

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. In 1891 Johannesburg became the first town to install a reticulation system, followed by Cape Town and Pretoria in 1894, Pietermaritzburg in 1896, Durban in 1897, East London in 1899, Bloemfontein in 1900, Kimberley in 1904 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 station 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 Industrial Development Corporation (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.

1992 Eskom brings electricity to almost one million more people and becomes the largest electricity retailer in South Africa.

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Additional copies of this Statistical Yearbook, as well as of the Annual Report, may be obtained from the Communication Manager at the above address.

Foreword

Worldwide there is a focus on the need to look wider than regional and country borders in order to plan properly for the future.

There is also growing awareness of the role that electricity can play in supporting economic development and social upliftment.

We continue to move steadily towards the reality of an interconnected regional grid and greater access to electrical power by all sectors of the population in sub-Saharan Africa.

Eskom's statistical yearbook once again incorporates a wide range of information about the generation, supply and consumption of electricity within South Africa as well as the southern sub-continent, and selected electricity prices from across the world.

The increasing popularity of this publication indicates a growing need for reliable and concrete data concerning the role of electricity in the economy of the region.

I.C. McRae
31 May 1993

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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)

Comparison of terminology 1991/1992

1991	1992
Installed capacity	Nominal capacity
Assigned sent-out rating	Net maximum capacity
Electricity sent out	Electricity production
Sent out from, GWh	Produced by, net GWh
Station capacity, installed rating	Net maximum capacity
Station load factor	Generation load factor
Coal burnt, kg/kWh sent out	Coal consumption, kg/kWh net
MJ/kWh sent out	MJ/kWh net

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

	1992	1991
Financial, R million		
Turnover	12 649	11 726
Net income ^a	1 397	988
Fixed assets in commission, at cost	42 688	39 990
Works under construction and construction materials	3 115	3 668
Net capital expenditure	4 041	3 335
Total net borrowings	27 616	27 266
Plant performance		
Total power station nominal capacity, MW	39 060	38 396
Total power station net maximum capacity, MW	36 846	36 228
Peak demand on integrated Eskom system, MW	22 640	22 342
Average station availability, % ^b	76,7	76,1
Station load factor (after excess capacity management), % ^c	46,9 (54,6)	49,8 (51)
Integrated Eskom system load factor, %	73,5	74,6
Water consumed in Eskom power stations, Mℓ	226 240	237 660
Coal burnt, thousands of tons	71 037,9	70 523,2
Coal consumption, kg/kWh net	0,519	0,520 ¹
Average heat rate of coal-fired stations, MJ/kWh net	10,54	10,49
Average heat content of coal (as received), MJ/kg	20,25	20,21
Overall thermal efficiency, net generation %	34,2	34,3
Average coal cost, R/ton	27,47	25,70
Average coal cost, c/kWh	1,4263	1,3354
Electricity output		
Total electricity production in South Africa, GWh ^d	149 427	148 919
Total electricity production as a percentage of South African total	97,9	98,0
Total electricity sent out on Eskom system (Eskom stations and purchased), GWh ^e	148 556	148 934
Total produced by Eskom stations, GWh	148 207	148 671
Subtotal from coal-fired stations, GWh	136 830	135 743
Subtotal from hydro-electric stations, GWh	752	1 980
Subtotal from pumped storage schemes, GWh	1 333	1 804
Subtotal from diesel and gas-turbine stations, GWh	4	0
Subtotal from nuclear power station, GWh	9 288	9 144
Total purchased for Eskom system, GWh	349	263
Total consumed by Eskom power stations, GWh ^f	2 295	2 933
Total available for distribution, GWh	146 261	146 001
Total sold, GWh ^g	138 210	138 698 ¹
Growth in GWh sales, %	-0,4	1,8
Employees		
Total number at 31 December	42 223	46 637
GWh sold per employee	3,273	2,974 ¹
Power station net maximum capacity, MW		
Subtotal coal fired (17 stations) ^h	32 698	32 058
Subtotal gas turbine (3 stations) ⁱ	368	390
Subtotal hydro-electric (2 stations) ^j	540	540
Subtotal pumped storage (2 stations) ^k	1 400	1 400
Subtotal nuclear (1 station)	1 840	1 840
Total power station net maximum capacity, MW	36 846	36 228

^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 produced by Eskom, some industries and municipalities which generate all or part of their electricity requirements. ^e Includes Eskom electricity produced for neighbouring countries.

	1990	1989	1988	1987	1986	1985	1984	1983
10 736	9 271	8 159	7 046	5 845	4 625	3 832	3 302	
845	728	816	702	781	738	732	744	
35 753 ¹	31 199	28 680	24 986	19 907	15 496	12 058	9 218	
5 771	6 638	5 512	6 075	7 753	8 552	7 271	6 434	
3 662	3 993	3 969	3 895	3 755	4 757	3 719	2 757	
26 590 ¹	24 630	22 779	21 475	19 462	17 621	13 861	10 686	
35 673	34 141	33 176	31 261	28 086	25 716	24 514	22 949	
33 843	32 403	31 465	29 618	26 682	24 359	23 168	21 673	
21 863	21 871	20 589	20 001	18 278	17 852	17 296	15 639	
75,0	78,1	79,1	79,2	78,5	77,5	74,9	71,9	
50,5 (57,3)	51,1	52,3	54,3	55,5	58,0	58,1	55,6	
74,9	73,7	75,5	73,9	77,3	76,2	75,0	76,9	
257 000	260 154	262 804	274 804	262 372	275 716	269 868	255 654	
70 861,2	67 529,3	64 489,6	65 787,0	58 915,9	59 488,6	58 703,6	55 010,2	
0,526	0,521	0,521	0,535	0,515	0,522	0,533	0,546	
10,66	10,72	10,71	11,00	10,95	11,26	11,45	11,57	
20,26	20,20	20,44	20,48	21,19	21,52	21,38	21,11	
33,7	33,6	33,6	32,7	32,9	32,0	31,4	31,1	
23,91	20,94	18,67	17,11	14,87	13,25	12,55	12,44	
1,2575 ¹	1,1023	0,9727	0,9155	0,7665	0,6916	0,6692	0,6793	
147 069 ¹	146 162 ¹	140 802	134 751	130 056	126 206	120 835	112 366	
97,4	96,7	97,0	96,1	95,1	94,5	94,3	93,8	
146 320	143 548	139 197	132 774	126 766	122 494	117 086	108 321	
146 047	143 204	138 837	132 507	126 511	121 987	116 581	103 295	
134 744	128 304	123 777	122 947	114 298	113 941	110 094	100 738	
1 010	2 759	3 162	1 617	1 623	624	560	595	
1 841	1 039	1 403	1 774	1 785	2 107	1 994	1 957	
3	3	2	2	2	0	8	5	
8 449	11 099	10 493	6 167	8 803	5 315	3 925	-	
273	344	360	267	255	507	505	5 026	
2 953	2 265	2 567	3 229	3 018	3 265	3 188	2 917	
143 367	141 283	136 630	129 545	123 748	119 229	113 898	105 404	
136 185 ¹	134 358 ¹	129 620 ¹	122 524	117 353,0	112 305,9	106 904,1	98 251,1	
1,4	3,7	5,8 ¹	4,4	4,5	5,1	8,8	2,2	
50 000	51 554	56 726	56 830	60 800	66 000	64 560	62 420	
2,724 ¹	2,606	2,285 ¹	2,156	1,930	1,702 ¹	1,656 ¹	1,574 ¹	
29 673	28 233	27 295	25 848	22 912	20 637	20 366	19 791	
390	390	390	390	390	342	342	342	
540	540	540	540	540	540	540	540	
1 400	1 400	1 400	1 000	1 000	1 000	1 000	1 000	
1 840	1 840	1 840	1 840	1 840	1 840	920	-	
33 843	32 403	31 465	29 618	26 682	24 359	23 168	21 673	

¹ In respect of pumped-storage facilities and synchronous condenser mode of operation. See Note f, Table 6. ² Difference between electricity available for distribution and electricity sold is due to transmission losses. ³ Base-load stations, except in the case of older, uneconomical plant, which are used only for peak demands or in emergencies. ⁴ Used only for peaking or in emergencies. ⁵ Use restricted to peaking and emergencies and availability of water in Hendrik Verwoerd and P.K. le Roux dams. ⁶ 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. ⁷ Revised figures.

ESKOM: Highlights of the year

Table 2

	1992	1991	% Change 1991-92	% Average yearly change 1988-92
Financial				
Turnover, R million	12 649	11 726	7,9	12,4
Net income, R million	1 489	1 002 ^c	48,6	16,2
Fixed assets in commission at cost, R million	42 688	39 990	6,7	10,8
Works under construction, R million ^a	3 115	3 668	-15,1	-12,5
Net capital expenditure, R million	3 611	3 335	8,3	-1,5
Net interest-bearing debt, R million	27 616	27 266	1,3	5,2
Average price per kWh sold, cents	9,16	8,46 ^c	8,3	9,8
Average cost of coal burnt, rand per ton	27,47	25,70	6,9	9,9
Operations				
Electricity sold, GWh	138 210	138 687 ^c	-0,4	2,4
Coal burnt in power stations, Mt	71,0	70,5	0,7	1,5
Water consumed by power stations, Mℓ	226 240	237 660	-4,8	-3,8
Peak demand on integrated system, MW	22 640	22 342	1,3	2,5
	(08.07.92)	(21.06.91)		
Assets in commission				
at 31 December				
Nominal capacity, MW	39 060	38 396	1,7	4,6
Net maximum capacity, MW	36 846	36 228	1,7	4,5
Power lines, km	233 109	226 817	2,8	4,5
Staff employed				
at 31 December				
	42 223 ^b	46 637	-9,5	-5,8

^a Includes construction materials

^b Excludes 1 943 employees of Rotek Industries (Pty) Ltd.

^c Revised figures

ESKOM: Financial statistics

Table 3

	1992	1991	1990	1989
Energy sold , (thousand GWh)	138	138	136	134
Annual increase, thousand GWh	0	2	2	5
Annual increase, %	-0,4	1,8	1,36	3,75
Electricity turnover (R million)	12 649	11 726	10 736	9 271
Annual increase, %	7,9	9,2	15,8	13,63
Cents per kWh	9,16	8,46	7,88	6,90
Annual increase, %	8,27	7,36	14,20	9,52
Charges against revenue (R million)				
Total operating expenditure	8 094	7 159 ^a	6 366	5 644
Annual increase, %	13,06	12,46 ^a	12,79	16,18
Depreciation	1 762	1 630	1 441	1 364
Annual increase, %	8,1	13,12	5,65	18,61
Interest and finance charges	2 987	3 240	3 302	2 899
Annual increase, %	-7,81	-1,88	13,90	16,66
Net income	1 397	988	845	728
Assets (R million)				
Net fixed assets	36 895	35 405	34 030	31 728
Assets in commission (net – after depreciation)	31 746^b	30 661 ^a	28 047 ^a	25 090
Works under construction and construction materials	3 115	3 668	5 771	6 638
Non-current assets	2 936	2 387	2 501	2 185
Stores, material and fuel	1 416	1 433	1 312	1 259
Debtors	1 208	1 020	874	920
Financing (R million)				
Net loans and debt	27 616	27 266	26 590	24 630
Other liabilities	2 340	2 014	2 196	2 405
Reserves and provisions	12 499	10 965	9 931	9 057
Debt/equity ratio	2,2	2,5	2,7	2,8

^a Restated

^b Excluding plant at mothballed stations

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 kg/kWh net	Average heat rate MJ/kWh net	Overall thermal efficiency %	Average R/ton	c/kWh net ^a
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	0,581	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	0,526	10,72	33,6	20,94	1,1023
1990	70 861,2	20,26	0,526	10,66	33,7	23,91	1,2575 ^c
1991	70 523,2	20,21	0,520	10,49	34,3	25,70	1,3354
1992	71 037,9	20,25	0,519	10,54	34,2	27,47	1,4263

^a GWh sent out x 100/(average assigned sent-out rating x hours in year)

^b After excess capacity management

^c Revised figure

Power station output (net)						Total power station net maximum capacity MW	Average station load factor etc. %
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		
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 ^b
134 744	1 010	1 841	3	8 449	146 047	33 843	57,3 ^b
135 743	1 980	1 804	-	9 144	148 671	36 228	58,5 ^b
136 830	752	1 333	4	9 288	148 207	36 846	54,6 ^b

ESKOM: Power stations in service

at 31 December 1992

Table 6

Name of station	Location	Number and rating of generator sets MW	Total nominal capacity MW	Total net maximum capacity MW ^a	Generators in reserve storage	
					Number	Total rating MW
Coal fired						
Arnot ^b	Middelburg, Tvl	6 x 350	2 100	1 955	3	990
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 ^c	Sasolburg	8 x 60	480	412	8	412
Ingagane ^c	Newcastle	5 x 100	500	465	5	465
Kendal ^{b g}	Witbank	5 x 686	3 430	3 200	–	–
Komati ^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	2 700	–	–
Lethabo ^b	Sasolburg	6 x 618	3 708	3 558	–	–
Matimba ^{b g}	Ellisras	6 x 665	3 990	3 690	–	–
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 ^c	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 x 60	180	143	3	89
Subtotal (17)			34 822	32 698	54	6 051
Gas turbine and diesel^d						
Acacia	Cape Town	3 x 57	171	171	–	–
Port Rex	East London	3 x 57	171	171	–	–
Paratus	Walvis Bay	4 x 6,4	26	26	–	–
Subtotal (3)			368	368		
Hydro-electric^e						
Hendrik Verwoerd	Norvalspont	4 x 80	320	320	–	–
Vanderkloof	Petrusville	2 x 110	220	220	–	–
Subtotal (2)			540	540	–	–
Pumped storage^f						
Drakensberg	Bergville	4 x 250	1 000	1 000	–	–
Palmiet	Grabouw	2 x 200	400	400	–	–
Subtotal (2)			1 400	1 400	–	–
Nuclear						
Koeberg	Cape Town	2 x 965	1 930	1 840	–	–
Total in service, 25 Eskom stations			39 060	36 846	54	6 051

^a Difference between nominal and net maximum capacity reflects auxiliary power consumption and reduced capacity caused by age of plant and/or low coal quality.

