity Council and the Management Board.

The IEP planning process was reviewed during 1996 by a team drawn from independent international consultants in the field, assisted by Eskom Corporate Audit, to obtain assurance that the IEP process was maximising the achievement of the primary planning objectives given above. This review concluded that, while the IEP process had been adequate in the past, enhancements were required to ensure that the process would fully meet its objectives in the future.

A programme of work to effect these enhancements has commenced and future plans are expected to more fully support corporate and national objectives.

Community development

Eskom has made available R50 million per year until 1999 to be spent on the electrification of schools and other community development activities. During 1996, R42 million (1995: R35 million) was spent on these initiatives made up as follows:

- R18 million (1995: R15 million) on the electrification of schools
- R24 million (1995: R20 million) on community development

An amount of R8 million was allocated to small business development. However, during 1996, the actual expenditure could not be ring-fenced as it was included in normal business costs.

During 1996, an amount of R1 million in interest earned on the 1995 grant of R15 million from the Norwegian government, as well as the balance of the allocation of R86 million from the South African

government in 1995, was used for the electrification of schools.

Schools electrified	Actual 1996 Number	Actual 1996 Rm	Budget 1996 Number	Budget 1996 Rm
Grid schools				
Norwegian grant	34	1	25	1
Eskom funds	307	18	420	15
SA government	590	26	353	26
Non-grid schools				
SA government	920	49	933	53

Enabling Eskom employees to have access to accommodation

Eskom is committed to enabling Eskom employees to have access to accommodation. Of 39 857 (1995: 39 952) employees, 22 641 (1995: 21 504) have taken advantage of the Eskom Finance Company (Pty) Limited and Eskom housing loans. Currently, 1 380 employees are making use of the rental subsidies. Other forms of accommodation are under ongoing discussion. Even though Eskom enables employees to have access to accommodation, not all make use of Eskom housing benefits.

Limiting the impact Eskom has on the environment

In keeping with international norms, Eskom will produce a separate detailed Environmental Report for 1996. Currently, environmental costs are treated as an integral part of business costs. A process has been initiated to separate these costs.

An independent international firm conducted a risk assessment to evaluate Eskom's environmental risk exposure. No new risk areas were identified and Eskom has taken further measures to insure against these known current and future risks.

Environmental performance indicators	Actual 1996	Actual 1995
Particulate emissions, t	112 108	115 320
Particulates emitted, kg/MWh sent out	0,69	0,77
Radiation exposure[1], mSv	0,0006	0,0004
Water consumed at coal-fired power stations[2]		
Mℓ	215 199	214 329
ℓ/kWh sent out	1,32	1,38
Water-related legal transgressions[3]	4	16

Research and development

Eskom has further developed its programme of applied research to keep abreast of technological advances that underpin the core business and commercial activities and improve the quality of supply and service, while remaining conscious of environmental impact. In 1996, a foundation for major supply- and demand-side demonstration projects (fluidised-bed boiler, high-head energy storage, pebble-bed reactor, energy management in building) was established. This programme will supply detailed data for optimised integrated electricity planning, as well as develop South African capacity in a variety of new technologies.

Investment in technical research and development amounted to R58 million (1995: R37 million) and a further R5 million was spent on marketing research and development.

Information management

Eskom management identified the management of information as a strategic issue.

Considerable expenditure has been invested in the major information technology initiatives to date. Currently, costs are treated as an integral part of business costs. The major information technology initiatives are:

1 The legal requirement is 0,25 mSv.
2 Water consumption based on water purchased from Government water schemes.
3 As prescribed by the Water Act, Act No 54 of 1956.

Customer Care Programme (CCP)

CCP focuses on enhancing customer service while driving down costs. During 1996, the CRP[1] process models have been finalised for the purpose of implementing the initial customer care centre. The definition and high-level design of the supporting information architecture have also been completed.

Finesse

The Finesse programme was initiated to enhance financial and materials management, processes and systems.

Business management frameworks were defined and new computer software selected for financial and materials management. These include considerations in terms of world best practices.

IGIS

To enhance the generation information systems, the IGIS project was initiated in January 1993.

Milestones achieved include the implementation of a computer aided design (CAD) system, decentralised computing infrastructure installation at 11 power stations and Megawatt Park, installation of final software baseline and commercial hand-over to nine of the 12 sites where IGIS Phase 1 was installed.

Phoenix

In order to leverage the value of information and to support expected business changes in Transmission, a major information systems regeneration exercise, Phoenix, was started in 1994. Milestones achieved include the implementation of an electricity trading system, an integrated plant database and a maintenance scheduling system.

Financial performance

Eskom's financial performance for 1996 is reflected in the financial statements.

1 Customer Relations Programme.
2 Includes internal sales.
3 Net maximum capacity excluding capacity in reserve storage.

Arrears

During 1996, the arrear debt provision increased to R1 413 million (1995: R1 192 million). However, during the same period, the annual provision for local authority arrear debts was R199 million compared to R302 million in 1995. During 1996, the average payment levels of previous black local authorities increased to 62% (1995: 39%).

ADDITIONAL PERFORMANCE INDICATORS

	Target 1996	Actual 1996	Actual 1995
Real return on assets, %	**4,78**	**3,89**	3,82
Debt-equity ratio	**1,18**	**1,25**	1,45
Sales growth, %	**7,5**	**7,7**[2]	2,7
Coal purchased, millions of tons	**84,8**	**83,2**	80,7
Coal burnt, R per ton	**33,70**	**35,05**	31,99
Capacity			
Nominal capacity, MW	**38 497**	**38 497**	37 840
Peak demand on integrated Eskom system, MW	**26 517**	**27 967**	25 133
Maximum active capacity, MW[3]	**32 032**	**32 032**	31 481

Small, medium and micro enterprises

As part of its buying policies and managerial support programme, Eskom placed contracts with small, medium and micro enterprises.

Industrial relations

Conflict is an inherent part of any relationship, and during 1996 a total of 16 356 work days were lost due to industrial actions on various matters, including change initiatives, job grading and other related matters.

Tertiary education support

Through its tertiary education support programme Eskom acknowledges the essential role played by

research and development in building capacity at tertiary institutions. During 1996, an investment of R5 million supported 73 projects at 10 universities and nine technikons. This investment is over and above any direct contract research investment.

INFORMATION REQUIRED UNDER SCHEDULE 4 OF THE COMPANIES ACT

Share capital and dividends

Eskom does not have share capital and, as a result, no dividends have been paid or proposed. Equity consists of reserves.

Capital expenditure

Net capital expenditure on property, plant and equipment of R5 364 million (1995: R5 168 million) was partly made up of expenditure of R976 million (1995: R1 332 million) on Majuba power station and R1 049 million (1995: R1 055 million) on electrification.

Subsidiaries, associates and investments

Details of Eskom's principal subsidiaries, significant associates and unlisted investments are set out in Schedule 2 on page 64.

Directorate and Secretariat

The names of the directors appear on pages 4 to 7 and the address of Eskom's Secretariat on page 5.

Changes in the composition of the Electricity Council and the Management Board appear on pages 4 to 7.

Post balance sheet events

No significant events occurred between the year end and this report.

DECISION OF THE DIRECTORS IN TERMS OF SECTION 291(1) OF THE COMPANIES ACT

Investments in subsidiary companies and associate companies are not consolidated or equity accounted as their assets and operating results are insignificant in relation to Eskom's assets and operating results.

Information relating to unconsolidated subsidiary companies is disclosed separately in Schedule 2 to the financial statements.

AUDIT COMMITTEE INFORMATION

Audit Committee members are reflected on pages 4 and 5. During 1996, four meetings took place.

BASIS OF PREPARATION

In terms of the Eskom Act, and as determined by the Electricity Council, the financial statements are prepared in accordance with the applicable requirements of the Companies Act and conform, in all material respects, with South African generally accepted accounting practice and with International Accounting Standards.

