

Historical overview

1882 South Africa was one of the first countries in the world to use electricity on a commercial basis. As elsewhere, the supply of electricity began under the auspices of various municipalities. Kimberley was the first to introduce electric street lights in 1882, before London had electric lights. Kimberley's first reticulation system was commissioned in 1890, followed by Johannesburg in 1891, Pretoria in 1892, Cape Town in 1895, Pietermaritzburg in 1896, Durban in 1897, East London in 1899, Bloemfontein in 1900 and Port Elizabeth in 1906.

1906 In the 1890s, mining groups combined to erect power stations to supply their own needs. The Victoria Falls Power Company Limited (VFP) was registered in 1906 to harness the Victoria Falls and supply electricity to industries on the Witwatersrand and in Southern Rhodesia, now Zimbabwe. For technical and financial reasons the project was abandoned and the VFP concentrated on the exploitation of Transvaal coal. By 1915 it operated four power stations under the name of The Victoria Falls and Transvaal Power Company and at one stage was the largest utility in the British Empire.

1923 The need for a national power system which could meet the demands of the entire country led to the Electricity Act of 1922 and the establishment of the Electricity Supply Commission in 1923. The Commission's first chairman was Dr H.J. van der Bijl, an internationally recognised scientist who also founded Iscor and the IDC. Eskom began generating power in 1925 and soon became South Africa's leading electricity supplier.

1948 Eskom took over the VFP in 1948, a further step towards a national supply system. By the end of 1990, Eskom was supplying more than half the electricity in Africa. It ranks among the largest electricity utilities in the world.

1962 Eskom's first power stations were far advanced for their time, but small by today's standards with sets of 33 MW and later 60 MW. In 1962, the first "big" sets, 100 MW and 125 MW, were commissioned. This led to the present 600 MW sets which are among the largest and technologically most advanced in the world.

1973 The idea of an integrated transmission system, linking all major cities in the country, was first raised in the 1920s. By 1973 this had become a reality when all Eskom undertakings had been connected. Eskom has more than 220 000 km of power lines of which 22 000 km are part of the national grid. In 1987, the first 765 kV lines were energised.

1984 With vast deposits of coal available, Eskom's base-load stations are mainly coal fired. It has also harnessed South Africa's meagre hydro potential. In addition, in 1984, South Africa's first nuclear power station became operational.

1985 Eskom was restructured in 1985 to meet the electricity demands of a changing South Africa. The Electricity Supply Commission was replaced by a body corporate known as Eskom, controlled and managed by the Electricity Council and Management Board. In 1987 the Eskom Act and the Electricity Act were promulgated and Eskom's name was changed to Eskom. Eskom commits itself to being a professionally managed, customer orientated business.

1990 Eskom supports a new democratic outward-looking South Africa. The goals of bringing affordable electricity to all and joining a sub-Saharan interconnected grid are closer to becoming a reality.

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Hierdie publikasie is ook in Afrikaans verkrygbaar.

Foreword

Statistics is an essential component of planning and Eskom has over the years gathered a wealth of information concerning electricity generation and supply in South Africa and its neighbouring countries. Our wish to share this information with interested parties throughout the world has been rewarded with an ever increasing demand for Eskom's Statistical Yearbook.

As political constraints begin to ease, utilities in the southern African region are eager to exchange know-how and link up resources for the benefit of all. An interconnected grid spanning the subcontinent may well be closer to becoming a reality than was hoped a year ago. The data contained in this publication will be helpful in evaluating current electricity generation and supply in South and southern Africa.

I.C. McRAE
Chief Executive
30 April 1991

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Copies of this Statistical Yearbook are distributed worldwide to utilities, business undertakings, banks, management consultants, consulting engineers, research institutions as well as industry and consumer associations.

Conversion factors and equivalents

Heat/energy

1 kWh	= 3 412,14 Btu = 3,6 MJ = 859,845 kcals
1 therm	= 29,307 1 kWh = 100 000 Btu = 105,506 MJ = 25,199 6 Mcals
1 GJ	= 277,778 kWh = 9,478 17 therms = 238,846 Mcals
1 CHU ^a	= 1,8 Btu = 1 900,4 J (approx)
1 Q	= 10 ¹⁸ Btu
1 quad	= 10 ¹⁵ Btu

Calorific value, mass basis

1 Btu/lb	= 2,326 kJ/kg
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Pressure

1 lb/in ²	= 6,894 76 kPa (or kN/m ²) = 0,070 31 kg/cm ² = 0,068 947 6 bar
1 bar	= 100 kPa = 10 ⁵ N/m ² = 14,503 68 lb/in ²

Other

1 cusec	= 0,028 317 m ³ /s
1 mile	= 1,609 344 km
1 lb	= 0,453 592 37 kg
1 gal (imp)	= 4,546 09 litres (1 litre = 1 dm ³ = 1 000 cm ³)
1 gal (US)	= 3,785 412 litres
1 ton (long)	= 1,016 05 tons (metric ton)
1 ton (short)	= 0,907 185 tons (metric ton)
1 hp (UK)	= 745,700 W (or J/s)
1 hp (metric)	= 735,499 W (or J/s)

Approximate equivalents

1 ft ³ natural gas	approximately equals	1,000 Btu
1 ton gas/diesel oil	approximately equals	431 therms
1 ton crude oil	approximately equals	7,35 barrels or 432 therms
1 ton fuel oil	approximately equals	6,55 barrels or 406 therms
1 ton power station oil	approximately equals	406 therms
1 ton power station coal ^b	approximately equals	231 therms
1 ton industrial coal	approximately equals	261 therms

Power station equivalents

475 tons of coal or 160 tons of oil will produce about 1 GWh in a typical modern power station. One ton of natural uranium, when used in a Magnox reactor, will supply about 30 GWh.

a Centigrade heat unit.

b For South African power stations:

Tutuka: 1 ton approx. equals 200 therms or 21,12 GJ

Lethabo: 1 ton approx. equals 147 therms or 15,48 GJ

GENERAL

Symbols and abbreviations used

– = not applicable/not available

kW = kilowatt

MW = megawatt (1 000 kW)

kWh = kilowatt hour (unit)

MWh = megawatt hour (1 000 units)

GWh = gigawatt hour (1 000 000 units)

The figures in the tables have, where necessary, been rounded off to the nearest final digit shown. There may, therefore, be slight discrepancies between the sums of the constituent items and the totals shown.

ESKOM: Statistical overview

Table 1

	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981
Financial, R million										
Revenue	10 736	9 271	8 159	7 046	5 845	4 625	3 832	3 302	2 695	2 141
Net income ^a	845	728	816	702	781	738	732	744	671	507
Fixed assets in commission, at cost	35 640	31 199	28 680	24 986	19 907	15 496	12 058	9 218	7 689	6 323
Works under construction	5 771	6 638	5 512	6 075	7 753	8 552	7 271	6 434	5 198	3 854
Capital expenditure	3 662	3 993	3 969	3 895	3 755	4 757	3 719	2 757	2 741	1 951
Total net borrowings	25 883	24 630	24 334	21 475	19 462	17 621	13 861	10 686	8 534	6 334
Plant performance										
Total power station capacity, installed rating, MW	35 673	34 141	33 176	31 261	28 086	25 716	24 514	22 949	21 749	20 049
Total power station capacity, assigned sent-out rating, MW	33 843	32 403	31 465	29 618	26 682	24 359	23 168	21 673	20 523	18 989
Peak demand on integrated Eskom system, MW	21 863	21 871	20 589	20 001	18 278	17 852	17 296	15 639	15 532	14 674
Average station availability % ^b	75,0	78,1	79,1	79,2	78,5	77,5	74,9	71,9	74,3	74,2
Station load factor, (after excess capacity management)% ^c	50,5 (57,3)	51,1	52,3	54,3	55,5	58,0	58,1	55,6	59,3	62,2
Integrated Eskom system load factor, %	74,9	73,7	75,5	73,9	77,3	76,2	75,0	76,9	75,3	77,6
Water consumed in Eskom power stations, M ³	257 000	260 154	262 804	274 804	262 372	275 716	269 868	255 654	265 933	235 138
Coal burnt, thousands of tons	70 861,2	67 529,3	64 489,6	65 787,0	58 915,9	59 488,6	58 703,6	55 010,2	55 198,4	53 903,7
Coal burnt, kg/kWh sent out	0,526	0,521	0,521	0,535	0,515	0,522	0,533	0,546	0,551	0,563
Average heat rate of coal-fired stations, MJ/kWh sent out	10,66	10,72	10,71	11,00	10,95	11,26	11,45	11,57	11,82	12,01
Average heat content of coal (as received), MJ/kg	20,26	20,20	20,44	20,48	21,19	21,52	21,38	21,11	21,39	21,25
Overall thermal efficiency, sent-out basis, %	33,7	33,6	33,6	32,7	32,9	32,0	31,4	31,1	30,5	30,0
Average cost of coal burnt, R/ton	23,91	20,94	18,67	17,11	14,87	13,25	12,55	12,44	11,75	9,71
Average cost of coal burnt, c/kWh sent out	1,2780	1,1023	0,9727	0,9155	0,7665	0,6916	0,6692	0,6793	0,6471	0,5473
Electricity output										
Total electricity sent out in South Africa, GWh ^d	147 244	146 161	140 802	134 751	130 056	126 206	120 835	112 366	109 536	106 135
Total electricity sent out as a % of South African total	97,4	96,7	97,0	96,1	95,1	94,5	94,3	93,8	93,6	93,9
Total electricity sent out on Eskom system (Eskom stations and purchased), GWh ^e	146 320	143 548	139 197	132 774	126 766	122 494	117 086	108 321	104 920	100 425
Total sent out from Eskom stations, GWh	146 047	143 204	138 837	132 507	126 511	121 987	116 581	103 295	102 769	97 824
Subtotal from coal-fired stations, GWh	134 744	128 304	123 777	122 947	114 298	113 941	110 094	100 738	100 217	95 675
Subtotal from hydro-electric stations, GWh	1 010	2 759	3 162	1 617	1 623	624	560	595	1 016	1 653
Subtotal from pumped storage stations, GWh	1,841	1 039	1 403	1 774	1 785	2 107	1 994	1 957	1 519	415
Subtotal from diesel and gas-turbine stations, GWh	3	3	2	2	2	0	8	5	17	81
Subtotal from nuclear power station, GWh	8 449	11 099	10 493	6 167	8 803	5 315	3 925	—	—	—
Total purchased by Eskom and sent out on Eskom system, GWh	273	344	360	267	255	507	505	5 026	2 151	2 601
Total consumed by Eskom power stations, GWh ^f	2 953	2 265	2 567	3 229	3 018	3 265	3 188	2 917	2 404	712
Total available for distribution, GWh	143 367	141 283	136 630	129 545	123 748	119 229	113 898	105 404	102 516	99 713
Total sold, GWh ^g	136 168	134 347	129 493	122 524	117 353,0	112 305,9	106 904,1	98 251,1	96 135,9	93 844,0
Growth in GWh sales, %	1,4	3,7	5,7	4,4	4,5	5,1	8,8	2,2	2,4	7,2
Employees										
Total number at 31 December	50 000	51 554	56 726	56 830	60 800	66 000	64 560	62 420	58 850	52 080
Ratio number/GWh sold	0,367	0,384	0,438	0,464	0,518	0,588	0,604	0,635	0,612	0,555
Power station assigned sent-out rating, MW										
Subtotal coal fired (17 stations) ^h	29 673	28 233	27 295	25 848	22 912	20 637	20 366	19 791	18 641	17 607
Subtotal gas turbine (3 stations) ⁱ	390	390	390	390	390	342	342	342	342	342
Subtotal hydro-electric (2 stations) ^j	540	540	540	540	540	540	540	540	540	540
Subtotal pumped storage (2 stations) ^k	1 400	1 400	1 400	1 000	1 000	1 000	1 000	1 000	1 000	500
Subtotal nuclear (1 station)	1 840	1 840	1 840	1 840	1 840	1 840	920	—	—	—
Total power station assigned sent-out rating, MW	33 843	32 403	31 465	29 618	26 682	24 359	23 168	21 673	20 523	18 989

a. Certain adjustments had to be made to make figures comparable with current figures, which are presented in terms of the Eskom Act of 1987. b. Capacity hours available x 100/total capacity hours in year. c. kWh sent out x 100/(average assigned sent-out rating x hours in year). d. Electricity sent out by Eskom, some industries and municipalities which generate all or part of their electricity requirements. e. Includes Eskom electricity sent out to neighbouring countries.

f. In respect of pumped-storage facilities and synchronous condenser mode of operation. See Note g, Table 6. g. Difference between electricity available for distribution and electricity sold is due to transmission losses. h. Base-load stations, except in the case of older, uneconomical plant, which are used only for peak demands or in emergencies. i. Used only for peaking or in emergencies. j. Use restricted to peaking and emergencies and availability of water in Hendrik Verwoerd and P.K. le Roux dams. k. Pumped-storage facilities are net users of electricity and are used for peaking. Water is pumped during off-peak periods to generate electricity during peak periods.

ESKOM: Highlights of the year

Table 2

	1990	1989	% Change 1989-90	% Average yearly increase 1986-90
Financial				
Revenue (R million)	10 736	9 271	15,8	18,3
Net income (R million)	845	728	16,1	2,7
Fixed assets in commission, at cost (R million)	35 640	31 199	14,2	18,1
Works under construction (R million)	5 771	6 638	-13,1	-7,6
Net capital expenditure (R million)	3 662	3 993	-8,3	-5,1
Total net borrowings (R million)	25 883	24 630	5,1	8,0
Average price per kW.h sold (cents)	7,88	6,90	14,2	13,9
Average cost per ton of coal burnt (rand)	23,91	20,94	14,2	12,5
Operations				
Electricity sold (GWh)	136 168	134 347	1,4	3,9
Coal burnt in power stations (Mt)	70,9	67,5	5,0	3,6
Water consumed by power stations (Mℓ)	257 000	260 154	-1,2	-1,4
Peak demand on integrated system (MW)	21 863	21 871	0,0	4,1
	(29.06.90)	(21.07.89)		
Assets in commission				
at 31 December				
Installed capacity (MW)	35 673	34 141	4,5	6,8
Assigned sent-out rating (MW)	33 843	32 403	4,4	6,8
Power lines (km)	220 112	212 114	3,8	6,4
Staff employed				
at 31 December	50 000	51 554	-3,0	-5,4

ESKOM: Financial statistics

Table 3

	1990	1989	1988
Energy sold, thousand GWh	136	134	129
Annual increase, thousand GWh	2	5	7
Annual increase, %	1,36	3,75	5,69
Electricity revenue (R million)	10 736	9 271	8 159
Annual increase, %	15,8	13,63	15,80
Cents per kWh	7,88	6,90	6,30
Annual increase, %	14,20	9,52	9,57
Charges against revenue (R million)			
Total operating expenditure	6 366	5 644	4 858
Annual increase, %	12,79	16,18	15,47
Depreciation	1 441	1 364	1 150
Annual increase, %	5,65	18,61	19,42
Interest and finance charges	3 302	2 899	2 485
Annual increase, %	13,90	16,66	16,28
Net income	845	728	816
Assets (R million)			
Total fixed assets	34 030	31 728	29 169
Assets in commission	27 926	24 751	23 384
Works under construction	5 771	6 638	5 512
Equipment and vehicles	333	339	273
Non-current assets	2 501	2 185	2 244
Stores, material and fuel	1 312	1 259	1 176
Debtors	958	920	796
Financing (R million)			
Net loans and debt	25 883	24 630	22 779
Other liabilities	2 987	2 405	2 302
Reserves and provisions	9 931	9 057	8 304
Debt/equity ratio	2,7	2,8	2,8

ESKOM: Summary of operations

Table 4

Year	Coal-fired power stations					Coal cost	
	Coal used						
	Thousands of tons	Average heat content (as received) MJ/kg	Consumption sent-out basis kg/kWh	Average heat rate sent-out basis MJ/kWh	Overall thermal efficiency sent-out basis %	Average R/ton	c/kWh sent out
1950	6 323,4	22,72	0,869	19,74	18,2	0,84	0,0729
1951	6 662,9	22,72	0,855	19,43	18,5	0,98	0,0840
1952	7 113,4	22,75	0,865	19,68	18,3	1,20	0,1037
1953	7 393,9	23,08	0,837	19,32	18,6	1,33	0,1116
1954	8 024,9	23,06	0,805	18,56	19,4	1,41	0,1136
1955	8 999,7	22,89	0,788	18,04	20,0	1,52	0,1201
1956	9 688,5	22,96	0,765	17,56	20,5	1,62	0,1236
1957	10 220,6	22,79	0,750	17,09	21,1	1,69	0,1266
1958	10 784,1	22,73	0,743	16,89	21,3	1,77	0,1312
1959	11 548,7	22,44	0,732	16,43	21,9	1,82	0,1329
1960	12 512,6	22,52	0,723	16,28	22,1	2,03	0,1466
1961	13 194,9	22,39	0,722	16,17	22,3	2,10	0,1516
1962	13 955,5	22,22	0,719	15,98	22,5	2,09	0,1507
1963	14 721,1	22,15	0,708	15,68	23,0	2,11	0,1492
1964	15 654,7	22,15	0,692	15,33	23,5	2,07	0,1430
1965	16 726,7	22,39	0,680	15,23	23,6	2,09	0,1423
1966	16 982,3	22,20	0,666	14,79	24,4	2,23	0,1486
1967	18 307,7	22,44	0,645	14,47	24,9	2,30	0,1482
1968	19 133,9	22,63	0,620	14,03	25,6	2,33	0,1446
1969	19 982,9	22,73	0,595	13,52	26,6	2,37	0,1412
1970	21 630,6	22,97	0,580	13,32	27,0	2,26	0,1308
1971	23 416,2	23,30	0,576	13,42	26,8	2,25	0,1297
1972	24 952,8	22,89	0,571	13,07	27,5	2,25	0,1285
1973	27 907,9	22,47	0,563	12,65	28,5	2,39	0,1348
1974	30 891,4	22,42	0,560	12,56	28,7	2,92	0,1637
1975	34 231,7	22,21	0,567	12,59	28,6	4,05	0,2295
1976	37 257,4	21,87	0,579	12,66	28,4	5,39	0,3122
1977	37 505,6	21,78	0,576	12,55	28,7	6,22	0,3582
1978	39 589,5	21,61	0,574	12,44	28,9	6,67	0,3824
1979	43 264,9	21,22	0,580	12,33	29,2	6,96	0,4045
1980	46 755,0	21,34	0,568	12,16	29,6	8,12	0,4614
1981	53 903,7	21,25	0,563	12,01	30,0	9,71	0,5473
1982	55 198,4	21,39	0,551	11,82	30,5	11,75	0,6471
1983	55 010,2	21,11	0,546	11,57	31,1	12,44	0,6793
1984	58 703,6	21,38	0,533	11,45	31,4	12,55	0,6692
1985	59 488,6	21,52	0,522	11,26	32,0	13,25	0,6916
1986	58 915,9	21,19	0,515	10,95	32,9	14,87	0,7665
1987	65 787,0	20,48	0,535	11,00	32,7	17,11	0,9155
1988	64 489,6	20,44	0,521	10,71	33,6	18,67	0,9727
1989	67 529,3	20,20	0,523	10,72	33,6	20,94	1,1023
1990	70 861,2	20,26	0,526	10,66	33,7	23,91	1,2780

* kWh sent out x 100 / (average assigned sent-out rating x hours in year)
 † After excess capacity management.

Power station output (sent-out basis)

Coal-fired stations GWh	Hydro-electric stations GWh	Pumped-storage stations GWh	Diesel and gas-turbine stations GWh	Nuclear station GWh	Total power station output GWh	Total power station capacity assigned sent-out rating at 31 December MW	Average power station plant load factor sent-out basis ^a %
7 267	7	–	4	–	7 287	1 290	64,7
7 797	6	–	3	–	7 806	1 361	66,1
8 220	6	–	1	–	8 227	1 454	66,9
8 838	7	–	–	–	8 845	1 635	65,5
9 971	6	–	–	–	9 977	1 846	66,4
11 419	6	–	–	–	11 425	2 145	65,9
12 663	7	–	–	–	12 670	2 498	61,2
13 634	6	–	–	–	13 640	2 555	61,1
14 511	5	–	–	–	14 516	2 748	62,0
15 774	3	–	–	–	15 777	2 983	62,6
17 306	2	–	–	–	17 308	3 091	65,2
18 282	2	–	–	–	18 284	3 226	66,2
19 401	3	–	–	–	19 404	3 406	65,8
20 789	4	–	–	–	20 793	3 788	65,7
22 634	5	–	–	–	22 639	4 077	65,2
24 583	–	–	–	–	24 583	4 181	67,4
25 504	–	–	–	–	25 504	4 377	67,1
28 371	–	–	–	–	28 371	5 328	66,8
30 843	–	–	–	–	30 843	5 800	62,9
33 598	–	–	–	–	33 598	6 441	62,1
37 321	–	–	–	–	37 321	7 060	62,9
40 645	94	–	–	–	40 739	8 373	61,3
43 662	813	–	–	–	44 475	8 849	59,6
49 570	189	–	–	–	49 759	9 482	62,5
55 141	1 110	–	–	–	56 251	10 002	66,3
60 400	1 098	–	–	–	61 498	10 522	68,6
64 309	1 853	–	26	–	66 188	11 688	66,8
65 114	1 924	–	12	–	67 050	12 756	61,9
69 004	1 887	–	11	–	70 902	13 595	60,7
74 485	1 144	–	14	–	75 643	15 056	60,9
82 342	992	–	28	–	83 362	17 339	57,8
95 675	1 653	415	81	–	97 824	18 989	62,2
100 217	1 016	1 519	17	–	102 769	20 523	59,3
100 738	595	1 957	5	–	103 295	21 673	55,6
110 094	560	1 994	8	3 925	116 581	23 168	58,1
113 941	624	2 107	0	5 315	121 987	24 359	58,0
114 298	1 623	1 785	2	8 803	126 511	26 682	55,5
122 947	1 617	1 774	2	6 167	132 507	29 618	54,3
123 777	3 162	1 403	2	10 493	138 837	31 465	52,3
128 304	2 759	1 039	3	11 099	143 204	32 403	51,1
134 744	1 010	1 841	3	8 449	146 047	33 843	57,3 ^b

ESKOM: Power stations in commission

at 31 December 1990

Table 6

Name of station	Location	Number and rating of generator sets, MW	Total installed rating MW	Total assigned sent-out rating, MW ^a	Turbo generators in reserve storage Number	Total rating MW
Coal-fired stations						
Amot ^b	Middelburg, Tvl	6 x 350	2 100	1 955	—	—
Camden ^c	Ermelo	8 x 200	1 600	1 520	8	1 520
Duvha ^b	Witbank	6 x 600	3 600	3 450	—	—
Grootvlei ^c	Balfour	6 x 200	1 200	1 130	6	1 130
Hendrina ^b	Hendrina	10 x 200	2 000	1 900	—	—
Highveld ^d	Sasolburg	8 x 60	480	412	8	412
Ingagane ^c	Newcastle	5 x 100	500	465	5	465
Kendal ^{b, g}	Witbank	1 x 686	686	640	—	—
Komatia ^c	Middelburg, Tvl	5 x 100	500	473	5	473
		4 x 125	500	418	4	418
Kriel ^b	Bethal	6 x 500	3 000	2 850	—	—
Lethabo ^b	Sasolburg	6 x 618	3 708	3 558	—	—
Matimba ^{b, g}	Ellisras	5 x 665	3 325	3 075	—	—
Matla ^b	Bethal	6 x 600	3 600	3 450	—	—
Salt River ^d	Cape Town	4 x 30	120	114	4	114
		2 x 60	120	114	—	—
Taaibos ^d	Sasolburg	8 x 60	480	440	8	440
Tutuka ^b	Standerton	6 x 609	3 654	3 510	—	—
Wilge ^d	Witbank	2 x 30	60	56	3	106
		3 x 60	180	143	—	—
Subtotal coal-fired stations (17)			31 413	29 673	51	5 078
Gas-turbine and diesel stations^d						
Acacia	Cape Town	3 x 57	171	171	—	—
Port Rex	East London	3 x 57	171	171	—	—
Paratus	Walvis Bay	1 x 22,4	22,4	22,4	—	—
		4 x 6,4	25,6	25,6	—	—
Subtotal gas-turbine and diesel stations (3)			390	390	—	—
Hydro-electric stations^e						
Hendrik Verwoerd	Norvalspont	4 x 80	320	320	—	—
Vanderkloof	Petrusville	2 x 110	220	220	—	—
Subtotal hydro-electric stations (2)			540	540	—	—
Pumped storage stations^f						
Drakensberg	Bergville	4 x 250	1 000	1 000	—	—
Palmiet	Grabouw	2 x 200	400	400	—	—
Subtotal pumped storage stations (2)			1 400	1 400	—	—
Nuclear station						
Koeberg	Cape Town	2 x 965	1 930	1 840	—	—
Total in service, 25 Eskom stations			35 673	33 843	51	5 078

^a Difference between installed capacity and sent-out rating reflects auxiliary power consumption and reduced capacity caused by age of plant and/or low coal quality.

^b Base-load station

^c Mid-merit station.

^d Stations used for peaking or emergency supplies.

^e Use restricted to peaking and emergencies and availability of water in Hendrik Verwoerd and P.K. le Roux dams.

^f Pumped storage facilities are net users of electricity and are used for peaking. Water is pumped during off-peak periods to generate electricity during peak periods.

^g Dry cooled unit specifications are based on design back-pressure and ambient air temperature.

ESKOM: Generating sets taken into service during 1990

Table 7

Station	Total installed rating MW	Total sent-out rating MW
Lethabo, set 6	618	593
Matimba, set 5	665	615
Tutuka, set 6	609	585
Total	1 892	1 793

ESKOM: Generating sets on order

at 31 December 1990

Table 8

Name, type and location of power station	No. and installed rating of set MW	Sent-out rating of set MW	Total installed rating of station MW	Total sent-out rating of station MW	No. of sets in service (on order)	Total installed rating of sets on order	Total sent-out rating of sets on order	Year of completion first (last) set
Kendal, coal fired, Kendal	6 x 686	640	4 116	3 840	1 (5)	3 430	3 200	1988 (1993)
Majuba, coal fired, Volksrust	3 x 657 3 x 711	3 x 612 3 x 667	4 104	3 837	0 (6)	4 104	3 837	1996 (2001)
Matimba, coal fired, Ellisras	6 x 665	615	3 990	3 690	5 (1)	665	615	1987 (1991)
Total generating sets on order						8 199	7 652	

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

ESKOM: Generating sets taken into service during 1990

Table 7

Station	Total installed rating MW	Total sent-out rating MW
Lethabo, set 6	618	593
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ESKOM: Generating sets on order

at 31 December 1990

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Name, type and location of power station	No. and installed rating of set MW	Sent-out rating of set MW	Total installed rating of station MW	Total sent-out rating of station MW	No. of sets in service (on order)	Total installed rating of sets on order	Total sent-out rating of sets on order	Year of completion first (last) set
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Total generating sets on order						8 199	7 652	

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

ESKOM: Power stations with highest thermal efficiency 1990

Table 9

Station	Steam conditions at turbine inlet		Assigned sent-out rating MW	Energy sent out GWh	Station load factor %	Gross C.V. of coal MJ/kg	Overall thermal efficiency sent-out basis %	Date of commercial operation	Type of steam supply
	Pressure MPa (abs)	Temperature °C							
Tutuka ^a	16,1	535	3 510	16 458	58	21,3	35,2	1985-90	Reheat
Matla	16,1	535	3 450	18 565	61	21,3	35,1	1979-83	Reheat
Kriel	16,0	510	2 850	15 312	61	20,2	34,9	1976-79	Reheat
Lethabo ^a	16,1	535	3 558	15 059	58	15,2	34,6	1986-90	Reheat
Duvha	16,1	535	3 450	21 364	71	21,7	34,4	1980-84	Reheat
Matimba ^a	16,1	535	3 075	15 767	69	20,4	34,0	1987-91	Reheat
Arnot	15,9	510	1 955	10 845	63	21,7	33,5	1971-75	Reheat
Hendrina	10,3	538	1 900	10 308	62	21,6	31,6	1970-77	Non-reheat
Grootvlei ^a	10,3	538	1 130	2 043	53	20,1	29,0	1969-77	Non-reheat
Kendal ^a	16,1	535	640	4 701	42	19,8	28,5	1988-93	Reheat
Camden ^a	10,3	538	1 520	1 846	40	23,4	28,5	1967-69	Non-reheat
Ingagane ^a	8,4	510	465	534	43	21,5	27,2	1963-69	Non-reheat
Komati ^a	8,1	510	891	1 746	48	22,6	24,8	1962-66	Non-reheat

^a Operating statistics are based on average capacity during the year and excludes reserve stored plant.

ESKOM: Maximum one-hour demand

Table 10

	1990	1989	1988	1987	1986	1985	Increase 1989–90 %	Average yearly increase 1986–90 %
Maximum simultaneous one-hour demand on total Eskom system, MW	21 863	21 871	20 589	20 001	18 278	17 852	0,0	4,1
Date	29.06.90	21.07.89	24.06.88	26.06.87	20.06.86	12.07.85		
Time	09:00	09:00	09:00	09:00	09:00	11:00		

ESKOM: Transmission and distribution equipment in service

at 31 December 1990

Table 11

Circuit kilometres (excluding service connections on reticulation systems) of lines and cables and capacity of transformers in service

		1990	1989	Change
Main transmission system	765 kV ^a	871	871	0
	533 kV DC (monopolar)	1 030	1 030	(0)
	400 kV	12 344	11 789	555
	275 kV	6 994	6 944	50
	220 kV	1 239	1 239	0
Distribution lines	165 – 132 kV	16 358	16 107	251
	88 – 33 kV	20 996	20 824	172
Reticulation lines	22 kV – lower	160 280	153 310	6 970
Total all lines		220 112	212 114	7 998
Cables	165 – 132 kV	67	67	0
	88 – 33 kV	341	345	(4)
	22 kV – lower	4 371	4 257	114
Total all cables		4 779	4 669	110
Transformers	Capacity MVA	146 697	142 352	4 345
	Number	129 394	122 680	6 714

^a Although two lines are constructed at 765 kV, only one runs at this voltage at present and the other at 400 kV.

ESKOM: Maximum one-hour demand

Table 10

	1990	1989	1988	1987	1986	1985	Increase 1989-90 %	Average yearly increase 1986-90 %
Maximum simultaneous one-hour demand on total Eskom system, MW	21 863	21 871	20 589	20 001	18 278	17 852	0,0	4,1
Date	29.06.90	21.07.89	24.06.88	26.06.87	20.06.86	12.07.85		
Time	09:00	09:00	09:00	09:00	09:00	11:00		

ESKOM: Transmission and distribution equipment in service

at 31 December 1990

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	88 – 33 kV	20 996	20 824	172
Reticulation lines	22 kV – lower	160 280	153 310	6 970
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Total all cables		4 779	4 669	110
Transformers	Capacity MVA	146 697	142 352	4 345
	Number	129 394	122 680	6 714

^a Although two lines are constructed at 765 kV, only one runs at this voltage at present and the other at 400 kV.

ESKOM: Transmission and distribution equipment by region

at 31 December 1990

Table 12

Circuit kilometres (excluding service connections on reticulation systems) of lines and cables and capacity of transformers in service

Transmission lines							
Region	765 kV ^a	533 kV DC (monopolar)	400 kV	275 kV	220 kV	165 kV to 132 kV	88 kV to 33 kV
Southern Transvaal			584	1 059		887	3 799
Western Transvaal		52	1 360	781		2 020	2 724
Eastern Natal			255	620		779	1 205
Eastern Transvaal	76	227	1 755	736		1 746	1 403
Central Transvaal		119	331	622		269	1 486
Orange Free State	795		1 139	692		1 835	2 322
Western Cape			704			646	1 141
North-Eastern Transvaal		632	276	731		1 867	438
Western Natal			1 510	974		415	2 204
Eastern Cape			2 327		822	1 762	1 340
Northern Cape			825	779	417	2 471	1 450
Southern Cape			1 278			1 661	1 485
Total	871	1 030	12 344	6 994	1 239	16 358	20 996

^aAlthough two lines are constructed at 765 kV, only one runs at this voltage at present, and the other at 400 kV.