^b Base-load station.

^c Mothballed.

^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 1992

Table 7

Station	Total nominal capacity, MW	Total net maximum capacity, MW
Kendal, set 5	686	640
Total, MW	686	640

ESKOM: Generating sets on order

at 31 December 1992

Table 8

Name, type and location of power station	Number and nominal capacity of sets MW	Net maximum capacity of sets MW	Total nominal capacity of station MW	Total net maximum capacity of station MW	Number of sets in service (on order)	Total nominal capacity of sets on order	Total net maximum capacity of sets on order	Year of completion first (last) set
Kendal, coal fired, Kendal	6 x 686	6 x 640	4 116	3 840	5 (1)	686	640	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)
Total generating sets on order, MW						4 790	4 477	

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 1992

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Station	Total nominal capacity, MW	Total net maximum capacity, MW
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ESKOM: Generating sets on order

at 31 December 1992

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Name, type and location of power station	Number and nominal capacity of sets MW	Net maximum capacity of sets MW	Total nominal capacity of station MW	Total net maximum capacity of station MW	Number of sets in service (on order)	Total nominal capacity of sets on order	Total net maximum capacity of sets on order	Year of completion first (last) set
Kendal, coal fired, Kendal	6 x 686	6 x 640	4 116	3 840	5 (1)	686	640	1988 (1993)
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Total generating sets on order, MW						4 790	4 477	

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 1992

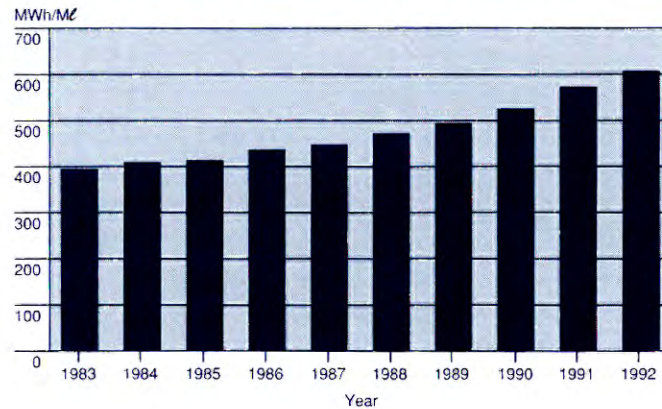
Table 9

Station	Steam conditions at turbine inlet		Net maximum capacity MW	Net electricity production GWh	Station load factor %	Gross calorific value of coal MJ/kg ^b	Overall thermal efficiency net generation basis %	Date of commercial operation	Type of steam supply
	Pressure MPa (abs)	Temperature °C							
Tutuka	16,1	535	3 510	16 605	53,9	20,26	35,7	1985-90	Reheat
Lethabo	16,1	535	3 558	16 957	54,3	15,63	35,7	1986-90	Reheat
Matla	16,1	535	3 450	20 807	69,7	20,89	35,2	1979-83	Reheat
Duvha	16,1	535	3 450	21 061	69,5	21,76	35,0	1980-84	Reheat
Kriel	16,0	510	2 700	12 716	53,6	20,10	34,2	1976-79	Reheat
Matimba	16,1	535	3 690	19 763	61,0	20,44	33,2	1987-91	Reheat
Arnot ^a	15,9	510	965	7 426	57,7	22,32	32,9	1971-75	Reheat
Kendal ^a	16,1	535	3 200	10 658	43,8	20,26	32,7	1988-93	Reheat
Hendrina	10,3	538	1 900	10 840	65,0	22,08	32,1	1970-77	Non-reheat

^a Operating statistics are based on average capacity during year.

^b As received basis, except Matimba and Kendal, which are moisture-free basis.

Water consumption for power generation



ESKOM: Maximum one-hour demand

Table 10

	1992	1991	1990	1989	1988	1987	Increase 1991-92 %	Average yearly increase 1988-92 %
Maximum simultaneous one-hour demand on total Eskom system, MW	22 640	22 342	21 863	21 871	20 589	20 001	1,3	2,5
Date	08.07.92	21.06.91	29.06.90	21.07.89	24.06.88	26.06.87		
Time	19:00	09:00	09:00	09:00	09:00	09:00		

ESKOM: Transmission and distribution equipment in service

as at 31 December 1992

Table 11

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

		1992	1991	Change
Main transmission system	765 kV ^a	871	871	0
	533 kV DC (monopolar)	1 030	1 030	0
	400 kV ^b	13 782	13 187	595
	275 kV	7 199	6 992	207
	220 kV	1 243	1 239	4
	132 kV ^c	491	–	491
Distribution lines	165-132 kV	16 910	17 011	-101
	88-33 kV	21 099	21 063	36
Reticulation lines	22 kV and lower	170 484	165 424	5 060
Total all lines		233 109	226 818	6 291
Cables	165-132 kV	56	67	-11
	88-33 kV	313	330	-17
	22 kV and lower	4 740	4 126	614
Total all cables		5 109	4 523	586
Transformers	Capacity MVA	164 805	148 439	16 366
	Number	141 407	135 316	6 091

^a One of the two 765 kV lines between Alpha and Beta substations is being temporarily run at 400 kV.

^b A further 283 km of 765 kV line is being temporarily run at 400 kV.

^c Sundry 132 kV lines have been absorbed by Transmission owing to their particular application.

ESKOM: Transmission and distribution equipment in service

as at 31 December 1992

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

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ESKOM: Transmission and distribution equipment by business unit

as at 31 December 1992

Table 12(a)

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

Transmission lines

Business unit	765 kV ^a	533 kV DC (monopolar)	400 kV ^b	275 kV	220 kV	165 kV to 132 kV ^c	88 kV to 33 kV	22 kV and lower	Total
Transmission	871	1 030	13 782	7 199	1 243	491			24 616
Distributor Bloemfontein						5 686	5 406	53 744	64 836
Distributor Cape Town						4 043	4 298	43 091	51 431
Distributor Pretoria						4 841	3 411	40 275	48 527
Distributor Durban						1 268	3 555	24 830	29 653
Distributor Johannesburg						1 072	4 430	8 544	14 046
Total	871	1 030	13 782	7 199	1 243	17 401	21 099	170 484	233 109

^a One of the two 765 kV lines between Alpha and Beta substations is being temporarily run at 400 kV.

^b A further 283 km of 765 kV line is being temporarily run at 400 kV.

^c Sundry 132 kV lines have been absorbed by Transmission owing to their particular application.

ESKOM: Transmission and distribution equipment by business unit

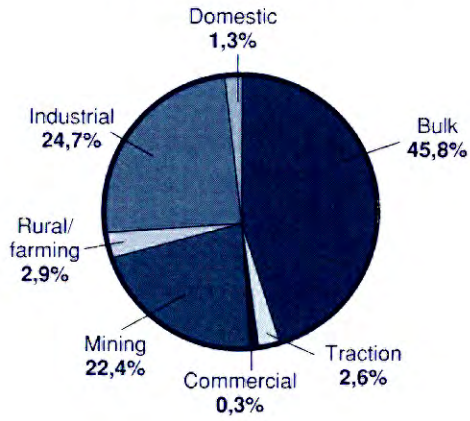
as at 31 December 1992

Table 12(b)

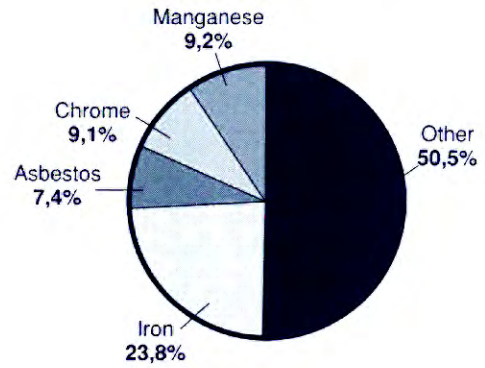
Business unit	Underground cables				Transformers	
	165 kV to 132 kV	88 kV to 33 kV	22 kV and lower	Total	Capacity MVA	Number in service
Transmission				0	105 187	361
Distributor Bloemfontein		2	29	32	15 449	33 491
Distributor Cape Town	24	82	2 389	2 495	8 743	33 729
Distributor Pretoria		9	90	99	14 545	33 253
Distributor Durban			940	940	5 798	25 033
Distributor Johannesburg	32	219	1 292	1 543	15 144	15 540
Total	56	313	4 740	5 109	164 865	141 407

At a glance

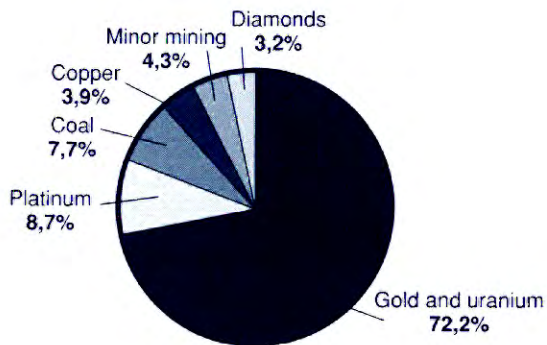
**Sales per category
(excluding own use)**



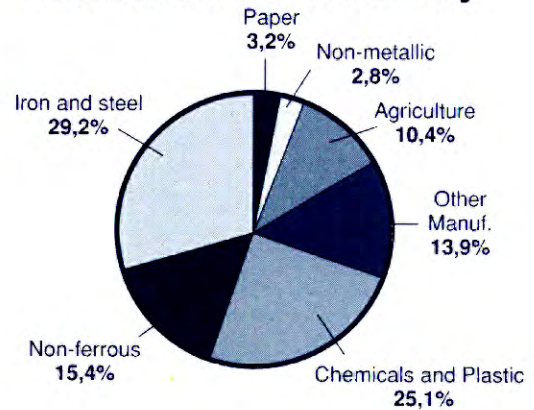
Minor mining sales



Major mining sales



Sales to sectors of industry



ESKOM: Electricity produced and sold

Table 13

Year	Electricity produced							Peak demand on integrated Eskom system MW
	South Africa total produced GWh net	Eskom electricity produced as % of South African total ^a	Electricity produced by Eskom power stations GWh net	Electricity purchased from other sources GWh	Own consumption GWh	Available for distribution GWh		
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	75,9	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	78,7	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	92 616	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	147 069 ^e	97,5	146 046	273	2 953	143 367	21 863	
1991	148 919	98,0	148 671	263	2 933	146 001	22 342	
1992	149 427	97,9	148 207	349	2 295	146 261	22 640	

^a Includes Eskom electricity sent out to neighbouring territories.

^b Estimates based on limited information.

^c Includes purchases from City of Johannesburg during serious drought.

^d Air and steam production now excluded.