The financial statements are prepared on the historical cost basis, except for financial instruments and investments held for trading purposes, which are stated at fair value (market value or, where not listed, at valuation).

The following principal accounting policies are consistent, in all material respects, with those applied during the previous year.

Where necessary, comparative figures have been reclassified and restated.

INSURANCE RESERVE

The insurance reserve is held to cover potential, abnormal self-insured losses not covered externally.

The value of the reserve is based on management's assessment of the possible exposure.

DECOMMISSIONING AND NUCLEAR WASTE MANAGEMENT PROVISION

Nuclear plant A provision is made over the life of the plant, for the decommissioning of nuclear plant and the management of spent nuclear fuel assemblies and radioactive waste. The annual transfer from the income statement is based on the latest available cost information and is included in operating expenditure.

Other plant Provision is made, over the estimated remaining life of the plant, for the costs of decommissioning other plant if it is expected that such costs will exceed the net proceeds from the disposal of associated land and the salvage value of the plant.

INTEREST-BEARING DEBT

Locally registered bonds and other local and foreign debt issued for non-trading purposes are recorded at the consideration received and adjusted for amortised discount or premium. The discount or premium is amortised over the period of the debt using the yield to redemption method, where applicable.

Locally registered bonds and other local debt issued or held for trading purposes are stated at fair value. Trading profits and losses, with the exception of market-making debt, are included in interest and finance charges. Profits and losses on market-making debt are recognised over the period to redemption of the most actively traded bond.

INVESTMENTS

Non-trading investments included in net interest-bearing debt are stated at cost, which is adjusted for amortised discount on the yield to redemption method, where applicable. Profits and losses are recognised on realisation and included in interest and finance charges.

Trading investments are stated at fair value and the resultant profits and losses are included in interest and finance charges.

Unlisted investments included in non-current assets are stated at cost less amounts provided for diminution in value.

DERIVATIVE FINANCIAL INSTRUMENTS

The premiums received or paid on derivative financial instruments designated as hedges are amortised over the lives of the instruments. Profits and losses on these instruments are deferred and recognised on the same basis as the hedged transactions.

Derivative financial instruments held for trading purposes are stated at fair value and the resultant profits and losses are included in interest and finance charges.

FOREIGN CURRENCIES

Transactions in foreign currencies are recorded at the spot rate on transaction date or at the spot rate specified in the related forward exchange contract.

Monetary assets, liabilities and commitments in foreign currencies are translated at the forward rates of the underlying forward exchange contracts or at the rates of exchange ruling at year end. The unamortised forward exchange contract costs are included in foreign debt.

Forward exchange contract costs are recognised over the periods of the related contracts. These costs, as well as profits and losses on foreign currency transactions, are included in interest and finance charges.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are stated at cost of acquisition or construction, less depreciation thereon.

Land is not depreciated. Rights are fully depreciated on acquisition.

Other property, plant and equipment in commission are depreciated on the straight-line basis over their estimated useful lives, which are as follows:

Class	Years
Buildings and facilities	25
Plant – Generation	25 or 35
– Transmission	25
– Distribution	15 or 25
Equipment and vehicles	1 to 10
Test and telecommunication equipment	3 to 5

Plant at mothballed power stations is not being depreciated.

Works under construction are stated at cost, which includes all costs necessarily incurred to bring plant to the condition and location essential for its intended use.

Costs include overheads and net interest, which is capitalised at the average cost of capital employed.

Construction materials are stated at weighted average cost.

The cost of renewal and maintenance of assets is expensed as incurred.

Where the life of an asset is extended, such costs are capitalised and depreciated over the adjusted useful life of the asset.

LEASED ASSETS

Assets subject to finance lease agreements are capitalised at their cash cost equivalents and the corresponding liabilities are recognised. The assets are depreciated on the straight-line basis over

their estimated useful lives, as indicated in the property, plant and equipment policy. Lease finance charges are included in interest and finance charges as they become due.

FUTURE FUEL SUPPLIES

Certain long-term fuel supply contracts require advance payments or loans to suppliers. Advances to suppliers, together with interest capitalised thereon, are deferred and amortised against the cost of coal on the basis of quantities of coal burnt.

NUCLEAR FUEL

Nuclear fuel consists of raw materials, fuel assemblies in the process of fabrication, fabricated fuel assemblies and fuel in reactors.

Nuclear fuel is valued at cost on the first-in-first-out basis and includes net interest, which is capitalised at the average cost of capital employed during the fabrication period.

The charge to operating expenditure is based on estimated fuel consumption.

INVENTORIES

Inventories are valued at the lower of cost or net realisable value. Cost is determined on the weighted average basis. Provision for obsolescence is made where appropriate.

REVENUE

Revenue comprises electricity revenue and excludes value added tax.

Revenue is recognised at the time customers are invoiced.

RESEARCH AND DEVELOPMENT

Research and development costs are charged to operating expenditure when incurred.

RETIREMENT BENEFITS

Retirement benefits are provided for all employees through the Eskom Pension and Provident Fund. Contributions to the Fund are based on a percentage of salaries and are expensed in the period in which they are incurred. Gratuities paid to retiring employees are expensed in the period in which they are paid.

Post-retirement medical benefits are provided for employees through the various medical aid schemes. Provision is made for such benefits by charging to income annually the estimated costs over the expected remaining service of the members of such schemes based on the assessment of independent actuaries.

The estimated present value of the anticipated expenditure for both in-service and continuation members is being provided for over a period not exceeding 10 years from 1994.

BALANCE SHEET

ESKOM

	Notes	1996 Rm	1995 Rm
CAPITAL EMPLOYED			
Reserves		**21 893**	18 821
Accumulated reserves		**21 743**	18 671
Insurance reserve	1	**150**	150
Long-term provisions	2	**1 539**	1 177
Net interest-bearing debt	3	**27 298**	27 278
Long term		**24 419**	24 234
Short term		**2 879**	3 044
		50 730	47 276
EMPLOYMENT OF CAPITAL			
Property, plant and equipment	4	**46 334**	43 593
Non-current assets	5	**4 697**	4 498
Current assets		**2 739**	2 534
Inventories	6	**834**	794
Accounts receivable	7	**1 905**	1 740
Total assets		**53 770**	50 625
Interest-free liabilities		**3 040**	3 349
Accounts payable and other provisions		**2 627**	2 912
Net interest accrued	8	**413**	437
Net assets		**50 730**	47 276

for the year ended 31 December

INCOME STATEMENT

	Notes	1996 Rm	1995 Rm
Revenue		**18 687**	17 114
Operating expenditure	12	**12 421**	11 315
Net operating income		**6 266**	5 799
Net interest and finance charges	13	**3 194**	3 083
Net income		**3 072**	2 716
Transfer to insurance reserve		**–**	50
Retained income for the year		**3 072**	2 666
Accumulated reserves at beginning of the year		**18 671**	16 005
Accumulated reserves at end of the year		**21 743**	18 671

for the year ended 31 December

CASH FLOW STATEMENT

	Notes	1996 Rm	1995 Rm
CASH FROM OPERATING ACTIVITIES AND CASH UTILISED IN CAPITAL EXPENDITURE ACTIVITIES			
Cash from operating activities	16	**8 809**	9 631
Net financing charges	17	**(2 090)**	(2 430)
Net cash from operating activities		**6 719**	7 201
Net capital expenditure	18	**(5 610)**	(5 835)
Net cash generated		**1 109**	1 366
CASH EFFECTS OF FUNDING ACTIVITIES			
Debt raised	19	**1 934**	4 338
Debt repaid	20	**(4 459)**	(4 551)
Decrease/(increase) in investments	21	**1 416**	(1 153)
Net cash utilised		**(1 109)**	(1 366)