Underground cables						Transformers	
22 kV and lower	Total	165 kV to 132 kV	88 kV to 33 kV	22 kV and lower	Total	Capacity MVA	Number in service
5 228	11 557	30	72	277	378	29 661	6 845
25 078	32 014			16	16	20 201	18 365
8 111	10 969			664	664	6 993	9 737
13 124	19 067			43	43	17 790	8 925
5 662	8 489	13	184	873	1 070	16 379	10 453
25 268	32 050		2	29	31	13 578	14 888
7 081	9 572	24	78	2 036	2 138	8 899	8 626
9 561	13 506	0		25	25	7 357	8 201
14 789	19 894			146	146	8 994	13 088
20 136	26 387			208	208	7 232	10 926
14 712	20 654		0	3	3	5 058	8 919
11 529	15 953		4	53	57	4 555	10 421
160 280	220 113	67	341	4 372	4 779	146 697	129 394

ESKOM: Electricity sent out and sold

Table 13

Year	Electricity sent out							Peak demand on integrated Eskom system MW
	South Africa total sent out GWh	Eskom electricity available for distribution as % of South African total ^a	Electricity sent out from Eskom power stations GWh	Electricity purchased from other sources GWh	Own consumption GWh	Available for distribution GWh		
1950	10 437 ^b	71,1	7 287	131	–	7 418	1 182 ^b	
1951	11 098 ^b	72,1	7 806	195	–	8 001	1 212 ^b	
1952	11 678 ^b	74,1	8 227	424	–	8 651	1 265 ^b	
1953	12 823 ^b	73,3	8 845	550	–	9 395	1 394 ^b	
1954	14 167 ^b	73,5	9 977	437	–	10 414	1 570 ^b	
1955	16 021 ^b	73,4	11 425	339	–	11 764	1 806 ^b	
1956	17 293 ^b	74,8	12 670	257	–	12 927	2 001 ^b	
1957	18 720	73,7	13 640	163	–	13 803	2 151 ^b	
1958	19 765	74,3	14 516	164	–	14 680	2 249 ^b	
1959	21 051	75,4	15 777	94	–	15 871	2 429 ^b	
1960	22 717	76,3	17 308	15	–	17 323	2 605 ^b	
1961	23 760	77,0	18 284	8	–	18 292	2 733 ^b	
1962	25 599	75,8	19 404	13	–	19 417	2 925 ^b	
1963	27 335	76,1	20 793	19	–	20 812	3 183 ^b	
1964	29 547 ^b	76,8	22 639	41	–	22 680	3 460 ^b	
1965	31 939	77,4	24 583	126	–	24 709	3 669	
1966	33 929 ^b	77,0	25 504	630 ^c	–	26 134	3 906	
1967	36 897	77,1	28 371	70	–	28 441	4 227	
1968	39 761	77,6	30 843	8	–	30 851	4 658	
1969	42 847	78,4	33 598	8	–	33 606	5 055	
1970	47 456	77,7	37 321	7	–	37 328	5 622	
1971	51 081	79,8	40 739	8	–	40 747	6 115	
1972	55 332	80,4	44 475	10	–	44 485	6 630	
1973	60 700	82,0	49 759	11	–	49 770	7 350	
1974	66 412 ^b	84,7	56 251	8	–	56 259	8 552	
1975	70 111	87,8	61 498	35	–	61 533	9 185	
1976	75 381	89,4	66 188	1 226	–	67 414	10 085	
1977	79 352	89,8	67 050	4 241	27	71 264	10 735	
1978	84 812	91,7	70 902	6 924	52	77 774	11 490	
1979	92 615	92,8	75 643	10 394	58	85 979	12 855	
1980	99 905	93,0	83 362	9 659	71	92 950	13 668	
1981	106 135	93,9	97 824	2 601	712	99 713	14 674	
1982	109 536	93,6	102 769	2 151	2 404	102 516	15 532	
1983	112 366	93,8	103 295	5 026	2 917	105 404	15 639	
1984	120 835	94,3	116 581	505	3 188	113 898	17 296	
1985	126 207 ^e	94,5	121 987	507	3 265	119 229	17 852	
1986	130 055 ^e	95,2 ^e	126 511	255	3 018	123 748	18 278	
1987	134 751	96,1	132 507	267	3 229	129 545	20 001	
1988	140 802	97,0	138 837	360	2 567	136 630	20 589	
1989	146 162 ^e	96,7	143 204	344	2 265	141 283	21 871	
1990	147 244	97,4	146 046	273	2 953	143 367	21 863	

^aIncludes Eskom electricity sent out to neighbouring territories.

^bEstimates based on limited information.

^cIncludes purchases from City of Johannesburg during serious drought.

^dAir and steam production now excluded.

^eRevised figures.

Integrated Eskom system load factor %	Electricity sales				Employees	
	Ratio GWh sold/available for distribution	Electricity sold GWh	Growth for the year %	Average selling price c/kWh	Total number at 31 December	Ratio number/GWh sold
71,6	0,894 ^d	6 633,7 ^d	11,5 ^d	0,2701 ^d	9 352	1,410 ^d
75,4	0,898 ^d	7 189,0 ^d	8,4 ^d	0,2877 ^d	10 336	1,438 ^d
77,9	0,903 ^d	7 815,8 ^d	8,7 ^d	0,3055 ^d	10 889	1,393 ^d
76,9	0,904 ^d	8 498,0 ^d	8,7 ^d	0,3492 ^d	11 518	1,355 ^d
75,7	0,908 ^d	9 457,1 ^d	11,3 ^d	0,3763 ^d	12 317	1,302 ^d
74,4	0,914 ^d	10 751,8 ^d	13,7 ^d	0,4099 ^d	12 490	1,162 ^d
73,5	0,915 ^d	11 828,3 ^d	10,0 ^d	0,4209 ^d	12 977	1,097 ^d
73,3	0,913 ^d	12 603,5 ^d	6,6 ^d	0,4409 ^d	13 421	1,065 ^d
74,5	0,916 ^d	13 448,6 ^d	6,7 ^d	0,4664 ^d	14 312	1,064 ^d
74,6	0,919 ^d	14 586,3 ^d	8,5 ^d	0,4863 ^d	13 947	0,956 ^d
75,7	0,922 ^d	15 968,4 ^d	9,5 ^d	0,4987 ^d	14 654	0,918 ^d
76,4	0,923 ^d	16 889,4 ^d	5,8 ^d	0,5096 ^d	15 441	0,914 ^d
75,3	0,927 ^d	18 005,3 ^d	6,6 ^d	0,5109 ^d	16 467	0,915 ^d
74,6	0,931 ^d	19 384,8 ^d	7,7 ^d	0,5125 ^d	16 804	0,867 ^d
74,6	0,933 ^d	21 153,6 ^d	9,1 ^d	0,5073 ^d	17 172	0,812 ^d
76,9	0,933 ^d	23 056,1 ^d	9,0 ^d	0,5051 ^d	17 851	0,774 ^d
76,4	0,938 ^d	24 514,9 ^d	6,3 ^d	0,5218 ^d	18 579	0,758 ^d
76,8	0,937	26 657,1	8,7 ^d	0,5466 ^d	19 817	0,743
75,4	0,936	28 885,0	8,4	0,5550	20 893	0,723
75,9	0,937	31 505,6	9,1	0,5565	21 644	0,687
75,8	0,935	34 890,6	10,7	0,5545	22 700	0,651
76,1	0,934	38 040,0	9,0	0,5772	25 050	0,659
76,4	0,936	41 648,9	9,5	0,6108	26 937	0,647
77,3	0,936	46 578,4	11,8	0,6484	28 559	0,613
75,1	0,935	52 585,1	12,9	0,6822	29 891	0,568
76,5	0,940	57 869,2	10,0	0,7950	33 999	0,588
76,1	0,940	63 355,7	9,5	1,0360	36 915	0,583
75,8	0,942	67 125,4	5,9	1,5353	39 112	0,583
77,3	0,936	72 780,4	8,4	1,7887	41 040	0,564
76,4	0,937	80 582,8	10,7	1,8980	43 690	0,542
77,5	0,942	87 539,3	8,6	2,0242	47 490	0,542
77,6	0,941	93 844,0	7,2	2,2811	52 080	0,555
75,3	0,938	96 135,9	2,4	2,8038	58 850	0,612
76,9	0,932	98 251,1	2,2	3,3606	62 420	0,635
75,0	0,939	106 904,1	8,8	3,5842	64 560	0,604
76,2	0,942	112 305,9	5,1	4,1179	66 000	0,588
77,3	0,948	117 353,0	4,5	4,9803	60 800	0,518
73,9	0,946	122 523,6	4,4	5,7512	56 830	0,464
75,5	0,948	129 492,6	5,7	6,3004	56 726	0,438
73,7	0,951	134 347,4	3,7	6,9012	51 554	0,384
74,9	0,950	136 168,4	1,4	7,8842	50 000	0,367

ESKOM: Customer categories by distribution region

in order of sales volume

Table 14

Electricity sold by a distribution region is purchased from the Generation Group. The cost of a region's own usage is allocated to working costs. A region's sales to other Eskom business units are charged out. Usage on Eskom's distribution premises and sales to rural/farming customers, previously included under industrial sales, are now listed separately.

Distribution region and category	Number of customers	GWh sold 1990	% of total GWh	% growth 1989-90	Revenue 1990 R000	% of total revenue	Average price cents per kWh 1990	Average price cents per kWh 1989
Southern Transvaal								
Bulk sales ^a	60	14 627,4	47,3	2,8	1 157 490	48,5	7,913	6,851
Domestic and street lighting	7 030	98,3	0,3	-1,5	13 618	0,6	13,857	11,463
Commercial	665	24,3	0,1	-1,7	3 012	0,1	12,406	10,350
Industrial	238	9 632,6	31,2	-3,4	703 904	29,5	7,308	6,458
Mining	76	5 769,1	18,7	-2,6	432 263	18,1	7,493	6,561
Rural/farming	3 467	116,6	0,4	-0,2	16 791	0,7	14,398	11,819
Traction	2	572,5	1,9	-8,7	52 710	2,2	9,207	8,116
Own usage ^b	30	68,7	0,2	25,8	5 308	0,2	7,722	3,447
Total	11 568	30 909,4	100,0	-0,5	2 385 098	100,0	7,716	6,725
Western Transvaal								
Bulk sales ^a	64	4 671,4	24,5	67,4	363 617	24,8	7,784	7,172
Domestic and street lighting	404	3,5	0,0	4,0	547	0,0	15,455	12,943
Commercial	102	3,9	0,0	-6,8	506	0,0	13,012	10,110
Industrial	138	596,5	3,1	-2,2	48 080	3,3	8,061	7,232
Mining	74	13 178,4	69,0	-8,3	957 935	65,5	7,269	6,432
Rural/farming	16 643	404,3	2,1	-6,1	64 698	4,4	16,002	12,663
Traction	5	230,0	1,2	-11,8	27 547	1,9	11,978	10,361
Own usage ^b	24	8,8	0,0	16,5	610	0,0	6,946	0,000
Total	17 454	19 096,8	100,0	3,3	1 463 539	100,0	7,664	6,770
Eastern Transvaal								
Bulk sales ^a	58	1 919,5	11,8	11,5	160 558	13,1	8,364	7,475
Domestic and street lighting	1 958	13,0	0,1	3,9	1 889	0,2	14,525	12,738
Commercial	290	6,6	0,0	-4,5	895	0,1	13,476	11,695
Industrial	254	10 648,1	65,7	7,0	737 026	60,0	6,922	6,298
Mining	152	2 595,5	16,0	-0,3	220 321	17,9	8,489	7,500
Rural/farming	7 941	266,2	1,6	8,1	38 681	3,1	14,531	12,928
Traction	3	395,8	2,4	-6,7	41 206	3,4	10,411	8,993
Own usage ^b	42	374,6	2,3	-5,6	28,819	2,3	7,693	2,808
Total	10 698	16 219,3	100,0	5,6	1 229 394	100,0	7,580	6,732
Eastern Natal								
Bulk sales ^a	36	9 064,4	57,3	1,6	685 315	56,9	7,561	6,558
Domestic and street lighting	21 748	172,3	1,1	-3,0	25 402	2,1	14,742	12,081
Commercial	1 939	67,7	0,4	-4,0	8 340	0,7	12,322	10,211
Industrial	297	5 763,1	36,4	-1,3	401 381	33,3	6,965	6,049
Mining	13	40,5	0,3	2,0	4 387	0,4	10,836	9,535
Rural/farming	8 939	357,5	2,3	1,3	46 843	3,9	13,104	11,221
Traction	3	345,5	2,2	-7,7	33 385	2,8	9,663	8,616
Own usage ^b	37	0,4	0,0	-	38	0,0	9,826	-
Total	33 012	15 811,3	100,0	0,2	1 205 091	100,0	7,622	6,609
Central Transvaal								
Bulk sales ^a	33	8 190,1	71,2	8,4	593 340	64,4	7,245	6,476
Domestic and street lighting	15 584	370,8	3,2	1,7	48 144	5,2	12,984	10,568
Commercial	4 727	123,7	1,1	10,8	15 483	1,7	12,521	11,647
Industrial	441	1 601,9	13,9	-41,9	146 123	15,9	9,122	6,894
Mining	36	506,8	4,4	42,5	40 591	4,4	8,010	7,433
Rural/farming	7 277	299,3	2,6	16,3	38 144	4,1	12,744	12,280
Traction	0	337,3	2,9	0,2	34 095	3,7	10,108	8,842
Own usage ^b	21	65,9	0,6	1,6	4 988	0,5	7,568	2,641
Total	28 119	11 495,7	100,0	-2,6	920 908	100,0	8,011	6,950

^a Supplies to municipalities, local authorities and electricity undertakings in neighbouring states for redistribution.

^b Own usage consists of electricity used on a region's distribution premises and its internal sales to other Eskom business units.

Table 14 continued

Distribution region and category	Number of customers	GWh sold 1990	% of total GWh	% growth 1989-90	Revenue 1990 R000	% of total revenue	Average price cents per kWh 1990	Average price cents per kWh 1989
Orange Free State								
Bulk sales ^a	87	2 610,1	24,1	4,5	200 601	23,9	7,686	6,798
Domestic and street lighting	322	2,7	0,0	24,8	387	0,0	14,296	13,703
Commercial	100	2,6	0,0	12,5	317	0,0	12,166	12,005
Industrial	134	203,7	1,9	1,6	20 222	2,4	9,926	8,979
Mining	24	7 564,9	69,9	-2,0	558 489	66,5	7,383	6,499
Rural/farming	13 380	260,7	2,4	13,6	44 637	5,3	17,121	16,167
Traction	1	174,7	1,6	-13,2	15 788	1,9	9,037	7,621
Own usage ^b	21	0,5	0,0	-	-	-	-	0,044
Total	14 069	10 820	100,0	-0,3	840 440	100,0	7,767	6,841
Western Cape								
Bulk sales ^a	55	7 118,6	77,2	9,8	496 287	67,6	6,972	6,001
Domestic and street lighting	49 631	322,0	3,5	-29,3	51 861	7,1	16,106	13,927
Commercial	1 843	49,5	0,5	-40,8	6 682	0,9	13,491	11,794
Industrial	383	1 095,4	11,9	-14,8	97 773	13,3	8,925	8,051
Mining	17	13,6	0,1	-3,1	2 197	0,3	16,164	14,795
Rural/farming	7 689	266,6	2,9	8,6	37 401	5,1	14,027	12,416
Traction	3	350,0	3,8	4,0	41 218	5,6	11,776	10,473
Own usage ^b	19	6,3	0,1	58,6	438	0,1	7,008	0,133
Total	59 640	9 222,1	100,0	3,6	733 857	100,0	7,958	7,113
North-eastern Transvaal								
Bulk sales ^a	52	2 061,6	29,5	20,7	174 784	30,0	8,478	7,704
Domestic and street lighting	541	9,4	0,1	0,0	1 344	0,2	14,356	12,819
Commercial	152	8,7	0,1	-2,1	1 076	0,2	12,390	11,117
Industrial	179	2 674,2	38,2	-2,0	201 908	34,7	7,550	6,426
Mining	66	1 699,7	24,3	1,9	134 233	23,1	7,897	6,889
Rural/farming	7 846	446,1	6,4	5,6	57 276	9,8	12,838	11,512
Traction	2	92,9	1,3	-12,2	11 247	1,9	12,112	10,356
Own usage ^b	2	0,0	0,0	0,0	0	0,0	0,000	8,958
Total	8 840	6 992,5	100,0	5,1	581 871	100,0	8,321	7,272
Western Natal								
Bulk sales ^a	24	2 398,2	44,6	-2,7	195 797	41,9	8,164	6,753
Domestic and street lighting	6 383	52,0	1,0	-13,1	7 724	1,7	14,860	11,377
Commercial	1 143	30,4	0,6	-7,4	3 936	0,8	12,938	10,187
Industrial	187	1 496,5	27,8	-12,7	110 957	23,8	7,415	6,608
Mining	46	336,6	6,3	-1,8	32 688	7,0	9,711	8,316
Rural/farming	11 757	316,9	5,9	-13,6	46 980	10,1	14,827	11,532
Traction	5	721,7	13,4	-4,2	66 860	14,3	9,265	8,209
Own usage ^b	27	24,1	0,4	-	1 865	0,4	7,750	6,735
Total	19 572	5 376,2	100,0	-6,6	466 806	100,0	8,683	7,366
Eastern Cape								
Bulk sales ^a	83	4 090,3	86,9	4,9	289 437	75,0	7,076	6,154
Domestic and street lighting	3 690	15,6	0,3	7,5	3 251	0,8	20,870	18,217
Commercial	427	11,3	0,2	14,2	1 615	0,4	14,252	12,401
Industrial	123	64,2	1,4	10,9	9 034	2,3	14,064	12,840
Mining	-	-	-	-	-	-	-	-
Rural/farming	10 128	237,1	5,0	20,4	39 780	10,3	16,779	14,353
Traction	5	284,7	6,0	-11,4	42 467	11,0	14,915	12,447
Own usage ^b	49	4,1	0,1	-6,6	251	0,1	6,178	0,000
Total	14 505	4 707,3	100,0	4,5	385 834	100,0	8,197	7,095

Table 14 continued

Distribution region and category	Number of customers	GWh sold 1990	% of total GWh	% growth 1989-90	Revenue 1990 R000	% of total revenue	Average price cents per kWh 1990	Average price cents per kWh 1989
Northern Cape								
Bulk sales ^a	60	1 266,4	33,9	7,2	103 788	30,4	8,195	7,162
Domestic and street lighting	1 095	5,2	0,1	-19,8	881	0,3	16,791	14,614
Commercial	260	4,3	0,1	-6,8	701	0,2	16,147	14,381
Industrial	66	228,1	6,1	8,3	18 960	5,5	8,312	7,542
Mining	84	1 655,7	44,3	1,8	143 961	42,1	8,695	7,624
Rural/farming	8 907	264,5	7,1	25,8	40 990	12,0	15,500	14,422
Traction	3	314,8	8,4	-4,8	32 385	9,5	10,287	8,755
Own usage ^b	1	1,4	0,0	-4,1	-	-	-	0,035
Total	10 476	3 740,5	100,0	4,7	341 665	100,0	9,134	7,990
Southern Cape								
Bulk sales ^a	61	1 057,8	59,5	9,5	89 733	49,5	8,483	7,564
Domestic and street lighting	3 310	16,3	0,9	6,9	2 799	1,5	17,124	15,227
Commercial	300	7,3	0,4	-2,6	989	0,5	13,613	11,999
Industrial	159	147,9	8,3	20,9	19 707	10,9	13,324	10,907
Mining	4	2,0	0,1	-14,1	300	0,2	14,977	14,134
Rural/farming	10 772	405,7	22,8	11,9	54 532	30,1	13,442	11,963
Traction	0	137,7	7,7	-12,4	13 248	7,3	9,623	8,536
Own usage ^b	33	2,6	0,1	-28,0	-	-	-	-
Total	14 639	1 777,2	100,0	8,6	181 309	100,0	10,202	8,966
Eskom Total								
Bulk sales ^a	673	59 075,8	43,4	8,5	4 510 747	42,0	7,636	6,675
Domestic and street lighting	111 696	1 081,2	0,8	-11,4	157 847	1,5	14,600	12,376
Commercial	11 948	340,3	0,2	-7,5	43 551	0,4	12,797	11,222
Industrial	2 599	34 152,1	25,1	-3,7	2 515 074	23,4	7,364	6,502
Mining	592	33 362,8	24,5	-3,7	2 527 365	23,5	7,575	6,663
Rural/farming	114 746	3 641,5	2,7	5,9	526 754	4,9	14,465	12,562
Traction	32	3 957,5	2,9	-6,4	412 157	3,8	10,414	9,076
Own usage ^b	306	557,2	0,4	0,3	42 317	0,4	7,594	2,872
Total	242 592	136 168,4	100,0	1,4	10 735 812	100,0	7,884	6,901

ESKOM: Number of customers by category (excluding traction and own use)

Table 15

Sales to rural/farming and commercial customers, previously included under industrial sales, are now listed separately.

Year	Bulk ^a	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Total for all categories	% Change
1950	70	35 090	–	2 759	133	–	38 052	
1951	79	37 937	–	3 023	138	–	41 177	8,2
1952	96	30 691	–	2 839	141	–	33 767	–18,0
1953	100	33 063	–	3 015	144	–	36 322	7,6
1954	108	33 877	–	3 089	145	–	37 219	2,5
1955	115	36 452	–	3 274	151	–	39 992	7,5
1956	125	38 944	–	3 490	166	–	42 725	6,8
1957	134	41 113	–	3 551	170	–	44 968	5,2
1958	137	43 665	–	4 216	174	–	48 192	7,2
1959	146	46 437	–	4 593	177	–	51 353	6,6
1960	155	49 968	–	5 039	183	–	55 345	7,8
1961	168	53 908	–	5 453	192	–	59 721	7,9
1962	179	56 456	–	6 410	209	–	63 254	5,9
1963	186	61 093	–	7 128	230	–	68 637	8,5
1964	187	66 397	–	7 782	240	–	74 606	8,7
1965	203	71 517	–	9 051	251	–	81 022	8,6
1966	208	77 121	–	10 278	259	–	87 866	8,4
1967	220	83 189	–	11 435	267	–	95 111	8,2
1968	233	85 227	–	13 540	276	–	99 276	4,4
1969	249	91 999	–	14 978	289	–	107 515	8,3
1970	265	98 155	–	16 336	294	–	115 050	7,0
1971	289	106 684	–	16 927	297	–	124 197	8,0
1972	310	108 517	–	18 500	299	–	127 626	2,8
1973	326	117 034	–	20 049	302	–	137 711	7,9
1974	332	106 857	–	41 647	314	–	149 150	8,3
1975	353	109 029	–	43 598	325	–	153 305	2,8
1976	365	105 482	–	61 142	333	–	167 322	9,1
1977	368	106 743	–	62 507	340	–	169 958	1,6
1978	386	109 317	–	65 797	354	–	175 854	3,5
1979	404	101 792	–	65 656	357	–	168 209	–4,3
1980	419	109 558	–	69 479	386	–	179 842	6,9
1981	434	113 552	–	77 722	403	–	192 111	6,8
1982	453	119 889	–	82 801	418	–	203 561	6,0
1983	468	124 433	–	89 439	421	–	214 761	5,5
1984	487	130 471	–	94 863	410	–	226 231	5,3
1985	528	135 770	–	101 246	524	–	238 068	5,2
1986	571	137 820	–	108 386	546	–	247 323	3,9
1987	562	142 050	–	116 067	544	–	259 223	4,8
1988	595	153 577	–	18 903	555	101 749	275 379	6,2
1989	625	103 098	–	14 526	565	110 121	228 935 ^b	–16,9
1990	673	111 696	11 948	2 599	592	114 746	242 254	5,8

^a Supplies to municipalities, local authorities and electricity undertakings in neighbouring states for redistribution.

^b Reduction in number of customers due to the sale of circuits to municipalities.

ESKOM: Total electricity sold

Table 16

Sales to rural/farming and commercial customers, previously included under industrial sales, are now listed separately.

Year	Sales in GWh, per category							
	Bulk ^a	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Own ^b usage
1950	1 106	114	–	991	3 899	–	524	–
1951	1 261	134	–	1 150	4 105	–	539	–
1952	1 459	131	–	1 338	4 333	–	555	–
1953	1 640	135	–	1 402	4 736	–	584	–
1954	1 839	142	–	1 540	5 317	–	619	–
1955	2 048	157	–	1 881	5 977	–	690	–
1956	2 282	174	–	2 187	6 445	–	740	–
1957	2 540	190	–	2 331	6 790	–	753	–
1958	2 838	206	–	2 480	7 136	–	789	–
1959	3 058	228	–	2 737	7 676	–	887	–
1960	3 243	253	–	3 169	8 259	–	1 045	–
1961	3 368	279	–	3 437	8 626	–	1 178	–
1962	3 570	303	–	3 692	9 143	–	1 296	–
1963	3 998	329	–	4 253	9 416	–	1 389	–
1964	4 494	381	–	4 873	9 847	–	1 559	–
1965	4 921	439	–	5 663	10 271	–	1 763	–
1966	5 344	492	–	6 069	10 775	–	1 836	–
1967	5 966	563	–	6 729	11 441	–	1 958	–
1968	6 628	642	–	7 439	11 995	–	2 181	–
1969	7 264	719	–	8 574	12 642	–	2 307	–
1970	8 108	817	–	9 608	13 948	–	2 410	–
1971	9 265	918	–	11 014	14 227	–	2 616	–
1972	10 716	1 000	–	12 642	14 509	–	2 782	–
1973	12 752	1 105	–	14 026	15 800	–	2 896	–
1974	15 522	909	–	16 106	16 941	–	3 108	–
1975	18 055	1 013	–	18 050	17 444	–	3 307	–
1976	20 096	1 093	–	19 946	18 746	–	3 475	–
1977	20 862	1 030	–	21 586	20 139	–	3 508	–
1978	21 834	960	–	24 181	22 219	–	3 586	–
1979	24 133	940	–	27 475	24 000	–	4 035	–
1980	26 923	906	–	29 373	25 882	–	4 455	–
1981	29 961	1 002	–	31 091	27 131	–	4 660	–
1982	32 349	1 020	–	30 959	27 372	–	4 436	–
1983	32 729	1 078	–	32 286	28 021	–	4 137	–
1984	35 541	1 144	–	36 119	29 506	–	4 595	–
1985	37 451	1 204	–	38 215	30 849	–	4 587	–
1986	40 570	1 252	–	39 170	31 860	–	4 501	–
1987	45 418	1 279	–	35 262	32 849	3 022	4 049	645
1988	49 433	1 341	–	36 574	34 341	3 163	4 120	520
1989	54 423	1 221	368	35 452	34 661	3 438	4 229	556
1990	59 076	1 081	340	34 152	33 363	3 641	3 958	557

^a Supplies to municipalities, local authorities and electricity undertakings in neighbouring states for redistribution.

^b Own usage consists of electricity used on region's distribution premises and its internal sales to other Eskom business units.

Total sold during year	Sales as a percentage of total GWh sold							
	Bulk ^a	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Own usage ^b
6 634	16,7	1,7	–	14,9	58,8	–	7,9	–
7 189	17,5	1,9	–	16,0	57,1	–	7,5	–
7 816	18,7	1,7	–	17,1	55,4	–	7,1	–
8 498	19,3	1,6	–	16,5	55,7	–	6,9	–
9 457	19,4	1,5	–	16,3	56,2	–	6,5	–
10 752	19,0	1,5	–	17,5	55,6	–	6,4	–
11 828	19,3	1,5	–	18,5	54,5	–	6,3	–
12 603	20,2	1,5	–	18,5	53,9	–	6,0	–
13 449	21,1	1,5	–	18,4	53,1	–	5,9	–
14 586	21,0	1,6	–	18,8	52,6	–	6,1	–
15 968	20,3	1,6	–	19,8	51,7	–	6,5	–
16 889	19,9	1,7	–	20,4	51,1	–	7,0	–
18 005	19,8	1,7	–	20,5	50,8	–	7,2	–
19 385	20,6	1,7	–	21,9	48,6	–	7,2	–
21 154	21,2	1,8	–	23,0	46,6	–	7,4	–
23 056	21,3	1,9	–	24,6	44,5	–	7,6	–
24 515	21,8	2,0	–	24,8	44,0	–	7,5	–
26 657	22,4	2,1	–	25,2	42,9	–	7,3	–
28 885	22,9	2,2	–	25,8	41,5	–	7,5	–
31 506	23,1	2,3	–	27,2	40,1	–	7,3	–
34 891	23,2	2,3	–	27,5	40,0	–	6,9	–
38 040	24,4	2,4	–	29,0	37,4	–	6,9	–
41 649	25,7	2,4	–	30,4	34,8	–	6,7	–
46 578	27,4	2,4	–	30,1	33,9	–	6,2	–
52 585	29,5	1,7	–	30,6	32,2	–	5,9	–
57 869	31,2	1,8	–	31,2	30,1	–	5,7	–
63 356	31,7	1,7	–	31,5	29,6	–	5,5	–
67 125	31,1	1,5	–	32,2	30,0	–	5,2	–
72 780	30,0	1,3	–	33,2	30,5	–	4,9	–
80 583	29,9	1,2	–	34,1	29,8	–	5,0	–
87 540	30,8	1,0	–	33,6	29,6	–	5,1	–
93 844	31,9	1,1	–	33,1	28,9	–	5,0	–
96 136	33,6	1,1	–	32,2	28,5	–	4,6	–
98 251	33,3	1,1	–	32,9	28,5	–	4,2	–
106 904	33,2	1,1	–	33,8	27,6	–	4,3	–
112 306	33,3	1,1	–	34,0	27,5	–	4,1	–
117 353	34,6	1,1	–	33,4	27,1	–	3,8	–
122 524	37,1	1,0	–	28,8	26,8	2,5	3,3	0,5
129 493	38,2	1,0	–	28,2	26,5	2,4	3,2	0,4
134 347	40,5	0,9	0,3	26,4	25,8	2,6	3,1	0,4
136 168	43,4	0,8	0,2	25,1	24,5	2,7	2,9	0,4

ESKOM: Revenue per kWh by category of customer

Table 17

Sales to rural/farming and commercial customers, previously included under industrial sales, are now listed separately.

Year	Actual price (in c/kWh)								Change %
	Bulk ^a	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Average for all categories	
1950	0,3535	1,0870	–	0,2860	0,2069	–	0,3557	0,2701	
1951	0,3606	1,0321	–	0,3030	0,2274	–	0,3574	0,2877	6,5
1952	0,3807	1,0630	–	0,3128	0,2454	–	0,3811	0,3055	6,2
1953	0,4199	1,2083	–	0,3604	0,2829	–	0,4618	0,3492	14,3
1954	0,4638	1,3247	–	0,3881	0,2992	–	0,5318	0,3763	7,8
1955	0,5225	1,3485	–	0,3991	0,3262	–	0,6177	0,4099	8,9
1956	0,5448	1,3625	–	0,3992	0,3344	–	0,6349	0,4209	2,7
1957	0,5694	1,3847	–	0,4150	0,3527	–	0,6448	0,4409	4,8
1958	0,5861	1,4294	–	0,4407	0,3790	–	0,6557	0,4664	5,8
1959	0,6049	1,4411	–	0,4682	0,3963	–	0,6671	0,4863	4,3
1960	0,6009	1,4492	–	0,4833	0,4144	–	0,6644	0,4987	2,5
1961	0,6127	1,4843	–	0,4943	0,4216	–	0,6727	0,5096	2,2
1962	0,6094	1,4784	–	0,4874	0,4174	–	0,7398	0,5109	0,3
1963	0,6044	1,4761	–	0,4878	0,4192	–	0,7283	0,5125	0,3
1964	0,5912	1,4429	–	0,4902	0,4121	–	0,6910	0,5073	-1,0
1965	0,5912	1,3983	–	0,4819	0,4057	–	0,6963	0,5051	-0,4
1966	0,5969	1,3851	–	0,5108	0,4182	–	0,7172	0,5218	3,3
1967	0,6063	1,3931	–	0,5368	0,4444	–	0,7524	0,5466	4,8
1968	0,6037	1,3911	–	0,5513	0,4493	–	0,7553	0,5550	1,5
1969	0,5988	1,3695	–	0,5496	0,4545	–	0,7550	0,5565	0,3
1970	0,6001	1,3453	–	0,5498	0,4501	–	0,7562	0,5545	-0,4
1971	0,6139	1,3608	–	0,5734	0,4716	–	0,7630	0,5772	4,1
1972	0,6366	1,4156	–	0,6008	0,5104	–	0,7913	0,6108	5,8
1973	0,6741	1,5049	–	0,6377	0,5418	–	0,8424	0,6484	6,2
1974	0,7036	1,5480	–	0,7057	0,5572	–	0,8828	0,6823	5,2
1975	0,8079	1,7079	–	0,8219	0,6590	–	1,0162	0,7950	16,5
1976	1,0529	2,0915	–	1,0641	0,8726	–	1,3264	1,0360	30,3
1977	1,5779	3,1778	–	1,5641	1,2946	–	2,0040	1,5353	48,2
1978	1,7789	3,7875	–	1,7989	1,6044	–	2,3868	1,7887	16,5
1979	1,8715	3,9826	–	1,8924	1,7311	–	2,6018	1,8980	6,1
1980	2,0027	4,2754	–	2,0256	1,8540	–	2,6762	2,0242	6,6
1981	2,2697	4,7314	–	2,2837	2,0787	–	2,9888	2,2811	12,7
1982	2,8078	5,4182	–	2,8250	2,5405	–	3,6495	2,8038	22,9
1983	3,3671	6,2323	–	3,3769	3,0483	–	4,5506	3,3607	19,9
1984	3,5934	6,6614	–	3,5947	3,2681	–	4,6955	3,5842	6,7
1985	4,1243	7,5074	–	4,1198	3,7889	–	5,3734	4,1179	14,9
1986	4,8706	9,1951	–	5,0250	4,7218	–	6,2367	4,9803	20,9
1987	5,5795	10,9537	–	5,4697	5,5404	10,4398	7,6119	5,7512	15,5
1988	6,1181	11,9144	–	5,9678	6,0348	11,6716	8,1715	6,3004	9,5
1989	6,6752	12,3759	11,2224	6,5018	6,6634	12,5615	9,0758	6,9012	9,5
1990	7,6355	14,5998	12,7971	7,3643	7,5754	14,4654	10,4145	7,8842	14,2

^a Supplies to municipalities, local authorities and electricity undertakings in neighbouring states for redistribution.