^e Revised 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 GWh sold/employee
76,9	0,905 ^d	8 498,0 ^d	8,7 ^d	0,3492 ^d	11 518	0,738 ^d
75,7	0,908 ^d	9 457,1 ^d	11,3 ^d	0,3763 ^d	12 317	0,768 ^d
74,4	0,914 ^d	10 751,8 ^d	13,7 ^d	0,4099 ^d	12 490	0,861 ^d
73,5	0,915 ^d	11 828,3 ^d	10,0 ^d	0,4209 ^d	12 977	0,911 ^d
73,3	0,913 ^d	12 603,5 ^d	6,6 ^d	0,4409 ^d	13 421	0,939 ^d
74,5	0,916 ^d	13 448,6 ^d	6,7 ^d	0,4664 ^d	14 312	0,940 ^d
74,6	0,919 ^d	14 586,3 ^d	8,5 ^d	0,4863 ^d	13 947	1,046 ^d
75,7	0,922 ^d	15 968,4 ^d	9,5 ^d	0,4987 ^d	14 654	1,090 ^d
76,4	0,923 ^d	16 889,4 ^d	5,8 ^d	0,5096 ^d	15 441	1,094 ^d
75,3	0,927 ^d	18 005,3 ^d	6,6 ^d	0,5109 ^d	16 467	1,093 ^d
74,6	0,931 ^d	19 384,8 ^d	7,7 ^d	0,5125 ^d	16 804	1,154 ^d
74,6	0,933 ^d	21 153,6 ^d	9,1 ^d	0,5073 ^d	17 172	1,232 ^d
76,9	0,933 ^d	23 056,1 ^d	9,0 ^d	0,5051 ^d	17 851	1,292 ^d
76,4	0,938 ^d	24 514,9 ^d	6,3 ^d	0,5218 ^d	18 579	1,319 ^d
76,8	0,937	26 657,1 ^d	8,7 ^d	0,5466 ^d	19 817	1,345
75,4	0,936	28 885,0	8,4	0,5550	20 893	1,383
75,9	0,937	31 505,6	9,1	0,5565	21 644	1,456
75,8	0,935	34 890,6	10,7	0,5545	22 700	1,537
76,1	0,934	38 040,0	9,0	0,5772	25 050	1,519
76,4	0,936	41 648,9	9,5	0,6108	26 937	1,546
77,3	0,936	46 578,4	11,8	0,6484	28 559	1,631
75,1	0,935	52 585,1	12,9	0,6822	29 891	1,759
76,5	0,940	57 869,2	10,0	0,7950	33 999	1,702
76,1	0,940	63 355,7	9,5	1,0360	36 915	1,716
75,8	0,942	67 125,4	6,0	1,5353	39 112	1,716
77,3	0,936	72 780,4	8,4	1,7887	41 040	1,773
76,4	0,937	80 582,8	10,7	1,8980	43 690	1,844
77,5	0,942	87 539,3	8,6	2,0242	47 490	1,843
77,6	0,941	93 844,0	7,2	2,2811	52 080	1,802
75,3	0,938	96 135,9	2,4	2,8038	58 850	1,634
76,9	0,932	98 251,1	2,2	3,3606	62 420	1,574
75,0	0,939	106 904,1	8,8	3,5842	64 560	1,656
76,2	0,942	112 305,9	5,1	4,1179	66 000	1,702
77,3	0,948	117 353,0	4,5	4,9803	60 800	1,930
73,9	0,946	122 523,6	4,4	5,7512	56 830	2,156
75,5	0,949 ^a	129,620,0 ^a	5,8 ^a	6,2926 ^a	56 726	2,285 ^a
73,7	0,951	134 357,5 ^a	3,7	6,8984 ^a	51 554	2,606
74,9	0,950	136 185,1 ^a	1,4 ^a	7,8832 ^a	50 000	2,724 ^a
74,6	0,950	138 697,9 ^a	1,8	8,4718 ^a	46 637	2,974 ^a
73,5	0,945	138 209,7	-0,4	9,1660	42 223	3,273

ESKOM: Customer categories by business unit

in order of sales volume

Table 14

Electricity sold by a business unit is purchased from the Transmission Group. The cost of a business unit's own usage is allocated to working costs. A unit's sales to other 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.

Business unit and categories	Number of customers	GWh sold 1992	% of total GWh	% growth 1991-92	Revenue R000 1992	% of total revenue	Average price cents per kWh	
							1992	1991
Distributor Pretoria								
Bulk	165	14 370,9	38,7	6,3	1 295 037	38,7	9,012	8,039
Domestic and street lighting	42 912	34,9	0,1	25,4	6 128	0,2	17,575	16,877
Commercial	656	18,9	0,1	4,9	2 890	0,1	15,325	14,145
Industrial	551	13 532,1	36,5	-12,6	1 066 139	31,9	7,879	7,458
Mining	269	7 298,9	19,7	2,7	694 671	20,8	9,518	8,631
Rural	31 091	1 176,4	3,2	16,5	197 493	5,9	16,788	17,310
Traction	8	398,6	1,1	1,2	57 150	1,7	14,338	12,842
Own use	55	284,7	0,8	-3,3	26 162	0,8	9,190	8,504
Total	75 707	37 115,2	100,0	-1,9	3 345 669	100,0	9,014	8,223
Distributor Johannesburg								
Bulk	90	18 335,5	50,9	-3,6	1 675 969	51,1	9,141	8,630
Domestic and street lighting	143 886	977,5	2,7	94,3	108 835	3,3	11,134	14,111
Commercial	7 164	165,0	0,5	15,1	25 825	0,8	15,647	14,347
Industrial	764	9 983,4	27,7	-1,9	854 418	26,1	8,558	7,930
Mining	85	5 328,6	14,8	-2,2	464 084	14,1	8,709	8,054
Rural	6 972	292,6	0,8	8,8	46 683	1,4	15,952	13,686
Traction	2	808,9	2,2	-1,5	93 384	2,8	11,544	10,279
Own use	39	115,9	0,3	-4,4	10 707	0,3	9,237	8,406
Total	159 002	36 007,5	100,0	-1,4	3 279 905	100,0	9,109	8,520
Distributor Bloemfontein								
Bulk	203	5 335,3	20,8	-4,4	501 293	21,3	9,396	8,531
Domestic and street lighting	36 064	28,4	0,1	157,1	5 487	0,2	19,328	17,572
Commercial	3 672	9,8	0,0	21,9	1 788	0,1	18,247	16,426
Industrial	294	959,1	3,7	-2,1	94 742	4,0	9,878	9,027
Mining	147	17 881,0	69,8	-2,4	1 531 324	65,0	8,564	7,897
Rural	31 002	844,7	3,3	0,7	156 092	6,6	18,479	15,352
Traction	10	546,0	2,1	-9,4	64 972	2,8	11,900	10,937
Own use	33	2,0	0,0	-12,3	6	0,0	0,291	1,029
Total	71 425	25 606,3	100,0	-2,8	2 355 704	100,0	9,200	8,387
Distributor Durban								
Bulk	60	12 013,4	54,1	3,1	1 085 587	53,7	8,969	8,283
Domestic and street lighting	89 684	266,7	1,2	10,9	46 623	2,3	17,483	16,008
Commercial	3 284	107,1	0,5	5,3	15 752	0,8	14,715	13,551
Industrial	363	7 584,0	33,9	0,9	571 861	28,3	7,540	7,572
Mining	57	330,0	1,5	-9,8	38 576	1,9	11,689	10,442
Rural	22 457	775,2	3,5	10,9	125 865	6,2	16,237	15,163
Traction	8	1 188,1	5,3	0,6	133 526	6,6	11,238	10,403
Own use	36	25,9	0,1	1,4	2 312	0,1	8,942	8,274
Total	115 949	22 380,4	100,0	2,3	2 020 103	100,0	9,026	8,518
Distributor Cape Town								
Bulk	204	13 012,0	76,1	2,6	1 104 643	66,3	8,489	7,760
Domestic and street lighting	85 042	420,9	2,5	12,7	80 024	4,8	19,012	17,745
Commercial	3 149	78,4	0,5	7,9	12 850	0,8	16,393	14,982
Industrial	680	1 971,0	11,5	43,4	200 157	12,0	10,155	10 656
Mining	25	17,2	0,1	-8,6	3 327	0,2	19,350	18,117
Rural	30 590	972,0	5,7	2,8	167 919	10,1	17 276	15,890
Traction	8	617,3	3,6	-6,0	97 220	5,8	15,750	14,258
Own use	98	11,5	0,1	-3,5	827	0,0	7,164	6,209
Total	119 796	17 100,3	100,0	6,0	1 666 967	100,0	9,748	9,022
Business units total								
Bulk	722	63 157,1	45,7	1,0	5 662 528	44,7	8,966	8,252
Domestic and street lighting	397 588	1 728,3	1,3	49,5	247 097	2,0	14,297	15,779
Commercial	17 925	379,1	0,3	10,3	59 105	0,5	15,589	14,284
Industrial	2 652	34 029,6	24,6	-4,2	2 787 317	22,0	8,191	7,784
Mining	583	30 855,8	22,3	-1,3	2 731 983	21,6	8,854	8,127
Rural	122 112	4 060,9	2,9	7,9	694 053	5,5	17,091	15,858
Traction	36	3 558,9	2,6	-2,7	446 251	3,5	12,539	11,419
Own use	261	440,0	0,3	-3,4	40 013	0,3	9,095	8,367
Total	541 879	138 209,7	100,0	-0,4	12 668 347	100,0	9,166	8,472

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	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	153 590 ^b	16 054 ^b	2 877 ^b	555	101 708 ^b	275 379	6,2
1989	625	103 111 ^b	11 958 ^b	2 593 ^b	565	110 083 ^b	228 935	–16,9
1990	673	111 709 ^b	11 948	2 561 ^b	592	114 771 ^b	242 254	5,8
1991	704	142 759 ^b	12 416	2 646 ^b	585	118 631 ^b	277 741	14,6
1992	722	397 588 ^c	17 925	2 652	583	122 112	541 582	95,0

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

^b Restated.

^c Increase in number of customers due to electrification programme and the acquisition of circuits from some local authorities.

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 usage
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	49 812	1 357 ^b	450 ^b	36 016 ^b	34 228	3 151 ^b	4 138	467 ^b
1989	54 861	1 237 ^b	368	35 360 ^b	34 376	3 403 ^b	4 237	516 ^b
1990	59 203	1 098 ^b	340	34 439 ^b	32 981	3 639 ^b	3 965	520 ^b
1991	62 538	1 156 ^b	344	35 530 ^b	31 257	3 762 ^b	3 656	455 ^b
1992	63 157	1 728	379	34 030	30 856	4 061	3 559	440

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

^b Restated.

Total	Sales as a percentage of total GWh sold							
	Bulk ^a	Domestic and street lighting	Commercial	Industrial	Mining	Rural farming	Traction	Own usage
8 497	19,3	1,6	-	16,5	55,7	-	6,9	-
9 457	19,4	1,5	-	16,3	56,2	-	6,5	-
10 753	19,0	1,5	-	17,5	55,6	-	6,4	-
11 828	19,3	1,5	-	18,5	54,5	-	6,3	-
12 604	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	-
15 969	20,3	1,6	-	19,8	51,7	-	6,5	-
16 888	19,9	1,7	-	20,4	51,1	-	7,0	-
18 004	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	46,5	-	7,4	-
23 057	21,3	1,9	-	24,6	44,5	-	7,6	-
24 516	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	-	7,6	-
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	-
46 579	27,4	2,4	-	30,1	33,9	-	6,2	-
52 586	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	-
87 539	30,8	1,0	-	33,6	29,6	-	5,1	-
93 845	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	-
106 905	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
129 620 ^b	38,4 ^b	1,0	0,3 ^b	27,8 ^b	26,4 ^b	2,4	3,2 ^b	0,4
134 358 ^b	40,8 ^b	0,9	0,3	26,3 ^b	25,6 ^b	2,5 ^b	3,2 ^b	0,4
136 185 ^b	43,5	0,8	0,2	25,3 ^b	24,2 ^b	2,7	2,9	0,4
138 698 ^b	45,1	0,8	0,2	25,6 ^b	22,5	2,7	2,6 ^b	0,3 ^b
138 210	45,7	1,3	0,3	24,6	22,3	2,9	2,6	0,3

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	
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	6,1212 ^b	11,8612 ^b	10, 9057 ^b	5,8754 ^b	6,0297 ^b	11,6659 ^b	8,1793 ^b	6,2926 ^b	9,4 ^b
1989	6,6882 ^b	12,3184 ^b	11,2224	6,4676 ^b	6,6695 ^b	12,6035 ^b	9,0826 ^b	6,8984 ^b	9,6 ^b
1990	7,6496 ^b	14,5132 ^b	12,7971	7,3299 ^b	7,5869 ^b	14,4868 ^b	10,4063 ^b	7,8832 ^b	14,3
1991	8,2518 ^b	15,7793 ^b	14,2837	7,7842 ^b	8,1274 ^b	15,8584 ^b	11,4185 ^b	8,4718 ^b	7,4
1992	8,9658	14,2971	15,5893	8,1909	8,8540	17,0910	12,5391	9,1660	8,2

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

^b Restated.