NOTES TO THE FINANCIAL STATEMENTS

ESKOM

	1996 Rm	1995 Rm
NOTES TO THE BALANCE SHEET		
1. INSURANCE RESERVE		
Balance at beginning of the year	**150**	100
Transfer from income statement	**–**	50
Balance at end of the year	**150**	150
2. LONG-TERM PROVISIONS		
Decommissioning and nuclear waste management		
– Nuclear plant		
Balance at beginning of the year	**669**	546
Provision for the year	**145**	123
	814	669
Expenditure incurred	**26**	–
Balance at end of the year	**788**	669
– Other plant		
Balance at beginning of the year	**306**	192
Provision for the year	**80**	124
	386	316
Expenditure incurred	**1**	10
Balance at end of the year	**385**	306
Post-retirement medical benefits		
Balance at beginning of the year	**202**	51
Net provision for the year	**164**	151
Balance at end of the year	**366**	202
Total long-term provisions	**1 539**	1 177

	1996 Rm	1995 Rm
3. NET INTEREST-BEARING DEBT		
Eskom's funding is managed in a single pool consisting of debt and investments. Funds received from prefunding activities are invested, pending their use for repayment of debt and for funding of operating and capital expenditure.		
Net interest-bearing debt consists of:		
Interest-bearing debt	**32 610**	33 911
Locally registered bonds	**18 967**	21 650
Other local debt		
Commercial paper bills	**3 464**	3 025
Other	**1 587**	1 732
Foreign debt		
Bonds and loans	**6 910**	5 648
Project finance	**1 682**	1 856
Less: Investments	**5 312**	6 633
Capital market investments	**3 079**	3 487
Deposits and money market assets		
Negotiable certificates of deposit	**1 327**	2 088
Bills and bankers' acceptances	**21**	12
Fixed and other deposits	**385**	657
Money on call	**329**	219
Cash and bank	**171**	170
Net interest-bearing debt	**27 298**	27 278
The fair value of investments is	**5 235**	*6 495*

3.1 The maturity structure of net interest-bearing debt is as follows:

	Local	Foreign	Less: Invest-ments	Net	Net
Long term	**20 742**	**7 010**	**3 333**	**24 419**	24 234
After 1 year within 5 years	**4 774**	**5 253**	**786**	**9 241**	7 671
After 5 years within 10 years	**1 474**	**1 632**	**670**	**2 436**	3 063
After 10 years	**14 494**	**125**	**1 877**	**12 742**	13 500
Short term	**3 276**	**1 582**	**1 979**	**2 879**	3 044
	24 018	**8 592**	**5 312**	**27 298**	27 278

		1996 Rm	1995 Rm
3.1	Net interest-bearing debt (continued) The weighted average maturity period of net interest-bearing debt is 9,04 years (1995: 9,73 years).		
	Short-term debt includes credits and short-term loans of a revolving nature amounting to	**3 579**	3 109
3.2	The nominal value of locally registered bonds is:		
	Authorised	**67 848**	69 914
	Issued	**23 994**	26 591
	(Refer Schedule 1.)		
3.3	The rand equivalent of foreign debt by major currency is:		
	US dollar	**2 726**	3 326
	German mark	**1 800**	1 868
	Japanese yen	**3 550**	2 025
	Other	**516**	285
		8 592	7 504
	All significant foreign currency exposures were appropriately hedged at year end.		
3.4	Interest-bearing debt and interest thereon are secured by a first claim against revenue and assets.		
3.5	A significant portion of foreign debt is guaranteed by the government of the Republic of South Africa.		
3.6	The average annual rate of net interest and finance charges on net interest-bearing debt amounted to 14,9% (1995: 14,1%).		

4. PROPERTY, PLANT AND EQUIPMENT

	Cost Rm	Accumulated depreciation Rm	Book value Rm
1996			
Land and rights	**374**	**119**	**255**
Buildings and facilities	**2 358**	**982**	**1 376**
Plant – Generation	**33 342**	**11 289**	**22 053**
– Transmission	**6 489**	**2 073**	**4 416**
– Distribution	**12 450**	**3 050**	**9 400**
Test and telecommunication equipment	**996**	**528**	**468**
Equipment and vehicles	**1 924**	**1 178**	**746**
Leased equipment	**74**	**52**	**22**
Total in commission	**58 007**	**19 271**	**38 736**
Plant at mothballed power stations	**1 748**	**545**	**1 203**
Works under construction	**6 217**	**–**	**6 217**
Construction materials	**178**	**–**	**178**
	66 150	**19 816**	**46 334**
1995			
Land and rights	358	104	254
Buildings and facilities	2 284	909	1 375
Plant – Generation	30 060	9 952	20 108
– Transmission	5 992	1 828	4 164
– Distribution	10 645	2 503	8 142
Test and telecommunication equipment	753	405	348
Equipment and vehicles	1 520	941	579
Leased equipment	74	39	35
Total in commission	51 686	16 681	35 005
Plant at mothballed power stations	2 085	548	1 537
Works under construction	6 879	–	6 879
Construction materials	172	–	172
	60 822	17 229	43 593

Details of land and buildings are available at the head office.

	1996 Rm	1995 Rm
4. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)		
Reconciliation of movements		
Book value at beginning of the year	**43 593**	40 711
Additions	**5 475**	5 252
Disposals	**(55)**	(48)
Depreciation	**(2 679)**	(2 322)
Book value at end of the year	**46 334**	43 593
Borrowing costs are capitalised at the rate of 7,71% (1995: 8,41%)		
5. NON-CURRENT ASSETS		
Future fuel supplies	**2 443**	2 151
Nuclear fuel	**810**	868
In reactors	**361**	288
Fuel assemblies in process and in inventory	**449**	580
Unlisted investments (Refer Schedule 2.)	**1 385**	1 412
Other	**59**	67
	4 697	4 498
6. INVENTORIES		
Coal	**299**	283
Maintenance and consumables	**535**	511
	834	794
7. ACCOUNTS RECEIVABLE		
Trade	**1 550**	1 391
Other	**355**	349
	1 905	1 740
8. NET INTEREST ACCRUED		
Interest payable	**1 546**	677
Interest receivable	**(1 133)**	(240)
	413	437

	1996 Rm	1995 Rm
9. COMMITMENTS		
9.1 Capital expenditure		
Estimated capital expenditure	**6 536**	7 263
Contracted	**5 080**	3 292
Approved, not yet contracted	**1 456**	3 971
This expenditure will be financed from debt and internally generated funds and is expected to be incurred as follows:	**6 536**	7 263
Within one year	**3 981**	3 376
Thereafter	**2 555**	3 887
9.2 Derivative financial instruments		
Option contracts, commodity futures contracts, interest rate swaps and interest rate caps have been transacted.		
No material losses are anticipated as a result of these transactions.		
10. CONTINGENT LIABILITIES		
10.1 In terms of the shareholders' agreement, signed between the members of Eskom Finance Company (Proprietary) Limited, Eskom has guaranteed the amounts due by the associate to its other members, amounting to	**882**	820
10.2 Eskom has underwritten the solvency margin of its subsidiary company, Escap Limited, in accordance with the requirements of the Insurance Act. There was no solvency shortfall at year end.		
10.3 Eskom has indemnified the Eskom Pension and Provident Fund against any loss resulting from the negligence, dishonesty or fraud of the Fund's officers or trustees.		
10.4 Guarantees and suretyship issued on behalf of group companies and third parties amount to	**170**	178

	1996 Rm	1995 Rm

11. RETIREMENT BENEFITS

11.1 The Eskom Pension and Provident Fund, a defined benefit fund, is registered in terms of the Pension Funds Act, 1956. Contributions comprise 20,8% of pensionable emoluments of which members pay 7,3%. The Fund is actuarially valued at intervals of not more than three years. The last valuation was performed at 30 June 1996 when the consulting actuaries reported that the Fund was in a sound financial position. The actuarial present value of promised retirement benefits at 30 June 1996 was R9 098 million (1995: R7 538 million), while the fair value of the plan assets at this date was R9 505 million (1995: R7 617 million), indicating an estimated surplus of R407 million (1995: R79 million). The next valuation will be performed at 30 June 1997.