Producer Price Index 1985 = 100	Real price (in c/kWh)									Change %
	Bulk ^a	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Average for all categories		
9,1	3,8821	11,9372	–	3,1408	2,2721	–	3,9062	2,9662		
10,4	3,4756	9,9477	–	2,9204	2,1917	–	3,4447	2,7729	-6,5	
11,9	3,1936	8,9174	–	2,6240	2,0586	–	3,1970	2,5628	-7,6	
12,0	3,4902	10,0433	–	2,9956	2,3514	–	3,8384	2,9025	13,3	
12,1	3,8200	10,9107	–	3,1965	2,4643	–	4,3801	3,0993	6,8	
12,5	4,1892	10,8119	–	3,1999	2,6154	–	4,9525	3,2865	6,0	
12,7	4,2921	10,7341	–	3,1450	2,6345	–	5,0019	3,3160	0,9	
12,9	4,4281	10,7686	–	3,2274	2,7429	–	5,0145	3,4288	3,4	
12,9	4,5385	11,0687	–	3,4126	2,9348	–	5,0775	3,6116	5,3	
12,9	4,7042	11,2072	–	3,6411	3,0820	–	5,1879	3,7819	4,7	
13,0	4,6137	11,1269	–	3,7108	3,1817	–	5,1012	3,8290	1,2	
13,2	4,6259	11,2065	–	3,7320	3,1831	–	5,0789	3,8475	0,5	
13,4	4,5629	11,0697	–	3,6495	3,1253	–	5,5393	3,8254	-0,6	
13,5	4,4701	10,9171	–	3,6077	3,1004	–	5,3864	3,7904	-0,9	
13,9	4,2679	10,4165	–	3,5388	2,9750	–	4,9884	3,6623	-3,4	
14,3	4,1361	9,7827	–	3,3714	2,8383	–	4,8714	3,5337	-3,5	
14,8	4,0208	9,3301	–	3,4408	2,8170	–	4,8311	3,5149	-0,5	
15,2	3,9950	9,1793	–	3,5370	2,9282	–	4,9576	3,6016	2,5	
15,4	3,9208	9,0347	–	3,5805	2,9180	–	4,9054	3,6045	0,1	
15,7	3,8071	8,7071	–	3,4943	2,8897	–	4,8002	3,5382	-1,8	
16,2	3,6986	8,2914	–	3,3886	2,7741	–	4,6607	3,4175	-3,4	
17,0	3,6116	8,0057	–	3,3734	2,7745	–	4,4888	3,3957	-0,6	
18,4	3,4640	7,7029	–	3,2692	2,7773	–	4,3058	3,3236	-2,1	
20,8	3,2486	7,2523	–	3,0732	2,6110	–	4,0597	3,1247	-6,0	
24,5	2,8714	6,3175	–	2,8800	2,2740	–	3,6028	2,7845	-10,9	
28,8	2,8098	5,9400	–	2,8585	2,2920	–	3,5343	2,7650	-0,7	
33,1	3,1851	6,3269	–	3,2189	2,6397	–	4,0124	3,1339	13,3	
37,4	4,2233	8,5054	–	4,1863	3,4650	–	5,3637	4,1093	31,1	
41,0	4,3383	9,2368	–	4,3871	3,9127	–	5,8208	4,3622	6,2	
47,2	3,9616	8,4305	–	4,0059	3,6644	–	5,5075	4,0177	-7,9	
55,2	3,6289	7,7470	–	3,6704	3,3594	–	4,8493	3,6679	-8,7	
62,7	3,6203	7,5469	–	3,6427	3,3157	–	4,7673	3,6385	-0,8	
71,5	3,9288	7,5813	–	3,9528	3,5547	–	5,1065	3,9232	7,8	
79,0	4,2636	7,8916	–	4,2760	3,8599	–	5,7622	4,2555	8,5	
85,6	4,1981	7,7824	–	4,1996	3,8181	–	5,4857	4,1873	-1,6	
100,0	4,1243	7,5074	–	4,1198	3,7889	–	5,3734	4,1179	-1,7	
119,5	4,0746	7,6923	–	4,2037	3,9501	–	5,2174	4,1663	1,2	
136,2	4,0965	8,0422	–	4,0158	4,0677	7,6649	5,5886	4,2225	1,3	
154,1	3,9692	7,7296	–	3,8717	3,9152	7,5721	5,3014	4,0875	-3,2	
177,6	3,7586	6,9684	6,3189	3,6609	3,7519	7,0729	5,1103	3,8858	-4,9	
199,4	3,8285	7,3203	6,4165	3,6925	3,7983	7,2529	5,2218	3,9531	1,7	

ESKOM: Sales to mining sector, GWh

Table 18

Year	Gold and uranium	Diamond	Coal	Platinum	Copper	Chrome
1967	9 946	264	453	308	235	11
1968	10 339	281	480	378	256	14
1969	10 647	282	495	653	282	17
1970	11 504	288	535	941	343	20
1971	11 662	297	563	962	374	25
1972	11 773	325	589	990	422	31
1973	12 263	334	620	1 581	565	33
1974	12 803	338	648	1 978	653	52
1975	13 108	346	705	2 001	679	42
1976	13 918	343	812	2 184	728	61
1977	14 708	342	941	2 287	874	84
1978	16 241	497	1 078	2 388	1 023	106
1979	17 201	596	1 248	2 772	1 042	126
1980	18 477	678	1 426	2 973	1 117	127
1981	19 406	714	1 522	3 014	1 131	117
1982	20 069	656	1 691	2 466	1 178	105
1983	20 724	649	1 686	2 552	1 178	99
1984	21 427	634	1 873	3 023	1 160	106
1985	22 088	652	2 142	3 402	1 304	175
1986	22 756	700	2 052	3 438	1 385	189
1987	23 421	745	2 064	3 746	1 439	189
1988	24 380	820	2 291	3 982	1 355	195
1989	24 247	883	2 323	4 309	1 326	198
1990	24 033	916	2 225	3 071	1 300	193

ESKOM: Sales to mining sector, GWh

Table 18 continued

Year	Asbestos	Iron	Manganese	Other ^a	Total	Growth %
1967	91		74 ^b	59	11 441	5,8
1968	107		81 ^b	59	11 995	4,8
1969	118		80 ^b	68	12 642	5,4
1970	137		88 ^b	92	13 948	10,3
1971	152		92 ^b	100	14 227	2,0
1972	161		101 ^b	117	14 509	2,0
1973	168	86	27	123	15 800	8,9
1974	193	104	30	142	16 941	7,2
1975	238	121	37	167	17 444	3,0
1976	266	180	49	205	18 746	7,5
1977	275	271	62	295	20 139	7,4
1978	223	272	72	319	22 219	10,3
1979	233	334	83	365	24 000	8,0
1980	242	361	94	387	25 882	7,8
1981	240	335	104	548	27 131	4,8
1982	235	305	113	554	27 372	0,9
1983	225	215	77	616	28 021	2,4
1984	186	286	73	738	29 506	5,3
1985	184	306	84	512	30 849	4,5
1986	162	294	88	796	31 860	3,3
1987	130	264	89	762	32 849	3,1
1988	118	292	104	702	34 239	4,2
1989	126	318	130	801	34 661	1,2
1990	141	464	140	880	33 363	-3,7

^a Includes stone quarrying, clay and sand pits, chemicals and fertilizers, mineral mining, salt mining and evaporating, precious and semi-precious stone mining (except diamond mining) and other non-metallic mineral mining.

^b Up to 1972, iron and manganese figures were combined.

ESKOM: Sales to industry, GWh

Table 19 (a)

Year	Building, cement and quarrying	Chemical	Engineering, iron, steel and base metals	Foodstuffs, cons. goods, commercial and other	Paper and paper products	Other	Total	Growth %
1966	530	1 098	2 850	935	416	240	6 069	
1967	562	1 214	3 224	1 022	469	238	6 729	10,9
1968	646	1 241	3 529	1 111	493	419	7 439	10,6
1969	716	1 272	4 207	1 088	542	749	8 574	15,3
1970	782	1 376	4 683	1 407	485	875	9 608	12,1
1971	824	1 444	5 652	1 673	494	927	11 014	14,6
1972	878	1 639	6 864	1 852	520	889	12 642	14,8
1973	1 096	1 921	7 687	2 747	575		14 026	10,9
1974	1 148	2 160	8 835	3 359	604		16 106	14,8
1975	1 115	2 382	10 180	3 790	583		18 050	12,1
1976	1 068	2 655	11 173	4 350	661		19 907	10,3
1977	1 087	3 103	11 927	4 819	650		21 586	8,2
1978	1 198	4 117	13 338	4 916	612		24 181	12,1
1979	1 121	4 657	15 600	5 378	719		27 475	13,6
1980	1 194	5 751	15 900	5 688	840		29 373	6,9
1981	1 353	7 215	15 316	6 341	866		31 091	5,8
1982	1 413	7 258	14 754	6 688	846		30 959	-0,4

Note: Figures not available for years prior to 1966

ESKOM: Sales to industry, GWh

Table 19 (b)

By Standard Industrial Classification of selected economic activities (SIC)

Year	Division												Growth %
	11	31	32	33	34	35	36	371	372	38	Other ^a	Total	
1983	2 051	397	380	175	1 056	7 046	1 231	7 754	6 935	440	4 822	32 286	4,3
1984	2 295	407	400	181	1 288	7 389	1 342	8 793	8 654	441	4 929	36 119	11,9
1985	2 665	422	410	186	1 550	7 511	1 232	9 939	8 779	434	5 088	38 215	5,8
1986	2 863	382	430	189	1 500	7 758	1 206	10 302	9 030	484	5 026	39 170	2,5
1987	2 833	355	412	186	1 239	7 283	1 224	10 522	9 078	340	4 812	38 284	-2,3
1988	3 163	357	422	206	1 268	6 868	1 343	10 603	9 613	355	5 540	39 738	3,8
1989	3 438	328	412	212	1 062	6 386	1 219	10 464	9 743	316	5 678	39 258	-1,2
1990	3 642	349	369	212	1 122	7 247	1 194	11 438	8 003	312	4 246	38 134	-4,0

Standard Industrial Classification Divisions

11 *Agriculture, hunting, forestry and logging, and other rural supplies*

31 *Manufacture of food, beverages, and tobacco*

32 *Manufacture of textiles, wearing apparel and leather goods*

33 *Manufacture of wood and wood products, including furniture*

34 *Manufacture of paper and paper products, including printing and publishing*

35 *Manufacture of chemicals and of chemical petroleum, coal, rubber and plastic products*

36 *Manufacture of non-metallic mineral products*

371 *Iron and steel basic industries*

372 *Non-ferrous metal basic industries*

38 *Manufacture of fabricated metal products, machinery and equipment*

^a *Includes other manufacturing and commercial enterprises*

ESKOM: Number of farm supplies

Table 20 (a)

Farm supplies include supplies which are furnished to agriculture and smallholdings and which are primarily used for farming purposes.

Year	1990	1989	1988	1987	1986 ^a	1985	1984	1983	1982	1981
Number	103 724	99 538	89 897	82 244	73 302	70 364	65 018	59 098	53 467	49 238
% growth	4,2	10,7	9,3	12,2	4,2	8,2	10,0	10,5	8,6	9,0
Annual average growth 1981–1990	8,7%									

^a The 1986 figures have been adjusted due to reclassification of categories within the rural tariff, disconnections and network sales.

ESKOM: Annual non-cumulative rural and farming supplies

by region^a

Table 20 (b)

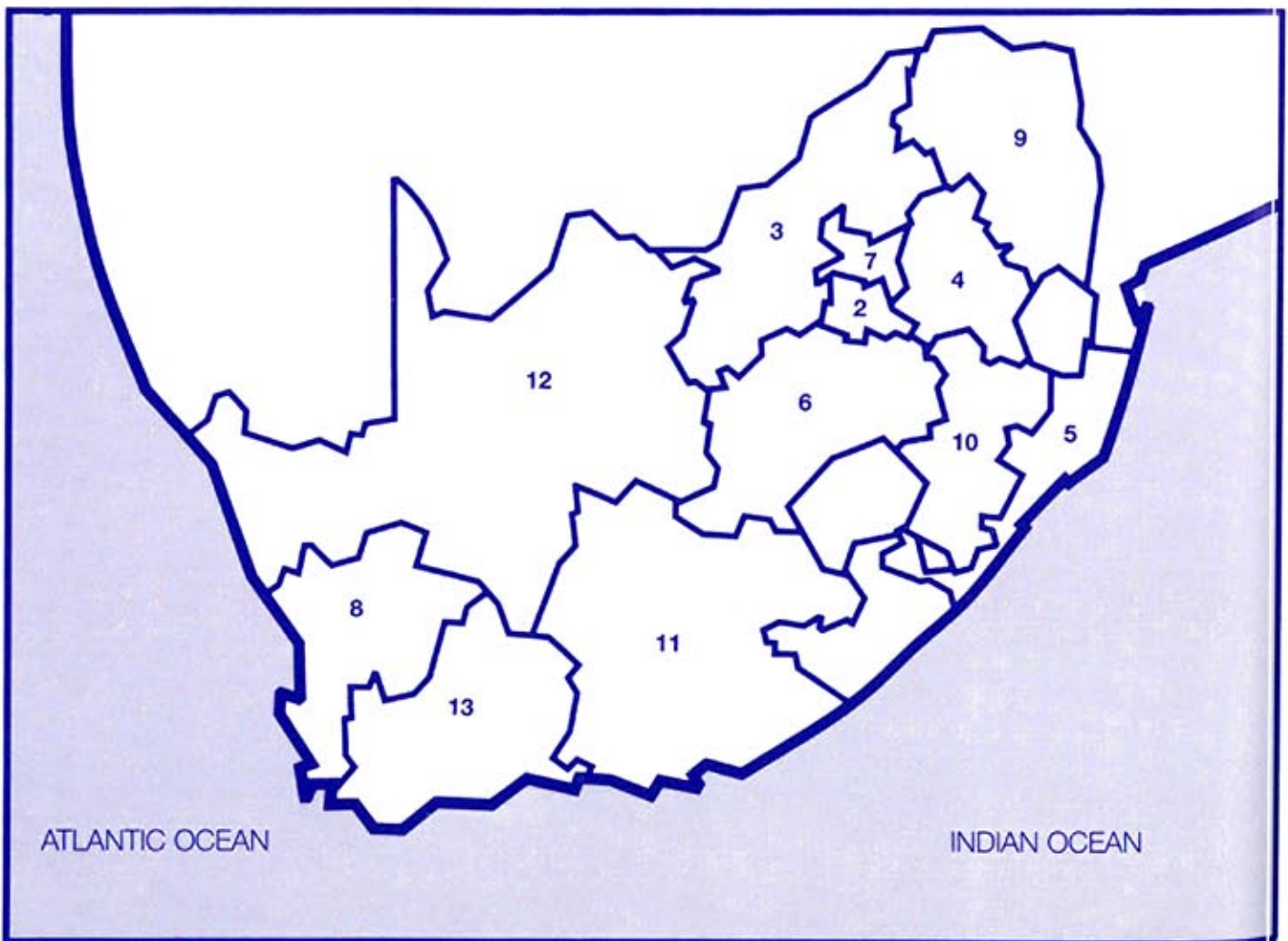
Region	Total connections				
	1990	1989	1988	1987	1986
Southern Transvaal	97	196	251	224	302
Western Transvaal	674	1 278	1 547	2 287	2 222
Eastern Transvaal	298	439	457	421	476
Eastern Natal	608	584	663	361	396
Orange Free State	381	755	2 772	1 848	847
Central Transvaal	258	357	382	396	361
Western Cape	178	334	402	350	358
North-eastern Transvaal	221	613	731	568	446
Western Natal	288	797	616	1 168	1 229
Eastern Cape	932	1 409	1 745	978	817
Northern Cape	353	753	568	520	429
Southern Cape	337	826	880	937	780
	4 625	8 341	11 014	10 058	8 663

^a Disconnections, network sales, regional border adjustments and reclassifications not taken into account.

ESKOM: Distribution regions in the RSA

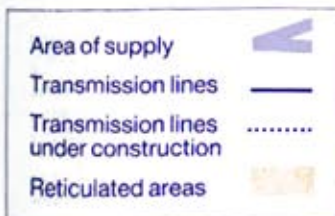
Map 1

- Map 2: **Southern Transvaal** – Johannesburg
- Map 3: **Western Transvaal** – Johannesburg
- Map 4: **Eastern Transvaal** – Witbank
- Map 5: **Eastern Natal** – Durban
- Map 6: **Orange Free State** – Bloemfontein
- Map 7: **Central Transvaal** – Johannesburg
- Map 8: **Western Cape** – Bellville
- Map 9: **North-Eastern Transvaal** – Nelspruit
- Map 10: **Western Natal** – Pietermaritzburg
- Map 11: **Eastern Cape** – East Londen
- Map 12: **Northern Cape** – Kimberley
- Map 13: **Southern Cape** – George



ESKOM: Southern Transvaal Distribution Region

Map 2



Southern Transvaal Region	
Customers:	11 568
Sales GWh:	30 909
Line length km:	11 936
Area sq km:	12 285
Regional Office: Johannesburg	(011) 711-9111
Nigel District	(011) 739-2161
Vereeniging District	(016) 21-3410
Randfontein District	(011) 693-5348/9
Brakpan District	(011) 740-1622
Vanderbijlpark District	(016) 814030/1/2/3

ESKOM: Western Transvaal Distribution Region

Map 3

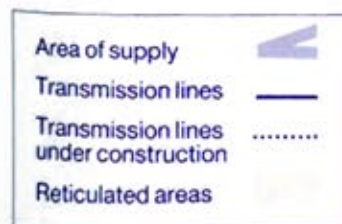


Area of supply	
Transmission lines	
Transmission lines under construction	
Reticulated areas	

Western Transvaal Region	
Customers:	17 454
Sales GWh:	19 097
Line length km:	32 030
Area sq km:	111 012
Regional Office: Johannesburg	(011) 711-9111
Carletonville District	(01491) 7-2064/5
Klerksdorp District	(018) 64-2340
Lichtenburg District	(01441) 2-6284/5/6/7
Rustenburg District	(01421) 2-0217 ext 225
Thabazimbi District	(01537) 2-1291/2/3
Warmbad District	(015331) 2140

ESKOM: Eastern Transvaal Distribution Region

Map 4



Eastern Transvaal Region	
Customers:	10 698
Sales GWh:	16 219
Line length km:	19 110
Area sq km:	47 107
Regional Office: Witbank	(0135) 67-9111
Bethal District	(01361) 7-1200
Ermelo District	(01341) 9-7450/1/2/3/4/5
Witbank District	(0135) 67-3733
Middelburg District	(01321) 461631-7
Groblersdal District	(01202) 4039/4041

ESKOM: Eastern Natal Distribution Region

Map 5



ESKOM: Orange Free State Distribution Region

Map 6



Area of supply	
Transmission lines	
Transmission lines under construction	
Reticulated areas	

Orange Free State Region	
Customers:	14 069
Sales GWh:	10 820
Line length km:	32 081
Area sq km:	96 980
Regional Office: Bloemfontein	(051) 30-2411
Bloemfontein District	(051) 35-2853
Welkom District	(0171) 92-2962
Bethlehem District	(01431) 3-5133
Bothaville District	(01414) 2118
Kroonstad District	(01411) 3-2757/8/9

ESKOM: Central Transvaal Distribution Region

Map 7

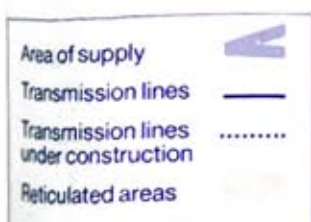


Area of supply	
Transmission lines	
Transmission lines under construction	
Reticulated areas	

Central Transvaal Region	
Customers:	28 119
Sales GWh:	11 496
Line length km:	9 559
Area sq km:	11 499
Regional Office: Johannesburg	(011) 711-9111
Sandton District	(011) 803-5464
Midrand District	(011) 315-2060
Randburg District	(011) 708-2250
Petit District	(011) 965-1780
Brits District	(01211) 20438

ESKOM: Western Cape Distribution Region

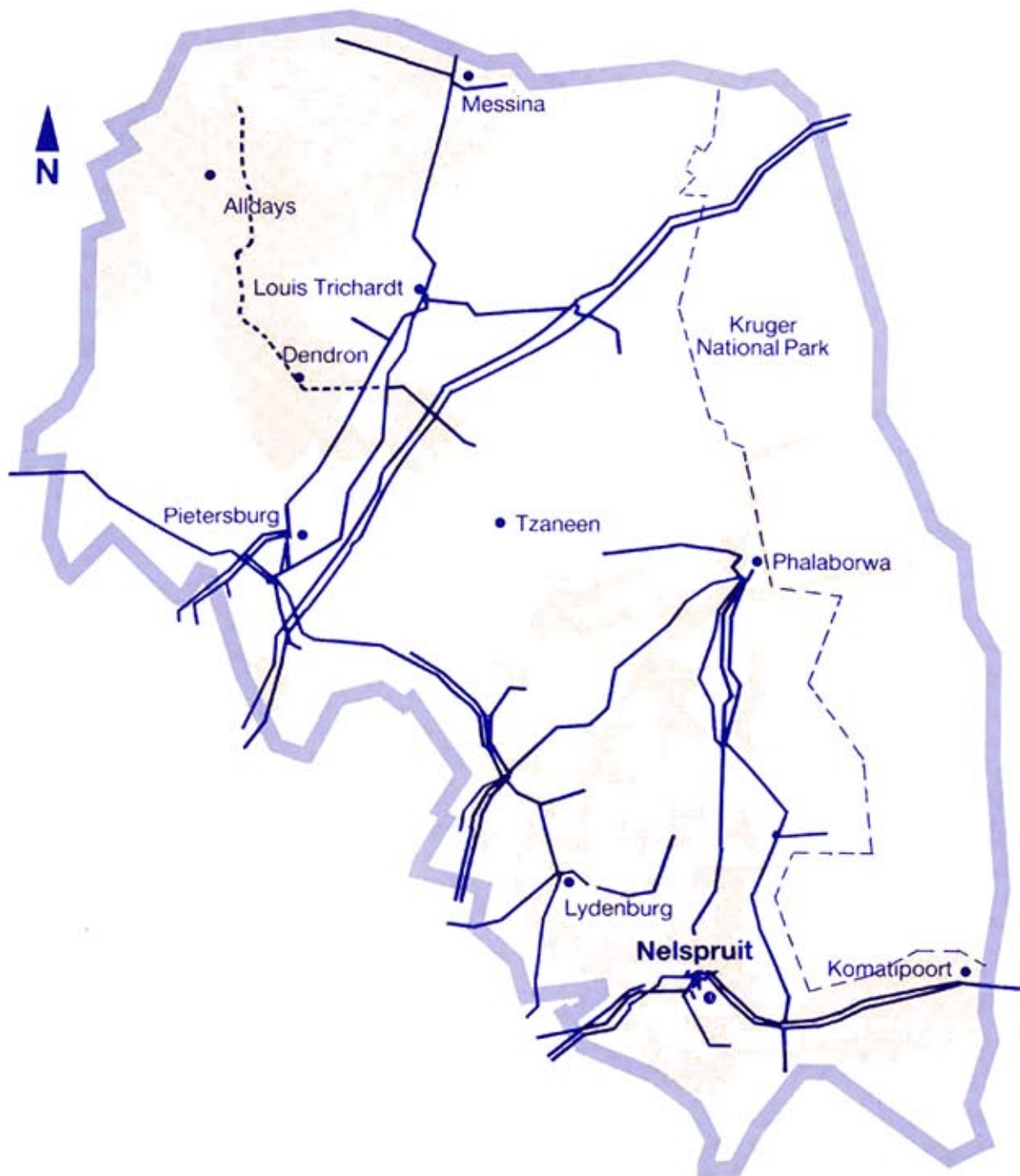
Map 8



Western Cape Region	
Customers:	59 640
Sales GWh:	9 222
Line length km:	11 710
Area sq km:	79 083
Regional Office: Bellville	(021) 915-9111
Bellville District	(021) 915-9111
Vredenburg District	(02281) 3-1154
Vredendal District	(0271) 3-1020

ESKOM: North-Eastern Transvaal Distribution Region

Map 9

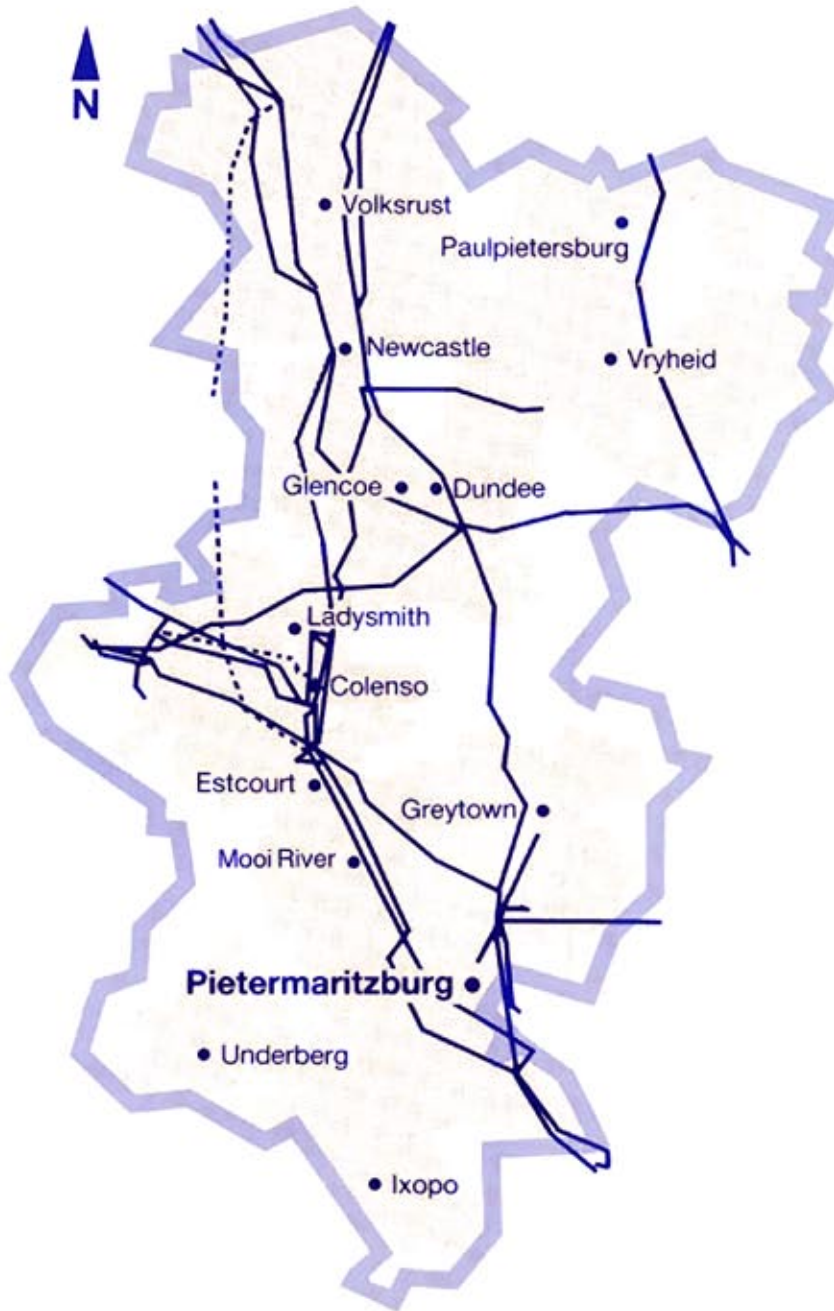


Area of supply	
Transmission lines	
Transmission lines under construction	
Reticulated areas	

North-Eastern Transvaal Region	
Customers:	8 840
Sales GWh:	6 993
Line length km:	13 531
Area sq km:	99 223
Regional Office: Nelspruit	(01311) 5-2001
Pietersburg District	(01521) 7-4821/2/3/4
Nelspruit District	(01311) 5-2001
Lydenburg District	(01323) 2314
Phalaborwa District	(01524) 5888

ESKOM: Western Natal Distribution Region

Map 10



Area of supply	
Transmission lines	
Transmission lines under construction	
Reticulated areas	

Western Natal Region	
Customers:	19 572
Sales GWh:	5 376
Line length km:	20 040
Area sq km:	57 619
Regional Office: Pietermaritzburg	(0331) 94-7245
Newcastle District	(03431) 5-1274/5-1282
Colenso District	(03622) 2101
Pietermaritzburg District	(0331) 94-7351/2/3

ESKOM: Eastern Cape Distribution Region

Map 11



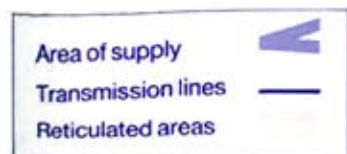
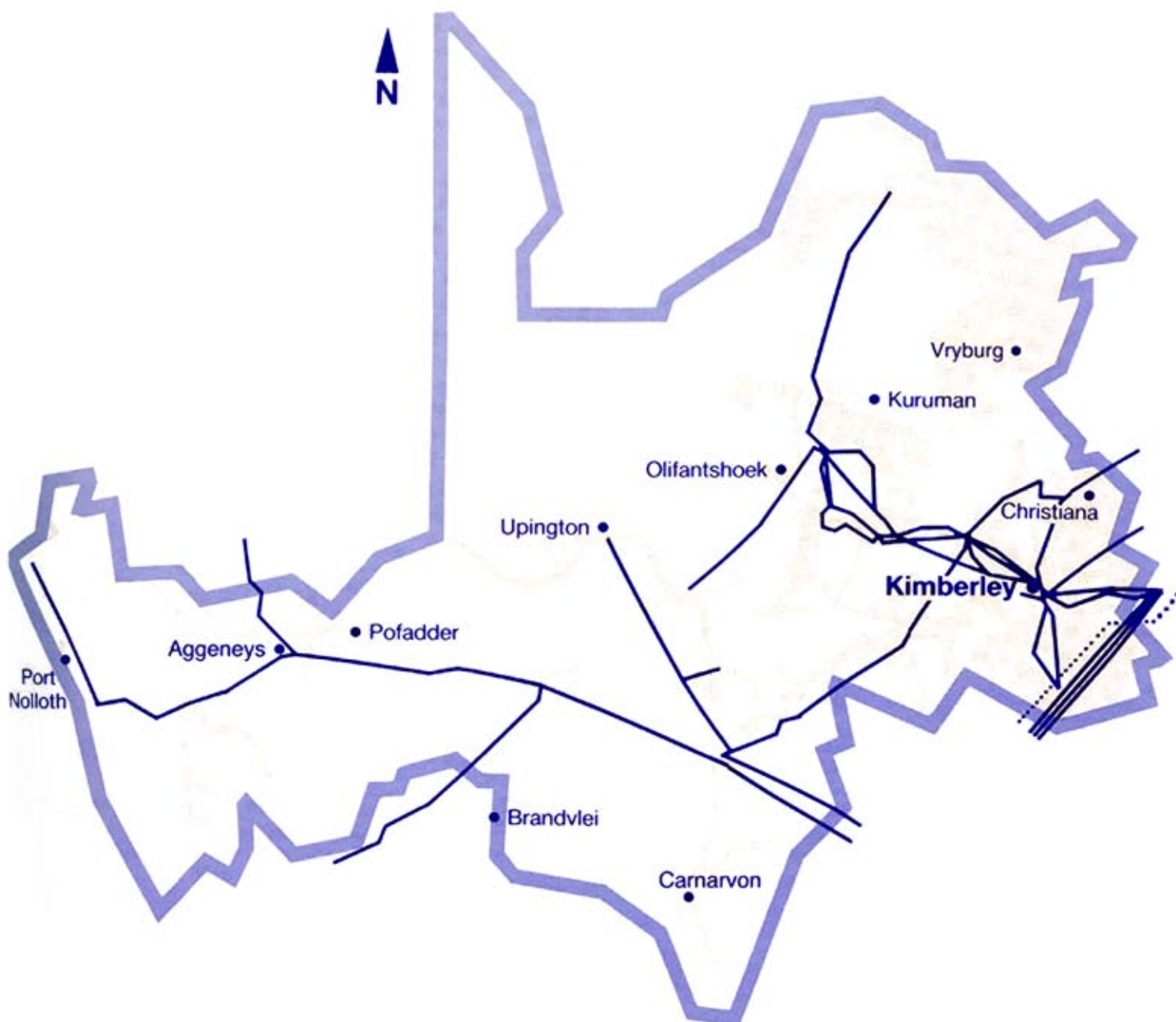
Kilometres
10 0 50 100

Area of supply	
Transmission lines	
Transmission lines under construction	
Reticulated areas	

Eastern Cape Region	
Customers:	14 505
Sales GWh:	4 707
Line length km:	26 594
Area sq km:	195 243
Regional Office: East London	(0431) 3-9911
Uitenhage District	(0422) 992-5833
Colesberg District	(05852) 363
East London District	(0431) 47-2493
Grahamstown District	(0461) 2-7031

ESKOM: Northern Cape Distribution Region

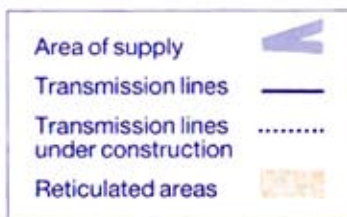
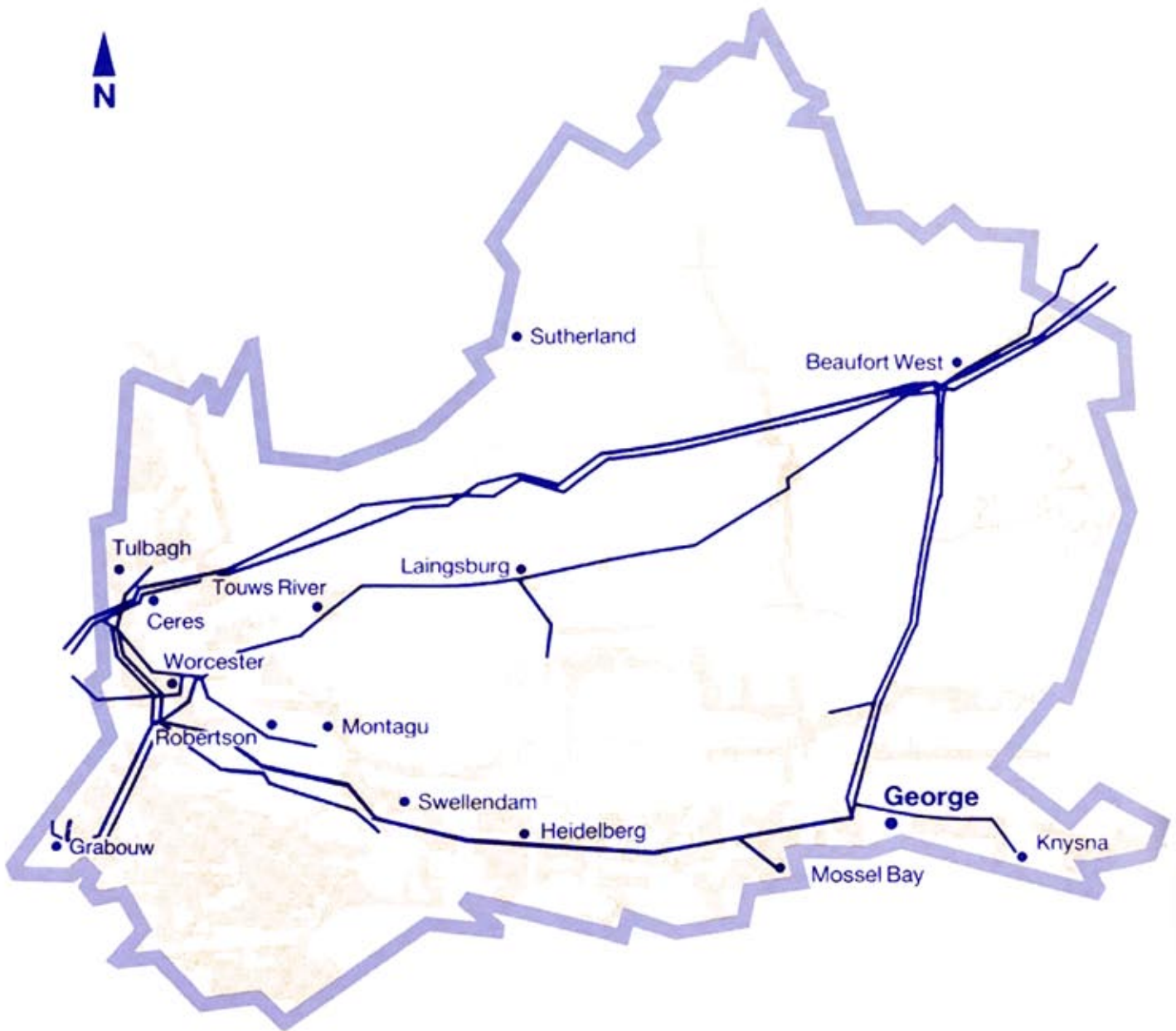
Map 12



Northern Cape Region	
Customers:	10 476
Sales GWh:	3 741
Line length km:	20 657
Area sq km:	326 484
Regional Office: Kimberley	(0531) 80-5911
Upington District	(054) 2-6941
Kimberley District	(0531) 805-876
Kuruman District	(01471) 2-2152
Vryburg District	(01451) 6276

ESKOM: Southern Cape Distribution Region

Map 13



Southern Cape Region	
Customers:	14 639
Sales GWh:	1 777
Line length km:	16 010
Area sq km:	100 258
Regional Office: George	(0441) 76-2911
Worcester District	(0231) 2-2394
Grabouw District	(024) 53-1140
George District	(0441) 74-4123
Swellendam District	(0291) 4-1051

SOUTH AFRICA: Motive power employed – electricity

Table 21

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1986)⁹.