Production Price Index 1990 = 100 ^b	Real price in c/kWh								Change %
	Bulk ^b	Domestic and street lighting ^b	Commercial ^b	Industrial ^b	Mining ^b	Rural/farming ^b	Traction ^b	Average for all categories ^b	
6,0	6,9420	19,9761	-	5,9583	4,6770	-	7,6347	5,7731	13,3
6,1	7,5980	21,7014	-	6,3579	4,9015	-	8,7120	6,1646	6,8
6,3	8,3324	21,5048	-	6,3645	5,2020	-	9,8506	6,5368	6,0
6,4	8,5369	21,3502	-	6,2554	5,2400	-	9,9488	6,5954	0,9
6,5	8,8075	21,4187	-	6,4193	5,4556	-	9,9738	6,8199	3,4
6,5	9,0271	22,0156	-	6,7877	5,8374	-	10,0991	7,1835	5,3
6,5	9,3567	22,2911	-	7,2422	6,1300	-	10,3188	7,5221	4,7
6,5	9,1766	22,1314	-	7,3807	6,3285	-	10,1464	7,6159	1,2
6,7	9,2009	22,2897	-	7,4229	6,3311	-	10,1019	7,6526	0,5
6,7	9,0757	22,0176	-	7,2588	6,2163	-	11,0177	7,6088	-0,6
6,8	8,8910	21,7141	-	7,1758	6,1666	-	10,7136	7,5391	-0,9
7,0	8,4889	20,7184	-	7,0387	5,9173	-	9,9220	7,2842	-3,4
7,2	8,2267	19,4578	-	6,7058	5,6454	-	9,6892	7,0286	-3,5
7,5	7,9973	18,5576	-	6,8437	5,6031	-	9,6091	6,9911	-0,5
7,6	7,9460	18,2576	-	7,0351	5,8242	-	9,8607	7,1636	2,5
7,7	7,7985	17,9700	-	7,1216	5,8040	-	9,7568	7,1694	0,1
7,9	7,5723	17,3185	-	6,9502	5,7475	-	9,5476	7,0374	-1,8
8,2	7,3565	16,4917	-	6,7399	5,5177	-	9,2701	6,7975	-3,4
8,5	7,1836	15,9234	-	6,7097	5,5184	-	8,9283	6,7541	-0,6
9,2	6,8899	15,3211	-	6,5025	5,5241	-	8,5643	6,6107	-2,1
10,4	6,4614	14,4249	-	6,1125	5,1933	-	8,0746	6,2151	-6,0
12,3	5,7113	12,5655	-	5,7284	4,5229	-	7,1659	5,5384	-10,9
14,5	5,5887	11,8146	-	5,6856	4,5587	-	7,0297	5,4995	-0,7
16,6	6,3351	12,5842	-	6,4025	5,2503	-	7,9807	6,2334	13,3
18,8	8,4001	16,9173	-	8,3266	6,8919	-	10,6685	8,1733	31,1
20,6	8,6289	18,3720	-	8,7259	7,7825	-	11,5776	8,6764	6,2
23,8	7,8797	16,7682	-	7,9677	7,2886	-	10,9545	7,9913	-7,9
27,7	7,2179	15,4088	-	7,3004	6,6819	-	9,6452	7,2954	-8,7
31,5	7,2008	15,0108	-	7,2453	6,5949	-	9,4823	7,2370	-0,8
35,9	7,8143	15,0792	-	7,8622	7,0704	-	10,1568	7,8032	7,8
39,7	8,4803	15,6965	-	8,5049	7,6773	-	11,4610	8,4641	8,5
43,0	8,3500	15,4791	-	8,3530	7,5941	-	10,9110	8,3286	-1,6
50,3	8,2032	14,9322	-	8,1943	7,5361	-	10,6877	8,1905	-1,7
60,1	8,1043	15,3000	-	8,3612	7,8567	-	10,3774	8,2869	1,2
68,5	8,1479	15,9959	-	7,9875	8,0908	15,2454	11,1158	8,3986	1,3
77,5	7,8988	15,3056	14,0726	7,5816	7,7807	15,0536	10,5545	8,1199	-3,3 ^b
89,3	7,4903	13,7958	12,5683	7,2433	7,4694	14,1151	10,1719	7,7257	-4,9
100,0	7,6496	14,5132	12,7971	7,3299	7,5869	14,4868	10,4063	7,8832	2,0 ^b
111,4	7,4065	14,1629	12,8205	6,9875	7,2948	14,2673	10,2488	7,6040	-3,6
120,6	7,4361	11,8578	12,9295	6,7934	7,3434	14,1750	10,3998	7,6022	0,0

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	20 752 ^a	649	1 718 ^a	2 425 ^a	1 303 ^a	106 ^a
1984	21 580 ^a	635 ^a	1 929 ^a	2 874 ^a	1 295 ^a	114 ^a
1985	22 088	640 ^a	2 141 ^a	3 213 ^a	1 304	137 ^a
1986	22 759 ^a	692 ^a	2 177 ^a	3 247 ^a	1 386 ^a	143 ^a
1987	23 423 ^a	735	2 193	3 565	1 439	146 ^a
1988	24 471 ^a	808	2 289 ^a	3 892 ^a	1 355	154 ^a
1989	24 251 ^a	870	2 321	4 105	1 326	158 ^a
1990	24 034 ^a	916 ^a	2 364	2 886	1 296	152 ^a
1991	22 779 ^a	969	2 381	2 522	1 187	162 ^a
1992	22 263	993	2 383	2 696	1 208	118

^a Restated.

ESKOM: Sales to mining sector, GWh

Table 18 continued

Year	Asbestos	Iron	Manga- nese	Other	Total	Growth %
1967	91		74	59	11 441	
1968	107		81	59	11 995	4,8
1969	118		80	68	12 642	5,4
1970	137		88	92	13 948	10,3
1971	152		92	100	14 227	2,0
1972	161		101	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	243 ^a	78 ^a	606 ^a	28 105 ^a	2,7 ^a
1984	186	321 ^a	75 ^a	678 ^a	29 687 ^a	5,6 ^a
1985	184	310 ^a	84	737 ^a	30 839 ^a	3,9 ^a
1986	162	298 ^a	89 ^a	739 ^a	31 691 ^a	2,8 ^a
1987	129	267 ^a	88	710 ^a	32 695 ^a	3,2 ^a
1988	118	295 ^a	104	744 ^a	34 228 ^a	4,7 ^a
1989	126	323 ^a	129	767 ^a	34 375 ^a	0,4 ^a
1990	141	325 ^a	140	727 ^a	32 981 ^a	-4,1 ^a
1991	143	315 ^a	131	667 ^a	31 257 ^a	-5,2 ^a
1992	98	313	121	664	30 856	-1,3

ESKOM: Sales to industry, ^{GWh}

Table 19 (a)

Year	Building cement 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

^a Note: Figures not available for years prior to 1966

Table 19 (b)

By Standard Industrial Classification of selected economic activities (SIC)

Year	Division												Total	Growth %
	11	31	32	33	34	35	36	371	372	38	Other ^b			
1983	2 051	376 ^a	378 ^a	179 ^a	1 054 ^a	7 257 ^a	1 326 ^a	10 583 ^a	4 605 ^a	455 ^a	4 023 ^a	32 286	4,3	
1984	2 295	393 ^a	398 ^a	186 ^a	1 286 ^a	7 715 ^a	1 458 ^a	12 790 ^a	4 984 ^a	458 ^a	4 156 ^a	36 119	11,9	
1985	2 665	409 ^a	407 ^a	191 ^a	1 550	8 078 ^a	1 344 ^a	14 028 ^a	4 957 ^a	452 ^a	4 136 ^a	38 215	5,8	
1986	2 863	373 ^a	425 ^a	194 ^a	1 499 ^a	8 427 ^a	1 336 ^a	14 716 ^a	4 925 ^a	367 ^a	4 046 ^a	39 170	2,5	
1987	3 022 ^a	341 ^a	406 ^a	191 ^a	1 239	8 064 ^a	1 351 ^a	14 615 ^a	5 194 ^a	236 ^a	4 269 ^a	38 929 ^a	-0,6 ^a	
1988	3 151 ^a	349 ^a	415	213 ^a	1 263	8 418 ^a	1 476 ^a	15 168 ^a	5 429 ^a	201 ^a	4 003 ^a	40 085 ^a	3,0 ^a	
1989	3 403 ^a	331 ^a	402	215 ^a	1 057	8 253 ^a	1 342 ^a	15 073 ^a	5 517 ^a	160 ^a	3 893 ^a	39 647 ^a	-1,1 ^a	
1990	3 639 ^a	354 ^a	369	211	1 122	7 967 ^a	1 316 ^a	14 659 ^a	5 388 ^a	149 ^a	3 764 ^a	38 938 ^a	-1,8 ^a	
1991	3 762 ^a	362 ^a	368	201	1 151	8 968 ^a	1 187 ^a	14 272 ^a	5 849 ^a	130 ^a	3 841 ^a	40 091 ^a	3,0 ^a	
1992	4 061	371	374	170	1 267	9 804	1 109	11 399	6 025	132	4 199	38 910	-2,9	