No events have had a significant effect on the Fund's position since this valuation. Any deficit will be funded by the payment of actuarially determined lump sums or by future contributions.

11.2 Eskom 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, amounting to R978 million (1995: R1 013 million), for both in-service and continuation members, was recalculated by independent actuaries during 1996. This amount is being provided for over a period not exceeding 10 years from 1994. An independent actuarial valuation will be performed at intervals of not more than three years.

The unprovided portion amounts to **612** 811

	1996 Rm	1995 Rm
NOTES TO THE INCOME STATEMENT		
12. OPERATING EXPENDITURE		
This includes:		
Auditors' remuneration	5	6
Audit	4	3
Other	1	3
Depreciation	2 679	2 322
Rights	15	7
Buildings and facilities	87	83
Plant	2 188	1 934
Test and telecommunication equipment	139	90
Equipment and vehicles	237	195
Leased equipment	13	13
Managerial, technical and other fees	47	48
Net provision for arrear debts	199	302
Decommissioning and nuclear waste management provision	225	247
Nuclear plant	145	123
Other plant	80	124
Pension contributions	289	257
Net provision for post-retirement medical benefits	164	151
Net profit on disposal of property, plant and equipment	(57)	(36)
Net profit on disposal of unlisted investments	(236)	–
Research and development	58	37
Directors' emoluments		
Executive directors		
Basic remuneration	5	4
Other benefits	2	2
Performance-related remuneration	3	2
Payment to past directors (including consideration for retirement from office)	–	4
	10	12
Non-executive directors		
Services as directors	1	1
Total emoluments	11	13

Included in other benefits are Eskom's contributions of 13,5% of the basic and performance-related remuneration to the Pension Fund and 6,5% of the basic remuneration to the Executive Group Life Insurance Scheme.

NOTES TO THE FINANCIAL STATEMENTS continued

ESKOM

	1996 Rm	1995 Rm
13. NET INTEREST AND FINANCE CHARGES		
Interest paid and discount amortised	**5 108**	4 783
Locally registered bonds	**3 350**	3 294
Other local debt	**518**	566
Foreign debt	**1 240**	923
Interest received and discount amortised	**(1 366)**	(1 131)
	3 742	3 652
Amounts capitalised	**(548)**	(569)
	3 194	3 083
Interest received includes amounts from		
Subsidiary companies	**35**	45
Associate companies	**149**	120

14. TAXATION

In terms of Section 24 of the Eskom Act, Eskom is exempt from South African normal taxation on income.

15. COMMODITY-LINKED PRICING AGREEMENTS

Eskom has entered into a number of long-term commodity-linked pricing agreements to supply electricity. These agreements, which constitute approximately 9,9% of Eskom's sales, link sales revenue to the international commodity (eg ferrochrome and aluminium) prices and the rand/dollar exchange rate in addition to the normal pricing determinants.

	1996 Rm	1995 Rm

NOTES TO THE CASH FLOW STATEMENT

16. CASH FROM OPERATING ACTIVITIES

Net operating income	**6 266**	5 799
Non-cash items	**3 029**	2 917
Depreciation	**2 679**	2 322
Fuel – Nuclear fuel	**207**	185
– Coal	**74**	58
Profit on disposal of property, plant and equipment	**(57)**	(36)
Profit on disposal of investments	**(236)**	–
Net decommissioning and nuclear waste management provision		
– Nuclear plant	**119**	123
– Other plant	**79**	114
Net provision for post-retirement medical benefits	**164**	151
	9 295	8 716
Cash (applied to)/generated from working capital	**(486)**	915
Inventories	**(40)**	(36)
Accounts receivable	**(160)**	81
Accounts payable and other provisions	**(286)**	870
	8 809	9 631

17. NET FINANCING CHARGES

Net interest and finance charges	**(3 194)**	(3 083)
Non-cash items	**1 104**	653
Net interest accrued	**(24)**	(107)
Net discount amortised	**939**	647
Other	**189**	113
	(2 090)	(2 430)

NOTES TO THE FINANCIAL STATEMENTS continued

	1996 Rm	1995 Rm
18. NET CAPITAL EXPENDITURE		
Expenditure on land, buildings and plant	**(5 019)**	(4 962)
Expenditure on equipment and vehicles	**(456)**	(290)
	(5 475)	(5 252)
Proceeds from disposals	**111**	84
Net expenditure on property, plant and equipment	**(5 364)**	(5 168)
Expenditure on future fuel supplies	**(366)**	(355)
Expenditure on nuclear fuel	**(150)**	(141)
Unlisted investments	**261**	(185)
Other	**9**	14
	(5 610)	(5 835)
19. DEBT RAISED		
Locally registered bonds	**235**	2 335
Other local debt	**–**	–
Foreign debt	**1 699**	2 003
	1 934	4 338
20. DEBT REPAID		
Locally registered bonds	**(3 101)**	(1 410)
Other local debt	**(474)**	(1 982)
Foreign debt	**(884)**	(1 159)
	(4 459)	(4 551)
21. DECREASE/(INCREASE) IN INVESTMENTS		
Long term	**(891)**	(277)
Short term	**2 307**	(876)
	1 416	(1 153)

SCHEDULE 1: LOCALLY REGISTERED BONDS

ESKOM

Loan	Authorised nominal value 1996 Rm	Coupon rate %	Average yield Base funding %	Capital repayment dates	Interest payment dates	Issued nominal value 1996 Rm	Issued nominal value 1995 Rm
87	45	9,25		1996	Jan/Jul	–	21
88	10	8,75		1996	Jan/Jul	–	7
89	20	9,25		1996	Jun/Dec	–	5
90	30	9,25		1996	Jun/Dec	–	12
91	10	8,75		1996	Jun/Dec	–	2
92	20	9,25	9,10	1997	Jun/Dec	**12**	12
93	22	9,13	11,10	1997	May/Nov	**14**	14
94	5	8,75	7,84	1997	May/Nov	**1**	1
95	25	8,5	8,16	1997	Jun/Dec	**6**	6
96	28	8,25	8,24	1997	May/Nov	**18**	11
97	7	8	9,27	1997	May/Nov	**4**	4
98	45	8,25	10,06	1997	May/Nov	**39**	34
99	30	8,25	10,51	1998	Jun/Dec	**25**	23
100	20	8,38	8,17	1998	Jun/Dec	**18**	19
101	5	8	9,90	1998	Jun/Dec	**5**	4
103	24	8	8,94	1998	Feb/Aug	**19**	21
104	6	7,63	8,19	1998	Feb/Aug	**5**	6
106	45	8	11,66	1998	Jun/Dec	**39**	42
107	27	9	9,89	1999	Feb/Aug	**24**	23
108	3	8,5	9,95	1999	Feb/Aug	–	–
110	30	9,5	11,27	1999	Jan/Jul	**28**	27
111	9	10,75	13,57	2000	Jan/Jul	**6**	6
112	29	10,75	12,38	2000	Jan/Jul	**24**	25
113	40	10,75	11,76	2000	Feb/Aug	**39**	38
114	25	10,75	10,69	2000	Jun/Dec	**20**	21
115	5	10,25	11,92	2000	Jun/Dec	**4**	4
116	30	10,75	12,65	2000	Feb/Aug	**25**	26
118	55	11	12,14	2000	Apr/Oct	**53**	51
119	6	10,75		1995	Apr/Oct	–	–
C/fwd	656					**428**	465