Ownership and group	Steam turbines MW	Gas turbines MW	Steam reciprocating engines MW	Diesel and heavy oil engines MW	Petrol, paraffin and other light oil engines MW	Gas engines MW	Water turbines and water wheels MW	Total MW
Public supply undertakings								
Electricity generating stations								
Private undertakings and Eskom	26 156,0	364,7	–	38,6	–	0,1	1 550,9	28 110,3
Local authorities	1 482,8	316,0	–	5,1	–	–	184,3	1 988,2
Electricity distributing stations								
Private undertakings and Eskom	–	–	–	1,7	–	–	–	1,7
Local authorities	480,0	24,0	–	14,3	0,4	–	0,6	519,3
Total undertakings	28 118,8	704,7	–	59,7	0,4	0,1	1 735,8	30 619,6
Self-producers								
Electricity generating stations	615,8	–	3,4	14,9	2,2	–	2,2	638,4
Electricity distributing stations	378,1	25,9	0,2	82,0	0,3	–	8,6	495,1
Total undertakings	993,9	25,9	3,6	96,9	2,5	–	10,8	1 133,5
Grand total								
All undertakings	29 112,7	730,6	3,6	156,6	2,8	0,1	1 746,6	31 753,1

SOUTH AFRICA: Electricity available for consumption and number of undertakings

Table 22

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1986)^a.

Undertaking	Generating undertakings	Distributing undertakings	Gross production of electricity	Purchases outside South Africa	Units consumed by auxiliary installations and lost in station transformers	Units lost in transmission and transformers	Sales outside South Africa	Supply available for consumption in South Africa
	Number	Number	GWh	GWh	GWh	GWh	GWh	GWh
Public supply undertakings								
Private undertakings and Eskom	12	105	133 578	256	10 075	6 627	3 506	113 627
Local authorities	9	286	6 354	55	735	2 509	127	3 037
All undertakings	21	391	139 932	311	10 810	9 136	3 634	116 664
Self-producers								
Mining ^b	2	52	93	–	8	251	–	–166
Manufacturing	41	10	6 430	–	2 431	158	–	3 841
S.A. Transport Services	1	–	0	–	0	56	–	–56
Other	3	1	65	–	0	0	–	65
Total	47	63	6 589	–	2 439	465	–	3 684
All undertakings	68	454	146 521	311	13 249	9 601	3 634	120 348

^a The latest census figures will be available in our next edition.

^b Negative number of units for mining is caused by transmission losses in the total number of units generated and the number of units bought exceeding units generated.

SOUTH AFRICA: Monthly data on electricity available for consumption

Table 23

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1986)^a

Month	1979	1980	1981	1982	1983	1984	1985	1986
Actual data	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
January	7 074	7 678	8 201	8 687	8 745	9 326	9 801	10 371
February	6 714	7 598	7 724	8 222	8 217	9 131	9 443	9 703
March	7 541	8 140	8 673	9 171	9 103	9 901	10 417	10 861
April	7 307	7 905	8 167	8 872	8 871	9 491	10 015	10 379
May	7 882	8 756	9 176	9 548	9 546	10 415	10 801	11 053
June	8 004	8 816	9 387	9 609	9 661	10 686	11 053	11 432
July	8 611	9 192	9 662	10 119	10 271 ^b	11 139	11 547	11 836
August	8 411	8 913	9 691	9 776	10 202 ^b	10 794	11 230	11 621
September	7 857	8 394	9 103	8 894	9 489 ^b	10 167	10 525	10 772
October	7 950	8 439	9 198	9 193	9 772 ^b	10 164	10 736	11 106
November	7 728	8 195	8 723	8 891	9 382 ^b	9 984	10 521	10 753
December	7 536	7 879	8 430	8 554	9 107 ^b	9 637	10 118	10 168
Annual data	92 614	99 905	106 135	109 536	112 366 ^b	120 835	126 207	130 055

Seasonal variation eliminated

January	7 423	8 069	8 602	9 112	9 172	9 791	10 295	10 866
February	7 477	8 476	8 602	9 150	9 129	10 121	10 460	10 751
March	7 640	8 186	8 695	9 191	9 110	9 920	10 439	10 848
April	7 635	8 239	8 503	9 238	9 251	9 854	10 397	10 780
May	7 543	8 380	8 809	9 170	9 181	10 043	10 422	10 710
June	7 608	8 372	8 916	9 126	9 179	10 137	10 484	10 820
July	7 751	8 292	8 734	9 159	9 309	10 107	10 482	10 785
August	7 788	8 271	9 014	9 096	9 500	10 074	10 485	10 881
September	7 826	8 388	9 078	8 873	9 468	10 177	10 543	10 836
October	7 871	8 355	9 112	9 098	9 671	10 035	10 601	10 963
November	7 975	8 439	8 998	9 158	9 650	10 257	10 803	10 984
December	8 060	8 452	9 037	9 159	9 741	10 309	10 821	10 852

^a The latest census figures will be available in our next edition.

^b Estimates obtained from a monthly sample survey.

SOUTH AFRICA: Production and consumption of electricity

Table 24

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1986)^a.

Production						Electricity supplied for consumption							
Census year	Gross production of electricity	Purchases outside Republic	Used in power stations and lost in distribution	Sales outside Republic	Total no. of units consumed in South Africa	In mining	S.A. Transport Services		Other purposes	For domestic purposes	Manufacturing, commerce, etc. ^b	For other purposes ^c	Consumption per capita
							Traction						
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	kWh
1961	24 299	—	3 401	—	20 902	8 796	1 033	214	3 538	6 764	557	1 189	
1962	25 699	—	3 633	—	22 066	9 121	1 181	223	3 469	7 087	985	1 223	
1963	27 457	—	3 263	—	24 194	9 524	1 296	249	3 724	8 316	1 085	1 304	
1964	29 399	—	4 142	—	25 213	9 758	1 389	277	4 221	8 617	951	1 322	
1965	34 423	—	5 346	—	29 077	10 482	1 676	347	4 960	10 251	1 428	1 483	
1967	39 636	—	5 599	—	34 037	11 759	1 913	409	5 682	12 464	1 810	1 642	
1969	45 968	—	6 359	—	39 610	12 882	2 142	535	6 714	15 246	2 091	1 810	
1971	54 647	—	7 417	14	47 216	14 457	2 676	602	8 088	19 282	2 111	2 086	
1973	64 390	—	8 441	194	55 755	16 102	2 904	616	9 265	24 408	2 461	2 327	
1975	74 894	25	10 121	283	64 514	17 749	3 159	696	9 991	29 784	3 136	2 546	
1976	79 358	1 214	10 559	327	69 686	18 994	3 356	735	10 474	32 558	3 569	2 920	
1977	80 323	4 288	10 547	417	73 648	20 318	3 538	775	11 302	33 615	4 099	3 000	
1978	84 496	6 973	11 837	1 441	78 190	22 400	3 517	796	11 718	35 427	4 332	3 256	
1979	89 748	10 356	12 571	1 795	85 739	23 939	3 730	915	12 330	40 101	4 723	3 524	
1980	98 951	9 645	14 079	1 871	92 646	25 260	4 323	989	13 522	43 049	5 502	3 689	
1981	113 656	2 660	15 894	2 232	98 190	26 311	4 652	999	14 738	45 735	5 755	3 771	
1982	119 012	2 167	18 542	2 406	100 230	27 166	4 883	1 115	14 618	45 691	6 757	3 715	
1983	121 122	5 084	20 367	2 875	102 965	27 806	4 339	921	14 490	49 232	6 177	3 867	
1986	146 521	312	22 850	3 634	120 348	29 942	3 903	828	17 644	60 858	7 174	4 238	

^a The latest census figures will be available in our next edition.

^b Private businesses

^c Rand Water Board, regional water supply commissions, government departments, provincial administrations, local authorities, etc.

SOUTH AFRICA: Consumption of electricity

Table 25

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1986)^a.

Units consumed by	GWh
Mining	
Gold and uranium mines	22 261
Coal mines	2 035
Other mines	5 646
S.A. Transport Services	
Traction	3 903
Other	828
Own local authority departments	
Water departments	314
Public lighting (street etc)	648
Other purposes	835
Rand Water Board & Regional Water Supply Commissions	1 426
Government departments, provincial administrations, etc	3 949
Other private business (manufacturing, commerce, etc.)	60 858
Domestic use	17 644
Other	2
	<hr/> 120 348

^a The latest census figures will be available in our next edition.

SOUTH AFRICA: Municipal statistics

Table 26

Town	Financial year ended	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Transvaal						
Acasia	6/90	4 434	217	—	24	4 675
Alberton	6/90	20 639	622	396	1	21 658
Alexandra	6/90	—	—	—	—	—
Allemandsdrift	6/90	19	1	—	—	20
Amalia	6/88	—	—	—	—	—
Amersfoort	6/90	280	51	—	1	332
Amsterdam	6/90	222	57	6	—	285
Attridgeville	6/90	10 800	250	—	—	11 050
Badplaas	6/90	60	12	—	5	77
Balfour	6/90	693	114	3	31	841
Barberton	6/89	1 432	245	27	234	1 938
Bedfordview	6/90	2 761	117	22	—	2 900
Bekkersdal	6/89	260	—	—	—	260
Belfast	6/90	547	100	4	25	676
Benoni	6/90	22 449	2 136	510	2	25 097
Bethal	6/90	1 838	437	47	35	2 357
Bloemhof	6/88	441	92	9	—	542
Boksburg	6/90	22 852	974	188	1	24 015
Brakpan	6/89	12 500	1 077	235	—	13 812
Breyten	6/90	404	—	—	—	404
Brits	6/90	3 006	522	112	231	3 871
Bronkhorstspuit	6/90	1 310	182	38	61	1 591
Carletonville	6/90	6 178	764	62	73	7 077
Carolina	6/90	753	85	11	5	854
Charl Cilliers	6/90	21	8	—	—	29
Chrissiesmeer	6/90	46	11	—	—	57
Christiana	6/90	805	185	45	57	1 092
Coligny	6/90	466	67	—	8	541
Davel	6/90	40	5	—	—	45
Delareyville	6/90	483	138	12	67	700
Delmas	6/90	1 055	208	25	75	1 363
Deneysville	6/89	350	30	1	10	391
Duduza	6/89	3 100	720	—	—	3 820
Dullstroom	6/90	98	30	—	2	130
Edenvale	6/90	8 477	425	299	299	9 500
Eersterust	6/90	4 371	70	—	—	4 441
Ekangala	6/90	3 572	20	—	—	3 592
Ellisras	6/90	3 313	370	—	100	3 783
Elukatine	6/90	—	—	—	—	—
Embalenhle	6/90	—	—	—	—	—
Emgwenya	6/90	678	13	—	1	692
Emthonjeni	6/90	589	27	—	1	617
Emzinoni	6/90	—	—	—	—	—
Ennerdale	6/89	2 300	—	—	—	2 300
Erab Ratanda	6/89	280	—	—	—	280
Ermelo	6/90	3 534	517	69	—	4 120
Ethandakanya	6/90	264	30	—	—	294
Evander	6/90	2 084	234	62	1	2 381
Fochville	6/90	2 419	455	—	19	2 893
Germiston	6/89	24 200	750	—	—	24 950
Graskop	6/89	227	45	—	—	272
Greylingstad	6/89	50	—	—	—	50
Groblersdal	6/90	876	245	16	—	1 137
Hartbeespoortdam	6/88	1 672	—	—	—	1 672
Hartbeesfontein	6/88	458	83	10	—	551
Heidelberg	6/89	3 032	306	42	10	3 390
Hendrina	6/90	433	87	3	4	527
Hertzogville	6/88	182	42	—	3	227
Hoopstad	6/88	298	51	11	14	374
Ironsyde	6/89	175	—	—	—	175

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
21 744	20 971	—	1 952	44 666	9,07	57,3	5,0	—
224 351	17 345	464 305	39 368	745 369	168,43	50,0	4,4	218 270
37 210	—	—	—	37 210	13,00	42,0	—	120 000
63	3	—	—	66	0,02	36,7	—	14 926
—	—	—	—	—	—	—	—	389
2 210	2 310	—	3 960	8 480	—	—	—	4 185
1 830	1 180	1 840	—	4 850	1,20	46,0	—	650
90 000	10 000	—	—	100 000	33,00	45,0	—	150 000
500	100	—	40	640	0,14	73,8	—	228
5 161	7 501	4 051	1 366	18 079	4,63	53,0	—	30 860
12 995	5 080	21 442	2 135	41 652	5,80	62,0	11,0	21 306
101 554	5 572	82 462	—	189 588	37,00	68,0	—	30 000
3 166	—	—	—	3 166	1,08	33,0	—	56 000
5 680	2 180	390	5 300	13 550	2,93	74,5	8,7	13 273
248 508	66 614	358 801	134 435	808 358	190,42	53,0	4,2	256 700
31 900	19 100	12 000	5 000	68 000	15,00	63,9	6,4	53 374
—	—	—	13 931	13 931	2,50	70,0	6,1	9 790
244 240	62 786	469 116	9 633	785 775	185,12	54,0	6,2	244 338
109 770	28 400	372 110	9 720	520 000	94,49	61,0	9,6	110 364
—	—	—	—	—	10,00	20,0	—	800
27 933	17 465	128 957	14 645	189 000	47,00	55,0	2,6	33 366
12 990	5 100	81 150	4 960	104 200	20,88	50,0	2,5	19 947
66 891	41 680	3 358	2 998	114 927	31,10	62,2	10,0	45 000
5 900	3 000	4 850	440	14 190	3,12	73,3	10,0	7 117
100	70	—	—	170	0,20	12,0	—	84
460	110	—	—	570	0,13	68,6	—	90
8 621	8 313	770	—	17 704	2,36	52,0	7,9	7 922
2 232	1 330	—	327	3 889	1,93	70,0	11,0	7 466
200	200	—	—	400	0,40	14,0	—	174
3 320	2 300	1 100	1 480	8 200	2,20	54,0	10,2	4 585
15 503	16 083	387	2 401	34 374	7,30	66,0	9,8	32 000
3 386	1 576	817	233	6 012	1,70	62,2	7,3	2 200
39 870	14 530	—	—	54 400	10,00	87,0	—	65 600
1 190	70	—	30	1 290	0,29	70,9	—	353
127 730	11 979	80 335	6 298	226 342	47,00	64,0	5,0	45 000
33 156	2 522	—	—	35 678	11,09	36,7	—	24 700
15 333	474	—	—	15 807	—	—	—	—
22 395	14 791	—	2 135	39 321	9,95	59,0	5,8	15 000
—	—	—	—	—	15,83	27,5	—	—
20 000	8 000	—	1 500	29 500	10,60	39,0	—	125 000
110	—	—	250	360	0,10	57,5	—	12 500
48	2	—	—	50	0,02	38,4	—	3 600
7 200	500	—	1 000	8 700	3,60	34,0	—	53 374
49 717	—	—	—	49 717	—	—	—	68 000
9 430	—	—	—	9 430	—	—	—	33 000
42 300	9 170	19 080	—	70 550	19,80	50,0	9,0	75 629
—	—	—	—	—	—	—	—	19 688
19 000	5 000	7 000	2 000	33 000	6,80	67,0	13,1	13 607
23 042	11 627	—	1 883	36 552	6,20	66,2	9,9	24 023
340 537	77 174	664 877	31 993	1 114 581	250,43	54,0	2,6	132 978
3 749	3 536	—	—	7 285	1,09	47,4	3,2	1 400
1 656	—	—	—	1 656	0,46	41,0	—	—
7 983	8 072	6 223	2 178	24 456	6,08	55,4	7,1	4 710
23 744	—	—	—	23 744	7,05	48,0	15,0	6 800
2 836	1 960	1 137	—	5 933	1,60	52,0	6,0	460
30 918	15 057	47 117	3 568	96 660	23,03	53,0	6,3	34 298
3 930	1 830	—	380	6 140	1,38	71,6	—	1 200
1 666	807	—	132	2 605	0,67	49,4	4,0	2 650
3 610	6 138	135	153	10 036	2,00	54,0	13,0	6 900
2 183	—	—	—	2 183	—	—	—	—

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers					Total
		Domestic	Business	Industry	Not defined and other		
<i>Transvaal continued</i>							
Johannesburg	6/89	121 532	7 610	4 403	–	133 545	
Kagiso	6/89	370	–	–	–	370	
Katlehong	6/89	3 770	–	–	–	3 770	
Kempton Park	6/90	24 223	1 081	796	–	26 100	
Kinross	6/90	1 200	50	8	–	1 258	
Klerksdorp	6/90	13 524	1 308	91	51	14 974	
Kosmos	6/90	300	–	–	–	300	
Koster	6/90	674	27	7	–	708	
Kriel	6/90	2 731	130	–	–	2 861	
Krugersdorp	6/89	15 036	1 354	619	902	17 911	
Kwa Guga	6/90	5 428	100	–	–	5 528	
Kwachibikhule	6/90	75	2	–	–	77	
Kwadela	6/90	–	–	–	–	–	
Kwaggafontein	6/90	360	24	16	–	400	
Kwamhlanga	6/90	740	25	9	1	775	
Kwathandeka	6/90	3	–	–	–	3	
Kwazamokuhle	6/90	802	7	–	1	810	
Kwazenele	6/90	325	10	–	–	335	
Kwa-Thema	6/89	8 600	375	–	–	8 975	
Ladium/Claudius	6/90	3 422	58	–	–	3 480	
Leandra	6/90	378	107	–	–	485	
Lebowang	6/90	–	–	–	–	–	
Leeudoringstad	6/90	529	42	16	–	587	
Leeufontein	6/90	6	1	–	–	7	
Lenasia South	6/89	1 540	–	–	–	1 540	
Lichtenburg	6/90	3 302	330	120	–	3 752	
Louis Trichardt	6/89	1 823	416	114	987	3 340	
Lydenburg	6/89	1 647	272	58	–	1 977	
Machadodorp	6/90	584	56	3	9	652	
Makwassie	6/86	256	63	1	1	321	
Mamelodi	6/90	17 690	310	–	–	18 000	
Marble Hall	6/90	587	186	20	31	824	
Mayflower	6/90	–	–	–	–	–	
Messina	6/89	660	156	12	–	828	
Meyerton	6/89	3 800	200	100	12	4 112	
Mhluzi	6/90	4 294	40	–	14	4 348	
Middelburg	6/90	7 192	979	170	403	8 744	
Midrand	6/90	2 853	64	92	241	3 250	
Modderfontein	6/90	469	35	6	1	511	
Mogenuaka	6/90	789	42	–	8	839	
Mohlakeng	6/89	600	–	–	–	600	
Morgenzon	6/90	198	17	–	–	215	
Motetema	6/90	679	44	–	7	730	
Naboomspruit	6/88	1 025	168	2	–	1 195	
Nelspruit	6/88	5 626	802	183	–	6 611	
Nigel	6/89	5 728	477	135	51	6 391	
Nylstroom	6/90	1 057	171	54	36	1 318	
Ogies	6/90	204	55	8	–	267	
Oranjeville	6/89	163	21	–	–	184	
Orkney	6/90	3 482	299	–	–	3 781	
Phalaborwa	6/90	2 378	93	127	–	2 598	
Phola	6/90	1 567	15	–	–	1 582	
Piet Retief	6/90	1 548	723	20	82	2 373	
Pietersburg	6/89	9 096	1 241	375	918	11 630	
Potchefstroom	6/90	–	–	–	10 147	10 147	
Potgietersrus	6/90	3 344	538	50	107	4 039	
Pretoria	6/90	132 066	4 351	446	5 337	142 200	
Randburg	6/90	18 754	1 501	245	–	20 500	
Randfontein	6/89	10 078	767	154	435	11 434	
Rayton	6/90	–	–	–	–	–	
Residensia	6/89	1 150	–	–	–	1 150	

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
1 945 626	201 500	3 531 578	145 624	5 824 328	556,23	80,0	3,7	977 000
12 561	–	–	–	12 561	4,72	30,0	–	80 100
129 154	–	–	–	129 154	40,32	37,0	5,0	470 000
275 214	63 511	766 366	22 229	1 127 320	201,00	70,0	3,0	372 932
11 000	2 000	5 000	–	18 000	4,60	54,0	8,2	4 700
137 005	39 318	70 826	39 044	286 193	57,80	65,8	3,2	161 819
2 443	–	–	–	2 443	–	–	–	–
3 174	3 828	–	–	7 002	4,20	60,0	13,6	6 314
37 000	7 000	–	–	44 000	12,50	49,0	11,2	11 000
152 255	48 321	218 849	44 725	464 150	109,12	49,0	8,7	138 124
38 385	956	–	–	39 342	15,41	29,1	–	130 000
–	–	–	–	–	–	–	–	250
200	100	–	–	300	0,07	60,0	–	30 000
1 876	656	531	663	3 726	0,57	58,6	–	72 556
3 182	842	515	14	4 553	1,00	38,1	–	6 000
–	–	–	–	–	–	–	–	450
1 940	17	–	2	1 959	0,55	57,5	–	9 600
–	–	–	–	–	11,00	35,0	–	14 112
51 600	–	–	–	51 600	19,90	39,0	6,0	130 000
53 047	4 837	–	–	57 884	–	–	–	22 300
400	2 700	–	–	3 100	3,40	13,0	–	7 236
2 000	200	–	200	2 400	1,80	19,0	–	40 000
–	–	–	7 547	7 547	3,00	55,0	5,5	5 500
81	2	–	–	83	0,04	56,7	–	7 832
33 405	–	–	–	33 405	–	–	–	13 000
25 460	5 520	20 810	6 222	58 012	14,72	61,7	6,2	21 104
18 581	11 335	21 014	56 004	106 934	27,00	59,0	9,2	10 528
20 892	4 755	9 093	45	34 785	8,50	70,0	13,3	29 100
3 680	380	20	70	4 150	0,96	69,5	8,5	1 064
3 100	–	–	–	3 100	1,00	91,0	8,0	4 361
200 000	4 000	–	–	204 000	53,00	35,5	20,0	275 000
6 462	5 523	11 291	1 211	24 487	6,52	53,4	5,4	2 875
–	–	–	2 690	2 690	0,93	56,2	–	–
5 632	5 398	703	–	11 733	4,10	59,3	14,6	15 006
37 116	11 643	68 355	–	117 113	23,71	58,0	6,6	13 000
1 954	24	–	6	1 984	0,71	45,3	–	76 000
96 120	15 720	88 200	15 060	215 100	40,10	86,5	7,6	74 504
45 600	6 080	237 991	5 200	294 871	52,74	62,0	5,0	25 000
5 400	1 100	484 271	120	490 891	64,00	88,0	2,5	8 155
729	101	–	8	838	0,20	43,7	–	4 195
20 379	–	–	–	20 379	6,64	35,0	–	69 000
1 500	900	–	–	2 400	3,00	11,0	–	4 457
3 695	623	–	134	4 452	0,97	52,6	–	3 796
13 744	5 432	405	–	19 581	4,30	66,0	9,8	6 515
70 791	41 191	18 472	–	130 454	37,50	55,0	9,7	60 100
52 265	15 436	118 330	12 115	198 146	42,93	53,0	5,4	84 650
11 356	12 838	–	2 681	26 875	6,67	65,0	3,5	12 240
2 360	1 632	329	–	4 321	1,21	46,6	22,7	1 170
657	289	–	–	946	0,30	43,0	13,0	1 086
36 154	11 417	–	–	47 571	12,64	64,0	8,6	44 000
34 922	12 418	31 679	10 992	90 011	14,50	54,0	3,8	11 275
8 675	400	–	–	9 075	1,92	54,0	–	17 902
29 190	5 650	1 748	–	36 588	9,60	40,0	12,1	20 619
94 334	36 145	43 501	89 593	263 573	58,30	63,9	11,8	35 846
–	–	–	278 138	278 138	63,47	67,3	3,5	86 299
43 513	14 969	51 337	3 748	113 567	23,84	63,1	9,5	19 675
1 426 274	540 350	2 485 327	946 459	5 398 410	817,00	69,0	3,5	868 500
331 051	51 920	190 952	3 709	577 632	130,00	68,0	5,0	101 000
85 842	23 953	122 843	13 729	246 367	47,72	59,0	7,2	105 002
5	1	1	–	7	2,20	50,0	–	–
37 770	–	–	–	37 770	–	–	–	–

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers					Total
		Domestic	Business	Industry	Not defined and other		
<i>Transvaal continued</i>							
Roodepoot	6/89	33 012	64	1 718	135	34 929	
Roosenekal	6/90	45	11	—	5	61	
Rustenburg	6/90	11 183	1 765	26	32	13 006	
Sabie	6/89	1 000	200	10	—	1 210	
Sakhelwe	6/90	157	7	—	1	165	
Sakhile	6/90	—	—	—	—	—	
Sandton	6/90	7 940	40	—	—	7 980	
Sannieshof	6/90	255	132	2	8	397	
Schweizer-Reneke	6/90	606	120	11	14	751	
Sebokeng	6/89	2 510	—	—	—	2 510	
Secunda	6/90	8 500	240	50	10	8 800	
Silendele	6/90	8	—	—	—	8	
Sitobela	6/90	669	11	1	—	681	
Sivukile	6/90	—	—	—	—	—	
Siyabuswa	6/90	617	43	6	4	670	
Siyathuthuka	6/90	1 201	16	—	1	1 218	
Soweto	6/89	124 850	150	—	—	125 000	
Springs	6/89	15 672	1 388	297	—	17 357	
Standerton	6/90	4 200	600	13	280	5 093	
Stilfontein	6/90	3 821	—	461	—	4 282	
Swartruggens	6/90	258	50	11	47	366	
Tembisa	6/90	15 801	199	—	—	16 000	
Thabazimbi	6/90	1 203	160	10	98	1 471	
Trichardt	6/90	550	345	50	5	950	
Tsakane	6/89	475	—	—	—	475	
Tutuka	6/90	600	—	—	—	600	
Tweefontein	6/90	142	4	2	2	150	
Tzaneen	6/89	2 754	555	106	916	4 331	
Vaalbank	6/90	272	11	2	2	287	
Vanderbijlpark	6/89	17 603	1 170	156	43	18 972	
Ventersdorp	6/90	664	27	145	256	1 092	
Vereeniging	6/89	19 100	1 913	170	390	21 573	
Verwoerdburg	6/90	16 768	286	71	714	17 839	
Volksrust	6/90	1 517	227	8	—	1 752	
Vosloorus	6/86	14 790	60	5	—	14 855	
Vrede	6/88	800	55	—	—	855	
Wakkerstroom	—	—	—	—	—	—	
Warmbaths	6/90	1 831	442	—	370	2 643	
Waterval Boven	6/90	450	26	—	6	482	
Wesseltown	6/90	2 100	25	—	—	2 125	
Westonaria	6/89	4 420	711	22	—	5 153	
White River	6/89	2 534	355	105	200	3 194	
Witbank	6/90	10 989	980	35	52	12 056	
Wolmaransstad	6/90	680	150	26	15	871	
Zakkariya Park	6/89	145	—	—	—	145	
Zamdela	6/89	950	—	—	—	950	
Zeerust	6/90	1 064	172	100	18	1 354	
Zithobeni	6/90	476	4	—	11	491	
TOTAL TRANSVAAL		969 265	52 684	14 344	24 817	1 061 110	

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
416 528	95 059	238 277	20 872	770 736	181,44	51,0	9,3	179 495
881	201	—	33	1 115	0,27	49,7	—	191
151 200	47 250	710 000	116 550	1 025 000	195,00	76,0	5,5	49 478
13 998	—	—	—	13 998	3,40	53,0	8,0	3 400
103	5	—	1	109	0,04	44,7	—	1 045
8 900	500	—	600	10 000	3,84	36,0	—	75 000
140 159	47 420	—	25	187 604	51,10	56,0	4,0	125 000
4 555	621	495	548	6 219	1,70	57,0	5,3	1 200
6 988	5 820	1 200	238	14 246	3,76	57,1	9,5	12 825
85 988	—	—	—	85 988	—	—	—	477 000
79 000	23 000	1 700	4 900	108 600	23,00	66,0	6,0	36 000
—	—	—	—	—	0,60	40,0	—	3 762
84	1	—	—	85	0,03	41,8	—	5 500
100	100	—	—	200	0,05	56,0	—	15 000
9 407	878	1 881	125	12 291	1,93	61,8	—	39 870
202	2	—	—	204	0,07	47,7	—	1 100
917 115	30 957	—	—	948 072	330,37	33,0	—	771 000
164 760	68 857	376 149	22 088	631 854	95,10	62,0	4,7	162 783
41 000	19 000	51 000	20 000	131 000	28,50	64,0	8,6	45 578
22 428	—	14 167	—	36 595	11,66	69,7	10,1	15 000
1 262	1 086	481	637	3 466	1,42	57,5	25,0	2 427
111 058	—	—	—	111 058	35,40	45,0	20,0	500 000
10 506	4 701	408	6 164	21 779	5,90	63,0	5,0	9 589
4 600	9 400	—	500	14 500	3,06	56,0	9,4	2 690
16 262	—	—	—	16 262	4,49	41,0	—	115 300
12 000	—	—	—	12 000	3,10	54,0	—	2 800
1 555	1 071	72	54	2 752	0,48	50,2	—	123 211
32 584	61 583	47 082	52 274	193 523	55,00	60,0	13,7	15 756
961	21	63	—	1 045	0,37	48,6	—	13 056
167 415	27 947	500 937	6	696 305	129,62	63,0	2,3	66 150
5 067	867	4 255	6 588	16 777	4,80	59,6	5,6	8 082
205 240	193 633	608 260	20 131	1 027 264	223,66	47,0	6,3	132 440
213 928	24 772	186 805	31 960	457 465	92,17	67,0	6,0	86 144
15 520	6 046	9 072	2 086	32 724	7,09	61,2	5,4	18 038
57 489	6 926	1 385	3 463	69 263	11,00	50,0	4,0	130 000
6 007	2 821	—	—	8 828	2,83	35,0	—	14 023
—	—	—	—	—	—	—	—	4 217
7 836	16 563	—	7 122	31 521	6,53	75,0	11,2	17 239
3 850	1 540	—	460	5 850	1,34	70,4	5,1	7 213
—	—	—	—	—	0,60	30,0	—	42 150
50 700	8 876	3 817	2 553	65 946	12,00	52,0	4,9	121 469
14 400	14 700	27 449	1 500	58 049	10,20	58,0	12,5	7 550
124 312	37 555	31 124	127 773	320 764	78,00	63,0	9,8	123 180
5 500	3 567	2 918	634	12 619	4,40	80,0	18,9	23 648
3 097	—	—	—	3 097	—	—	—	—
31 715	—	—	—	31 715	—	—	—	35 000
8 361	1 676	2 302	2 302	14 641	5,15	48,0	10,6	6 000
—	—	—	1 900	1 900	—	—	8	3 025
10 963 122	2 527 563	14 255 445	2 469 893	30 216 023				10 740 347

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Orange Free State						
42nd Hill	6/90	993	45	-	-	1 038
Allanridge	6/89	711	711	-	10	1 432
Arlington	6/90	72	15	15	-	102
Bethlehem	6/90	4 293	883	54	11	5 241
Bethulie	6/89	484	42	1	34	561
Bloemfontein	6/89	29 668	2 691	380	4 085	36 824
Bohlokong	6/90	1 577	61	-	1	1 639
Borwa	6/90	-	-	1	-	1
Boshof	6/90	397	57	-	-	454
Bothaville	6/90	1 103	258	10	195	1 566
Brandfort	6/90	619	72	3	-	694
Bultfontein	6/90	555	125	3	27	710
Clarens	6/90	180	-	-	-	180
Clocolan	6/90	440	88	1	1	530
Cornelia	6/89	300	20	-	-	320
Dealesville	6/90	206	23	-	-	229
Dewetsdorp	6/90	334	101	9	-	444
Dipelaneng	6/90	-	-	-	-	-
Edenburg	6/89	306	66	-	-	372
Edenville	6/90	180	30	-	-	210
Excelsior	6/90	250	41	-	-	291
Ezenzeleni	6/90	121	9	-	-	130
Fateng Tse Nisho	6/90	1	3	-	-	4
Fauresmith	6/90	180	27	-	1	208
Ficksburg	6/90	844	133	18	28	1 023
Fouriesburg	6/90	324	24	-	-	348
Frankfort	6/90	794	129	8	-	931
Ha Rasebei	6/90	-	-	-	-	-
Harrismith	6/90	1 434	33	17	-	1 484
Heilbron	6/89	805	153	21	9	988
Hennenman	6/90	1 301	191	10	55	1 557
Hertzogville	6/90	202	28	-	-	230
Hloholwane	6/90	21	8	-	9	38
Hobhouse	6/89	92	11	1	2	106
Hoopstad	6/90	376	66	4	-	446
Ikgomotseng	6/90	109	5	-	-	114
Ipopeng	6/90	2	-	-	-	2
Itumeleng	6/90	10	-	-	1	11
Jacobsdal	6/90	-	-	-	-	-
Jagersfontein	6/90	310	58	1	-	369
Kestell	6/90	273	58	-	-	331
Kgobetswana	6/90	6	1	-	2	9
Kgotsoeng	6/90	497	34	-	-	531
Koffiefontein	6/90	995	68	6	1	1 070
Koppies	6/90	471	91	2	-	564
Kroonstad	6/90	5 634	824	172	216	6 846
Kwakwatsi	6/90	101	10	-	17	128
Ladybrand	6/88	728	156	37	-	921
Leratswana	6/90	36	7	-	-	43
Lindley	6/90	350	15	-	1	366
Madikgetla	6/90	13	1	-	-	14
Mafahhaneng	6/90	33	5	-	1	39
Mahlatswetsa	6/90	1	6	-	-	7
Majwemasweu	6/90	43	13	-	6	62
Makeketla	6/90	24	6	-	10	40
Makwallo	6/90	90	6	-	4	100
Malebogo	6/90	-	-	-	-	-
Mamafubedu	6/90	80	-	-	-	80
Manyatseng	6/90	218	-	13	-	231
Maokeng	6/90	3 600	55	-	114	3 769