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

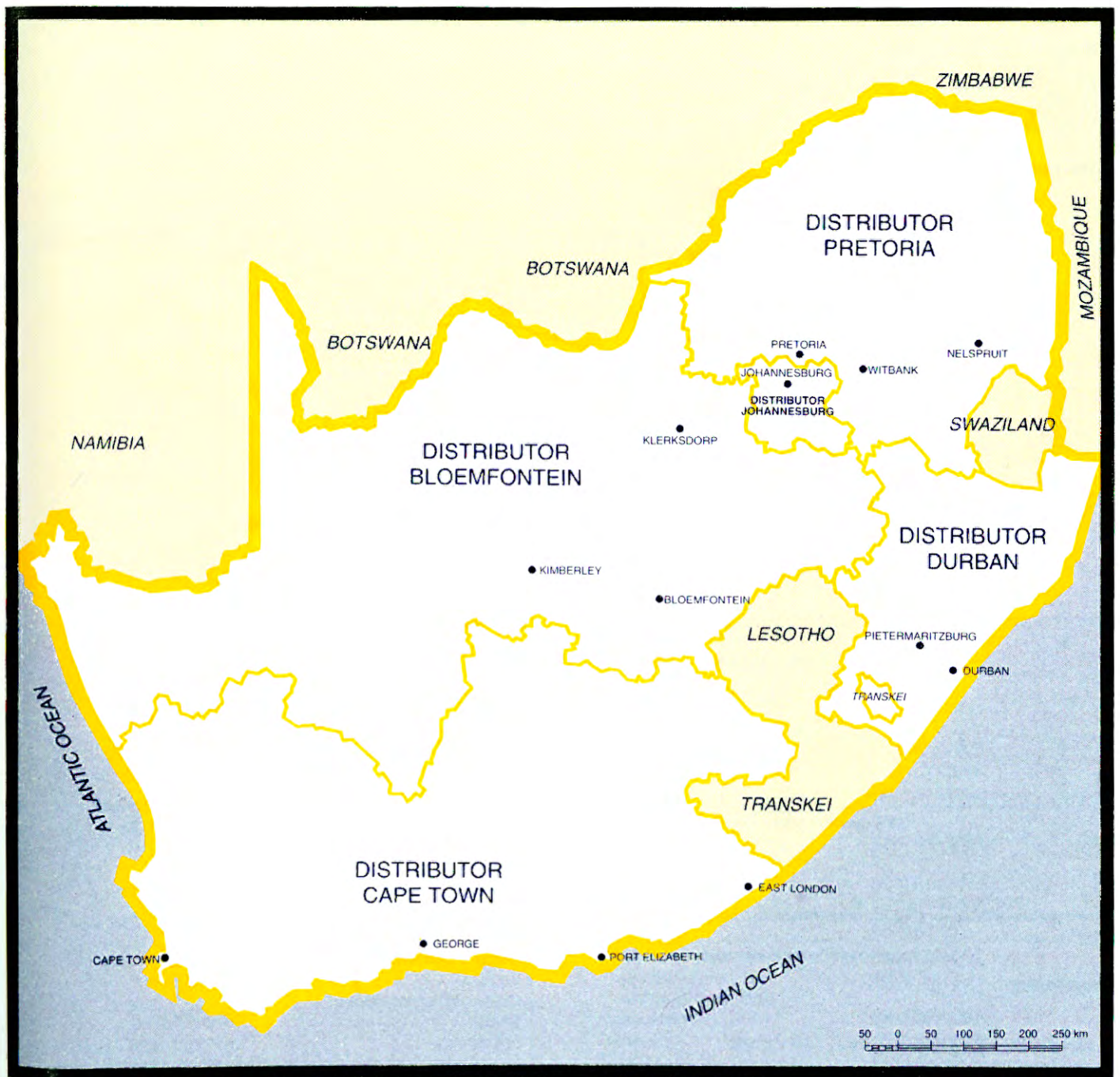
^a Restated

^b Includes other manufacturing and commercial enterprises

ESKOM: Business units

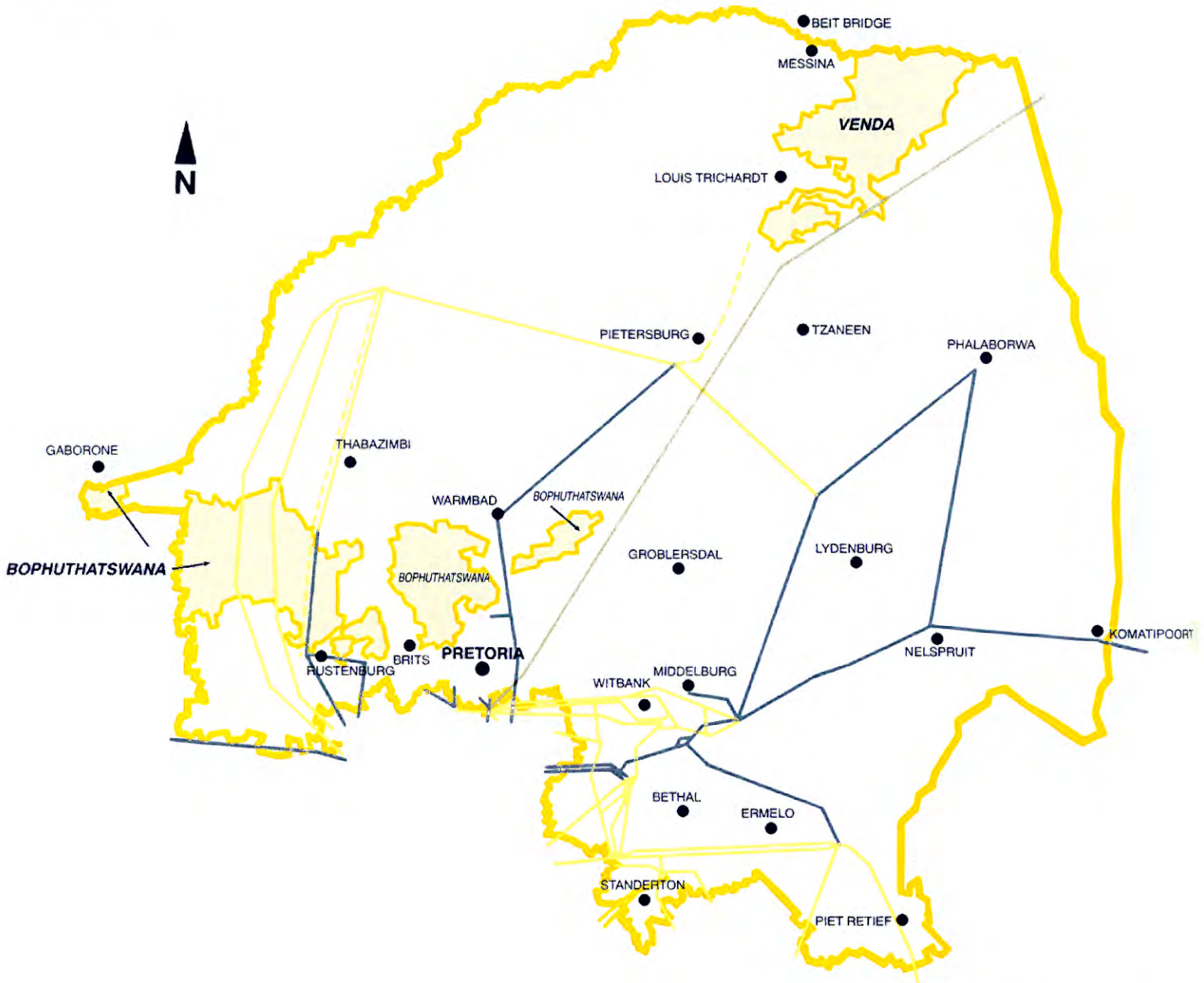
Map 1

- Map 2: Distributor – Pretoria
- Map 3: Distributor – Johannesburg
- Map 4: Distributor – Bloemfontein
- Map 5: Distributor – Durban
- Map 6: Distributor – Cape Town

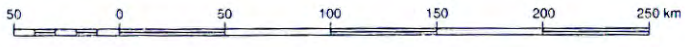


ESKOM: Distributor – Pretoria

Map 2



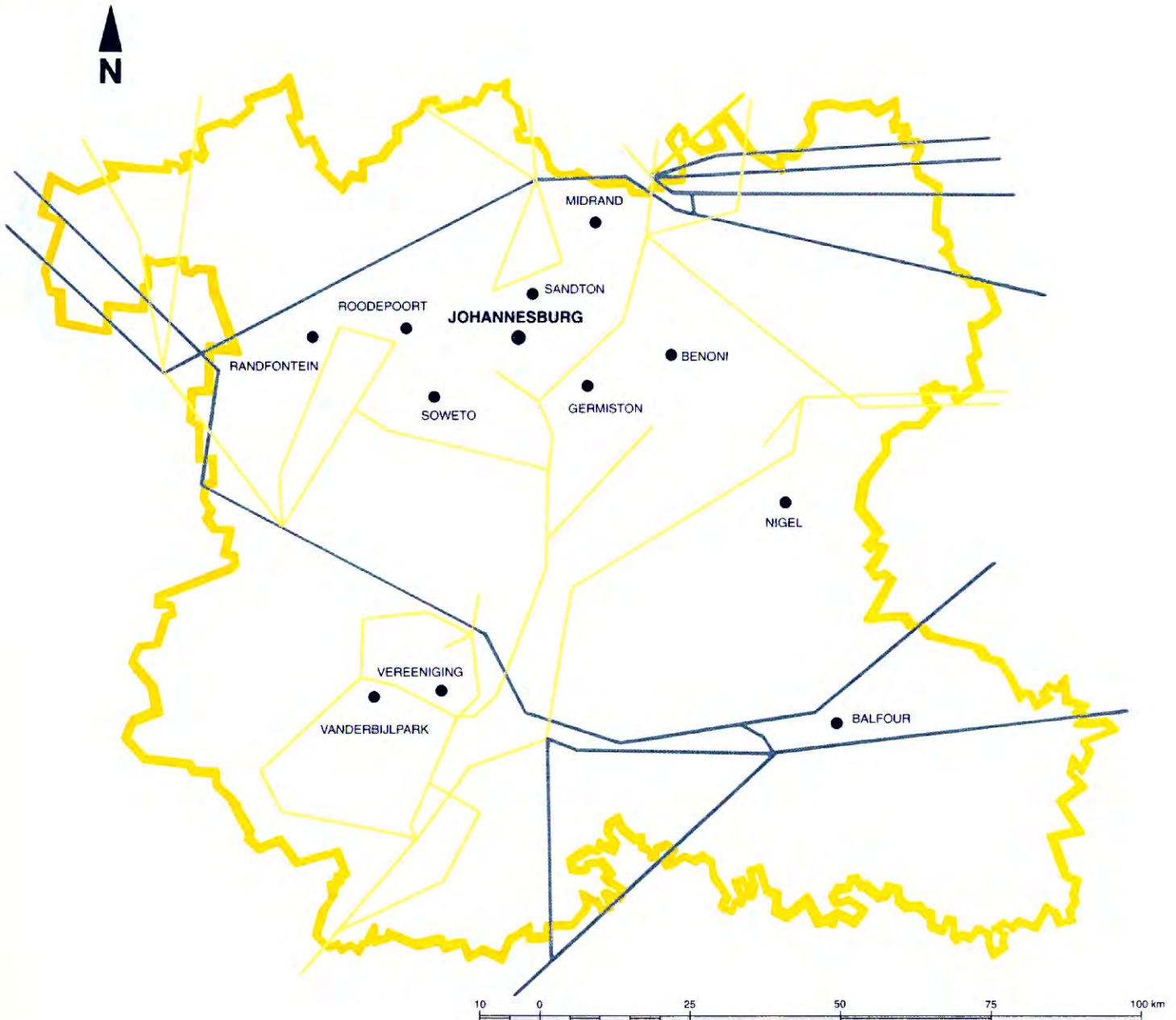
Distributor – Pretoria	
Sales & Customer Service – North-Western Transvaal	
Pretoria	(012) 348-4055
Customer Service offices:	
Brits	(01211) 2-0438
Rustenburg	(0142) 97-2570
Thabazimbi	(01537) 2-1291/2/3
Warmbad	(015331) 2140/50/60
Sales & Customer Service – North-Eastern Transvaal	
Nelspruit	(01311) 55-9000
Customer Service offices:	
Lydenburg	(01323) 2314
Nelspruit	(01311) 55-9000
Phalaborwa	(01524) 5888
Pietersburg	(01521) 93-2703
Sales & Customer Service – Eastern Transvaal	
Witbank	(0135) 67-9111
Customer Service offices:	
Bethal	(01361) 7-1200
Groblersdal	(01202) 4039/4041
Middelburg	(0132) 46-1631/2/3/4/5/6/7



- 765 kV lines
- 533 kV lines
- 400 kV lines
- 220 kV lines and 275 kV lines
- Lines under construction

ESKOM: Distributor – Johannesburg

Map 3



Distributor – Johannesburg

Sales & Customer Service – East Rand

Johannesburg	(011) 711-9111
Customer Service offices:	
Benoni	(011) 422-3900
Germiston	(011) 871-3481
Midrand	(011) 315-2060

Sales & Customer Service – South Vaal

Johannesburg	(011) 711-9111
Customer Service offices:	
Nigel	(011) 814-1212
Vanderbijlpark	(016) 81-4030/1/2/3
Vereeniging	(016) 21-3410

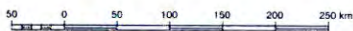
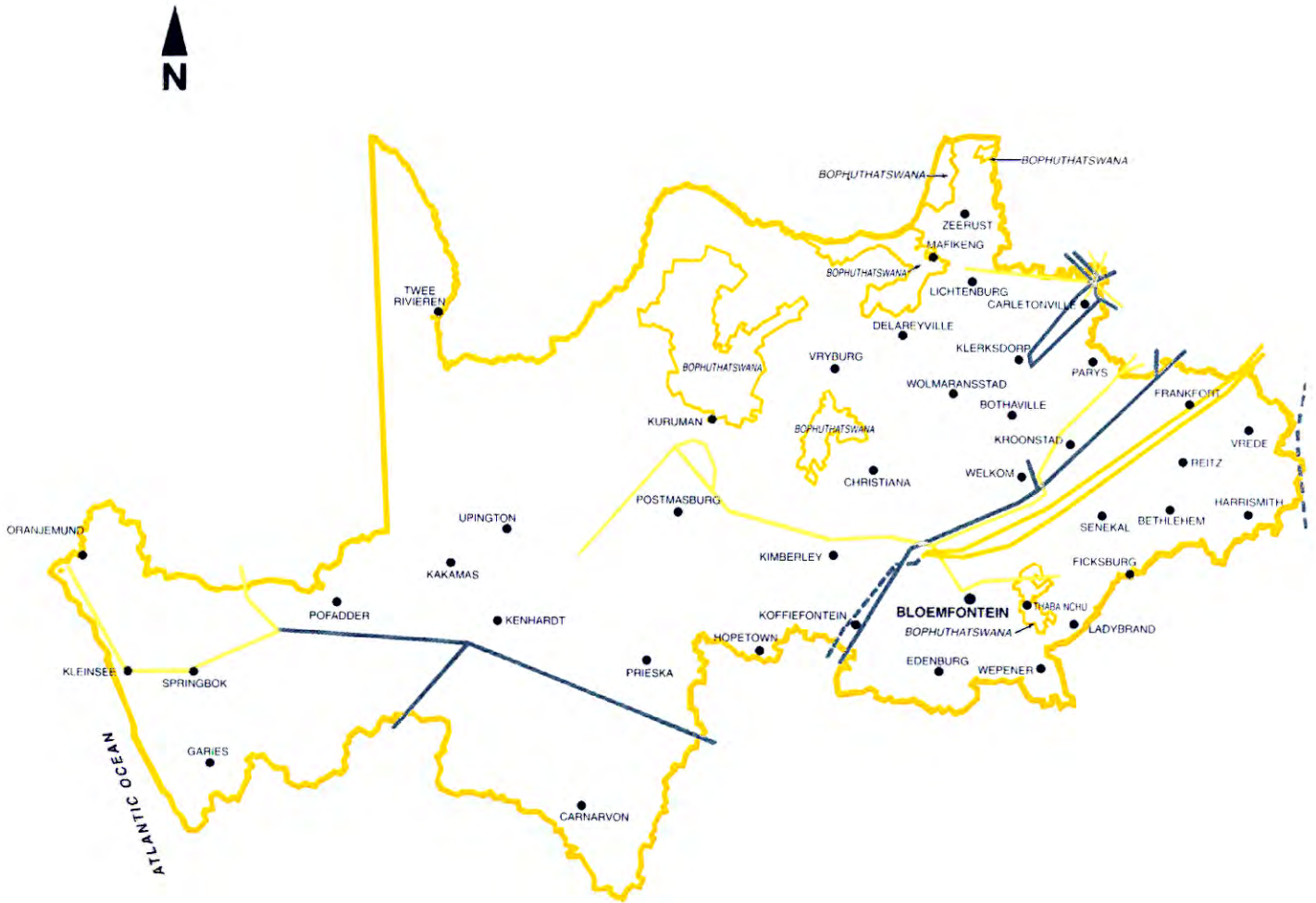
Sales & Customer Service – West Rand