Loan	Authorised nominal value 1996 Rm	Coupon rate %	Average yield Base funding %	Capital repayment dates	Interest payment dates	Issued nominal value 1996 Rm	Issued nominal value 1995 Rm
B/fwd	656					**428**	465
121	40	11,4	13,33	2001	Mar/Sep	**32**	32
122	2	11,1	13,67	1996	Mar/Sep	–	1
123	40	12,75		1996	May/Nov	–	36
126	40	12,5	13,67	2001	Jun/Dec	**31**	29
127	150	12,6	13,95	1999	Mar/Sep	**148**	145
131	250	11,15	10,34	2002	Apr/Oct	**10**	10
132	250	11,75	8,77	2002	Apr/Oct	**26**	28
134	170	10,75	9,23	2003	May/Nov	**6**	7
135	270	11,3	12,48	2003	May/Nov	**28**	30
138	150	9,7	8,78	2003	Feb/Aug	**3**	7
139	340	10,25	8,88	2003	Feb/Aug	**10**	11
141	130	8,65	12,44	2004	Mar/Sep	**15**	20
142	350	9,15	14,68	2004	Mar/Sep	**346**	267
144	130	9,05	9,55	2005	Feb/Aug	**12**	11
145	270	9,55	16,06	2005	Feb/Aug	**264**	253
148	100	9,05	12,25	2005	Jun/Dec	**4**	5
149	230	9,55	15,45	2005	Jun/Dec	**60**	39
151	275	10,95	10,96	2004	May/Nov	**3**	4
153	400	12,95	13,61	2006	Apr/Oct	**188**	216
154	220	10	10,25	2007	May/Nov	**56**	73
155	170	13,2	13,69	2007	May/Nov	**130**	147
157	415	14,25	15,93	2008	May/Nov	**362**	355
159	325	12	13,25	2008	Mar/Sep	**175**	200
160	350	11	16,07	2009	May/Nov	**178**	189
163	125	10,5	2,58	2004	Jun/Dec	**23**	27
167	5 000	12		1996	May/Nov	–	2 068
168	20 000	11	15,63	2008	Jun/Dec	**12 812**	13 550
169	6 000	15	13,76	1998	Apr/Oct	**3 390**	3 735
170	20 000	13,5	14,38	2020	Feb/Aug	**2 612**	2 650
171	6 500	0	15,30	2002	Mar/Sep	**1 004**	566
172	4 500	8	12,19	2001	Mar/Sep	**1 638**	1 415
	67 848					**23 994**	26 591

SCHEDULE 2: UNLISTED INVESTMENTS

The following unlisted investments are included in non-current assets. (Refer Note 5.)

Name	Nature of operation	Issued/ stated capital R	Effective holding 1996 %	Effective holding 1995 %	Investment 1996 Rm	Investment 1995 Rm	Indebtedness 1996 Rm	Indebtedness 1995 Rm
SUBSIDIARY COMPANIES								
Escap Limited	Insurance	29 500 000	**100**	100	**30**	30	**–**	–
Gallium Insurance Company Limited	Insurance	4 000 000	**100**	100	**4**	4	**–**	–
Rotek Industries (Pty) Limited	Maintenance and service	4 000	**100**	100	**–**	–	**301**	305
					34	34	**301**	305
ASSOCIATE COMPANIES								
Eskom Finance Company (Pty) Limited	Finance (employee housing loans)	4 000	**20**	20	**–**	–	**915**	717
Gezicor (Pty) Limited	Electricity reticulation	1 000	**50**	50	**–**	–	**–**	–
Kwanobuhle Electricity Supply Company (Pty) Limited	Electricity reticulation	40 000	**50**	50	**–**	–	**–**	–
Phambili Nombane (Pty) Limited	Electricity reticulation	3 000 000	**33**	33	**1**	1	**–**	–
TED (Transitional Electricity Distributor) formerly Kescor (Pty) Limited	Electricity reticulation	1 000	**50**	50	**–**	–	**–**	–
					1	1	**915**	717
OTHER								
Alusaf Limited – loan (Unsecured, redeemable loan with an ordinary share conversion option and a dividend-linked interest rate)					**–**	–	**–**	300
The Ash Classification Venture (Unsecured, fixed interest and fixed repayment terms)					**–**	–	**2**	3
Bophuthatswana Electricity Corporation (Unsecured with no fixed redemption dates and bearing interest at prime)					**–**	–	**28**	24
Hidroelectrica de Cahora Bassa SARL (Unsecured, fixed interest and fixed repayment terms)					**–**	–	**103**	27
Small Business Development Corporation Limited – 500 000 ordinary "A" shares (Equity shares)					**1**	1	**–**	–
					1	1	**133**	354
					36	36	**1 349**	1 376
Indebtedness					**1 349**	1 376		
					1 385	1 412		
Directors' valuation of unlisted investments					*1 385*	*1 412*		

UNCONSOLIDATED SUBSIDIARY COMPANIES

Aggregate abridged financial statements	1996 Rm	1995 Rm
Capital employed		
Cost of unlisted shares in subsidiary companies	**34**	30
Post-acquisition deficit at beginning of the year	**(131)**	(18)
Attributable net loss for the year	**(11)**	(115)
Total share capital and reserves	**(108)**	(103)
Loans by holding company	**499**	452
Long-term liabilities	**12**	–
	403	349
Employment of capital		
Property, plant and equipment	**223**	187
Net current assets	**180**	162
	403	349

CURRENT VALUE BALANCE SHEET

	Note	1996 Rm	1995 Rm
CAPITAL EMPLOYED			
Reserves		**64 191**	60 001
Accumulated reserves		**8 038**	7 493
Revaluation reserve	2	**56 003**	52 358
Insurance reserve		**150**	150
Long-term provisions		**1 539**	1 177
Net interest-bearing debt		**27 276**	27 257
		93 006	88 435
EMPLOYMENT OF CAPITAL			
Property, plant and equipment		**86 230**	82 586
Non-current assets		**7 058**	6 641
Current assets		**2 757**	2 557
Inventories		**852**	817
Accounts receivable		**1 905**	1 740
Total assets		**96 045**	91 784
Interest-free liabilities		**3 039**	3 349
Net assets		**93 006**	88 435

CURRENT VALUE INCOME STATEMENT

	Notes	1996 Rm	1995 Rm
Revenue		**18 687**	17 114
Operating expenditure		**14 950**	13 609
Net operating income	3	**3 737**	3 505
Net interest and finance charges	4	**3 192**	3 061
Net income		**545**	444
Transfer to insurance reserve		**–**	50
Retained income for the year		**545**	394
Accumulated reserves at beginning of the year		**7 493**	7 099
Accumulated reserves at end of the year		**8 038**	7 493

RATIOS[1]

Real return on total assets, % (after taking account of financial gearing adjustment)	**3,89**	3,82
Debt:equity	**0,42**	0,45
Interest cover	**1,17**	1,15
Financial gearing adjustment, %	**28,94**	31,05

1 Calculated on the basis described in the seven year financial review.

NOTES TO THE CURRENT VALUE FINANCIAL STATEMENTS

1. BASIS OF PREPARATION

Historical cost accounting practices reflect financial results of prices and costs in effect at the time the underlying transactions occurred. This approach does not account for the fact that the purchasing power of money diminishes during periods of inflation. In an attempt to eliminate the effects of changing prices on assets and income, and to ensure that funds needed to maintain the operating capacity are preserved, historical costs have been restated by the preparation of current value financial statements based on guideline AC201, issued by The South African Institute of Chartered Accountants, which also complies with the International Accounting Standard IAS15.

Where necessary, comparative figures have been restated.

The current value financial statements include the following:

1.1 Revaluation reserve

Differences arising on the revaluation of non-monetary assets are taken to a revaluation reserve, taking into account the financial gearing adjustment.

1.2 Non-monetary assets

The current values of property, plant and equipment, future fuel supplies and maintenance and consumable inventories are stated using the relevant year's production price index (PPI).