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of KWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
1 361	315	-	-	1 675	-	-	-	28 500
-	-	-	10 456	10 456	3,34	62,0	9,2	17 300
574	273	353	-	1 200	-	-	-	167
32 993	13 444	45 460	10 607	102 504	25,71	71,0	4,2	17 250
2 008	480	36	998	3 522	1,10	41,0	11,0	9 941
205 631	91 413	435 792	-	732 836	168,35	61,7	13,8	280 000
11 276	460	-	20	11 756	-	-	-	54 819
-	-	1	-	1	-	-	-	5 500
3 247	210	-	-	3 457	0,97	49,0	10,0	8 321
10 332	4 584	1 012	63	15 991	6,70	52,0	2,0	5 500
4 154	1 598	-	1 161	6 913	1,76	56,7	20,0	1 800
4 384	2 651	1 121	612	8 767	2,90	54,5	10,6	2 200
1 436	-	-	-	1 436	1,44	11,4	-	235
2 826	1 942	788	433	5 989	1,82	45,7	14,0	1 225
640	225	-	-	865	0,21	45,6	9,8	130
907	611	-	-	1 518	-	-	-	351
466	768	-	-	1 234	0,40	50,8	11,6	4 854
-	-	-	-	-	-	-	-	-
1 284	689	1	323	2 297	0,75	47,2	11,0	3 800
69	45	-	-	115	0,50	59,4	2,2	450
962	572	-	-	1 534	0,49	51,5	19,0	487
338	62	-	-	400	-	-	-	6 500
19	22	-	-	41	-	-	-	3 641
1 608	322	-	107	2 036	0,50	44,3	5,0	650
-	-	-	24 771	24 771	6,72	59,2	10,4	5 000
1 162	846	-	-	2 008	0,46	60,4	9,0	850
6 212	2 860	5 257	-	14 329	4,92	41,1	8,3	2 000
-	-	-	-	-	-	-	-	-
21 039	7 200	20 968	-	49 207	13,52	54,6	7,9	6 200
7 112	4 801	654	2 184	14 751	5,43	70,3	8,2	4 038
9 567	3 824	12 953	721	27 066	4,53	63,0	11,4	3 500
-	-	-	175	175	1,81	48,9	6,0	700
58	216	-	50	324	-	-	-	14 500
478	318	-	-	796	-	-	-	1 450
-	-	-	6 816	6 816	1,76	44,2	7,9	950
13	3	-	-	16	-	-	-	2 689
12	-	-	-	12	-	-	-	2 500
29	-	-	1	30	-	-	-	9 071
-	-	-	-	-	-	-	-	1 600
2 595	675	118	-	3 388	2,16	52,2	11,0	893
2 477	1 111	-	-	3 588	1,10	40,2	5,0	850
3	2	-	2	7	-	-	-	1 000
1 148	287	-	-	1 435	-	-	-	45 000
7 245	608	177	1 645	9 675	2,72	52,6	7,0	11 400
3 190	6 239	-	-	9 428	2,34	62,0	7,0	1 000
46 680	38 667	3 247	296	88 890	38,50	64,6	5,7	25 000
377	167	-	181	725	-	-	-	15 000
11 749	6 584	3 223	-	21 556	4,70	52,4	2,2	4 500
22	29	-	-	50	-	-	-	4 500
1 538	372	-	59	1 969	0,43	51,9	2,1	750
51	10	-	-	61	-	-	-	6 000
285	74	-	8	367	-	-	-	4 038
1	32	-	-	33	-	-	-	7 000
72	157	-	1	231	-	-	-	12 000
106	106	-	106	317	-	-	-	11 000
385	26	-	17	428	-	-	-	7 523
-	-	-	-	-	-	-	-	3 500
83	-	-	-	83	-	-	-	6 500
1 925	-	115	-	2 040	-	-	-	17 500
20 376	1 882	-	8 155	30 413	-	-	-	110 000

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
<i>Orange Free State continued</i>						
Marquard	6/89	314	88	1	13	416
Mashaeng	6/90	15	—	—	—	15
Matlwanglwang	6/90	45	3	—	6	54
Matoporong	6/90	32	2	1	7	42
Matwabeng	6/90	77	17	—	17	111
Mautse	6/90	—	—	—	3	3
Megheleng	6/90	119	26	—	4	149
Mmamahabane	6/90	4	3	—	6	13
Moemaneng	6/90	20	7	—	8	35
Monjakeng	6/90	85	16	—	5	106
Morojaneng	6/90	—	—	—	—	—
Namahadi	6/90	292	23	—	—	315
Ntha	6/90	95	—	—	—	95
Ntswanatsatsi	6/90	—	—	—	—	—
Odendaalsrus	6/90	2 433	351	36	—	2 820
Parys	6/90	2 839	316	41	75	3 271
Paul Roux	6/90	220	10	—	—	230
Petrus Steyn	6/89	242	7	—	67	316
Petrusburg	6/90	290	48	6	40	384
Petsana	6/90	281	21	—	—	302
Phahameng	6/90	51	8	—	5	64
Philippolis	6/90	237	27	—	10	274
Phiritona	6/90	232	12	1	12	257
Phomolong	6/90	164	8	—	8	180
Qalabotsha	6/90	114	13	—	—	127
Qibing	6/90	52	10	—	—	62
Reddersburg	6/89	252	51	—	—	303
Reitz	6/90	745	106	—	40	891
Romelotsi	6/90	131	10	—	9	150
Rosendal	6/90	63	17	—	5	85
Sasolburg	6/89	8 170	400	—	866	9 436
Senekal	6/90	758	203	12	51	1 024
Smithfield	6/90	200	55	—	—	255
Steynsrus	6/90	228	39	2	1	270
Tamahole	6/90	623	27	—	23	673
Thembalihle	6/90	303	—	11	—	314
Theunissen	6/90	617	125	9	2	753
Tikwana	6/90	7	3	—	5	15
Tlholong	6/90	43	—	—	—	43
Tshepang	6/90	—	—	—	1	1
Tshwaraganang	6/90	35	3	—	—	38
Tweeling	6/90	171	34	—	—	205
Tweespruit	6/90	111	43	3	5	162
Van Stadensrus	6/90	35	11	—	—	46
Ventersburg	6/90	345	24	4	—	373
Verkeerdevlei	6/90	36	21	1	—	58
Viljoenskroon	6/89	569	120	13	19	721
Villiers	6/90	345	75	6	—	426
Virginia	6/88	5 063	594	43	—	5 700
Vredefort	6/88	429	55	4	—	488
Warden	6/88	341	69	14	—	424
Welkom	6/89	15 446	1 622	185	24	17 277
Wesselsbron	6/90	405	96	9	—	510
Winburg	6/90	378	61	—	—	439
Zastron	6/88	700	—	—	—	700
TOTAL ORANGE FREE STATE		107 589	12 443	1 189	6 178	127 399

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of KWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
3 470	9 280	4 320	—	17 070	13,20	48,7	2,2	5 774
29	—	—	—	29	—	—	—	8 700
128	62	—	31	221	—	—	—	6 000
134	12	5	1	153	—	—	—	2 500
270	648	—	162	1 080	—	—	—	14 000
—	—	—	4	4	—	—	—	3 000
936	24	—	17	977	—	—	—	38 000
19	14	—	29	63	—	—	—	16 000
54	87	—	19	160	—	—	—	6 200
204	480	—	31	715	—	—	—	18 500
—	—	—	—	—	—	—	—	—
1 369	166	—	—	1 534	—	—	—	16 000
490	—	—	—	490	—	—	—	20 000
—	—	—	—	—	—	—	—	—
24 109	5 577	6 185	—	35 870	9,12	67,6	7,2	11 000
1 923	582	1 224	408	4 137	1,26	68,4	4,9	10 100
—	—	—	1 684	1 684	0,51	45,6	—	520
1 915	130	—	150	2 195	1,50	47,1	11,0	600
699	415	3 380	34	4 528	1,36	47,2	7,9	5 820
1 308	420	—	—	1 728	—	—	—	16 500
110	149	—	169	427	—	—	—	19 200
1 360	355	—	221	1 936	0,50	45,0	—	3 069
3 631	2 101	66	768	6 566	—	—	—	22 000
590	121	—	210	921	—	—	—	33 000
858	113	—	—	971	—	—	—	13 200
201	145	—	—	346	—	—	—	8 500
1 269	742	—	—	2 011	—	49,4	8,0	3 455
10 469	2 984	—	1 283	14 736	4,20	48,6	7,1	2 462
137	67	—	36	240	—	—	—	20 000
291	346	—	27	664	0,21	51,7	16,0	200
86 964	19 375	—	12 850	119 189	32,20	67,0	9,8	30 000
6 179	4 511	14 293	39	25 023	5,21	64,1	7,1	2 465
1 017	374	—	—	1 391	0,60	46,0	7,3	4 700
1 522	427	112	305	2 366	0,90	—	4,4	700
4 666	207	—	167	5 040	—	—	—	46 000
635	—	69	—	704	—	—	—	14 000
2 828	170	418	1	3 417	0,92	42,3	7,0	1 500
35	47	—	30	112	—	—	—	7 000
139	—	—	—	139	—	—	—	3 265
—	—	—	7	7	—	—	—	2 000
188	4	—	—	192	—	—	—	4 000
1 523	713	—	—	2 236	0,71	48,6	—	2 700
1 055	675	599	18	2 347	0,80	53,0	17,8	350
186	42	—	—	228	—	—	6,0	60
—	—	—	51 503	51 503	11,58	65,0	12,9	1 200
159	147	1	—	307	0,04	87,5	13,6	88
4 697	2 319	1 828	209	9 053	3,78	51,0	13,7	18 580
3 908	2 828	244	—	6 980	1,74	40,1	5,2	1 000
72 787	14 215	23 887	—	110 889	26,44	65,3	7,8	10 200
4 276	1 169	1 048	—	6 493	1,68	44,1	8,0	1 476
2 954	1 228	534	—	4 716	1,60	33,6	—	9 270
165 193	49 556	86 170	6 473	307 392	84,79	58,7	9,0	47 622
216	150	370	—	736	2,60	48,9	6,0	1 250
2 913	4 097	—	—	7 011	2,08	50,6	7,0	1 200
5 048	—	—	—	5 048	2,00	44,0	—	5 000
857 564	325 053	676 029	146 854	2 005 499				1 343 549

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers				Total
		Domestic	Business	Industry	Not defined and other	
Natal						
Amanzimtoti ^a	6/90	—	—	—	—	—
Ballito	6/90	3 453	398	3	27	3 881
Bergville	6/90	176	1	—	118	295
Colenso	6/90	494	56	4	—	554
Dundee	12/90	2 119	870	27	38	3 054
Durban	6/90	249 470	29 849	552	—	279 871
Ekuvukeni ^b	12/90	6	—	—	—	6
Empangeni	2/90	3 586	876	11	7	4 480
Enseleni ^b	12/90	463	—	—	—	463
Eshowe	6/90	952	224	43	153	1 372
Esikhaweni ^b	12/90	4 205	—	—	—	4 205
Estcourt	6/90	2 326	460	24	4	2 814
Ezakeni ^b	12/90	1 422	—	—	—	1 422
Gamalakhe ^b	12/90	848	—	—	—	848
Gezinzela ^b	12/90	425	—	—	—	425
Glencoe	6/90	946	76	17	303	1 342
Greytown	6/90	1 335	—	—	1 400	2 735
Harding	6/90	423	119	11	—	553
Howick	6/90	1 407	398	1	—	1 806
Isipingo ^a	—	—	—	—	—	—
Kingsburgh ^a	—	—	—	—	—	—
Kloof ^a	—	—	—	—	—	—
Kokstad	6/90	1 198	297	15	31	1 541
Kwamakutha ^a	12/90	1 297	—	—	—	1 297
Kwambono ^b	12/90	—	—	—	—	—
Kwamsane ^b	12/90	138	—	—	—	138
Kwandengezi ^a	12/90	280	—	—	—	280
Kwa-Mashu ^a	12/90	3 955	—	—	—	3 955
Ladysmith	6/90	5 982	949	80	4	7 015
Madaeni ^b	12/90	4 624	—	—	—	4 624
Magabeni ^b	12/90	344	—	—	—	344
Mandini	6/90	—	—	—	—	—
Matatiele	6/90	350	120	6	—	476
Melmoth	6/90	407	74	—	—	481
Mondlo ^b	12/90	100	—	—	—	100
Mooi River	12/90	820	299	89	—	1 208
Mpophomeni ^b	12/90	487	—	—	—	487
Mpumalanga ^b	12/90	3 737	—	—	—	3 737
Mpungamhlophe ^b	12/90	—	—	—	—	—
Mtubatuba	6/90	344	124	5	—	473
Mtunzini	6/90	432	47	—	—	479
Ncotshane ^b	12/90	42	—	—	—	42
New Germany ^a	—	—	—	—	—	—
Newcastle	6/90	12 065	79	101	3	12 248
Ngwelezana ^b	12/90	679	—	—	—	679
Ntuzuma ^a	12/90	700	—	—	—	700
Osizweni	6/90	6 000	500	12	—	6 512
Ozizweni ^b	12/90	1 403	—	—	—	1 403
Paulpietersburg	6/90	298	77	7	3	385
Pietermaritzburg	6/90	40 844	—	—	5 583	46 427
Pinetown ^a	—	—	—	—	—	—
Pongola	6/90	187	30	13	—	230
Port Shepstone	6/90	2 570	310	11	64	2 955
Queensburgh ^a	—	—	—	—	—	—
Richards Bay	6/90	4 575	241	45	—	4 861
Scottburgh	6/90	970	135	—	—	1 105
Stanger	6/90	3 188	702	66	88	4 044
Sundumbili ^b	12/90	380	—	—	—	380
Tongaat	6/90	5 431	547	39	84	6 101
Ulundi ^b	12/90	3 461	—	—	—	3 461
Umlazi ^a	12/90	15 956	—	—	—	15 956
Utrecht	6/90	680	56	2	1	739
Vryheid	6/90	3 314	627	70	—	4 011
Vulindlela ^b	12/90	198	—	—	—	198
Wartburg	12/90	163	56	—	1	220
Wembezi ^b	12/90	986	—	—	—	986
Westville ^a	—	—	—	—	—	—
Winterton	12/89	78	37	—	1	116
TOTAL NATAL		402 719	38 634	1 254	7 913	450 520

^a Supplied by Durban Corporation.
^b Kwazulu Government electrification projects.

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
—	—	—	—	—	—	—	—	26 564
28 156	14 228	1 180	288	43 852	11,40	54,4	10,6	8 000
1 469	2 859	—	13 134	17 463	—	—	—	775
4 142	766	182	—	5 090	1,54	52,7	1,9	4 300
20 457	11 808	11 925	2 122	46 312	12,00	56,4	6,3	22 707
2 033 225	1 253 485	3 829 334	—	7 116 044	1 232,62	73,3	6,2	994 300
238	—	—	—	238	0,07	38,3	—	16 383
35 084	15 737	41 240	3 423	95 484	23,70	61,0	4,6	13 200
3 527	—	—	—	3 527	0,89	45,3	—	12 985
9 560	4 145	9 870	745	24 320	3,95	59,3	3,5	13 500
35 547	—	—	—	35 547	8,59	47,3	—	33 371
21 083	8 728	139 341	6 528	175 680	29,35	72,3	3,5	19 837
20 548	—	—	—	20 548	—	50,3	—	51 641
7 282	—	—	—	7 282	1,80	46,2	—	14 357
3 896	—	—	—	3 896	0,93	47,6	—	5 505
7 612	—	—	9 782	17 394	4,68	55,2	8,4	12 116
11 404	—	—	16 009	27 413	6,57	55,2	7,2	46 560
2 190	2 298	3 716	—	8 204	2,09	44,7	8,9	4 495
10 907	6 783	9 964	842	28 496	7,32	59,0	10,0	13 100
—	—	—	—	—	—	—	—	24 925
—	—	—	—	—	—	—	—	16 658
—	—	—	—	—	—	—	—	20 178
8 021	6 391	8 306	1 079	23 797	8,00	56,1	10,7	20 000
—	—	—	—	—	—	—	—	28 610
—	—	—	—	—	—	—	—	2 664
1 491	—	—	—	1 491	0,35	49,0	—	3 792
—	—	—	—	—	—	—	—	26 658
—	—	—	—	—	—	—	—	310 800
56 988	18 829	143 189	14 610	233 615	46,31	69,5	1,3	41 000
80 748	—	—	—	80 748	20,76	44,4	—	84 100
2 171	—	—	—	2 171	0,59	42,1	—	4 617
10 658	490	—	—	11 148	2,50	50,0	—	3 720
9 180	753	—	—	9 933	—	—	—	3 700
3 996	2 075	—	—	6 071	1,50	56,4	4,9	4 000
3 351	—	—	—	3 351	0,72	53,5	—	61 291
4 193	3 364	34 411	1 139	43 106	8,64	62,6	1,2	8 860
3 201	—	—	—	3 201	0,96	38,1	—	19 000
25 888	—	—	—	25 888	6,69	44,2	—	77 446
48	—	—	—	48	0,01	39,6	—	3 416
9 650	13 100	15 422	—	38 172	20,00	35,0	—	1 750
11 157	5 600	—	—	16 757	12,00	35,0	—	7 863
—	—	—	—	—	—	—	—	21 196
82 258	21 104	57 408	399 162	559 932	88,63	81,0	4,2	39 220
11 538	—	—	—	11 538	2,38	55,3	—	18 332
—	—	—	—	—	—	—	—	94 461
63 770	—	—	11 254	75 024	23,04	44,0	2,0	—
—	—	—	—	—	—	—	—	153 015
2 913	—	2 497	2 487	7 897	2,30	42,0	7,0	5 859
343 325	—	—	716 798	1 060 123	219,68	67,5	4,5	234 316
—	—	—	—	—	—	—	—	341 134
983	4 220	3 021	—	8 224	2,00	51,6	—	500
22 708	—	—	31 500	54 208	10,30	46,6	—	48 848
—	—	—	—	—	—	—	—	28 423
46 252	13 928	406 583	—	466 763	76,30	74,3	3,0	23 650
7 625	3 898	—	—	11 523	—	—	—	6 050
44 946	18 645	123 345	4 334	191 270	30,31	79,1	3,9	36 000
8 888	—	—	—	8 888	1,88	54,0	—	25 565
42 671	8 469	91 320	856	143 316	30,72	28,3	7,0	73 500
44 082	—	—	—	44 082	8,92	56,4	—	38 688
—	—	—	—	—	—	—	—	176 393
10 199	1 104	13	444	11 760	3,00	48,2	16,7	4 196
36 147	13 291	24 188	1 220	74 846	22,08	61,3	11,8	24 557
3 292	—	—	—	3 292	0,80	47,1	—	1 153
1 165	—	972	43	2 180	—	—	—	990
7 192	—	—	—	7 192	2,08	39,6	—	25 989
—	—	—	—	—	—	—	—	28 021
866	—	1 016	15	1 897	—	—	—	280
3 267 888	1 456 097	4 958 443	1 237 814	10 920 241				3 547 658

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Cape Province and Walvis Bay						
Aberdeen	12/90	–	–	–	–	–
Adelaide	6/90	364	60	3	10	437
Agulhas/Struisbaai	6/88	852	11	–	9	872
Albertinia	6/90	3 440	38	10	12	3 500
Alexandria	6/82	260	50	3	20	333
Alicedale	6/85	176	1	–	–	177
Aliwal North	6/89	1 515	62	14	–	1 591
Ashton	6/90	321	63	12	35	431
Atlantis	6/90	8 122	154	113	38	8 427
Barkly East	6/90	292	113	–	–	405
Barkly West	6/90	410	45	2	7	464
Barrydale	6/88	267	20	2	–	289
Bathurst	–	–	–	–	–	–
Beacon Bay	6/90	3 008	57	16	6	3 087
Beaufort West	6/90	2 214	–	355	59	2 628
Bedford	6/90	–	–	1	2	3
Belhar	6/90	712	–	–	5	717
Bellville	6/90	17 959	1 457	186	44	19 646
Berlin	–	–	–	–	–	–
Bitterfontein	6/90	64	15	–	12	91
Blue Downs	6/90	3 584	117	–	–	3 701
Boichoko	6/90	66	4	–	12	82
Bonnievale	6/90	689	65	89	9	852
Bot River	6/88	40	–	–	–	40
Brackenfell	6/90	3 680	181	30	3	3 894
Brandvlei	6/88	202	17	–	2	221
Bredasdorp	6/88	1 371	174	14	23	1 582
Britstown	6/90	315	60	–	–	375
Buffels Bay	6/88	180	4	–	6	190
Bull Hill (Boph)	6/88	2	1	–	4	7
Burgersdorp	6/89	655	125	2	11	793
Caledon	6/90	1 089	147	14	17	1 267
Calitzdorp	6/88	488	23	3	26	540
Calvinia	6/90	630	153	–	3	786
Cape Town	6/90	223 060	16 254	499	127	239 940
Carnarvon	6/90	473	16	1	45	535
Cathcart	6/90	369	21	6	–	396
Ceres	6/90	2 306	219	24	249	2 798
Citrusdal	6/90	343	75	10	5	433
Clanwilliam	6/90	576	134	19	–	729
Colesberg	6/90	563	84	4	28	679
Cradock	6/90	1 648	168	24	110	1 950
Crossroads	6/90	17	–	–	–	17
Darling	6/90	547	38	22	4	611
De Aar	6/90	1 906	286	22	57	2 271
De Doorns	6/90	351	65	10	21	447
De Kelders	6/88	213	–	–	–	213
De Rust	6/90	194	12	–	5	211
Delpportshoop	6/90	201	24	–	29	254
Despatch	6/90	3 845	172	2	14	4 033
Dordrecht	6/84	355	31	1	72	459
Douglas	6/90	328	84	–	29	441
Durbanville	6/90	4 922	182	16	78	5 198
Dysselsdorp	6/88	115	10	4	25	154
East London	6/90	23 779	2 437	261	1	26 478
Elandsbaai	6/89	50	15	4	–	69
Elliot	6/88	385	26	7	–	418
Fish Hoek	–	–	–	–	–	–
Fort Beaufort	6/90	739	87	8	61	895

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
1 956	658	61	99	2 774	0,90	38,0	8,0	6 594
4 092	661	80	250	5 083	1,30	52,0	14,0	13 316
12 870	3 910	–	5 610	22 390	10,00	25,6	–	1 156
2 536	120	108	31	2 795	1,00	55,2	–	3 500
2 473	1 582	984	–	5 039	1,20	52,0	6,3	10 272
–	–	–	–	–	0,20	48,0	–	7 833
14 983	1 000	12 080	–	28 063	7,70	49,0	8,0	30 000
2 313	1 057	9 152	772	13 294	4,48	56,4	3,5	9 479
45 668	3 979	183 823	27 915	261 385	54,00	55,1	5,7	65 200
3 238	186	–	–	3 424	1,20	39,0	18,0	7 902
4 772	1 000	60	130	5 962	1,72	56,0	2,3	7 780
–	–	–	2 313	2 313	0,75	53,4	3,0	1 650
–	–	–	–	–	–	–	–	3 275
25 678	2 004	4 157	44	31 883	7,50	53,0	8,0	12 500
11 804	–	7 491	6 078	25 373	6,16	51,9	6,0	28 846
–	–	–	–	–	0,80	43,0	–	8 623
2 821	–	–	37	2 858	1,00	29,1	12,5	12 500
134 129	43 788	379 685	11 203	568 805	118,70	68,9	3,0	105 000
–	–	–	–	–	4,60	43,0	–	–
225	247	–	23	495	0,17	37,6	–	1 000
14 491	1 244	–	–	15 735	11,00	23,5	10,1	18 128
716	73	–	81	870	0,20	43,8	1,2	7 690
1 750	854	15 057	450	18 111	4,96	60,3	6,6	5 541
314	–	–	–	314	0,15	23,9	10,0	2 050
27 128	30 171	26 500	724	84 523	22,90	55,8	5,1	16 000
2 245	2 440	–	550	5 235	2,80	30,5	14,0	1 800
–	–	–	14 887	14 887	3,25	58,4	10,0	12 153
3 400	450	–	–	3 850	0,90	42,0	16,0	6 080
2 800	1 260	–	400	4 460	2,80	18,2	–	–
6	4	–	50	60	0,04	35,0	6,0	110
5 586	3 408	242	989	10 225	3,00	45,0	13,0	14 100
6 975	4 140	2 961	765	14 841	4,00	51,4	3,4	7 525
1 770	158	317	265	2 510	0,75	49,2	2,0	3 380
2 847	2 030	–	947	5 824	1,90	49,4	7,8	12 114
1 675 592	574 407	1 280 330	177 876	3 708 205	759,00	55,8	6,5	1 267 850
3 084	36	18	414	3 552	1,40	29,0	12,2	9 500
3 303	460	104	–	3 867	1,10	47,0	15,0	7 300
14 885	7 044	31 074	4 843	57 846	16,37	61,9	22,2	17 598
1 992	1 265	1 558	170	4 985	2,00	44,0	12,4	2 920
3 218	1 325	189	287	5 019	1,50	55,0	13,0	10 989
1 200	677	60	460	2 397	2,60	39,0	2,7	13 315
21 000	1 800	300	1 300	24 400	6,80	43,0	–	40 016
41	–	–	72	113	–	–	–	90 000
1 537	404	338	5 605	7 884	108,00	95,0	8,0	3 870
16 279	4 187	6 596	738	27 800	8,10	47,0	19,0	28 000
1 970	1 070	7 193	830	11 063	1,50	54,6	–	7 400
675	–	–	–	675	0,40	19,3	13,0	157
686	158	–	211	1 055	0,26	46,3	8,0	1 350
1 328	312	–	508	2 148	0,56	51,9	8,9	6 700
34 410	729	429	160	35 728	8,50	49,0	8,0	24 300
4 330	1 990	1 460	11 710	19 490	8,00	34,0	–	7 068
3 420	4 818	–	809	9 047	2,48	48,1	8,2	12 532
50 807	4 283	7 401	2 888	65 379	20,60	52,6	13,4	21 500
392	240	192	742	1 566	0,50	35,8	5,0	15 000
146 488	57 825	363 636	8 235	576 184	124,40	60,0	12,0	200 000
–	–	–	721	721	–	–	–	821
4 150	386	94	–	4 630	1,30	45,0	–	5 331
–	–	–	–	–	–	–	–	12 400
5 653	2 148	776	6 788	15 365	3,90	52,0	14,0	24 417

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
<i>Cape and Walvis Bay continued</i>						
Franschhoek	6/90	477	94	2	92	665
Fraserburg	6/88	700	11	–	–	711
Galeshewe	6/90	8 000	35	3	–	8 038
Gansbaai	6/90	507	45	6	–	558
Garies	6/90	195	25	5	15	240
Gefco-Bretby	6/90	–	–	1	–	1
George	6/90	10 511	1 272	152	47	11 982
Gonubie	6/90	2 059	106	5	1	2 171
Goodwood	12/90	11 265	989	84	–	12 338
Gordons Bay	6/90	1 610	72	–	–	1 682
Gouritsmond	6/88	163	4	–	–	167
Graaff-Reinet	6/90	2 499	360	–	43	2 902
Graafwater	6/90	328	13	–	–	341
Grabouw	6/88	–	–	–	–	–
Grahamstown	6/90	3 398	675	34	32	4 139
Great Brak River	6/90	1 623	59	10	7	1 699
Greyton	–	–	–	–	–	–
Griquatown	6/90	212	38	2	–	252
Hanover	–	–	–	–	–	–
Hartenbos	6/87	865	44	10	61	980
Hartswater	6/90	515	205	24	–	744
Hawston	6/88	230	5	–	1	236
Heidelberg	–	–	–	–	–	–
Herbertdale	–	–	–	–	–	–
Hermanus	6/90	3 395	313	21	–	3 729
Hofmeyr	6/84	110	20	–	1	131
Hopefield	6/90	345	15	–	10	370
Hopetown	6/90	255	50	8	–	313
Humansdorp	6/90	800	246	25	5	1 076
Imfuleni	6/88	44	3	–	–	47
Indwe	6/89	165	–	–	–	165
Jan Kempdorp	6/90	580	95	9	–	684
Jansenville	6/86	215	65	–	–	280
Jeffreys Bay	6/88	2 897	75	3	5	2 980
Jongensfontein	6/88	198	2	–	–	200
Joubertina	–	–	–	–	–	–
Kakamas	6/90	608	75	18	8	709
Kamieskroon	6/90	92	25	–	–	117
Kathu en Dingle	6/90	1 692	76	20	128	1 916
Keimoes	6/90	617	82	13	72	784
Kenhardt	6/90	215	40	–	12	267
Keurboomstrand	6/88	91	8	–	3	102
Khyelitsha	6/88	259	46	–	23	328
Kimberley	6/90	18 756	795	35	27	19 613
King William's Town	6/88	3 821	466	65	–	4 352
Kirkwood	6/90	405	112	–	9	526
Klawer	6/89	341	47	–	7	395
Kleinmond	6/88	1 300	27	6	20	1 353
Klipplaat	6/90	95	14	–	–	109
Knysna	6/90	3 564	502	43	118	4 227
Komga	6/90	306	16	5	–	327
Kraaifontein	6/90	6 657	67	24	49	6 797
Kuils River	6/89	5 305	244	18	19	5 586
Kuruman	6/90	1 680	293	94	–	2 067
Kutlwano	6/90	–	1	–	2	3
Ladismith	6/88	522	76	3	–	601
Lady Grey	6/90	178	50	–	3	231
Laingsburg	6/90	343	41	–	8	392
Lamberts Bay	6/90	700	22	–	8	730
Langebaan	6/89	730	34	–	–	764

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
2 747	1 810	772	2 398	7 727	2,20	85,0	6,6	3 450
1 669	–	–	–	1 669	0,75	25,4	7,0	2 289
28 268	210	24	–	28 502	–	–	–	118 420
2 770	246	1 881	–	4 897	1,75	40,3	21,0	2 450
406	344	14	246	1 010	0,23	54,8	10,0	1 250
–	–	3	–	3	–	90,4	0,5	2
59 088	25 616	66 661	13 089	164 454	39,96	57,8	7,0	100 033
17 952	3 017	1 018	276	22 263	5,40	50,0	5,0	8 500
81 015	19 023	98 723	3 000	201 761	45,20	63,2	6,0	38 054
10 338	3 293	–	505	14 136	3,70	56,1	8,0	4 300
900	200	–	–	1 100	0,30	41,9	–	162
13 703	11 075	–	2 268	27 046	6,40	57,0	17,0	30 348
670	640	–	120	1 430	0,35	44,2	9,5	1 600
–	–	–	–	–	–	–	–	10 300
24 470	11 900	30 230	2 790	69 390	17,10	53,0	13,0	74 458
4 194	600	4 006	2	8 802	2,50	49,4	5,2	8 000
–	–	–	–	–	–	–	–	–
1 519	579	123	–	2 221	0,69	48,0	14,9	3 670
–	–	–	–	–	0,40	40,0	–	4 071
–	–	–	3 961	3 961	1,60	28,3	7,0	2 010
5 850	5 473	7 549	–	18 872	4,65	49,9	10,3	3 290
–	–	–	1 770	1 770	0,75	45,6	12,0	4 857
–	–	–	–	–	1,25	49,8	–	5 981
–	–	–	–	–	–	–	–	452
1 697	4 538	6 333	–	12 568	8,08	54,3	4,0	6 118
429	100	–	50	579	0,40	24,0	–	3 122
2 062	529	–	645	3 236	1,00	53,0	9,0	5 212
3 430	703	–	–	4 133	1,18	47,9	–	6 450
6 598	3 684	900	1 712	12 894	9,10	47,0	18,5	3 500
1 610	46	–	–	1 656	0,28	51,4	–	6 700
1 391	–	–	–	1 391	0,40	50,0	11,0	6 000
6 444	2 435	5 440	–	14 319	3,72	52,8	8,6	9 003
960	387	–	–	1 347	0,60	38,0	15,8	3 268
13 267	1 517	56	112	14 952	5,72	34,0	13,0	3 500
650	100	–	–	750	0,40	21,4	–	93
–	–	–	–	–	–	–	–	7 609
7 494	2 693	947	45	11 179	2,64	51,4	1,3	6 710
1 250	4 396	–	–	5 646	1,50	47,2	10,5	1 018
16 410	8 000	1 400	4 490	30 300	8,00	72,0	2,1	11 600
2 457	5 146	680	248	8 531	2,00	52,6	4,0	13 545
861	380	–	675	1 916	0,49	50,0	18,0	3 600
400	1 560	–	100	2 060	0,75	31,4	–	–
1 462	1 462	–	2 925	5 849	1,43	65,5	–	150 000
143 794	6 763	119 768	40 722	311 047	74,62	63,5	6,6	94 718
25 469	12 550	22 621	–	60 640	16,00	52,0	8,0	25 053
2 088	2 141	–	2 343	6 572	1,90	43,0	8,0	3 000
1 391	619	–	131	2 141	0,75	32,5	10,0	2 854
4 056	403	187	196	4 842	2,50	47,4	–	1 350
402	18	–	–	420	0,10	55,0	13,0	4 602
18 981	8 686	9 259	1 506	38 432	9,12	58,0	9,8	33 239
–	–	–	–	0	0,70	49,0	–	13 887
45 953	4 248	6 377	3 612	60 190	19,20	57,0	12,8	41 489
–	–	–	–	0	20,00	–	–	27 340
17 498	4 666	6 999	1 166	30 329	7,32	53,5	9,2	12 033
–	11	–	10	21	0,01	38,0	–	3 000
3 068	447	1 507	–	5 022	1,50	56,9	16,8	3 997
1 483	611	–	1	2 095	0,70	36,0	5,0	3 804
1 151	1 382	–	777	3 310	1,00	59,6	–	3 066
2 851	719	–	400	3 970	1,50	30,2	4,5	4 850
5 019	–	–	–	5 019	1,76	53,8	16,0	1 980