Johannesburg	(011) 711-9111
Customer Service offices:	
Randfontein	(011) 693-5348/9
Sandton	(011) 803-5464
Soweto	(011) 494-4320

- 533 kV lines
- 400 kV lines
- 220 kV lines and 275 kV lines

ESKOM: Distributor – Bloemfontein

Map 4



- 765 kV lines
- 400 kV lines
- 220 kV lines and 275 kV lines
- Lines under construction

Distributor – Bloemfontein

Sales & Customer Service – Orange Free State

Bloemfontein	(051) 30-2300
Customer Service offices:	
Bethlehem	(058) 303-5133
Harrismith	(01436) 3-1788/98
Kroonstad	(01411) 3-2757
Parys	(01601) 2341/2
Senekal	(014351) 3801

Sales & Customer Service – Northern Cape

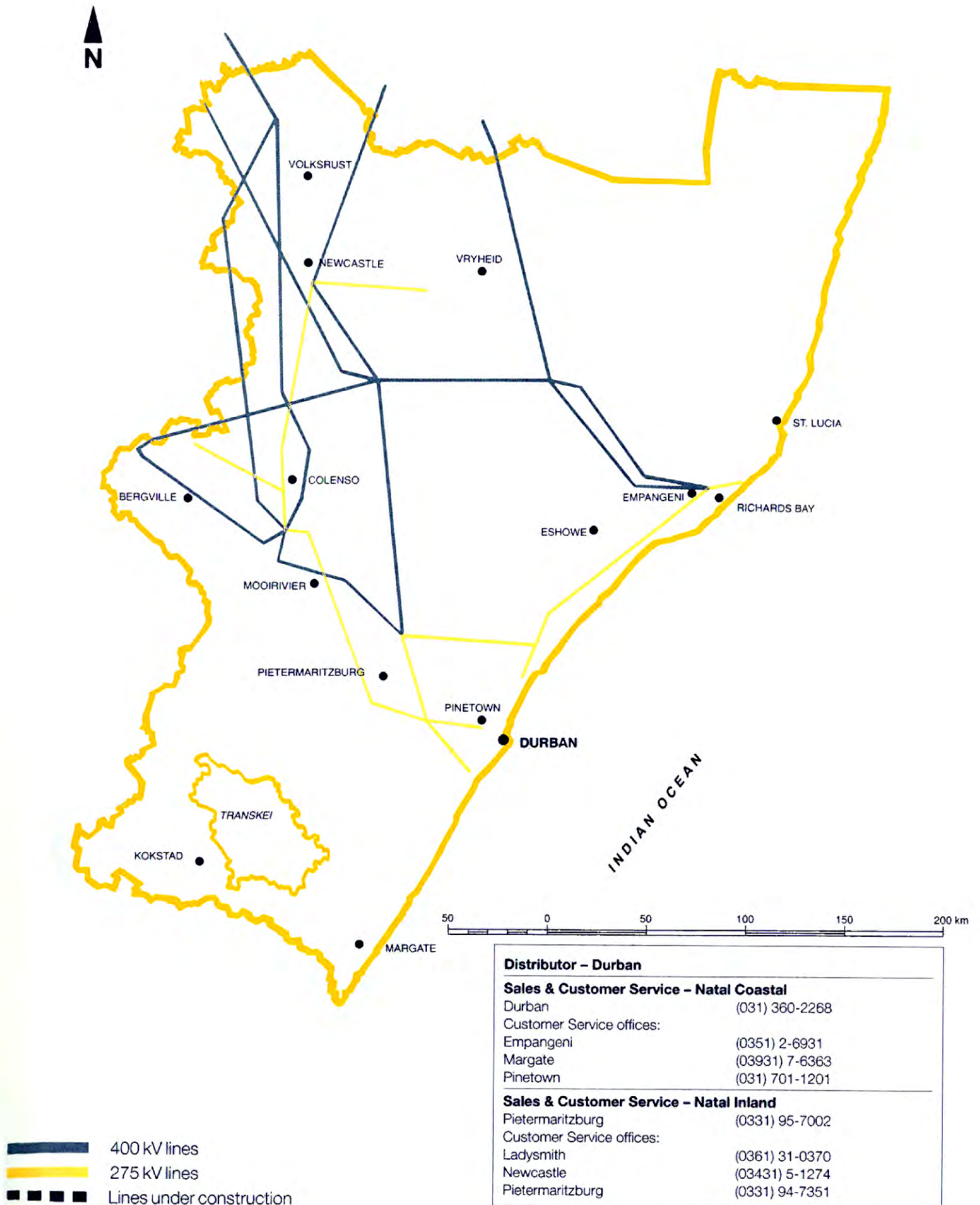
Kimberley	(0531) 80-5911
Customer Service offices:	
Kimberley	(0531) 80-5876
Kuruman	(05373) 2-2151
Upington	(054) 2-6941
Vryburg	(01451) 5741

Sales & Customer Service – Goldfields

Klerksdorp	(018) 464-6666
Customer Service offices:	
Bothaville	(01414) 2118
Carletonville	(01491) 7-2064/5
Delareyville	(01453) 48-1617
Lichtenburg	(01441) 2-6284/5/6/7
Welkom	(0171) 392-2962
Wolmaransstad	(01811) 2-2515

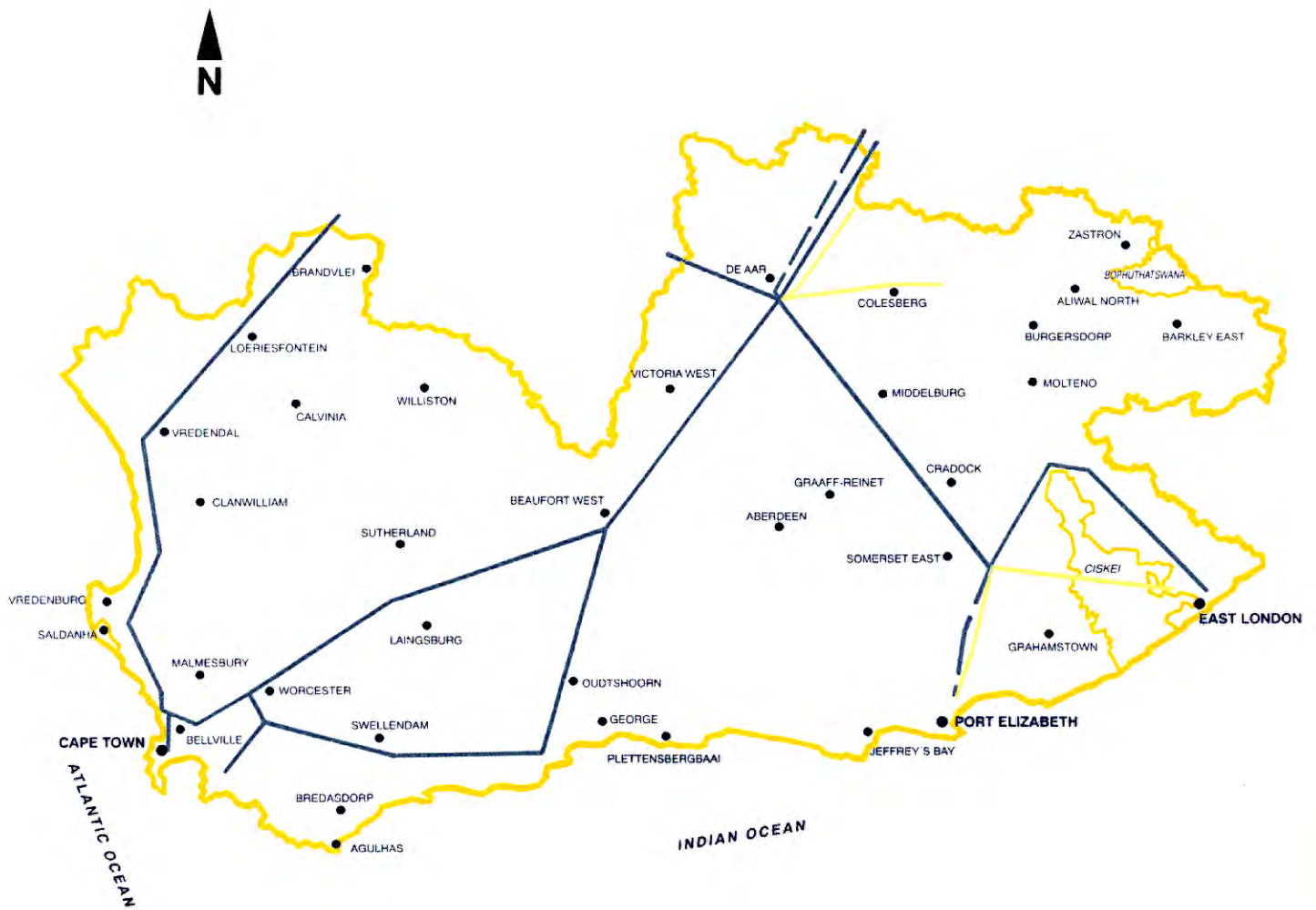
ESKOM: Distributor – Durban

Map 5



ESKOM: Distributor – Cape Town

Map 6



Distributor – Cape Town	
Sales & Customer Service – West	
Bellville	(021) 915-9111
Customer Service offices:	
Grabouw	(024) 59-4271
Malmesbury	(0224) 7-1530
Vredenburg	(02281) 3-1154
Bellville	(021) 915-9111
Sales & Customer Service – East	
East London	(0431) 39-2111
Customer Service offices:	
Colesberg	(05852) 363
Grahamstown	(0461) 2-7031
Port Elizabeth	(041) 34-3424
Sales & Customer Service – South	
George	(0441) 76-2911
Customer Service offices:	
George	(0441) 76-2911
Oudtshoorn	(044) 29-1667
Worcester	(0231) 2-2394

SOUTH AFRICA: Motive power employed – electricity

Table 20

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1989)

Ownership and group	Nuclear and steam turbines MW	Gas turbines MW	Steam recipro- cating engines MW	Diesel and heavy oil engines MW	Petrol, paraffin and other light oil engines MW	Water turbines and water wheels MW	Total MW
Public supply undertakings							
Electricity generating stations							
Private undertakings							
and Eskom	31 811,0	365,6	—	38,2	—	1 940,0	34 154,8
Local authorities	1 944,0	342,5	—	3,0	—	185,0	2 474,5
Electricity distributing stations							
Local authorities	0,0	—	—	1,9	—	0,6	2,5
Total undertakings, MW	33 755,0	708,1	0,0	43,1	0,0	2 125,6	36 631,8
Self-producers, MW	1 062,0	—	1,2	10,0	1,7	2,7	1 077,6
Total all undertakings, MW	34 817,0	708,1	1,2	53,1	1,7	2 128,3	37 709,4

SOUTH AFRICA: Electricity available for consumption

Table 21

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1989)

Undertaking	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
	GWh	GWh	GWh	GWh	GWh	GWh
Public supply undertakings						
Private undertakings and Eskom	151 559	344	10 608	7 044	4 283	129 968
Local authorities	4 471	—	556	2 686	106	1 123
Total, GWh	156 030	344	11 164	9 730	4 389	131 091
Self-producers						
Mining ^a	75	—	6	270	—	-201
Manufacturing	7 327	—	1 804	145	—	5 378
Transnet	—	—	—	74	—	-74
Other	44	—	0	1	—	43
Total, GWh	7 446	—	1 810	490	0	5 146
Total undertakings	163 476	344	12 974	10 220	4 389	136 237