Nuclear fuel and coal are stated at replacement value.

Unlisted investments are stated at book value.

1.3 Monetary assets

Accounts receivable are stated at net book value.

1.4 Monetary liabilities

Interest-free liabilities are stated at net book value.

Net interest-bearing debt is stated at fair value.

1.5 Income statement inflation adjustments

Current value depreciation/amortisation is calculated on the current values of relevant non-monetary assets on the same basis as for historical cost purposes.

The depreciation adjustment is the difference between the current cost depreciation charge and the historical cost depreciation charge.

The cost of sales adjustment is the difference between the current cost and the historical cost of consumption of future fuel supplies and maintenance and consumable inventories.

The financial gearing adjustment represents the proportion of the current cost depreciation and cost of sales adjustments financed by outside sources of capital at year end.

Differences arising on the revaluation of net interest-bearing debt are included in interest and finance charges.

1.6 Comparative figures

The current value of certain generation plant, the useful lives of which were extended from 25 to 35 years, were restated this year. The effect on the current year is not material. As a result of the revision of the replacement values of certain assets for 1995, comparative figures have been restated as follows:

Increase in revaluation reserve	4 775
Increase in property, plant and equipment	4 543
Decrease in retained income for the year	232

NOTES TO THE CURRENT VALUE FINANCIAL STATEMENTS

continued

ESKOM

	1996 Rm	1995 Rm
2. REVALUATION RESERVE		
Balance at beginning of the year	**52 358**	43 512
Net revaluation to maintain operating capacity	**3 645**	8 846
Property, plant and equipment revaluation	**4 342**	9 493
Non-current assets revaluation	**306**	347
Other revaluation	**26**	39
Financial gearing adjustment	**(1 029)**	(1 033)
Balance at end of the year	**56 003**	52 358
3. NET OPERATING INCOME RECONCILIATION		
Current cost net operating income	**3 737**	3 505
Inflation adjustments	**2 529**	2 294
Depreciation	**3 439**	3 234
Cost of sales	**119**	93
Financial gearing adjustment	**(1 029)**	(1 033)
Historical cost net operating income	**6 266**	5 799
4. NET INTEREST AND FINANCE CHARGES RECONCILIATION		
Current value net interest and finance charges	**3 192**	3 061
Fair value adjustments	**2**	22
Interest-bearing debt revaluation	**257**	(273)
Investment revaluation	**(255)**	295
Historical cost net interest and finance charges	**3 194**	3 083

1. POWER STATIONS IN COMMISSION AT 31 DECEMBER 1996

Name of station	Location	Number and capacity of generator sets MW	Total nominal capacity MW	Total net maximum capacity MW[1]	Generators in reserve storage Number	Generators in reserve storage Total rating MW
Coal-fired stations						
Arnot[2]	Middelburg, Mpumalanga	6 x 350	2 100	1 980	3	990
Camden[3]	Ermelo	8 x 200	1 600	1 520	8	1 520
Duvha[2]	Witbank	6 x 600	3 600	3 450	–	–
Grootvlei[3]	Balfour	6 x 200	1 200	1 130	6	1 130
Hendrina[2]	Hendrina	10 x 200	2 000	1 900	–	–
Kendal[2, 4]	Witbank	6 x 686	4 116	3 840	–	–
Komati[3]	Middelburg, Mpumalanga	5 x 100; 4 x 125	1 000	891	9	891
Kriel[2]	Bethal	6 x 500	3 000	2 850	–	–
Lethabo[2]	Sasolburg	6 x 618	3 708	3 558	–	–
Majuba[5]	Volksrust	1 x 657	657	612	–	–
Matimba[2, 4]	Ellisras	6 x 665	3 990	3 690	–	–
Matla[2]	Bethal	6 x 600	3 600	3 450	–	–
Tutuka[2]	Standerton	6 x 609	3 654	3 510	–	–
Subtotal coal-fired stations (13)			34 225	32 381	26	4 531
Gas turbine stations[6]						
Acacia	Cape Town	3 x 57	171	171	–	–
Port Rex	East London	3 x 57	171	171	–	–
Subtotal gas turbine stations (2)			342	342	–	–
Hydroelectric stations[7]						
Colley Wobbles[8]	Mbashe River	3 x 14	42	42	–	–
First Falls[8]	Umtata River	2 x 3	6	6	–	–
Gariep	Norvalspont	4 x 90	360	360	–	–
Ncora[8]	Ncora River	2 x 0,4; 1 x 1,3	2	2	–	–
Second Falls[8]	Umtata River	2 x 5,5	11	11	–	–
Vanderkloof	Petrusville	2 x 120	240	240	–	–
Subtotal hydroelectric stations (2)			600	600	–	–
Pumped storage schemes[9]						
Drakensberg	Bergville	4 x 250	1 000	1 000	–	–
Palmiet	Grabouw	2 x 200	400	400	–	–
Subtotal pumped storage schemes (2)			1 400	1 400	–	–
Nuclear power station						
Koeberg[2]	Cape Town	2 x 965	1 930	1 840	–	–
Total Eskom stations in commission (20)			38 497	36 563	26	4 531

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. Base-load station. 3. In long-term reserve storage (mothballed). 4. Dry-cooled unit specifications are based on design back-pressure and ambient air temperature. 5. Unit 2 expected to be commissioned in April 1997. 6. Stations used for peaking or emergency supplies. 7. Use restricted to peaking, emergencies and availability of water in Gariep and Vanderkloof dams. 8. Not an Eskom asset, but during 1995 Eskom was licenced to generate electricity at this station. Generating capacity is not included in Eskom total generating capacity. 9. Pumped storage facilities are net users of electricity. Water is pumped during off-peak periods to generate electricity during peak periods.