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
<i>Cape and Walvis Bay continued</i>						
Linguletu West	6/89	1 576	62	—	23	1 661
Loeriesfontein	6/90	252	31	—	21	304
Louis Road	2/91	216	2	—	—	218
Loxton	6/90	71	21	—	29	121
Luckhoff	6/89	90	12	—	—	102
Lutsville	6/90	196	28	2	51	277
Maclear	—	—	—	—	—	—
Malmesbury	6/90	2 362	269	83	62	2 776
Marydale	6/90	112	10	4	14	140
Matlhomola	6/90	9	2	—	6	17
McGregor	—	—	—	—	—	—
Mdantsane	—	—	—	—	—	—
Melkbos/Bloubergstrand	6/90	1 834	64	9	18	1 925
Mfuleni	6/90	205	5	1	7	218
Middelburg	6/86	980	140	34	—	1 154
Milnerton	6/89	8 291	443	65	31	8 830
Molteno	6/90	229	18	4	—	251
Montagu	6/90	1 149	275	15	1	1 440
Moorreesburg	6/90	1 629	105	25	36	1 795
Mossel Bay	6/90	4 993	580	71	372	6 016
Mothibistad	6/90	320	16	3	—	339
Motswedimosa	6/90	—	3	—	3	6
Murraysburg	—	—	—	—	—	—
Napier	6/90	346	23	1	24	394
Nature's Valley	6/88	293	1	—	2	296
New Crossroads	6/90	530	—	—	—	530
Niekerkshoop	6/90	57	10	—	—	67
Nieuwoudtville	12/90	101	14	1	23	139
Noupoort	6/90	494	18	—	—	512
Nuwerus	2/91	19	8	—	—	27
Nyanga	6/90	630	12	—	—	642
Olifantshoek	6/90	272	34	8	60	374
Onrusrivier	—	—	—	—	—	—
Oudtshoorn	6/90	5 632	—	253	131	6 016
Paarl	6/90	13 022	867	233	756	14 878
Pacaltsdorp	6/86	632	9	—	—	641
Parow	6/90	14 369	1 276	269	8	15 922
Patensie	—	—	—	—	—	—
Pearly Beach	6/88	249	2	—	—	251
Pearston	6/86	210	—	—	—	210
Philipstown	—	—	—	—	—	—
Piketberg	6/90	1 083	78	10	31	1 202
Pinelands	6/89	—	—	—	—	—
Plettenberg Bay	6/90	2 535	258	19	43	2 855
Pofadder	6/90	221	36	—	30	287
Port Alfred	6/88	1 516	196	—	46	1 758
Port Elizabeth	6/90	61 542	5 966	586	47	68 141
Port Nolloth	6/90	750	45	4	5	804
Porterville	6/90	427	59	5	12	503
Postmasburg	6/90	851	151	42	—	1 044
Prieska	6/90	620	149	17	79	865
Prince Albert	—	—	—	—	—	—
Queenstown	6/90	3 421	706	15	1	4 143
Ratanang	6/88	1	1	—	77	79
Redelinghuys	6/90	43	—	—	—	43
Reivilo	6/90	689	31	1	7	728
Richmond	6/90	230	21	—	—	251
Riversdale	6/86	1 058	254	15	—	1 327
Riviersonderend	6/88	276	60	4	5	345
Robertson	6/90	2 878	282	31	635	3 826
Sandbaai	6/88	527	2	—	—	529
Sedgefield	6/90	932	89	2	—	1 023
Simon's Town	6/89	—	—	—	—	—
Sishen/Kathu	6/88	1 410	39	8	—	1 457

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
—	—	—	—	—	—	—	8,0	270 000
808	346	—	109	1 263	0,45	48,2	14,0	1 910
288	65	—	117	470	0,50	33,3	12,2	2 215
223	117	—	39	379	0,12	45,0	3,6	850
—	—	—	5 870	5 870	2,00	35,0	—	1 200
892	503	11	456	1 862	0,68	35,2	28,0	1 700
—	—	—	—	—	0,90	44,0	—	8 370
16 421	6 597	17 594	4 676	45 288	10,50	59,0	7,0	18 236
377	142	8	195	722	0,20	48,6	2,0	2 227
39	1	—	5	45	0,04	19,2	4,6	1 253
—	—	—	—	—	—	—	—	2 250
—	—	—	—	—	33,40	45,0	—	—
15 684	1 090	2 568	2 612	21 954	6,00	44,0	9,5	9 055
—	—	—	—	—	—	—	5,0	6 000
7 911	2 739	4 564	—	15 214	5,00	44,0	12,2	17 005
—	—	—	—	—	—	—	—	46 000
1 619	1 181	592	—	3 392	1,10	37,0	3,0	16 500
5 253	3 885	2 988	3 061	15 187	3,68	53,0	10,0	13 217
6 526	2 807	966	1 943	12 242	3,30	52,3	5,2	7 010
29 214	14 634	31 047	5 068	79 963	20,00	60,0	11,0	36 676
612	84	21	—	717	0,16	40,0	2,0	15 000
—	39	—	39	78	0,03	42,6	6,0	3 200
—	—	—	—	—	0,50	38,0	—	3 953
2 174	145	6	151	2 476	0,75	72,2	12,5	1 801
292	940	—	180	1 412	0,50	32,2	—	—
—	—	—	—	—	—	—	15,0	13 437
387	70	—	—	457	0,20	50,0	15,0	1 100
311	163	3	234	711	0,25	50,6	13,4	1 200
2 722	217	—	—	2 939	1,30	49,0	8,9	8 000
83	35	—	10	128	0,08	37,4	20,9	194
—	—	—	—	—	—	—	5,0	49 321
2 324	1 412	49	362	4 147	1,06	50,6	12,1	6 619
—	—	—	—	—	—	—	—	623
35 750	—	2 311	294	38 355	19,50	64,4	7,7	15 607
120 370	6 045	222 251	14 218	362 884	75,80	63,8	3,1	93 743
5 075	—	—	—	5 075	1,60	50,0	5,0	8 445
121 650	47 091	133 045	3 986	305 772	85,30	55,2	3,9	75 000
—	—	—	—	—	—	—	—	2 500
602	88	—	—	690	0,50	15,8	—	157
1 080	—	—	—	1 080	—	—	—	7 231
—	—	—	—	—	0,30	46,0	—	7 894
4 119	2 106	2 727	796	9 748	3,00	56,5	4,0	5 701
—	—	—	—	—	—	—	—	11 540
12 537	3 840	8 378	3 588	28 343	8,54	51,3	6,7	12 097
10 596	2 032	—	1 735	14 363	4,10	49,2	2,8	4 670
6 174	2 973	—	890	10 037	3,60	47,0	15,6	3 500
506 643	111 589	957 116	480 038	2 055 386	396,10	58,0	7,0	1 026 972
1 562	416	1 666	104	3 748	0,76	57,4	2,3	6 600
3 183	1 057	720	242	5 202	1,25	53,2	6,3	3 997
12 816	5 641	2 093	—	20 550	4,92	54,8	12,3	10 702
4 783	4 527	352	13 565	23 227	4,24	53,5	5,2	13 172
—	—	—	—	—	—	—	—	5 436
30 449	40 510	8 561	470	79 990	19,10	39,0	7,0	95 200
15	22	—	94	131	0,06	34,7	2,4	1 444
213	—	—	5	218	0,08	32,8	17,0	80
2 108	624	1 150	120	4 002	1,32	61,7	0,4	950
1 648	412	—	—	2 060	0,50	52,0	9,0	6 517
8 953	2 413	808	—	12 174	3,00	54,2	6,8	14 838
2 099	125	370	6	2 600	1,00	49,2	12,1	1 800
17 756	5 558	27 920	21 372	72 606	18,60	64,4	7,7	17 412
1 181	—	—	—	1 181	0,75	18,0	12,0	450
3 313	2 269	175	—	5 757	2,30	33,0	20,5	2 600
—	—	—	—	—	—	—	—	10 810
24 800	13 200	1 392	—	39 392	7,92	36,0	3,6	10 000

SOUTH AFRICA: Municipal statistics

Table 26 continued

Town	Financial year ended	Number of customers					Total
		Domestic	Business	Industry	Not defined and other		
<i>Cape and Walvis Bay continued</i>							
Somerset East	6/90	1 382	181	4	24	1 591	
Somerset West	6/90	8 347	730	27	–	9 104	
Springbok	6/90	2 331	658	98	218	3 305	
Stanford	6/90	364	12	–	–	376	
Steinkopf	12/90	193	12	–	13	218	
Stella	6/90	123	46	1	–	170	
Stellenbosch	6/90	7 619	610	41	–	8 270	
Sterkstroom	6/90	194	16	–	–	210	
Steynsburg	–	–	–	–	–	–	
Stilbaai	6/90	1 102	34	3	–	1 139	
Strand	6/89	8 773	865	56	–	9 694	
Strandfontein	6/89	296	5	–	–	301	
Strydenburg	6/90	196	17	2	–	215	
Stutterheim	6/90	670	125	15	25	835	
Sutherland	–	–	–	–	–	–	
Swellendam	6/90	1 304	215	16	5	1 540	
Tlhalakatlou	6/90	208	5	–	–	213	
Touws River	6/88	778	57	–	–	835	
Tulbagh	–	–	–	–	–	–	
Uitenhage	6/88	11 170	827	53	420	12 470	
Upington	6/90	5 834	596	–	168	6 598	
Utiwanang	6/90	2	6	–	1	9	
Vaal-Gamagara	6/90	70	–	–	–	70	
Van Dyks Bay	6/88	643	2	1	1	647	
Vanrhynsdorp	6/90	438	43	–	1	482	
Vanderkloof	6/86	356	15	–	–	371	
Van Wyksvlei	6/90	70	7	–	–	77	
Veldrif	6/90	867	59	7	44	977	
Victoria West	6/90	701	5	3	6	715	
Villiersdorp	6/90	533	72	1	39	645	
Vosburg	6/90	63	15	2	30	110	
Vredenburg-Saldanha	12/90	3 780	416	74	38	4 308	
Vredendal	6/90	1 323	205	34	–	1 562	
Vryburg	6/90	2 270	342	93	1	2 706	
Waenhuiskraal	6/88	176	2	–	5	183	
Walvis Bay	6/90	4 604	233	88	10	4 935	
Warrenton	6/90	931	134	8	26	1 099	
Wellington	6/90	4 045	386	54	15	4 500	
Wilderness	6/90	766	33	–	–	799	
Williston	6/90	260	23	–	36	319	
Willowmore	6/90	324	62	1	–	387	
Witsand	6/88	198	5	–	–	203	
Wittedrif	6/88	32	4	–	6	42	
Wolseley	6/90	476	47	3	–	526	
Worcester	6/90	9 098	1 446	111	2 878	13 533	
Yzerfontein	12/90	453	2	–	–	455	
Zwelihle	6/88	22	2	–	–	24	
TOTAL CAPE AND WALVIS BAY		648 455	53 112	5 197	8 877	715 641	
TOTAL SOUTH AFRICA		2 128 028	156 873	21 984	47 785	2 354 670	

MWh sold					Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
Domestic	Business	Industry	Not defined and other	Total				
23 779	4 774	2 412	3 304	34 269	6,70	59,0	7,3	26 453
70 223	25 257	8 397	3 092	106 969	27,00	63,5	5,5	24 985
4 594	3 914	1 759	2 996	13 263	4,10	53,8	12,0	8 000
1 296	288	–	–	1 584	0,46	39,3	8,0	1 100
1 130	479	–	364	1 973	0,53	51,4	35,5	8 300
1 249	1 296	4	–	2 549	0,82	36,6	5,0	680
58 559	28 611	93 419	5 013	185 602	63,90	54,6	3,5	56 886
983	9	–	–	992	0,40	35,0	23,0	6 245
–	–	–	–	–	0,90	46,0	–	5 326
–	–	–	4 284	4 284	1,50	50,0	10,8	2 950
–	–	–	75 307	75 307	17,80	60,0	5,1	41 014
4 230	440	–	–	4 670	1,57	48,8	–	550
596	275	3	–	874	0,20	45,0	11,0	2 000
5 081	2 098	2 752	679	10 610	2,50	50,0	3,0	24 400
–	–	–	–	–	–	–	–	1 954
7 118	2 896	3 183	468	13 665	3,92	51,0	7,7	8 184
681	406	–	–	1 087	0,48	37,0	2,1	2 318
6 700	3 800	–	–	10 500	4,00	37,0	2,1	2 200
–	–	–	–	–	–	–	–	9 004
72 977	19 195	265 503	11 969	369 644	77,40	57,0	3,1	213 000
36 442	36 240	–	22 421	95 103	19,17	59,6	10,6	24 020
22	121	–	26	169	0,05	43,9	3,0	6 000
296	–	–	–	296	0,13	29,5	–	350
–	–	–	2 881	2 881	1,00	32,9	13,1	1 920
1 672	1 205	–	512	3 389	0,80	38,6	14,0	7 187
903	318	–	–	1 221	0,60	46,0	26,6	846
114	212	–	–	326	–	–	–	1 340
7 100	250	4 080	1 013	12 443	3,94	51,3	11,3	4 300
3 500	163	131	115	3 909	1,20	42,0	10,0	10 050
2 880	1 613	366	376	5 235	1,72	45,0	15,0	4 690
313	116	7	179	615	0,19	41,9	11,0	945
25 037	10 392	43 935	3 650	83 014	19,20	59,9	6,0	30 889
7 170	4 815	3 000	1 029	16 014	3,60	48,0	13,0	52 464
22 494	5 428	24 759	4 180	56 861	11,40	63,2	12,9	29 833
2 630	2 410	–	960	6 000	4,00	17,1	–	726
14 993	4 049	41 398	16 386	76 826	16,90	58,4	3,9	29 046
12 000	6 500	8 100	700	27 300	25,90	18,1	10,0	21 500
23 679	7 246	32 076	883	63 884	14,54	59,0	3,0	27 000
3 976	4 657	–	–	8 633	2,16	57,8	11,1	6 000
1 101	259	–	343	1 703	0,58	56,0	19,0	2 671
1 666	1 026	86	–	2 778	0,90	39,0	10,0	5 500
830	180	–	–	1 010	0,30	38,4	–	151
190	32	–	71	293	0,10	33,4	–	–
1 210	2 942	1 671	–	5 823	1,57	62,5	8,0	5 800
58 366	15 167	67 713	4 258	145 504	33,94	62,4	4,4	63 900
2 774	53	–	21	2 848	1,00	32,5	11,0	212
79	28	–	–	107	0,03	40,7	–	1 390
4 457 929	1 425 864	4 774 190	1 126 401	11 784 384				6 056 154
19 546 503	5 734 577	24 664 107	4 980 962	54 926 147				21 687 708

SOUTHERN AFRICA: Net installed generating capacity

Table 27

Sources: United Nations Energy Statistics Yearbook 1988 and utility annual reports

Country	Hydro power	Pumped storage	Coal, oil etc	Nuclear	Total	% of total
Angola	412	—	205	—	617	1,35
Bophuthatswana*	—	—	—	—	—	—
Botswana*	—	—	219	—	219	0,48
Ciskei*	—	—	—	—	—	—
Lesotho*	2	—	0	—	2	0,00
Malawi	145	—	24	—	169	0,37
Mozambique**	1 422	—	133	—	1 555	3,40
Namibia*	240	—	120	—	360	0,79
South Africa*	613	1 580	31 293	1 840	35 326	77,23
Swaziland*	41	—	10	—	51	0,11
Tanzania	259	—	180	—	439	0,96
Transkei*	61	—	—	—	61	0,13
Venda*	—	—	—	—	—	—
Zaire	2 486	—	55	—	2 541	5,56
Zambia	2 245	—	191	—	2 436	5,33
Zimbabwe	666	—	1 300	—	1 966	4,30
Total, MW	8 592	1 580	33 730	1 840	45 742	100,00
*South African Customs Union, MW	957	1 580	31 642	1 840	36 019	78,74

**Includes Cahora Bassa

SOUTHERN AFRICA: Gross production of electricity

Table 28

Sources: United Nations Energy Statistics Yearbook 1988 and utility annual reports

Country	Hydro power	Pumped storage	Coal, oil etc	Nuclear	Total	% of total
Angola	1 345	—	465	—	1 810	0,98
Bophuthatswana*	—	—	—	—	—	—
Botswana*	—	—	722	—	722	0,39
Ciskei*	—	—	—	—	—	—
Lesotho*	11	—	0	—	11	0,01
Malawi	580	—	0	—	581	0,32
Mozambique**	133	—	171	—	304	0,16
Namibia*	1 086	—	124	—	1 210	0,66
South Africa*	3 193	1 610	141 095	11 067	156 964	85,18
Swaziland*	181	—	1	—	182	0,10
Tanzania	610	—	264	—	874	0,47
Transkei*	227	—	—	—	227	0,12
Venda*	—	—	—	—	—	—
Zaire	5 248	—	144	—	5 392	2,93
Zambia	7 930	—	—	—	7 930	4,30
Zimbabwe	2 620	—	5 457	—	8 077	4,38
Total, GWh	23 164	1 610	148 443	11 067	184 284	100,00
*South African Customs Union, GWh	4 698	1 610	141 942	11 067	159 316	86,45

**Includes Cahora Bassa

SOUTHERN AFRICA: Net installed generating capacity

Table 27

Sources: United Nations Energy Statistics Yearbook 1988 and utility annual reports

Country	Hydro power	Pumped storage	Coal, oil etc	Nuclear	Total	% of total
Angola	412	—	205	—	617	1,35
Bophuthatswana*	—	—	—	—	—	—
Botswana*	—	—	219	—	219	0,48
Ciskei*	—	—	—	—	—	—
Lesotho*	2	—	0	—	2	0,00
Malawi	145	—	24	—	169	0,37
Mozambique**	1 422	—	133	—	1 555	3,40
Namibia*	240	—	120	—	360	0,79
South Africa*	613	1 580	31 293	1 840	35 326	77,23
Swaziland*	41	—	10	—	51	0,11
Tanzania	259	—	180	—	439	0,96
Transkei*	61	—	—	—	61	0,13
Venda*	—	—	—	—	—	—
Zaire	2 486	—	55	—	2 541	5,56
Zambia	2 245	—	191	—	2 436	5,33
Zimbabwe	666	—	1 300	—	1 966	4,30
Total, MW	8 592	1 580	33 730	1 840	45 742	100,00
*South African Customs Union, MW	957	1 580	31 642	1 840	36 019	78,74

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SOUTHERN AFRICA: Gross production of electricity

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Country	Hydro power	Pumped storage	Coal, oil etc	Nuclear	Total	% of total
Angola	1 345	—	465	—	1 810	0,98
Bophuthatswana*	—	—	—	—	—	—
Botswana*	—	—	722	—	722	0,39
Ciskei*	—	—	—	—	—	—
Lesotho*	11	—	0	—	11	0,01
Malawi	580	—	0	—	581	0,32
Mozambique**	133	—	171	—	304	0,16
Namibia*	1 086	—	124	—	1 210	0,66
South Africa*	3 193	1 610	141 095	11 067	156 964	85,18
Swaziland*	181	—	1	—	182	0,10
Tanzania	610	—	264	—	874	0,47
Transkei*	227	—	—	—	227	0,12
Venda*	—	—	—	—	—	—
Zaire	5 248	—	144	—	5 392	2,93
Zambia	7 930	—	—	—	7 930	4,30
Zimbabwe	2 620	—	5 457	—	8 077	4,38
Total, GWh	23 164	1 610	148 443	11 067	184 284	100,00
*South African Customs Union, GWh	4 698	1 610	141 942	11 067	159 316	86,45

**Includes Cahora Bassa

SOUTHERN AFRICA: Utilisation of installed generating capacity

(Quantities in kilowatt hours produced per kilowatt)

Table 29

Sources: United Nations Energy Statistics Yearbook 1988 and utility annual reports

Country	Hydro power	Pumped storage	Coal, oil etc	Nuclear	Total
Angola	3 265	—	2 268	—	2 934
Bophuthatswana*	—	—	—	—	—
Botswana*	—	—	3 297	—	3 297
Ciskei*	—	—	—	—	—
Lesotho*	5 500	—	—	—	5 500
Malawi	4 002	—	13	—	3 435
Mozambique**	93	—	1 288	—	195
Namibia*	4 525	—	1 033	—	3 361
South Africa*	5 209	1 019	4 509	6 014	4 443
Swaziland*	4 415	—	100	—	3 569
Tanzania	2 355	—	1 467	—	1 991
Transkei*	3 721	—	—	—	3 721
Venda*	—	—	—	—	—
Zaire	2 111	—	2 618	—	2 122
Zambia	3 532	—	0	—	3 255
Zimbabwe	3 934	—	4 198	—	4 108
Total	2 696	1 019	4 401	6 014	4 029
*South African Customs Union	4 909	1 019	4 486	6 014	4 423

**Includes Cahora Bassa

SOUTHERN AFRICA: Production, trade and consumption of electricity

(Quantities in gigawatt hours and in kilowatt hours per capita)

Table 30

Sources: United Nations Energy Statistics Yearbook 1988 and utility annual reports

	Production	Imports	Exports	Total	Per capita
Angola	1 810	—	—	1 810	76
Bophuthatswana*	—	2 972	—	2 972	1 373
Botswana*	722	67	—	789	363
Ciskei*	—	300	—	300	389
Lesotho*	11	159	—	170	102
Malawi	581	—	—	581	74
Mozambique**	304	341	—	645	44
Namibia*	1 210	553	309	1 454	1 128
South Africa*	156 964	360	4 121	153 203	5 288
Swaziland*	182	270	—	452	615
Tanzania	874	—	—	874	36
Transkei*	227	122	29	320	97
Venda*	—	74	—	74	148
Zaire	5 392	3	112	5 283	157
Zambia	7 930	315	966	7 279	927
Zimbabwe	8 077	916	—	8 993	985
Total	184 284	6 452	5 537	185 198	1 134
*South African Customs Union	159 316	4 877	4 459	159 734	3 843

**Includes Cahora Bassa

Electricity in Southern Africa

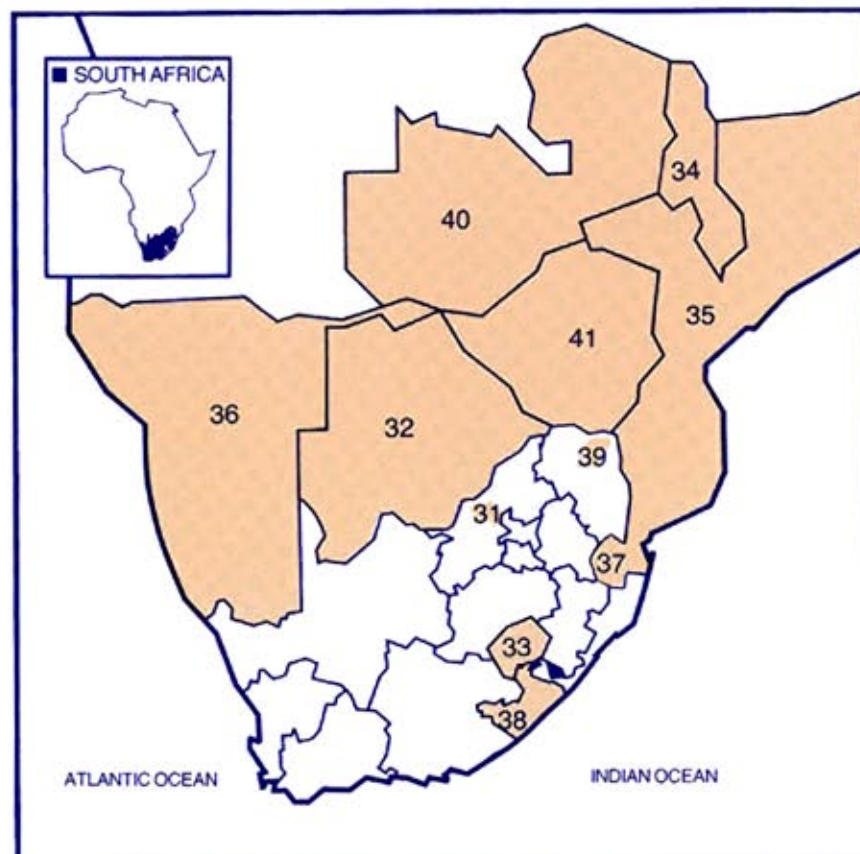


Table 31: Bophuthatswana

Table 32: Botswana

Table 33: Lesotho

Table 34: Malawi

Table 35: Mozambique

Table 36: Namibia

Table 37: Swaziland

Table 38: Transkei

Table 39: Venda

Table 40: Zambia

Table 41: Zimbabwe

SOUTHERN AFRICA: Production, trade and consumption of electricity

(Quantities in gigawatt hours and in kilowatt hours per capita)

Table 30

Sources: *United Nations Energy Statistics Yearbook 1988 and utility annual reports*

	Production	Imports	Exports	Total	Per capita
Angola	1 810	—	—	1 810	76
Bophuthatswana*	—	2 972	—	2 972	1 373
Botswana*	722	67	—	789	363
Ciskei*	—	300	—	300	389
Lesotho*	11	159	—	170	102
Malawi	581	—	—	581	74
Mozambique**	304	341	—	645	44
Namibia*	1 210	553	309	1 454	1 128
South Africa*	156 964	360	4 121	153 203	5 288
Swaziland*	182	270	—	452	615
Tanzania	874	—	—	874	36
Transkei*	227	122	29	320	97
Venda*	—	74	—	74	148
Zaire	5 392	3	112	5 283	157
Zambia	7 930	315	966	7 279	927
Zimbabwe	8 077	916	—	8 993	985
Total	184 284	6 452	5 537	185 198	1 134
*South African Customs Union	159 316	4 877	4 459	159 734	3 843

**Includes Cahora Bassa

Electricity in Southern Africa

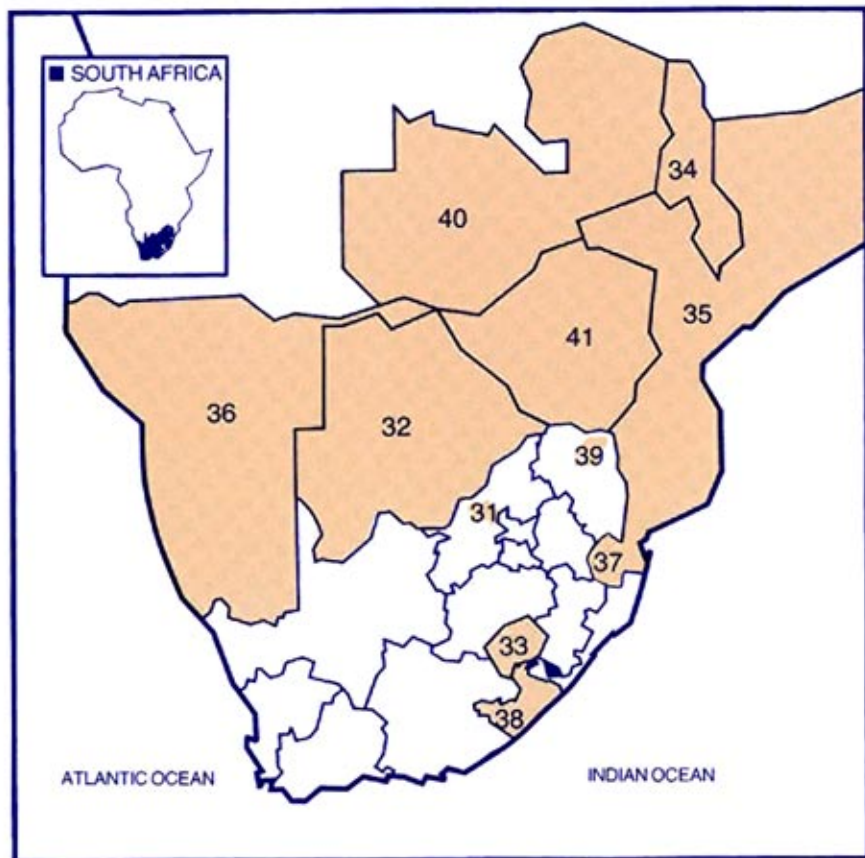


Table 31: Bophuthatswana

Table 32: Botswana

Table 33: Lesotho

Table 34: Malawi

Table 35: Mozambique

Table 36: Namibia

Table 37: Swaziland

Table 38: Transkei

Table 39: Venda

Table 40: Zambia

Table 41: Zimbabwe

SOUTHERN AFRICA: Bophuthatswana

Table 31

Source: Bophuthatswana Electricity Corporation (BECOR) for year ended 31 March 1990

	1990	1989	Change %
System load factor, %	52,4	51,5	1,7
Non-coincident maximum demand, MW	196,0	175,0	12,0
Transmission efficiency, %	91,5	92,7	-1,3
Consumption of electricity by region (GWh)			
(bulk imports from Eskom for redistribution)			
Tlhabane	261,1	235,9	10,7
Molopo	204,7	192,8	6,2
Ga-Rankuwa	336,5	289,7	16,2
Taung	39,3	32,1	22,4
Selosesha	46,6	39,0	19,5
Other	10,1	–	–
Total bulk imports	898,3	789,5	13,8
Direct supplies from Eskom	2 489,2	2 328,4	6,9
Total imports from Eskom, GWh	3 387,5	3 117,9	8,6
Total bulk sales, GWh	822,3	731,5	12,4
Distribution losses on bulk sales	9,2	7,9	16,6
Number of bulk input points	29	27	7,4
Number of customers supplied by BECOR	37 859	35 136	7,7
Number of new rural connections	2 010	1 081	85,9
Rural power lines erected, km	270,3	116,9	131,2
Major substation installations			
(existing and proposed)	Capacity MVA	Voltage kV	Commissioned year
Sun City	50	88,22,11	1977
Mogwase	20	88,11	1985
Mmabatho Main	100	88,33,11	1986
Batlhako Ferro Chrome*	14	88	1987
Mmabatho (Mafikeng)	60	88,33,11	1989
Ga-Rankuwa	110	132,33,11	1989
Kudube	45	132,33,11	1989
Babalegi	60	132,11	1989
Rhovan Mining	10	88,11	1989
Eastern Platinum (existing)*	20	88	1988
Eastern Platinum (future)*	50	88	1990

* Bulk supply provided at 88 kV.

SOUTHERN AFRICA: Botswana

Table 32

Source: Botswana Power Corporation (BPC) for year ended 31 March 1990.

Source of power	Type	MW	
Installed generating capacity			
Morupule	Thermal		132
Selebi-Phikwe	Thermal		80
Gaborone (standby)	Diesel		7
Total installed generating capacity, MW			219
Other sources			
Eskom			75
Zimbabwe			100
Total sources of power, MW			394
	1990	1989	Change %
Energy sources	GWh	GWh	
Morupule Phase 1	722,6	560,6	28,9
Selebi-Phikwe	142,3	238,4	-40,3
Gaborone	-	4,5	-100,0
Imports	56,0	59,2	-5,4
Total sent out, GWh	920,9	862,7	6,7
Transmission and distribution equipment in service	1989	1988	Change
	km	km	km
Overhead lines			
66 kV	120,0	120,0	0,0
33 kV	215,0	215,5	-0,5
11 kV	466,1	435,3	30,8
Low voltage	584,3	541,6	42,7
Total line length, km	1 385,4	1 312,4	73,0
Underground cable			
11 kV	142,0	117,6	24,4
Low voltage	66,5	59,6	6,9
Total cable length, km	208,5	177,2	31,3
	MVA	MVA	Change
Substations	1989	1988	MVA
66/11 kV	22,50	22,50	0,0
33/11 kV	44,59	41,75	2,84
11/0,4 kV	154,79	133,91	20,88
Total, MVA	221,87	198,15	23,72
	1990	1989	Change %
Electricity sales by category	GWh	GWh	
Mining	505,1	503,0	0,4
Commercial	147,1	120,9	21,7
Domestic	65,2	57,4	13,6
Government	54,8	43,9	24,8
Total sales	772,2	725,2	6,5
Station usage	98,7	83,2	18,6
Distribution and other losses	50,0	54,3	-7,9
Total, GWh	920,9	862,7	6,7
System maximum demand, MW	137,50	122,10	12,6
Number of customers (1988)	-	16 215	-

SOUTHERN AFRICA: Lesotho

Table 33

Source: Lesotho Electricity Corporation (LEC) for the year ended 31 March 1990

Source of power	Type	MW
Installed hydro generating capacity		
Mantsonyane	Hydro	2,000
Semonkong	Hydro	0,180
Qacha's Nek	Hydro	0,410
Mokhotlong	Hydro	0,680
Total hydro, MW		3,270
Installed diesel generating capacity		
Mohale's Hoek (standby)	Diesel	0,400
Mafeteng (standby)	Diesel	0,400
Qacha's Nek (back-up to hydro)	Diesel	0,440
LEC headquarters (standby)	Diesel	0,026
88/33 kV substation (standby)	Diesel	0,024
Mantsonyane (back-up to hydro)	Diesel	0,048
Semonkong (back-up to hydro)	Diesel	0,120
Standby located at workshop	Diesel	0,135
Total diesel (including workshop standby), MW		1,593
Other sources – Eskom (registered peak at intake points)		
Maseru	88 kV	43,900
Maputsoe	11 kV	3,600
Hololo	88 kV	1,010
Peka	11 kV	0,140
Total from Eskom, MW		48,650
Total sources of power, MW		53,513

Transmission and distribution equipment	1989/90 km	1988/89 km	Change km
Overhead lines			
88 kV	86,0	86,0	0,0
33 kV	559,0	473,0	86,0
11 kV*	732,5	690,0	42,5
Total, km	1 377,5	1 249,0	128,5
Transformers	Number	MVA	Change
88/33 kV	2	80,0	–
88/11 kV	1	5,0	–
33/11 kV	16	86,5	0,50
33/0,66 kV	1	2,6	–
33/0,4 kV	27	5,0	3,70
11/0,4 kV	499	98,9	10,20
Total, MVA	546	278,0	14,40

Sale of electricity by category	1989/90 GWh	1988/89 GWh	% Change
Domestic	55,4	50,8	9,1
General purpose	42,0	38,7	8,5
Commercial	40,3	37,0	8,8
Industrial	30,7	26,2	17,0
Total, GWh	168,4	152,7	10,3

Number of customers	1989/90	1988/89	% Change
Domestic	7 252	6 647	9,1
General purpose	2 256	2 074	8,8
Commercial	78	71	9,9
Industrial	70	64	9,4
Total, customers	9 656	8 856	9,0

* Inclusive of subterranean cable

SOUTHERN AFRICA: Malawi

Table 34

Source: Electricity Supply Commission of Malawi for year ended 31 December 1990.