^a 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 22

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1989)

Month	1983	1984	1985	1986	1987	1988	1989
Actual data	GWh	GWh	GWh	GWh	GWh	GWh	GWh
January	8 745	9 326	9 801	10 371	10 618	11 163	11 893
February	8 217	9 131	9 443	9 703	10 093	10 891	10 946
March	9 103	9 901	10 417	10 861	11 213	11 330	11 773
April	8 871	9 491	10 015	10 379	10 684	11 073	11 881
May	9 546	10 415	10 801	11 053	11 345	11 058	12 259
June	9 661	10 686	11 053	11 432	11 763	12 271	12 649
July	10 271	11 139	11 547	11 836	12 409	12 914	13 363
August	10 202	10 794	11 230	11 621	11 945	12 543	12 861
September	9 489	10 167	10 525	10 772	11 211	11 917	12 316
October	9 772	10 164	10 736	11 106	11 410	12 278	12 508
November	9 382	9 984	10 521	11 753	11 204	11 772	11 930
December	9 107	9 637	10 118	10 168	10 856	11 592	11 783
Annual data	112 366	120 835	126 207	130 055	134 751	140 802	146 162
Seasonal variation eliminated							
January	9 172	9 791	10 295	10 866	10 965	11 473	12 176
February	9 129	10 121	10 460	10 751	11 131	12 029	12 114
March	9 110	9 920	10 439	10 848	11 265	11 423	11 909
April	9 251	9 854	10 397	10 780	11 096	11 479	12 294
May	9 181	10 043	10 422	10 710	11 132	10 884	12 074
June	9 179	10 137	10 484	10 820	11 211	11 737	12 123
July	9 309	10 107	10 482	10 785	11 328	11 811	12 238
August	9 500	10 074	10 485	10 881	11 256	11 816	12 085
September	9 468	10 177	10 543	10 836	11 275	11 973	12 385
October	9 671	10 035	10 601	10 963	11 227	12 038	12 234
November	9 650	10 257	10 803	10 984	11 429	12 017	12 202
December	9 741	10 309	10 821	10 852	11 398	12 132	12 314

Estimates obtained from a monthly sample survey.

SOUTH AFRICA: Production and consumption of electricity

Table 23

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1989)

Production						Electricity supplied for consumption							
Census year	Gross production of electricity GWh	Purchases outside Republic GWh	Used in power stations and lost in distribution GWh	Sales outside Republic GWh	Total number of units consumed in South Africa GWh	In mining GWh	Transnet			For domestic purposes GWh	Manufacturing, commerce, etc. ^a GWh	For other purposes ^b GWh	Consumption per capita kWh
							Traction GWh	Other purposes GWh					
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	1441	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	
1989	163 476	344	23 194	4 389	136 238	33 909		4 915	20 780	68 181	8 452	4 512	

^a Private businesses

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

SOUTH AFRICA: Consumption of electricity

Table 24

Source: Central Statistical Service Census of Electricity, Gas and Steam. Report No. 41-01-01 (1989)

Units consumed by	GWh
Mining	
Gold and uranium mines	24 684
Coal mines	2 662
Other mines	6 564
Traction, station lighting, etc.	4 915
Own local authority departments	
Water departments	455
Public lighting (street, etc)	748
Other purposes	856
Rand Water Board and regional water supply commissions	1 680
Commercial and construction	13 823
Manufacturing	54 358
Domestic use	20 780
Other	4 713
Total	136 238

SOUTH AFRICA: Municipal statistics

Table 25

Sources: Municipalities, CSIR and Eskom

Town	Financial year ended	Number of customers					Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other	Total	Total houses	Those not electrified	Those electrified
Transvaal									
Acasia	6/90	4 434	217	–	24	4 675	4 435	–	4 435
Acornhoek	1991	–	–	–	–	–	–	–	
Agisanang	1991	18	–	–	–	18	1 164	1 146	18
Alberton	6/90	20 639	622	396	1	21 658	18 281	60	18 221
Alexandra	6/90	18 787	–	–	–	18 787	44 000	25 213	18 787
Allemansdrift	6/90	19	1	–	–	20	–	–	–
Amalia	6/88	60	1	–	–	61	62	2	60
Amersfoort	6/90	280	51	–	1	332	423	125	298
Amsterdam	6/91	120	55	5	–	180	–	–	–
Atteridgeville	6/90	10 800	250	–	–	11 050	11 321	453	10 868
Azaadville	1991	–	–	–	–	–	–	–	–
Azalea	1991	121	–	–	–	121	192	71	121
Badplaas	6/91	63	13	–	5	81	–	–	–
Balfour	6/90	693	114	3	31	841	577	–	577
Barberton	6/91	1 466	242	27	78	1 813	1 466	–	1 466
Bedfordview	6/90	5 271	117	22	–	5 410	5 271	–	5 271
Beit Bridge	1991	–	–	–	–	–	–	–	–
Bekkersdal	1991	975	–	–	–	975	1 431	456	975
BelaBela	1991	133	–	–	–	133	1 021	888	133
Belfast	6/91	187	102	4	8	301	504	–	504
Benoni	6/90	22 841	1 836	420	–	25 097	22 578	–	22 578
Bethal	6/91	2 003	556	25	–	2 584	1 845	–	1 845
Bethanie (Boph.)	1991	–	–	–	–	–	–	–	–
Bloemhof	1991	539	122	9	–	670	441	–	441
Bochum	1991	–	–	–	–	–	–	–	–
Boikhutso	1991	322	–	–	–	322	1 295	973	322
Boipatong	1991	2 004	–	–	–	2 004	2 004	–	2 004
Boitumelong	1991	82	–	–	–	82	987	905	82
Boksburg	6/90	22 986	974	188	1	24 149	22 986	–	22 986
Bophelong	1991	1 406	–	–	–	1 406	1 406	–	1 406
Borolelo	1991	5	–	–	–	5	260	255	5
Botleg	1991	484	14	–	–	498	1 009	654	355
Brakpan	6/89	12 742	1 442	385	730	15 299	12 138	2	12 136
Breyten	6/91	375	50	1	–	426	408	–	408
Brits	6/90	3 006	522	112	231	3 871	3 255	474	2 781
Bronkhorstspuit	6/91	1 318	186	37	60	1 601	1 475	–	1 475
Carletonville	6/90	6 178	764	62	73	7 077	11 915	–	11 915
Caro Park	1991	32	–	–	–	32	45	13	32
Carolina	6/91	753	85	15	–	853	629	35	594
Caron	1991	73	–	–	–	73	73	–	73
Cedrela	1991	24	–	–	–	24	24	–	24
Charl Cilliers	6/91	20	10	–	–	30	–	–	–
Chrissiesmeer	6/91	49	11	–	–	60	–	–	–
Christiana	6/91	974	140	2	45	1 161	1 057	83	974
Clewer	1991	–	–	–	–	–	–	–	–
Coligny	6/90	466	67	–	8	541	711	12	699
Coverdale	1991	97	–	–	–	97	187	90	97
Davel	6/91	25	11	–	–	36	42	2	40
Daveyton	1991	14 020	–	–	–	14 020	17 072	–	17 072
Delareyville	6/90	503	138	12	67	720	503	–	503
Delmas	6/90	1 068	208	25	75	1 376	1 072	4	1 068
Dendron	6/91	78	–	–	5	83	81	3	78
Deneysville	1991	403	30	1	10	444	334	1	333
Devon	6/91	65	29	–	–	94	319	1	318
Diepmeadow	1991	29 123	–	–	–	29 123	29 123	–	29 123
Dobsonville	1991	5 458	–	–	–	5 458	5 458	–	5 458
Dominionville	1991	–	–	–	–	–	–	–	–
Duduza	1991	3 100	720	–	–	3 820	4 504	3 642	862
Duiwelskloof	1991	3	–	–	–	3	379	376	3
Dullstroom	6/91	104	102	4	8	218	174	76	98

^a Source: CSIR

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	8,50	57,3	8,0	18 406
–	–	–	18 334	18 334	3,44	60,8	–	–
199	–	–	–	199	0,06	36,0	–	–
224 351	17 345	464 305	39 368	745 369	156,05	50,0	4,4	224 270
48 105	–	–	–	48 105	12,82	42,8	–	300 000
63	3	–	–	66	0,02	36,7	–	14 926
–	–	–	–	–	–	–	–	1 050
2 210	2 310	–	3 960	8 480	–	–	–	4 185
1 830	1 170	1 840	–	4 840	1,20	46,0	–	4 200
90 000	10 000	–	–	100 000	33,00	45,0	–	150 000
–	–	–	28 936	28 936	5,45	60,7	–	–
–	–	–	–	–	–	–	–	–
525	125	–	48	698	1,45	77,6	–	235
5 161	7 501	4 051	1 366	18 079	4,63	53,0	–	30 860
13 740	20 120	7 725	7 540	49 125	9,45	59,4	13,7	13 480
101 554	5 572	82 462	–	189 588	35,74	68,0	–	30 000
–	–	–	961	961	0,18	62,7	–	–
3 166	–	–	7 895	11 061	3,10	40,7	–	56 000
–	–	–	–	–	–	–	–	13 000
5 590	2 129	399	5 206	13 324	2,88	74,6	–	3 741
248 508	66 614	358 801	134 435	808 358	190,42	53,0	4,2	267 813
3 290	1 410	1 175	–	5 876	14,70	64,0	–	53 650
–	–	–	2 171	2 171	0,61	40,5	–	–
–	–	–	16 059	16 059	3,04	60,2	4,7	9 790
–	–	–	3 383	3 383	0,64	60,4	–	124 000
–	–	–	–	–	–	–	–	–
11 174	–	–	–	11 174	3,52	36,2	–	–
–	–	–	–	–	–	–	–	7 000
266 804	62 786	469 116	20 119	818 825	185,12	54,0	6,2	244 338
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	1 200
–	–	–	–	–	–	–	–	–
109 770	28 400	372 110	9 720	520 000	94,49	61,0	9,6	110 364
2 390	590	–	–	2 979	1,25	23,6	–	800
27 933	17 465	128 957	14 645	189 000	47,00	55,0	2,6	33 366
16 000	12 000	75 580	4 376	107 956	24,00	59,1	4,5	7 800
66 891	41 680	3 358	2 998	114 927	31,10	62,2	7,8	45 000
–	–	–	–	–	–	–	–	–
5 719	2 859	4 654	422	13 654	2,88	74,6	–	7 117
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
235	172	–	–	407	0,20	12,0	–	84
490	119	–	–	609	0,15	67,7	–	112
14 116	1 405	1 162	313	16 996	4,32	48,0	8,7	2 987
–	–	–	4 603	4 603	1,03	51,1	–	–
2 232	1 330	–	327	3 889	1,93	70,0	11,0	7 466
–	–	–	–	–	–	–	–	–
211	212	–	–	423	0,40	14,0	–	174
7 037	–	–	–	7 037	–	89,0	–	121 255
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	9,9	32 000
–	–	–	2 083	2 083	–	–	–	360
3 906	1 818	942	269	6 935	1,29	61,1	7,3	2 200
922	–	–	–	922	0,23	45,6	–	–
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
–	–	–	1 342	1 342	0,31	49,7	–	–
5 593	2 038	–	–	7 631	1,58	55,2	–	65 000
–	–	–	–	–	–	–	–	–
1 263	72	–	28 332	28 332	5,94	54,4	–	–
–	–	–	30	1 365	0,29	75,9	–	365