2. STATISTICAL OVERVIEW

	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
Sales										
Total sold, GWh[1]	**165 370[2]**	153 547[2]	149 443[2]	143 800	138 126	138 687	136 168	134 347	129 493	122 524
Growth in GWh sales, %	**7,7[3]**	2,7	3,9	4,1	(0,4)	1,8	1,4	3,7	5,7	4,4
Electricity output										
Total electricity production in South Africa, GWh (net)[4]	**179 444**	167 552[5]	167 609	155 812	149 427	148 919	147 069	146 162	140 802	134 751
Eskom electricity available as percentage of South African total	**97,9**	97,4	94,4	97,9	97,9	98,0	97,5	96,7	97,0	96,1
Total electricity for Eskom system (Eskom stations and purchased), GWh[6]	**178 884**	165 006	160 351	154 361	148 556	148 934	146 320	143 548	139 197	132 774
Total produced by Eskom stations, GWh (net)	**178 855**	164 834	160 293	154 260	148 207	148 671	146 047	143 204	138 837	132 507
Subtotal from coal-fired stations, GWh (net)	**163 541**	151 730	148 003	145 514	136 830	135 743	134 744	128 304	123 777	122 947
Subtotal from hydroelectric stations, GWh (net)	**1 319**	529	1 074	146	752	1 980	1 010	2 759	3 162	1 617
Subtotal from pumped storage stations, GWh (net)	**2 220**	1 274	1 517	1 345	1 333	1 804	1 841	1 039	1 403	1 774
Subtotal from gas turbine stations, GWh (net)	**0**	0	2	0	4	0	3	3	2	2
Subtotal from nuclear power station, GWh (net)	**11 775**	11 301	9 697	7 255	9 288	9 144	8 449	11 099	10 493	6 167
Total purchased for Eskom system, GWh	**29**	172	58	101	349	263	273	344	360	267
Total consumed by Eskom, GWh[6]	**3 130**	1 866	2 113	1 898	2 295	2 933	2 953	2 265	2 567	3 229
Total available for distribution, GWh[1]	**175 754**	163 140	158 238	152 463	146 261	146 001	143 367	141 283	136 630	129 545
Plant performance										
Total power station nominal capacity, MW	**38 497**	37 840	37 840	39 746	39 060	38 396	35 673	34 141	33 176	31 261
Total power station net maximum capacity, MW	**36 563**	35 951	35 926	37 636	36 846	36 228	33 843	32 403	31 465	29 618
Peak demand on integrated Eskom system, MW	**27 967**	25 133	24 798	23 169	22 640	22 342	21 863	21 871	20 589	20 001
Average energy availability (unit capability factor), percent[8]	**89,6 (90,6)**	81,6 (84,3)	77,1 (79,9)	80,5 (81,7)	76,7	76,1	75,0	78,1	79,1	79,2
Generation load factor (after excess capacity management), percent[9]	**55,7 (63,9)**	52,3 (59,0)	50,9 (58,3)	46,8 (56,4)	46,9 (54,6)	49,8 (58,5)	50,5 (57,3)	51,1	52,3	54,3
Integrated Eskom system load factor, percent	**71,5**	74,1	72,8	75,1	73,5	74,6	74,9	73,7	75,5	73,9
Coal burnt, thousands of tons	**85 401**	79 377	76 883,0	75 926,4	71 037,9	70 523,2	70 861,2	67 529,3	64 489,6	65 787,0
Coal consumption, kg/kWh net	**0,522**	0,523	0,520	0,522	0,519	0,520	0,526	0,523	0,521	0,535
Average heat rate of coal-fired stations, MJ/kWh net	**10,43**	10,45	10,46	10,47	10,54	10,49	10,66	10,72	10,71	11,00
Average gross calorific value of coal (as received), MJ/kg	**19,87**	19,95	20,09	20,05	20,25	20,21	20,26	20,20	20,44	20,48
Overall thermal efficiency, percent	**34,5**	34,4	34,4	34,4	34,2	34,3	33,7	33,6	33,6	32,7
Weighted average cost of coal burnt, R/t	**35,05**	31,99	29,98	28,48	27,47	25,70	23,91	20,90	18,67	17,11
Weighted average cost of coal burnt, c/kWh	**1,8303**	1,6735	1,5572	1,4860	1,4263	1,3354	1,2575	1,1023	0,9727	0,9155
Employees										
Total number at 31 December[10]	**39 857[11]**	39 952	39 760	40 128	42 223	46 637	50 000	51 554	56 726	56 830
GWh sold per employee	**4,149**	3,843	3,759	3,584	3,271	2,974	2,723	2,606	2,283	2,156
Sales to other countries in southern Africa, GWh										
Botswana	**685**	340	205	121	100	106	84	58	53	78
Lesotho	**335**	324	310	281	241	206	192	182	171	156
Mozambique	**596**	600[5]	559	510	436	383	322	307	340	329
Namibia	**1 100**	950[5]	813	999	457	823	586	557	453	614
Swaziland	**571**	618[5]	577	530	567	356	410	274	290	254
Zimbabwe	**2 267**	154[5]	164	149	14	6	13	14	17	16
	5 554	2 986	2 628	2 590	1 815	1 880	1 607	1 392	1 324	1 447

1. Difference between electricity available for distribution and electricity sold (includes internal sales) is due to transmission losses. 2. Includes sales in respect of Department of Water Affairs and Forestry (DWA & F) not stated in previous years. 3. Growth from 1995 to 1996 is 7,8% if own usage is excluded. 4. Electricity production by Eskom and by some industries and municipalities which generate all or part of their electricity requirements. 5. Restated. 6. Includes Eskom electricity produced and delivered to neighbouring countries. 7. In respect of pumped storage facilities and synchronous condenser mode of operation. See Table 1, Note 9. Since 1993, energy consumption for water pumped for DWA & F has been excluded from this total. 8. Capacity hours available x 100/total capacity hours in year. 9. kWh produced x 100/(average net maximum capacity x hours in year). 10. Excludes employees of subsidiary companies. 11. Includes 398 employees taken over from Venda Electricity Corporation. 12. Adjusted.

3. GENERATING SETS ON ORDER AT 31 DECEMBER 1996

Name, type and location of power station	Number and nominal capacity of sets MW	Net max. capacity of sets MW	Total nominal capacity of station MW	Total net max. capacity of station MW	Number of sets in service (on order)	Total nominal capacity of sets on order MW	Total net max. capacity of sets on order MW	Year of completion first (last) set[1]
Majuba, coal fired	3 x 657	3 x 612						
Volksrust	3 x 713	3 x 669	4 110	3 843	1 (5)	3 453	3 231	1996 (2001)
Total generating sets on order						**3 453**	**3 231**	

1 Dates on which sets on order will be put into commercial service may change, depending on growth in electricity demand.

4. TRANSMISSION AND DISTRIBUTION EQUIPMENT IN SERVICE AT 31 DECEMBER

		1996	1995	Change
Main transmission system, km	765 kV	**1 153[1]**	1 153[1]	0
	533 kV DC (monopolar)	**1 035**	1 031	4
	400 kV	**14 216**	13 981	235
	275 kV	**7 130**	7 148	(18)
	220 kV	**1 239**	1 243	(4)
	132 kV	**653**	632	21
Total transmission lines[2], km		**25 426**	25 188	238
Distribution lines, km	165-132 kV	**18 730**	16 632	2 098
	88-33 kV	**20 597**	20 230	367
Total distribution lines, km		**39 327**	36 862	2 465
Reticulation lines, km	22 kV and lower	**190 992**	179 752	11 240
Total all lines, km		**255 745**	241 802	13 943
Cables, km	165-132 kV	**47**	47	0
	88-33 kV	**243**	206	37
	22 kV and lower	**5 767**	4 838	929
Total all cables, km		**6 057**	5 091	966
Transformers	Transmission, MVA[3]	**124 790**	124 790	0
	Distribution and reticulation, MVA	**71 382**	68 681	2 701
Total transformer capacity, MVA		**196 172**	193 471	2 701
Transformers	Transmission, number	**455**	453	2
	Distribution and reticulation, number	**224 724**	213 099	11 625
Total transformers, number		**225 179**	213 552	11 625

1. 282 km of 765 kV line presently operating at 400 kV. 2. Transmission line lengths as per GIS (Geographic Information System) distances.
3. Base of definition: transformers rated ≥ 30 MVA and primary voltage ≥ 132 kV.

5. SALES OF ELECTRICITY TO CATEGORIES OF CUSTOMERS

Category	Number of customers 1996	1995	Change 95 – 96 %	GWh sold 1996	1995	Change 95 – 96 %
Redistributors	**752**	704	6,8	**69 905**	66 421	5,2
Domestic and street lighting[1]	**1 712 958**	1 407 117	21,7	**4 753**	3 906	21,7
Commercial	**23 869**	23 098	3,3	**654**	579	13,0
Industrial	**7 199**	6 326	13,8	**47 451**	42 244	12,3
Mining	**731**	661	10,6	**31 188**	31 293	(0,3)
Rural	**131 541**	129 590	1,5	**3 239**	3 383	(4,3)
Traction	**155**	38	307,9	**3 458**	3 522	(1,8)
International[2]	**4**	4	0,0	**4 441**	1 832	142,4
Own usage	**60**	255	(76,5)	**281**	367	(23,4)
	1 877 269	1 567 793	19,7	**165 370**	153 547	7,7[3]

1. Includes pre-paid sales. 2. International category comprises four main customers in Botswana, Mozambique, Namibia and Zimbabwe. 3. The growth from 1995 to 1996 is 7,8% if own usage is excluded.