Source of power			
Installed generating capacity		Type	MW
Tedzani Falls		Hydro	40,00
Nkula Falls "A"		Hydro	24,00
Nkula Falls "B"		Hydro	80,00
Zomba		Hydro	0,60
Chichiri		Gas turbine	15,00
Lilongwe		Diesel	5,34
Kasungu		Diesel	0,36
Mtunthama		Diesel	0,65
Mzuzu		Diesel	1,95
Karonga		Diesel	0,32
Chitipa		Diesel	0,30
Total source of power, MW			168,52
Energy generated			
	1990	1989	%
	GWh	GWh	Change
Hydro	702,557	627,768	11,9
Diesel	0,903	0,607	48,8
Gas turbine	0,163	0,390	-58,2
Total generated, GWh	703,623	628,765	11,9
System losses, GWh	3,792	3,632	4,4
Available for distribution, GWh	699,831	625,133	11,9
Transmission and distribution lines in service			
(1990 figures not available)	1989	1988	Change
	km	km	km
132 kV lines (wooden poles)	302,92	227,92	75,00
132 kV lines (steel tower)	112,67	112,67	0,00
66 kV lines	1 018,04	1 093,04	-75,00
33 kV lines	1 513,54	1 444,45	69,09
11 kV lines	1 739,42	1 655,97	83,45
400/230 V lines	1 629,39	1 438,94	190,45
33 kV underground cables	2,69	2,69	0,00
11 kV underground cables	78,66	76,97	1,69
400/230 V underground cables	138,15	128,93	9,22
Total, km	6 535,48	6 181,58	353,90
Sales of electricity			
	1990	1989	%
	GWh	GWh	Change
Domestic (in low-density areas)	87,129	79,337	9,8
Domestic (in high-density areas)	15,827	15,008	5,5
Non-domestic (demand less than 25 kVA)	90,365	81,337	11,1
Non-domestic (demand more than 25 kVA)	339,776	293,104	15,9
Largest industrial customer	62,271	51,674	20,5
Total, GWh	595,368	520,460	14,4
Number of customers			
	1990	1989	%
Domestic (in low-density areas)	18 575	17 025	9,1
Domestic (in high-density areas)	13 957	13 859	0,7
Non-domestic (demand less than 25 kVA)	8 862	8 386	5,7
Non-domestic (demand more than 25 kVA)	486	453	7,3
Largest industrial customer	1	1	-
Total customers	41 881	39 724	5,4

SOUTHERN AFRICA: Mozambique

Table 35

Source: *Electricidade De Moçambique for the year ended 31 December 1990*

Source of power	Type	Number of sets	Installed rating MW	Sent-out rating MW	Peak demand MW
Interconnected stations					
Maputo	Thermal	5	57,50	47,00	82,5
Nacala	Diesel	8	24,00	7,00	8,0
Nampula	Diesel	4	8,00	2,80	4,4
Mocuba	Diesel	2	1,00	0,75	0,4
Quelimane	Diesel	2	7,00	6,00	2,9
Tete	Diesel	2	0,80	0,60	4,0
Lionde	Diesel	6	4,00	2,80	1,6
Xai-Xai	Diesel	4	2,60	1,70	1,8
Beira	Gas turbine	1	12,00	12,00	
Maputo	Gas turbine	2	53,50	46,00	
Mavuzi	Hydro	5	46,00	30,00	
Chicamba	Hydro	2	38,40	35,00	
Corumana	Hydro		15,00	15,00	
Total interconnected, MW			269,80	206,65	
Isolated stations					
Pemba	Diesel	6	7,00	4,50	1,6
Lichinga	Diesel	4	1,60	1,00	0,9
Inhambane	Diesel	5	3,00	0,70	1,0
Lichinga	Hydro	1	0,75	0,60	
Cuamba	Hydro	2	1,00	1,00	
Total isolated, MW			13,35	7,80	
Import facilities					
Eskom			200,00	200,00	
Zimbabwe			30,00	30,00	
Total import facilities, MW			230,00	230,00	
Total source of power, MW			513,15	444,45	
Energy available for distribution			1990 GWh	1989 GWh	% Change
Energy generated					
Hydro			153,0	153,2	-0,1
Thermal			71,0	88,6	-19,9
Gas turbine			52,4	59,1	-11,4
Diesel			44,8	41,1	9,1
Total generated, GWh			321,2	342,0	-6,1
Import from Eskom			326,4	307,0	6,3
Acquired from Hidroeléctrica de Cahora Bassa			94,4	83,0	13,8
Total available for distribution, GWh			742,0	732,0	1,4

SOUTHERN AFRICA: Mozambique

Table 35

Source: *Electricidade De Moçambique for the year ended 31 December 1990*

Source of power	Type	Number of sets	Installed rating MW	Sent-out rating MW	Peak demand MW
Interconnected stations					
Maputo	Thermal	5	57,50	47,00	82,5
Nacala	Diesel	8	24,00	7,00	8,0
Nampula	Diesel	4	8,00	2,80	4,4
Mocuba	Diesel	2	1,00	0,75	0,4
Quelimane	Diesel	2	7,00	6,00	2,9
Tete	Diesel	2	0,80	0,60	4,0
Lionde	Diesel	6	4,00	2,80	1,6
Xai-Xai	Diesel	4	2,60	1,70	1,8
Beira	Gas turbine	1	12,00	12,00	
Maputo	Gas turbine	2	53,50	46,00	
Mavuzi	Hydro	5	46,00	30,00	
Chicamba	Hydro	2	38,40	35,00	
Corumana	Hydro		15,00	15,00	
Total interconnected, MW			269,80	206,65	
Isolated stations					
Pemba	Diesel	6	7,00	4,50	1,6
Lichinga	Diesel	4	1,60	1,00	0,9
Inhambane	Diesel	5	3,00	0,70	1,0
Lichinga	Hydro	1	0,75	0,60	
Cuamba	Hydro	2	1,00	1,00	
Total isolated, MW			13,35	7,80	
Import facilities					
Eskom			200,00	200,00	
Zimbabwe			30,00	30,00	
Total import facilities, MW			230,00	230,00	
Total source of power, MW			513,15	444,45	
Energy available for distribution			1990	1989	%
			GWh	GWh	Change
Energy generated					
Hydro			153,0	153,2	-0,1
Thermal			71,0	88,6	-19,9
Gas turbine			52,4	59,1	-11,4
Diesel			44,8	41,1	9,1
Total generated, GWh			321,2	342,0	-6,1
Import from Eskom			326,4	307,0	6,3
Acquired from Hidroeléctrica de Cahora Bassa			94,4	83,0	13,8
Total available for distribution, GWh			742,0	732,0	1,4

SOUTHERN AFRICA: Mozambique

Table 35 continued

Source: *Electricidade De Moçambique for the year ended 31 December 1989**

Transmission and distribution lines in services (1989 subject to adjustment)	1989 km	1988 km
275 kV	75	75
220 kV	910	910
110 kV	862	754
66/60 kV	175	175
33/22 kV	1 950	1900
11/6,6 kV	850	800
Total, km	4 822	4 614
Sales, of electricity by category (1989 data incomplete)	1989 GWh	1988 GWh
General	65,2	78,3
Domestic	140,9	180,3
Medium tension	149,6	119,9
High tension	117,2	144,2
Other	2,9	2,6
Total sales, GWh	475,8	525,8

*1990 data not available

SOUTHERN AFRICA: Mozambique

Table 35 continued

Source: *Electricidade De Moçambique for the year ended 31 December 1989**

Transmission and distribution lines in services (1989 subject to adjustment)	1989 km	1988 km
275 kV	75	75
220 kV	910	910
110 kV	862	754
66/60 kV	175	175
33/22 kV	1 950	1900
11/6,6 kV	850	800
Total, km	4 822	4 614
Sales, of electricity by category (1989 data incomplete)	1989 GWh	1988 GWh
General	65,2	78,3
Domestic	140,9	180,3
Medium tension	149,6	119,9
High tension	117,2	144,2
Other	2,9	2,6
Total sales, GWh	475,8	525,8

*1990 data not available

SOUTHERN AFRICA: Namibia

Table 36

Source: SWA Water and Electricity Corporation (Pty) Ltd (SWAWEK) for year ended 30 June 1990.

Source of power			
Installed generating capacity (SWAWEK)		Type	MW
Ruacana		Hydro	240
Van Eck		Thermal	120
Total, MW			360
Import facility (from Eskom)			
Paratus*		Diesel	24,0
Paratus*		Gas turbine	22,0
Eskom at Aggeneys			200,0
Eskom at Lower Orange River			38,5
	1990	1989	Change
Energy available for distribution	GWh	GWh	%
Energy generated			
Ruacana (hydro)	1 054	1 308	-19,4
Van Eck (thermal)	96	90	-6,7
Eskom – purchases	641	437	46,7
Total energy into system, GWh	1 791	1 835	-2,4
Transmission losses	179	176	-1,7
Transmission losses, %	10,0	9,6	-4,2
	1990	1989	Change
Transmission and distribution lines in service	km	km	km
330 kV	521	521	–
220 kV	1 495	1 495	–
132 kV	790	790	–
66 kV and less	5 420	4 387	1 033
Total, km	8 226	7 193	1 033
	1990	1989	Change
Sales of electricity	GWh	GWh	%
Namibia			
Local authorities	543,6	520,7	4,4
Mining	735,6	716,0	2,7
Business/manufacturing	4,5	3,4	-30,7
Government departments	73,1	72,4	-1,0
Rural supplies	14,1	9,4	49,9
Subtotal, GWh	1 370,9	1 322,0	3,7
Export to Eskom			
Walvis Bay enclave	75,0	70,1	7,0
Eskom at Aggeneys	166,0	266,6	-37,7
Subtotal, GWh	241,0	336,7	-28,4
Total energy sold, GWh	1 611,9	1 658,6	-2,8
Number of SWAWEK customers	866	695	24,6

*Paratus Power Station is situated in Walvis Bay enclave.

SOUTHERN AFRICA: Swaziland

Table 37

Source: Swaziland Electricity Board (SEB) for year ended 31 March 1990.

	1990	1989	Change %
Installed generating capacity, MW			
Hydro	40,5	40,5	–
Diesel	9,5	9,5	–
Capacity of Eskom link	60,0	60,0	–
Total installed capacity, MW	110,0	110,0	–
System maximum demand, MW	92	87	5,7
Energy sources, GWh			
Own generation – hydro	198,7	209,9	–5,3
– diesel	0,8	0,8	–
Energy purchased from Eskom	298,0	254,6	17,0
Total generated and purchased, GWh	497,5	465,3	6,9
Energy sold, GWh	444,1	413,0	7,5
– Own use and system losses, GWh	53,4	52,3	2,1
– Own use and system losses, %	10,7	11,2	–4,5
– Annual sent out load factor %	62	61	1,6
	1990	1989	Change
Transmission and distribution equipment in service	km	km	km
Overhead line lengths			
132 kV	87	87	–
66 kV	895	825	70
33 kV	65	0	65
11 kV	2 220	1 884	336
Total, km	3 267	2 796	471
Substations	MVA	MVA	Change
132/66 kV	78	78	–
Number	2	2	–
66/11 kV	149	144	5
Number	26	26	–
66/33, 6,6 or 0,4 kV	11 + 10	10 + 10	1
Number	6	6	–
33 or 11/0,4 kV	178,9	168,7	10,2
Number	1 600	1 505	95
Sales of electricity by category	1990	1989	Change %
	GWh	GWh	
Domestic	92,9	85,5	8,7
Commercial	46,7	43,2	8,1
Industrial	198,3	180,9	9,6
Irrigation	106,2	103,4	2,7
Total, GWh	444,1	413,0	7,5
Number of customers	1990	1989	Change %
Domestic	14 971	14 054	6,5
Commercial	3 566	3 357	6,2
Industrial	472	448	5,4
Irrigation	121	127	–4,7
Total, customers	19 130	17 986	6,4

SOUTHERN AFRICA: Transkei

Table 38

Source: Transkei Electricity Supply Corporation for the year ended 31 March 1991*

Installed generating capacity		Type	MW	
Collywobbles		Hydro	42,0	
First and Second Falls		Hydro	17,0	
Ncora		Hydro	2,4	
Total, MW			61,4	
Energy sources		1991 GWh	1989 GWh	% Change
Own generation		181,4	290,3	-37,5
Purchased from Eskom		199,8	103,1	93,8
Total, GWh		381,1	393,4	-3,1
System losses, GWh		54,0	91,4	40,9
Non-coincident demand, MW		77,8	73,1	6,4
Transmission and distribution equipment in service		1991 km	1989 km	Change km
Line lengths				
132 kV		100,0	30,0	70
66 kV		309,0	366,0	-57
33 kV and lower		1 135,2	962,0	173,2
Total, km		1 544,2	1 358,0	186,2
Substations		Number		MVA
132/66 kV		4		160,0
66/22/(11) kV		17		148,5
22/11 kV		25		60,5
22 (11)/0,4 kV		612		124,7
Total		658		493,7
Sales of electricity by category		1991 GWh	1989 GWh	% Change
Domestic		22,0	26,0	-15,4
Commercial		72,6	29,4	147,2
Industrial		82,4	45,0	83,2
Bulk		140,1	161,8	-13,4
Export to Eskom		9,97	39,9	-75,0
Total internal and export sales, GWh		327,1	302,0	8,3
Number of customers		1991	1989	% Change
Domestic		5 205	3 498	48,8
Commercial		1 459	1 258	16,0
Industrial		128	55	132,7
Bulk		1	10	-90,0
Eskom		1	1	-
Total		6 794	4 822	40,9

*1989 Figures are for year ended 31 December 1989

SOUTHERN AFRICA: Venda

Table 39

Source: Venda Electricity Corporation for the year ended 31 December 1990

	1990	1989	Change
Energy available for distribution	GWh	GWh	%
Electricity purchases			
Eskom	107,6	92,7	16,1
Louis Trichardt Municipality	2,1	1,1	90,9
Total, GWh	109,7	93,8	17,0
Distribution losses, %	12,2	10,7	14,0
Annual load factor (Eskom supply), %	61,1	62,9	-2,9
Average monthly load factor (Eskom supply), %	64,2	67,0	-4,2
System maximum demand (Eskom supply), MVA	21,2	17,7	19,7
	1990	1989	Change
Transmission and distribution lines in service	km	km	km
132 kV	95	95	0
66 kV	14	14	0
22 and 11 kV	536	471	65
380/220 volts	296	282	14
220 volts	113	0	113
Total, km	1 054	862	192
	1990	1989	Change
Sales of electricity by category	GWh	GWh	%
Large power users	60,1	53,8	11,7
Small power users	11,2	9,4	19,1
Domestic users*	23,5	19,3	21,8
Other (street lighting, robot supplies, etc)	1,5	1,2	25,0
Total, GWh	96,3	83,7	15,1
	1990	1989	Change
Number of customers			%
Large power users	126	129	-2,3
Small power users	1 040	785	32,5
Domestic users*	6 927	4 321	60,3
Other (street lighting, robot supplies, etc)	27	23	17,4
Total, customers	8 120	5 258	54,4
Total, population	526 063	504 911	4,2

* Dramatic increase due to Government subsidies.

SOUTHERN AFRICA: Zambia

Table 40

Source: Zambia Electricity Supply Corporation for the year ended 30 June 1990

Installed generating capacity	Type	MW
Interconnected system		
Kariba North	Hydro	600,00
Kafue Gorge	Hydro*	900,00
Victoria Falls	Hydro	108,00
Total interconnected system, MW		1 608,00
Isolated systems		
Lusiwasi	Hydro	12,00
Chishimba Falls	Hydro	6,00
Musonda Falls	Hydro	5,00
Lunzua River	Hydro	0,75
Total isolated systems, MW		23,75
Total installed capacity, MW		1 631,75

Generation of electricity	1990 GWh	1989 GWh	% Change
Interconnected system			
Kariba North	4 694	2 688	74,6
Kafue Gorge	841	4 766	-82,4
Victoria Falls	644	556	15,8
Total interconnected system, GWh	6 179	8 010	-22,9
Isolated systems			
Lusiwasi	57	53	7,5
Chishimba Falls	30	30	0,0
Musonda Falls	23	23	0,0
Lunzua River	2	2	0,0
Total isolated systems, GWh	112	108	3,7
Total generation, GWh	6 291	8 118	-22,5
Trade of electricity (Zaire – Société Nationale d'Electricité)	1990 GWh	1989 GWh	% Change
Exports	85	313	-72,8
Imports	571	320	78,4
Net Zambia/SNEL	486	7	6 842,9

Total sent out	1990 GWh	1989 GWh	% Change
Interconnected	6 171	7 996	-22,8
Isolated systems	111	107	3,7
SNEL imports	486	7	6 842,9
Total, GWh	6 768	8 110	-16,5

Bulk deliveries (availability of energy, interconnected only)	1990 GWh	1989 GWh	% Change
Local	6 303,2	6 513,8	-3,2
For export	148,3	1 233,1	-88,0
Total, GWh	6 451,5	7 746,9	-16,7

* Current capacity 600 MW

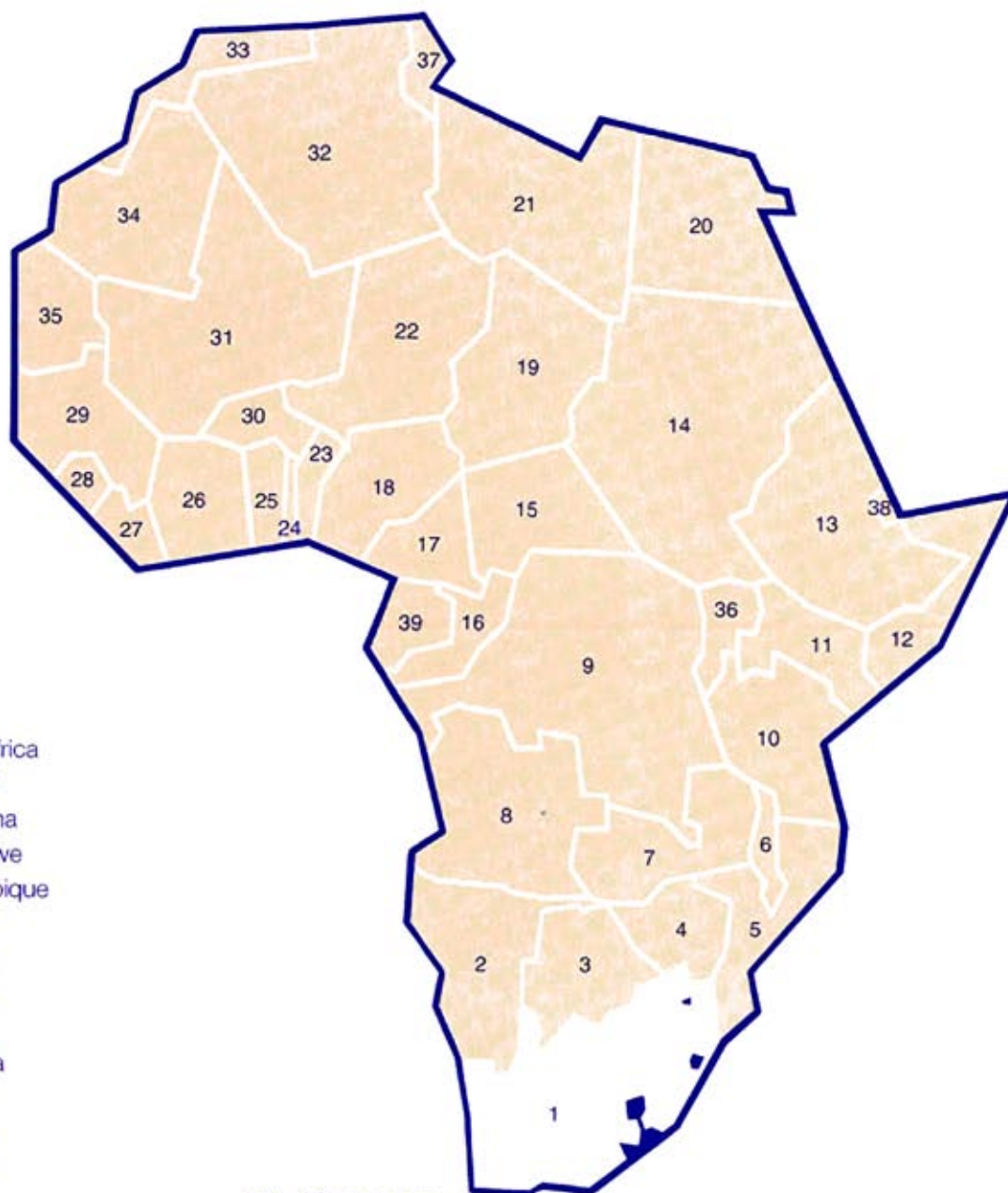
SOUTHERN AFRICA: Zimbabwe

Table 41

Source: Zimbabwe Electricity Supply Authority for year ended 30 June 1990

Source of power	Type	MW	
Installed generating capacity			
Hwange 1	Thermal	480,0	
Hwange 2	Thermal	440,0	
Munyati	Thermal	120,0	
Harare 2	Thermal	75,0	
Harare 3	Thermal	60,0	
Bulawayo	Thermal	120,0	
Kariba South	Hydro	666,0	
Beitbridge	Diesel	4,5	
Total installed generating capacity, MW		1 965,5	
Energy available for distribution	1990 GWh	1989 GWh	Change %
Energy generated			
Thermal	4 992,9	5 374,3	-7,1
Hydro	4 368,5	3 195,8	36,7
Other	-	-	-
Total generated, GWh	9 361,4	8 570,1	9,2
Energy imported, GWh	304,9	891,8	-65,8
Total generation and imports, GWh	9 666,3	9 461,9	2,2
Transmission and distribution losses, GWh	850,6	854,8	-0,5
Total sales, GWh	8 851,8	8 607,1	2,8
Transmission and distribution lines in service	1990 km	1989 km	Change km
330 kV	3 443,9	3 443,9	-
132 kV	1 026,9	1 021,0	5,9
88 kV	2 081,9	2 081,9	0,0
66 kV	184,0	178,0	6,0
Other	52 826,3	46 671,6	6 154,7
Total, km	59 563,0	53 396,4	6 166,6
Sales of electricity by category	1990 GWh	1989 GWh	Change %
Local authorities	1 449,2	1 420,4	2,0
Mining	1 473,9	1 499,1	-1,7
Business/manufacturing	5 178,1	4 934,2	4,9
Rural	750,6	697,6	7,6
Exports	-	55,8	-
Total sales, GWh	8 851,8	8 607,1	2,8
Total number of customers	309 423	307 156	0,7

AFRICA



- 1** South Africa
- 2** Namibia
- 3** Botswana
- 4** Zimbabwe
- 5** Mozambique
- 6** Malawi
- 7** Zambia
- 8** Angola
- 9** Zaire
- 10** Tanzania
- 11** Kenya
- 12** Somalia
- 13** Ethiopia
- 14** Sudan
- 15** Central African Republic
- 16** Congo
- 17** Cameroon
- 18** Nigeria
- 19** Chad
- 20** Egypt
- 21** Libya
- 22** Niger
- 23** Benin
- 24** Togo
- 25** Ghana
- 26** Ivory Coast
- 27** Liberia

- 28** Sierra Leone
- 29** Guinea
- 30** Burkina Faso
- 31** Mali
- 32** Algeria
- 33** Morocco
- 34** Mauritania
- 35** Senegal
- 36** Uganda
- 37** Tunisia
- 38** Djibouti
- 39** Gabon

■ Independent States within the boundaries of South Africa

AFRICA: Electricity supply statistics

Table 42

Sources: United Nations Energy Statistics Yearbook, 1988 and utilities annual reports

Country	Net installed capacity of generating plant, self-producers and public, MW ^a					
	Total	Thermal	Hydro	Nuclear	Geothermal	% of total
Algeria	3 936	3 651	285	—	—	5.0
Angola	617	205	412	—	—	0.8
Benin	15	15	—	—	—	0.0
Burkina Faso	59	59	—	—	—	0.1
Burundi	32	7	25	—	—	0.0
Cameroon	605	77	528	—	—	0.8
Cape Verde	7	7	—	—	—	0.0
Central African Rep.	43	21	22	—	—	0.1
Chad	31	31	—	—	—	0.0
Comoros	5	4	1	—	—	0.0
Congo	149	29	120	—	—	0.2
Cote d'Ivoire	1 163	278	885	—	—	1.5
Djibouti	38	38	—	—	—	0.0
Egypt	11 645	9 200	2 445	—	—	14.9
Equatorial Guinea	5	4	1	—	—	0.0
Ethiopia	343	113	230	—	—	0.4
Gabon	200	75	125	—	—	0.3
Gambia	11	11	—	—	—	0.0
Ghana	1 185	113	1 072	—	—	1.5
Guinea	176	129	47	—	—	0.2
Guinea-Bissau	7	7	—	—	—	0.0
Kenya	575	176	354	—	45	0.7
Liberia	325	244	81	—	—	0.4
Libyan Arab Jamah.	2 900	2 900	—	—	—	3.7
Madagascar	219	113	106	—	—	0.3
Malawi	169	24	145	—	—	0.2
Mali	87	42	45	—	—	0.1
Mauritania	114	114	—	—	—	0.1
Mauritius	302	243	59	—	—	0.4
Morocco	2 327	1 705	622	—	—	3.0
Mozambique	1 555	133	1 422	—	—	2.0
Niger	63	63	—	—	—	0.1
Nigeria	4 040	2 140	1 900	—	—	5.2
Reunion	175	50	125	—	—	0.2
Rwanda	60	4	56	—	—	0.1
Sao Tome-Principe	6	4	2	—	—	0.0
Senegal	231	231	—	—	—	0.3
Seychelles	22	22	—	—	—	0.0
Sierra Leone	110	108	2	—	—	0.1
Somalia	60	60	—	—	—	0.1
South African Customs Union ^c	34 439	31 642	957	1 840	—	44.2
St. Helena & Depend.	2	2	—	—	—	0.0
Sudan	450	225	225	—	—	0.6
Tanzania	439	180	259	—	—	0.6
Togo	34	30	4	—	—	0.0
Tunisia	1 414	1 350	64	—	—	1.8
Uganda	162	7	155	—	—	0.2
United Republic of Tanzania	439	180	259	—	—	0.6
Western Sahara	56	56	—	—	—	0.1
Zaire	2 541	55	2 486	—	—	3.3
Zambia	2 436	191	2 245	—	—	3.1
Zimbabwe	1 966	1 300	666	—	—	2.5
Africa	77 990	57 668	18 437	1 840	45	100.0
World	2 640 676	1 710 223	603 763	318 739	7 951	

^a Net installed capacity is measured at the terminals of the station, i.e. after deduction of the power absorbed by the auxiliary installations and the losses in the station transformers, if any.

^b Electricity production refers to gross production, which includes the consumption by station auxiliaries and any losses in the transformers that are considered integral parts of the station. Excluded is electricity produced from pumped storage.

^c Bophuthatswana, Botswana, Ciskei, Lesotho, Namibia, South Africa, Swaziland, Transkei, Venda.

Production of electricity (self-producers and public), GWh ^b						Trade of electricity, GWh		Available GWh	kWh per capita
Thermal	Hydro	Nuclear	Geothermal	Total	% of total	Imports	Exports		
13 807	159	—	—	13 966	4.7	130	182	13 914	584
465	1 345	—	—	1 810	0.6	—	—	1 810	191
5	—	—	—	5	0.0	170	—	175	39
128	—	—	—	128	0.0	0	—	128	15
2	54	—	—	56	0.0	72	—	128	25
70	2 325	—	—	2 395	0.8	—	—	2 395	224
35	—	—	—	35	0.0	—	—	35	97
18	75	—	—	93	0.0	—	—	93	34
52	—	—	—	52	0.0	—	—	52	10
12	2	—	—	14	0.0	—	—	14	29
3	289	—	—	292	0.1	55	—	347	184
915	1 295	—	—	2 210	0.7	0	—	2 210	190
173	—	—	—	173	0.1	—	—	173	451
29 310	6 100	—	—	35 410	12.0	—	—	35 410	688
15	2	—	—	17	0.0	—	—	17	40
162	653	—	—	815	0.3	—	—	815	18
201	676	—	—	877	0.3	—	—	877	800
44	—	—	—	44	0.0	—	—	44	54
70	4 680	—	—	4 750	1.6	—	282	4 468	316
342	170	—	—	512	0.2	—	—	512	78
15	—	—	—	15	0.0	—	—	15	16
198	2 323	—	323	2 844	1.0	110	—	2 954	128
510	324	—	—	834	0.3	—	—	834	348
16 000	—	—	—	16 000	5.4	—	—	16 000	3 780
213	303	—	—	516	0.2	—	—	516	46
0	580	—	—	581	0.2	—	—	581	74
42	163	—	—	205	0.1	—	—	205	23
96	25	—	—	121	0.0	—	—	121	63
539	100	—	—	639	0.2	—	—	639	593
7 898	936	—	—	8 834	3.0	—	—	8 834	369
171	133	—	—	304	0.1	341	—	645	44
160	—	—	—	160	0.1	137	—	297	44
7 715	2 210	—	—	9 925	3.4	—	100	9 825	93
342	422	—	—	764	0.3	—	—	764	1 326
4	168	—	—	172	0.1	17	2	187	28
7	8	—	—	15	0.0	—	—	15	140
763	—	—	—	763	0.3	—	—	763	109
83	—	—	—	83	0.0	—	—	83	1 221
201	—	—	—	201	0.1	—	—	201	51
257	—	—	—	257	0.1	—	—	257	36
141 942	4 698	11 067	—	157 706	53.5	4 877	4 459	158 124	3 843
2	—	—	—	2	0.0	—	—	2	250
544	517	—	—	1 061	0.4	—	—	1 061	45
264	610	—	—	874	0.3	—	—	874	36
37	4	—	—	41	0.0	240	—	281	87
5 122	47	—	—	5 169	1.8	0	34	5 135	657
4	595	—	—	599	0.2	—	110	489	28
267	612	—	—	879	0.3	—	—	879	35
82	—	—	—	82	0.0	—	—	82	482
144	5 248	—	—	5 392	1.8	3	112	5 283	157
0	7 930	—	—	7 930	2.7	315	966	7 279	927
5 457	2 620	—	—	8 077	2.7	916	—	8 993	985
234 908	48 401	11 067	323	294 699	100.0	7 383	6 247	295 835	465
7 029 239	2 090 865	1 859 288	37 896	11 017 288	—	269 357	252 437	11 034 208	2 158

WORLD: Selected electricity supply statistics

Table 43

Sources: United Nations Energy Statistic Yearbook – 1988

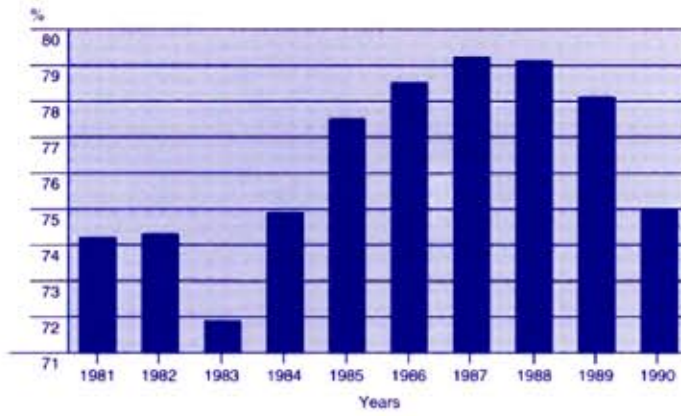
Area	Net installed capacity of generating plant, self-producers and public, MW ^a					
	Total	Thermal	Hydro	Nuclear	Geothermal	Ranking
World	2 640 676	1 710 223	603 763	318 739	7 951	–
Africa	77 990	57 668	18 437	1 840	45	6
Asia	517 600	357 916	116 388	42 143	1 153	3
Europe	663 453	373 453	166 836	121 698	1 466	2
North America	900 973	623 805	156 458	115 983	4 727	1
Oceania	43 152	30 336	12 256	–	560	7
South America	107 008	35 445	69 888	1 675	–	5
USSR	330 500	231 600	63 500	35 400	–	4
Country						
Argentina	16 600	8 988	6 594	1 018	–	25
Australia	34 088	26 570	7 268	–	250	13
Austria	16 731	5 969	10 762	–	–	24
Belgium	14 029	7 194	1 331	5 500	4	30
Brazil	49 080	6 731	41 692	657	–	10
Bulgaria	11 309	6 574	1 975	2 760	–	34
Canada	100 984	30 914	57 464	12 586	20	3
China	95 000	66 000	29 000	–	–	6
Czechoslovakia	21 001	14 606	2 875	3 520	–	21
Egypt	11 645	9 200	2 445	–	–	33
Finland	11 893	6 946	2 597	2 350	–	32
France incl. Monaco	100 617	23 536	24 651	52 430	–	4
German Dem. Rep.	22 917	19 243	1 844	1 830	–	18
Germany, Fed. Rep.	96 491	68 149	6 854	21 488	–	5
India	63 233	43 900	18 003	1 330	–	8
Indonesia	10 680	9 000	1 650	–	30	35
Iran (Islamic Rep. of)	13 404	11 600	1 804	–	–	31
Italy and San Marino	56 744	37 175	17 939	1 120	510	9
Japan	181 708	115 337	37 291	28 866	214	2
Korea, Republic of	22 173	13 271	2 236	6 666	–	19
Mexico	27 698	19 233	7 780	–	685	16
Netherlands	17 430	16 905	2	508	15	22
Norway, Svibd, J. Myn 1	25 695	251	25 444	–	–	17
Poland	30 922	28 946	1 976	–	–	15
Romania	21 843	16 610	5 233	–	–	20
South African Customs Union	34 439	31 642	957	1 840	–	12
Spain	43 497	20 618	15 279	7 600	–	11
Sweden	33 755	7 350	16 700	9 700	5	14
Switzerland, Lichtenstein	15 260	800	11 510	2 950	–	28
S. Arabia, pt. Ntrl. Zn.	15 601	15 601	–	–	–	27
Turkey	14 791	8 285	6 491	–	15	29
United Kingdom	69 421	57 614	4 164	7 638	5	7
United States	755 852	559 950	88 613	103 397	3 892	1
Venezuela	17 246	11 596	5 650	–	–	23
Yugoslavia	16 360	8 010	7 100	650	600	26

^a Net installed capacity is measured at the terminals of the station, i.e. after deduction of the power absorbed by the auxiliary installations and the losses in the station transformers, if any.