6. REVENUE PER CATEGORY OF CUSTOMER

Category	Revenue Rm 1996	1995	Change 95 – 96 %	Average price c/kWh sold 1996	1995	Change 95 – 96 %
Redistributors	**7 785**	7 155	8,8	**11,14**	10,77	3,4
Domestic and street lighting[1]	**924**	709	30,3	**19,45**	18,15	7,2
Commercial	**127**	108	17,6	**19,49**	18,65	4,5
Industrial	**4 794**	4 394	9,1	**10,1**	10,40	(2,9)
Mining	**3 437**	3 322	3,5	**11,02**	10,62	3,8
Rural	**757**	744	1,7	**23,39**	21,99	6,3
Traction	**530**	516	2,7	**15,31**	14,65	4,5
International[2]	**302**	127	137,8	**6,8**	6,93	(2,0)
Own usage	**31**	39	(20,5)	**10,91**	10,63	2,7
	18 687	17 114	9,2	**11,30**	11,15	1,4[3]

1. Includes pre-paid sales. 2. International category comprises four main customers in Botswana, Mozambique, Namibia and Zimbabwe. 3. Official price increase 4%; actual 1,4%, due to a change in the mix of sales, lower revenue from commodity-linked tariffs and the phasing out of capacity allocations to certain municipalities.

7. ANALYSIS OF REGISTERED HOLDERS OF ESKOM LOCALLY REGISTERED BONDS AT 31 DECEMBER

	% of issued nominal value 1996	1995
Insurance companies, pension and provident funds	**3**	6
Corporate bodies	**2**	12
Nominee companies	**81**	65
Private individuals	**14**	17
	100	100

INTERNATIONAL COMPARISIONS

MAJOR ELECTRICITY UTILITIES IN THE WORLD

Utility	Country	Sales GWh	Rating by sales	Nominal capacity MW	Rating by capacity
EDF	France	341 900	1	97 800	1
TEPCO[1]	Japan	254 351	2	51 207	3
ENEL[2]	Italy	205 132	3	52 463	2
Hydro-Québec	Canada	166 101	4	31 162	7
Eskom[3]	South Africa	165 370	5	38 497	4
Korea Electric Power Co	South Korea	163 270	6	32 184	6
Ontario Hydro	Canada	140 850	7	29 244	8
TVA[4]	USA	134 155	8	25 831	11
Kansai Electric Power Co[1]	Japan	133 816	9	36 371	5
RWE[5]	Germany	125 582	10	26 061	10
Chubu Electric Power Co[1]	Japan	112 606	11	27 508	9
Tai Power	Taiwan	105 368	12	12 898	14
Commonwealth Edison	USA	91 353	13	25 010	12
National Power[1]	United Kingdom	90 800	14	19 635	15
Texas Utilities Electric	USA	90 103	15	22 305	13

All data for the year ended 31 December 1995, except for the year ending as follows:
1 31 March 1996 2 31 December 1994 3 31 December 1996 4 30 September 1995 5 30 June 1995
Source: Tepco illustrated (Tokyo Electric Power Company)

SOUTHERN AFRICAN GRID KEY

MAJOR TRANSMISSION PROJECTS COMMISSIONED DURING 1996

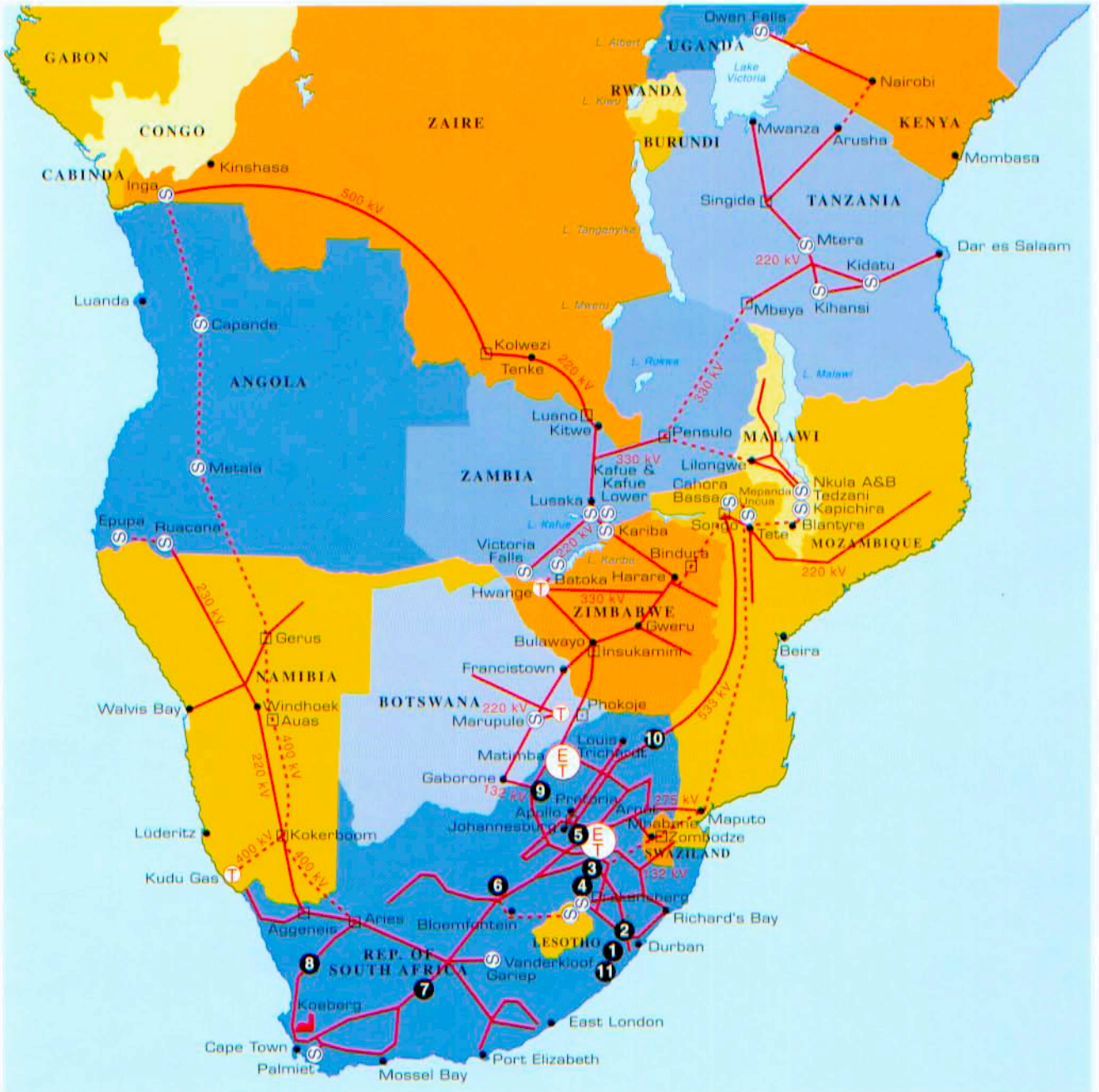
1. Ariadne substation integration
2. Hector substation integration
3. Majuba-Pegasus line
4. Sorata substation
5. Telecommunication network
6. Perseus substation refurbishment

FUTURE TRANSMISSION PROJECTS (ESKOM)

7. Strengthening of the transmission system to the Western Cape, which includes a third 260 km 400 kV line.
8. A new supply to Saldanha steel smelter at Saldanha Bay. Phase 1 of the project requires 210 MW of power – August 1997.
9. North West province – a 90 km 400 kV line (November 1997) to strengthen the transmission system feeding up to Matimba and Zimbabwe, and provide for increased industrial and mining load in the Brits-Rustenburg area.
10. Northern Province – Spencer substation
11. Southern KwaZulu-Natal – Eros substation

SOUTHERN AFRICAN GRID

ESKOM



Existing grid system

Possible future grid system

Hydroelectric power station

Eskom thermal stations

Thermal power station

Nuclear power station

Interconnection substation

0 500 1000 1500 Miles

0 500 1000 1500 2000 Kilometres