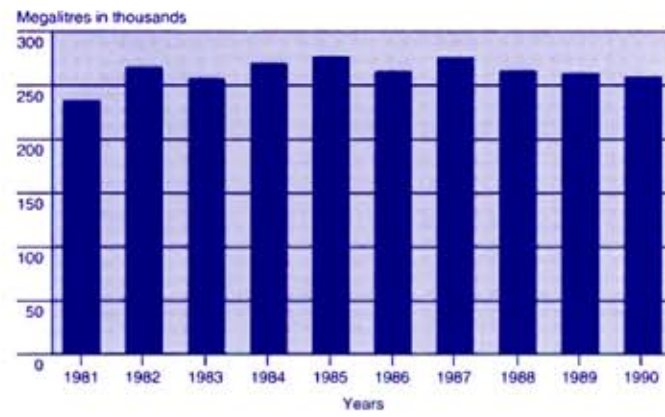
^b Electricity production refers to gross production, which includes the consumption by station auxiliaries and any losses in the transformers that are considered integral parts of the station. Excluded is electricity produced from pumped storage.

Area	Production of electricity (self-producers and public), GWh					Trade of electricity, GWh		GWh available	kWh per capita
	Total	Thermal	Hydro	Nuclear	Geothermal	Imports	Exports		
World	11 017 288	7 029 239	2 090 865	1 859 288	37 896	269 357	252 437	11 034 208	2 158
Africa	294 699	234 908	48 401	11 067	323	7 383	6 247	295 835	465
Asia	2 197 805	1 552 305	383 492	255 528	6 480	3 310	2 745	2 198 370	730
Europe	2 709 255	1 422 010	519 743	760 519	6 983	194 099	158 131	2 745 223	5 538
North America	3 529 096	2 333 654	564 756	609 768	20 918	45 955	43 188	3 531 863	8 474
Oceania	174 286	133 238	37 856	–	3 192	–	–	174 286	6 767
South America	413 747	99 824	307 517	6 406	–	18 276	3 206	428 817	1 504
USSR	1 698 400	1 253 300	229 100	216 000	–	334	38 920	1 659 814	5 851
Country									
Argentina	53 062	31 473	15 791	5 798	–	311	7	53 366	1 692
Australia	139 356	124 193	14 363	–	800	–	–	139 356	8 518
Austria	48 273	12 483	35 790	–	–	5 572	8 283	45 562	6 080
Belgium	64 606	21 072	424	43 102	8	5 708	7 833	62 481	6 295
Brazil	214 117	14 416	199 093	608	–	17 951	8	232 060	1 607
Bulgaria	45 039	26 413	2 596	16 030	–	4 450	304	49 185	5 467
Canada	504 285	114 836	306 582	82 867	–	6 305	34 029	476 561	18 263
China	537 846	431 250	106 596	–	–	1 430	47	539 229	497
Czechoslovakia	87 374	59 684	4 401	23 289	–	10 900	7 853	90 421	5 797
Egypt	35 410	29 310	6 100	–	–	–	–	35 410	688
Finland	53 771	20 856	13 361	19 554	–	8 409	454	61 726	12 465
France incl. Monaco	391 926	37 623	78 782	275 521	–	7 716	44 425	355 217	6 364
German Dem. Rep.	118 328	104 853	1 737	11 738	–	5 759	4 088	119 999	7 209
Germany, Fed. Rep.	428 856	265 368	18 406	145 082	–	22 706	22 329	429 233	7 070
India	237 800	180 349	51 944	5 507	–	800	70	238 530	291
Indonesia	37 010	29 000	7 800	–	210	–	–	37 010	202
Iran (Islamic Rep. of)	38 770	32 320	6 450	–	–	–	–	38 770	730
Italy and San Marino	200 690	156 932	40 676	0	3 082	31 974	718	231 946	4 049
Japan	753 728	477 826	95 885	178 659	1 358	–	–	753 728	6 157
Korea, Republic of	85 462	41 795	3 566	40 101	–	–	–	85 462	2 005
Mexico	110 876	86 791	19 500	–	4 585	179	1 996	109 059	1 285
Netherlands	69 611	65 918	2	3 675	16	5 847	0	75 458	5 151
Norway, Svibd, J. Myn 1	109 350	485	108 865	–	–	1 677	7 337	103 690	24 747
Poland	144 372	140 168	4 204	–	–	12 456	7 980	148 848	3 919
Romania	75 280	64 000	11 280	–	–	5 200	0	80 480	3 492
South African Customs Union	157 706	141 942	4 698	11 067	–	4 877	4 459	158 124	3 843
Spain	138 511	51 993	36 139	50 379	–	3 482	4 803	137 190	3 513
Sweden	146 534	6 483	70 434	69 611	6	5 062	7 671	143 925	17 243
Switzerland, Lichtenstein	57 953	1 023	35 428	21 502	–	15 106	24 727	48 332	7 391
S. Arabia, pt. Ntrl. Zn.	42 201	42 201	–	–	–	–	–	42 201	3 229
Turkey	48 048	19 031	28 949	–	68	572	0	48 620	856
United Kingdom	308 230	237 808	6 965	63 456	1	12 844	13	321 061	5 633
United States	2 856 624	2 085 326	229 114	526 901	15 283	38 837	7 067	2 888 394	11 769
Venezuela	57 800	32 300	25 500	–	–	–	0	57 800	3 082
Yugoslavia	83 654	50 337	25 871	4 135	3 311	1 147	2 559	82 242	3 489

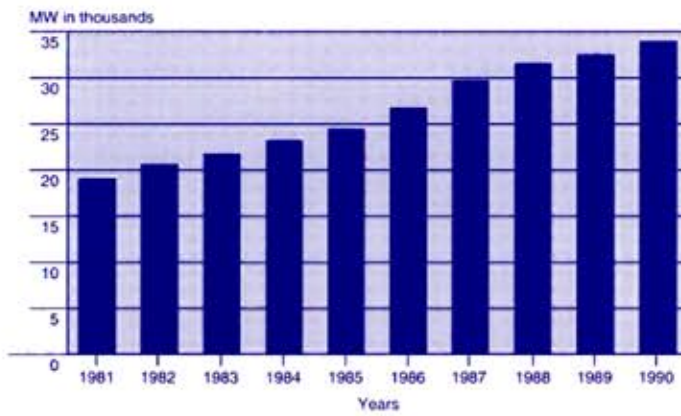
Plant availability



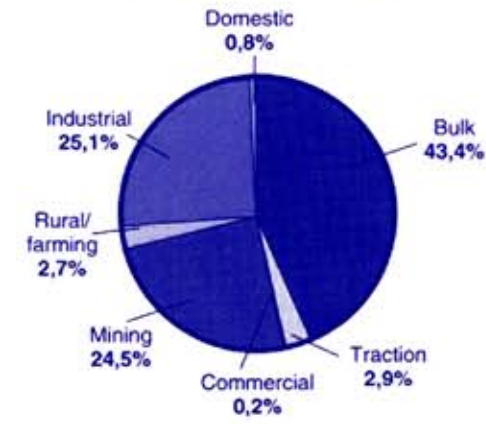
Water consumption



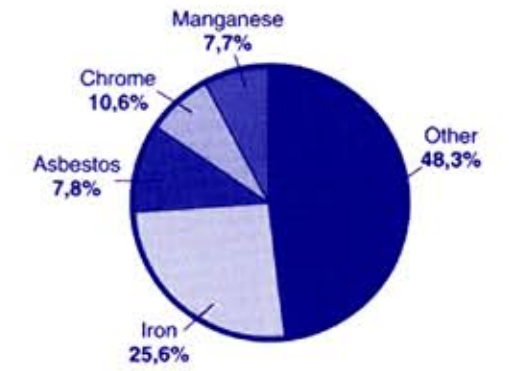
Sent-out capacity



Sales per category (excluding own use)



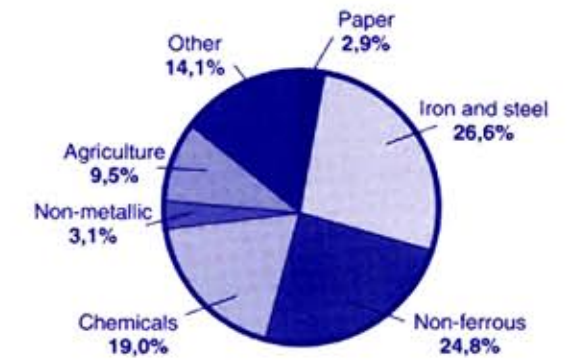
Minor mining sales



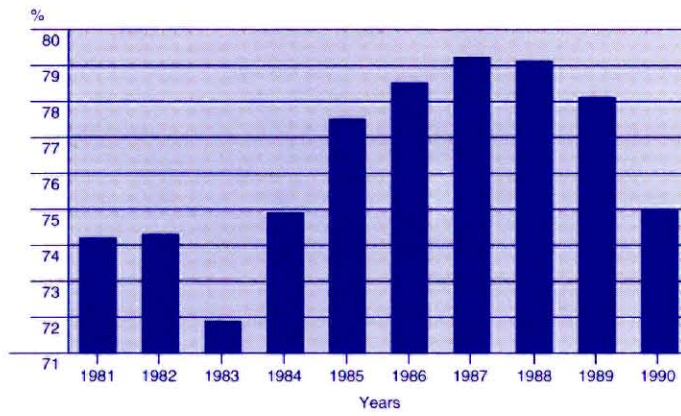
Major mining sales



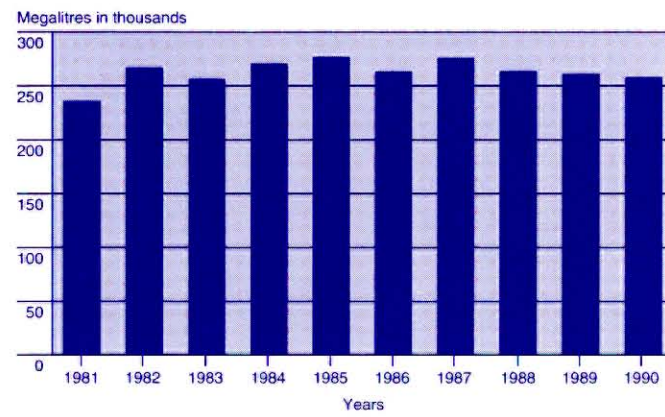
Sales to sectors of industry



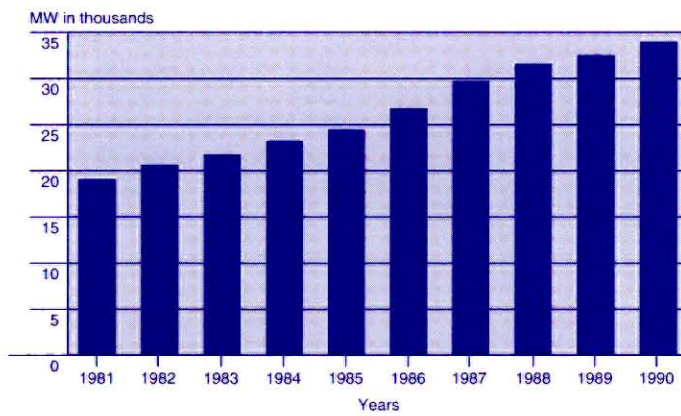
Plant availability



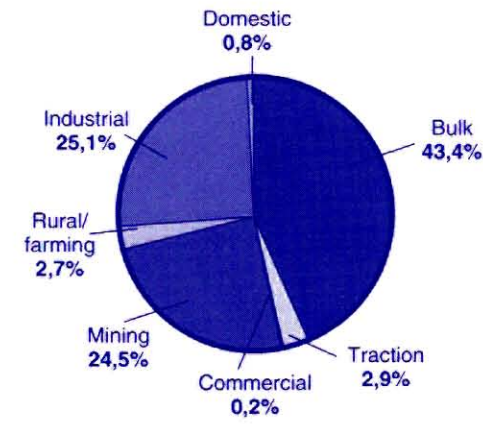
Water consumption



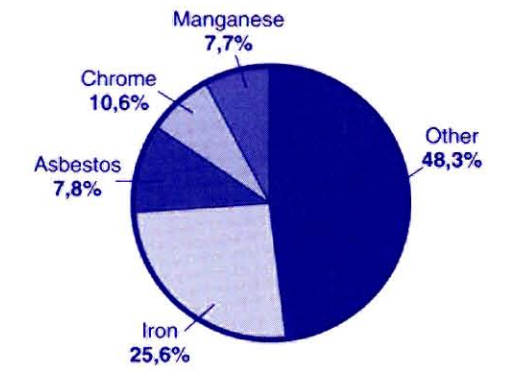
Sent-out capacity



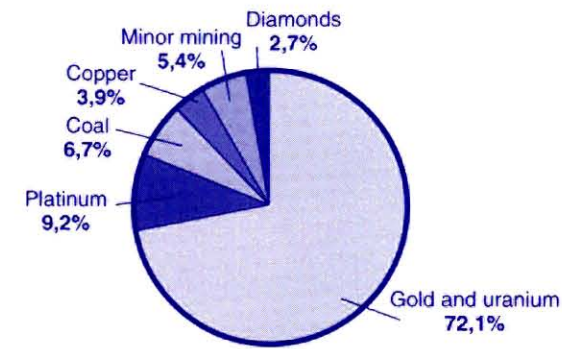
Sales per category (excluding own use)



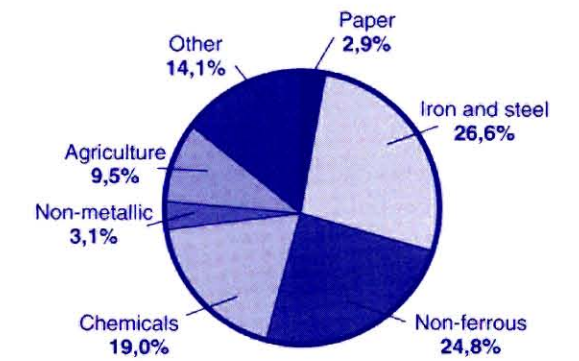
Minor mining sales



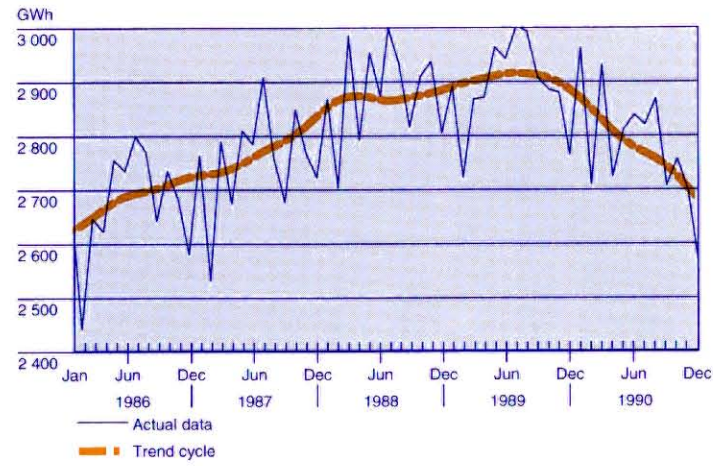
Major mining sales



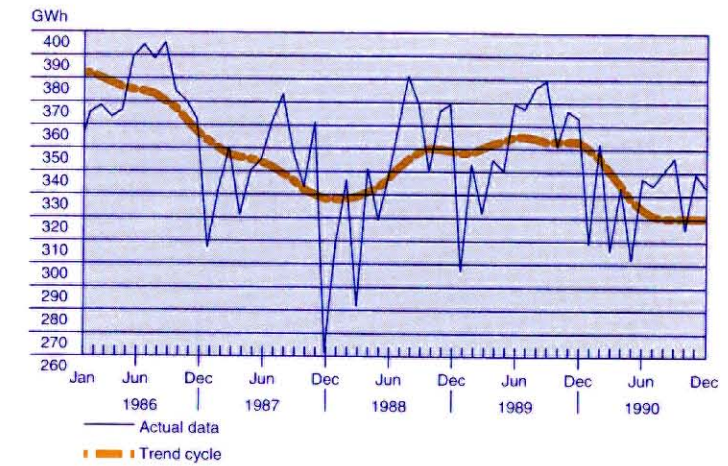
Sales to sectors of industry



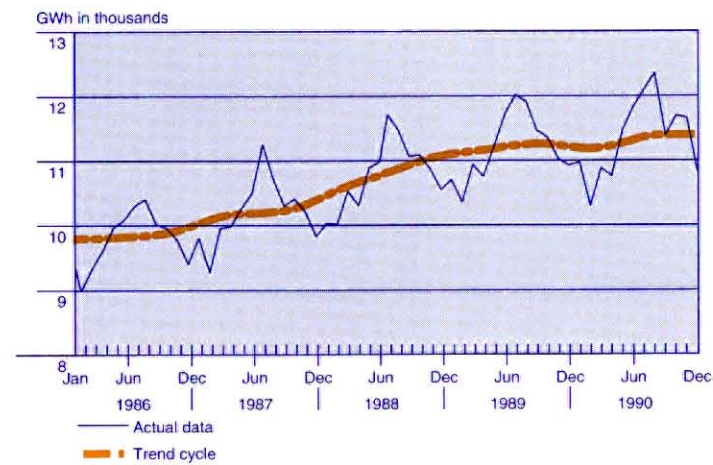
Mining sales



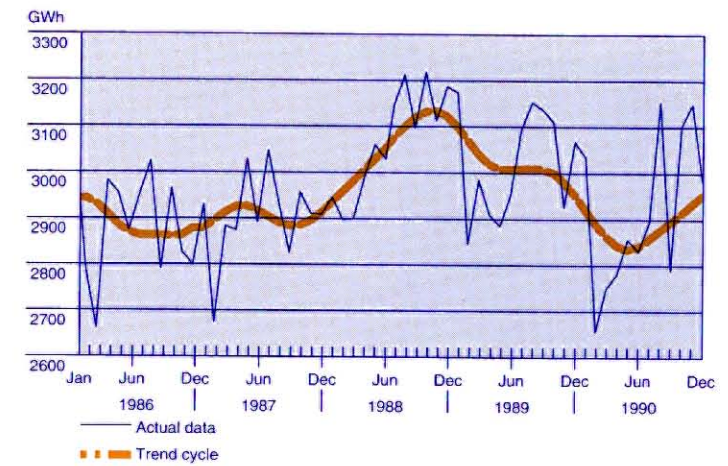
Traction sales



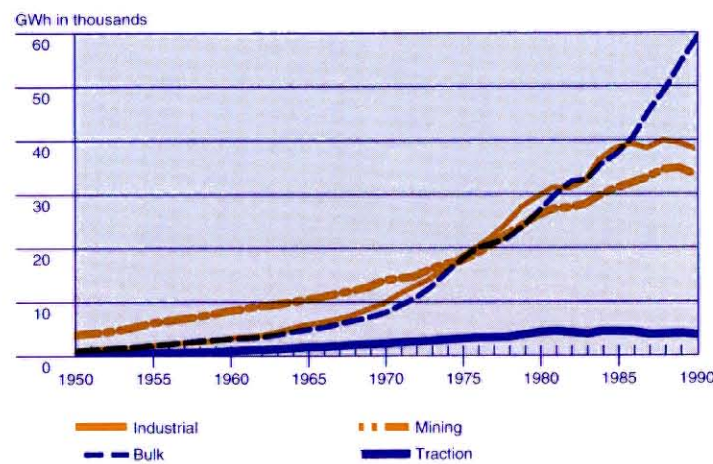
Eskom total sales



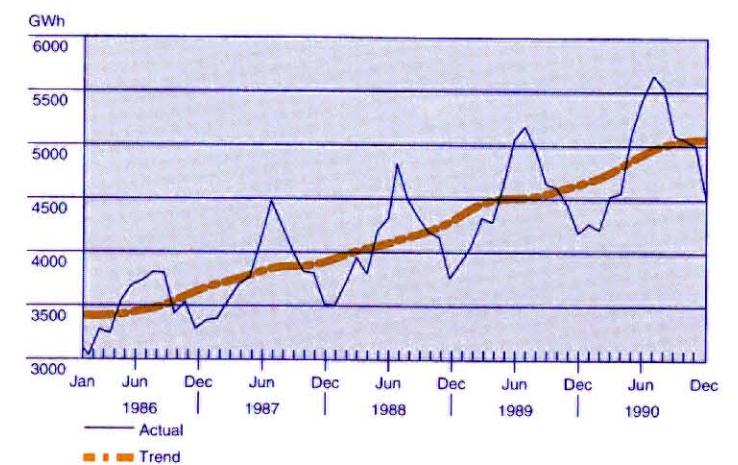
Industrial sales



Sales growth by category

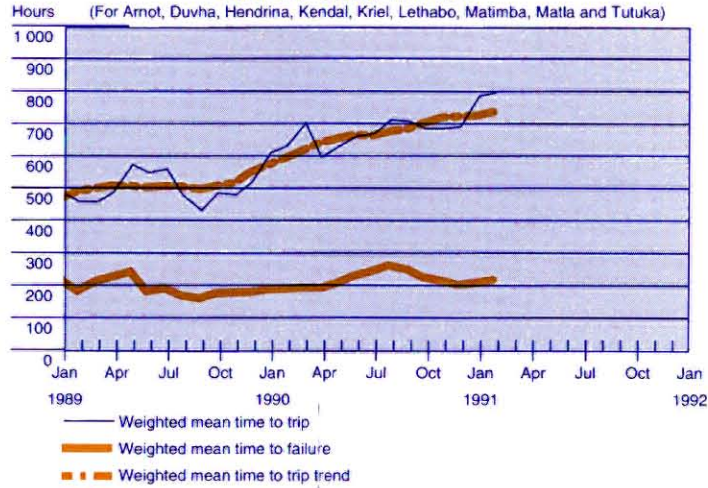


Bulk sales

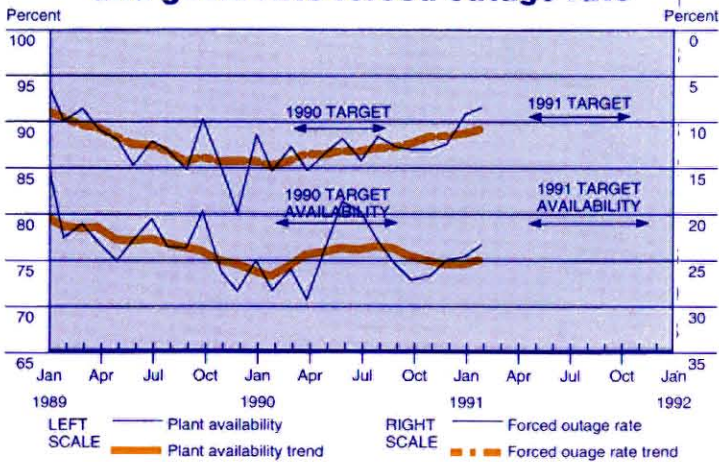


At a glance

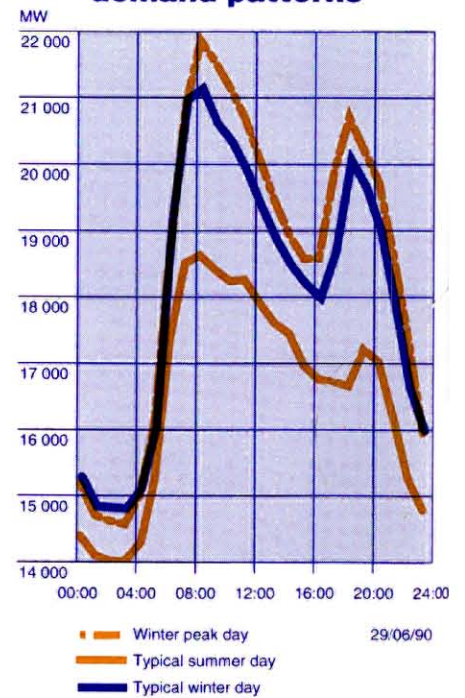
Eskom 3-monthly weighted MTTF and MTTT



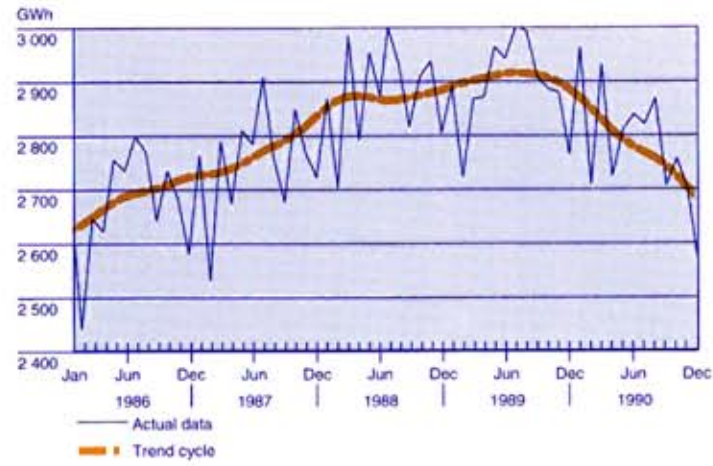
Eskom trends in plant availability and geometric forced outage rate



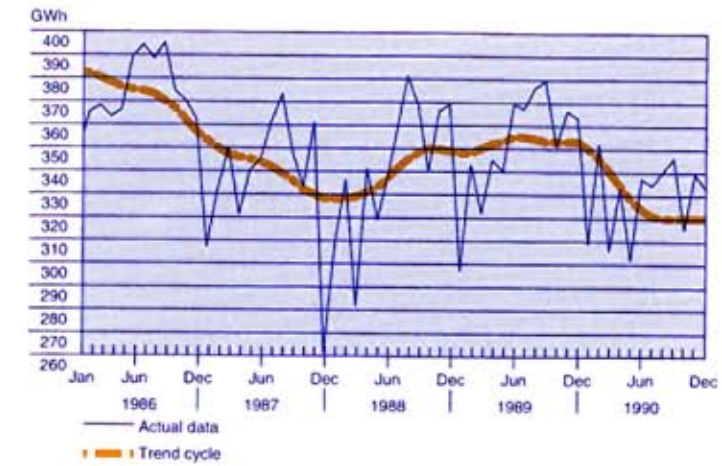
Eskom electricity demand patterns



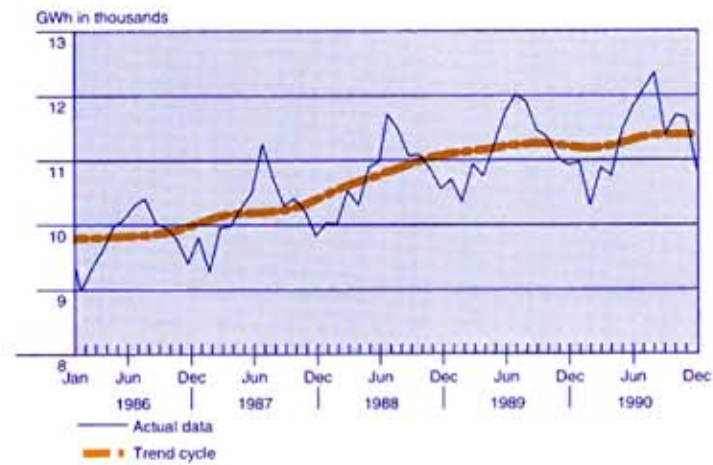
Mining sales



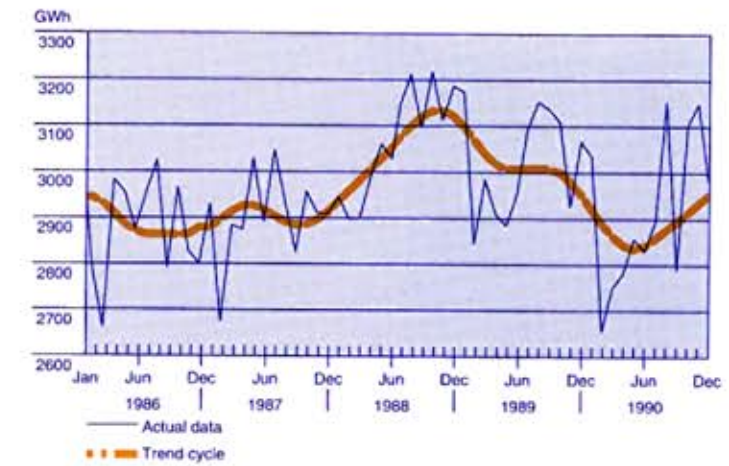
Traction sales



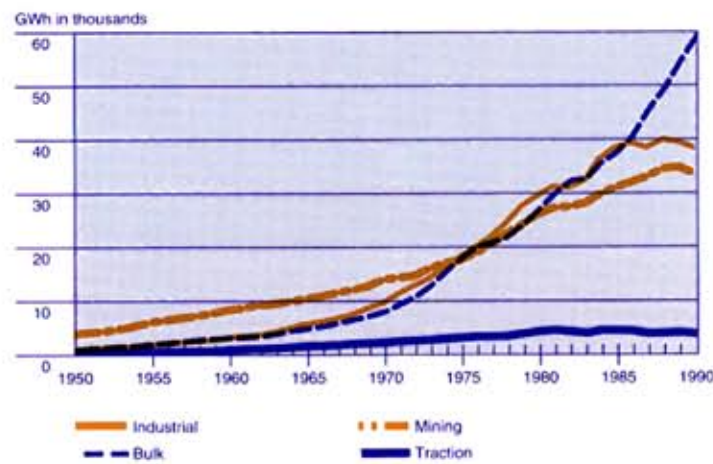
Eskom total sales



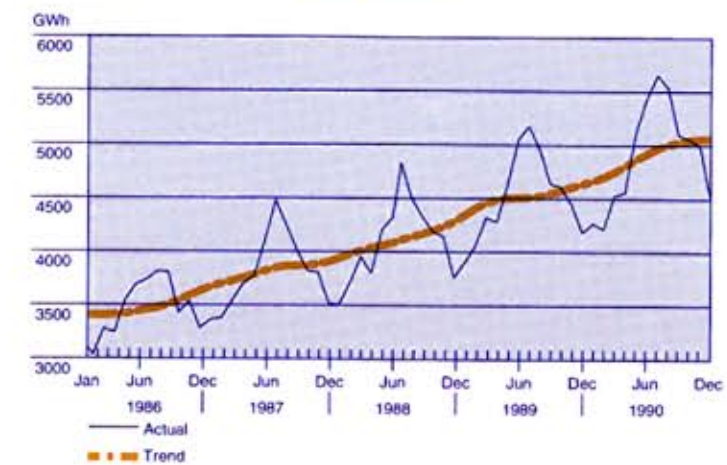
Industrial sales



Sales growth by category

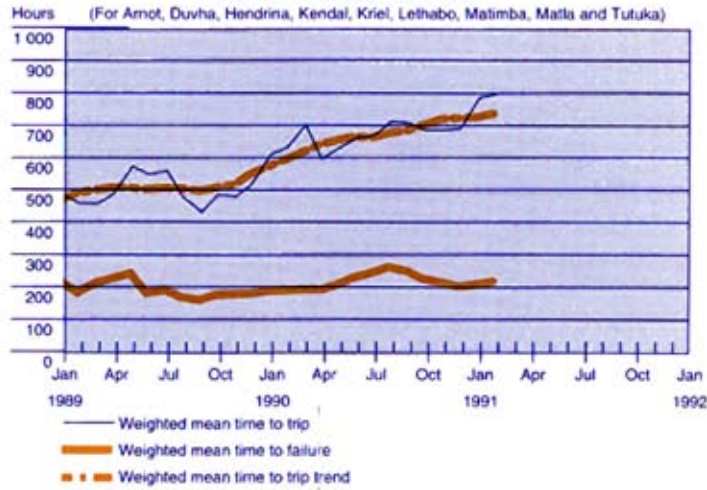


Bulk sales

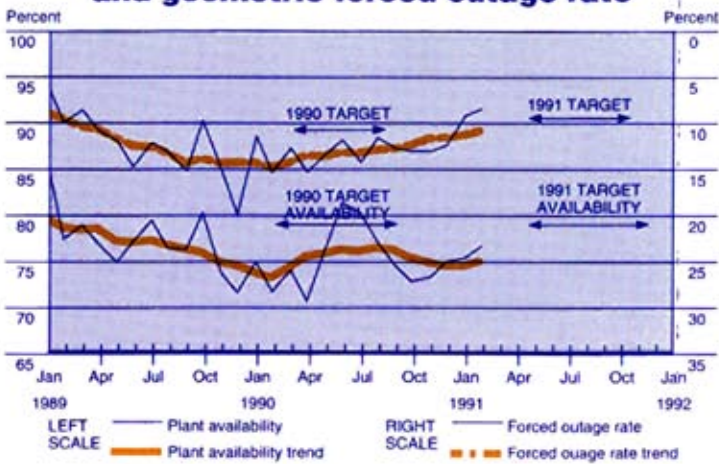


At a glance

Eskom 3-monthly weighted MTF and MTT



Eskom trends in plant availability and geometric forced outage rate



Eskom electricity demand patterns