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers					Formal housings units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other	Total	Total houses	Those not electrified	Those electrified
<i>Transvaal continued</i>									
Edenvale	6/90	9 721	425	299	299	10 744	9 721	–	9 721
Eersterust	6/90	4 371	70	–	–	4 441	–	–	–
Elangala	6/91	3 600	20	–	–	3 620	–	–	–
Ellisras	6/90	3 313	370	–	100	3 783	3 423	–	3 423
Elukwatini	1991	–	–	–	–	–	–	–	–
Embalenhle	6/91	4 791	–	–	–	4 791	4 970	179	4 791
Emgwenya	6/91	2	13	–	9	24	693	15	678
Emjindini	6/91	900	–	–	–	900	1 300	400	900
Emthonjeni	6/91	112	8	–	1	121	580	478	102
Emzinoni	6/91	1 580	–	–	–	1 580	6 752	5 172	1 580
Ennerdale	1991	2 300	–	–	–	2 300	–	–	–
Erab Ratanda	6/89	2 800	–	–	–	2 800	–	–	–
Ermelo	6/91	3 397	407	5	164	3 973	3 578	–	3 578
Esizameleeni	1991	49	–	–	–	49	350	301	49
Ethandakukhanya	6/90	264	30	–	–	294	1 728	1 514	214
Evander	6/91	2 101	235	62	–	2 398	2 444	184	2 260
Evaton	1991	2 249	–	–	–	2 249	13 000	10 751	2 249
Ezamokuhle	1991	39	–	–	–	39	535	496	39
Fochville	6/90	2 632	261	–	–	2 893	2 258	–	2 258
Geluksdal	1991	1 060	–	–	–	1 060	1 064	4	1 060
Germiston	6/89	28 401	750	–	–	29 151	28 401	–	28 401
Giyani	1991	–	–	–	–	–	–	–	–
Graskop	1991	227	45	–	–	272	326	99	227
Greenspark	1991	6	–	–	–	6	86	80	6
Greylingstad	1991	50	–	–	–	50	–	–	–
Groblersdal	6/91	876	245	16	–	1 137	814	–	814
Grootestryd	1991	–	–	–	–	–	–	–	–
Hartbeespoort	6/88	1 672	–	–	–	1 672	1 636	–	1 636
Hammanskraal	1991	–	–	–	–	–	–	–	–
Hartbeesfontein	1991	458	83	10	–	551	406	–	406
Hectorspruit	1991	–	–	–	–	–	–	–	–
Heidelberg	1991	3 032	306	42	138	3 518	2 987	9	2 978
Hendrina	6/91	388	90	1	4	483	350	146	204
Hillsview	1991	28	–	–	–	28	45	17	28
Hoedspruit	1991	–	–	–	–	–	–	–	–
Ikageng	1991	262	–	–	–	262	5 033	4 771	262
Impumelelo	1991	280	–	–	–	280	280	–	280
Ipelegeng	1991	60	2	–	–	62	1 270	754	516
Ironsyde	6/89	175	–	–	–	175	–	–	–
Jagdlus	1991	–	–	–	–	–	–	–	–
Jameson Park	1991	–	–	–	–	–	–	–	–
Johannesburg	6/89	189 342	7 610	4 403	–	201 355	193 695	4 353	189 342
Jouberton	1991	2 942	–	–	–	2 942	6 890	3 948	2 942
Kabokweni	1991	–	–	–	–	–	–	–	–
Kagiso	1991	1 548	–	–	–	1 548	11 638	10 090	1 548
Kameeldrift	1991	–	–	–	–	–	–	–	–
Kanana	1991	818	–	–	–	818	4 030	3 212	818
Kanyamazane	1991	–	–	–	–	–	–	–	–
Katlehong	1991	16 568	–	–	–	16 568	23 601	7 033	16 568
Kempton Park	6/90	24 223	1 081	796	–	26 100	27 601	91	27 510
Kgakala	1991	5	–	–	–	5	400	395	5
Khuma	1991	378	–	–	–	378	2 289	1 911	378
Khutsong	1991	125	–	–	–	125	439	314	125
Kinross	6/91	1 306	162	6	–	1 474	375	–	375
Klerksdorp	6/90	13 524	1 308	91	51	14 974	13 083	–	13 083
Kokosi	1991	50	–	–	–	50	320	270	50
Komatipoort	1991	213	–	–	–	213	227	14	213
Kosmos	6/90	300	–	–	–	300	–	–	–
Koster	6/90	674	27	7	–	708	580	–	580
Kriel	6/91	2 731	130	–	–	2 861	–	–	–

^a Source: CSIR

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				
127 730	11 979	80 335	6 298	226 342	47,00	64,0	5,9	51 200
33 156	2 522	–	–	35 678	11,09	36,7	–	24 700
15 400	474	–	–	15 874	–	–	–	–
22 395	14 791	2 979	2 135	42 300	9,95	59,0	5,6	15 000
–	–	–	9 999	9 999	1,95	58,6	–	–
34 338	8 584	–	–	42 922	20,00	42,0	–	125 000
3	12	–	4	19	0,20	15,3	–	3 136
5 415	–	–	–	5 415	–	–	–	16 000
336	14	–	–	350	0,95	59,4	–	4 900
2 160	240	–	–	2 400	3,60	34,0	–	53 374
4 972	–	–	–	4 972	–	–	–	68 000
9 430	–	–	–	9 430	–	–	–	33 000
39 634	–	–	38 555	78 189	19,80	50,0	9,6	17 500
–	–	–	–	–	–	–	–	2 000
–	–	–	–	–	–	–	–	19 688
22 513	5 822	10 480	–	38 815	12,00	74,0	6,0	14 123
910	–	–	–	910	3,34	37,3	–	82 000
–	–	–	–	–	–	–	–	3 500
23 042	11 627	–	1 883	36 552	6,20	66,2	9,9	25 000
–	–	–	–	–	–	–	–	–
340 537	77 174	664 877	31 993	1 114 581	250,43	54,0	2,6	132 978
–	–	–	97 421	97 421	17,16	64,8	–	267 000
3 223	3 040	–	–	6 263	1,22	58,4	3,2	15 750
–	–	–	–	–	–	–	–	–
–	–	–	1 841	1 841	0,37	56,9	–	–
–	–	–	32 960	32 960	5,00	55,4	8,3	3 340
–	–	–	694	694	0,20	40,6	–	–
23 744	–	–	–	23 744	7,05	48,0	11,6	9 454
–	–	–	2 893	2 893	0,61	54,0	–	–
2 836	1 960	1 137	579	6 512	1,40	53,1	6,0	2 000
–	–	–	2 407	2 407	0,57	47,9	–	–
30 918	15 594	49 374	14 280	110 166	20,37	61,7	6,3	34 298
4 901	2 282	–	423	7 606	1,74	70,3	–	1 200
–	–	–	–	–	–	–	–	–
–	–	–	10 120	10 120	2,06	56,0	–	–
–	–	–	24 729	24 729	6,40	44,1	–	–
634	–	–	–	634	3,50	38,0	–	–
182	65	–	–	248	–	–	–	7 572
2 183	–	–	–	2 183	–	–	–	–
–	–	–	2 468	2 468	0,79	35,7	–	–
–	–	–	1 673	1 673	0,39	49,3	–	–
1 945 626	201 500	3 531 578	145 624	5 824 328	556,23	80,0	3,7	977 000
3 797	–	–	–	3 797	–	–	–	–
–	–	–	20 134	20 134	3,97	57,9	–	–
12 561	–	–	38 618	51 179	14,70	39,7	–	80 100
–	–	–	93 370	93 370	17,46	61,1	–	–
11 421	–	–	–	11 421	–	–	–	–
–	–	–	44 807	44 807	9,04	56,6	–	–
129 154	–	–	38 821	167 975	44,75	42,8	5,0	470 000
275 214	63 511	766 366	22 229	1 127 320	201,00	70,0	3,2	372 932
–	–	–	–	–	–	–	–	4 000
–	–	–	–	–	–	–	–	–
11 003	–	–	–	11 003	2,75	45,7	–	–
10 903	3 001	3 499	–	17 403	4,50	55,0	7,0	4 750
137 005	39 318	70 826	39 044	286 193	57,80	65,8	3,3	161 819
–	–	–	–	–	–	–	–	–
–	–	–	7 161	7 161	1,40	58,3	–	–
2 443	–	–	–	2 443	–	–	–	–
3 174	3 828	–	–	7 002	4,20	60,0	13,6	6 314
38 890	8 537	–	–	47 427	20,00	61,0	11,2	11 566

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers					Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other	Total	Total houses	Those not electrified	Those electrified
<i>Transvaal continued</i>									
Krugersdorp	6/89	15 115	1 354	619	823	17 911	15 778	48	15 730
KwaChibikhulu	6/90	75	2	—	—	77	—	—	—
KwaDela	6/90	20	—	—	—	20	406	386	20
Kwaggafontein	6/90	360	24	16	—	400	—	—	—
KwaGuqa	6/91	6 572	96	—	—	6 668	8 375	2 981	5 394
KwaMhlanga	6/90	740	25	9	1	775	—	—	—
KwaThandeka	6/90	3	—	—	—	3	766	765	1
KwaThema	1991	10 245	375	—	—	10 620	12 854	2 609	10 245
KwaZamokuhle	6/91	538	8	—	6	552	594	440	154
KwaZanele	1991	344	10	—	—	354	1 038	694	344
Laudium/Claudius	6/90	3 422	58	—	—	3 480	—	—	—
Leandra	6/91	366	101	5	—	472	538	132	406
Lebaleng	1991	35	—	—	—	35	560	525	35
Lebohang	6/91	300	3	—	—	303	919	889	30
Lebowakgomo	1991	—	—	—	—	—	—	—	—
Leeudoringstad	6/90	529	42	16	—	587	476	—	476
Leeufontein	6/90	6	1	—	—	61	—	—	—
Lekoa	1991	—	—	—	—	—	—	—	—
Lenasia	1991	1 540	—	—	—	1 540	—	—	—
Lethabile	1991	—	—	—	—	—	—	—	—
Lichtenburg	6/90	3 302	330	131	140	3 903	2 969	73	2 896
Louis Trichardt	1991	2 435	416	114	375	3 340	1 868	—	1 868
Luipaardsvlei	1991	—	—	—	—	—	—	—	—
Lydenburg	6/91	3 362	363	—	33	3 758	3 362	—	3 362
Machadodorp	6/91	342	69	2	1	414	397	—	397
Mahweling	1991	—	—	—	—	—	—	—	—
Makwassie	1991	256	63	1	1	321	250	—	250
Mamelodi	6/90	18 542	310	—	—	18 852	18 542	—	18 542
Marble Hall	6/91	636	187	16	28	867	618	—	618
Mashishing	6/91	342	5	—	8	355	1 011	712	299
Matoks	1991	—	—	—	—	—	—	—	—
Matsulu	1991	—	—	—	—	—	—	—	—
Mayflower	6/90	—	—	—	—	—	—	—	—
Messina	6/89	660	156	12	—	828	662	117	545
Meyerton	1991	3 900	200	100	12	4 212	3 052	10	3 042
Mhluzi	6/91	3 408	36	2	65	3 511	2 704	978	1 726
Middelburg	6/91	6 296	510	134	432	7 372	7 424	527	6 897
Midrand	6/90	2 853	137	92	241	3 323	5 416	43	5 373
Migdol	1991	—	—	—	—	—	—	—	—
Modderfontein	6/90	550	11	3	3	567	594	12	582
Moganyaka	6/90	789	42	—	8	839	—	—	—
Mohlakeng	1991	4 146	—	—	—	4 146	6 000	1 854	4 146
Mookgophong	1991	19	—	—	—	19	396	377	19
Moosa Park	1991	21	—	—	—	21	27	6	21
Morgenon	6/91	129	35	2	—	166	141	—	141
Motetema	6/90	679	44	—	7	730	—	—	—
Munsieville	1991	5	—	—	—	5	988	983	5
Naboomspruit	1991	1 025	168	2	—	1 195	860	318	542
Namakgale	1991	—	—	—	—	—	—	—	—
Nancefield (Messina)	1991	316	—	—	—	316	757	441	316
Nelspruit	1991	5 626	802	183	—	6 611	4 492	—	4 492
Nelsville	1991	106	—	—	—	106	168	62	106
Nigel	1991	5 768	477	135	51	6 431	5 815	47	5 768
Nylstroom	6/90	1 242	159	71	59	1 531	1 307	192	1 115
Ogies	6/91	184	53	8	—	245	212	8	204
Ohinimuri	1991	—	—	—	—	—	—	—	—
Orange Farm	1991	356	—	—	—	356	3 750	3 394	356
Oranjeville	1991	163	21	—	—	184	123	—	123
Orkney	6/90	3 556	299	—	246	4 101	3 556	—	3 556
Ottosdal	1991	336	—	—	—	336	348	12	336

^a Source: CSIR

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				
152 255	48 321	218 849	44 725	464 150	109,12	49,0	8,7	138 124
—	—	—	—	—	—	—	—	250
200	100	—	—	300	0,07	60,0	—	30 000
1 876	656	531	663	3 726	0,57	58,6	—	72 556
39 537	1 285	—	—	40 822	6,38	38,5	—	103 000
3 182	842	515	14	4 553	1,00	38,1	—	6 000
—	—	—	—	—	—	—	—	1 450
61 470	—	—	23 738	85 208	23,23	37,0	6,0	130 000
4 091	36	—	4	4 131	0,55	57,5	—	9 600
3 656	—	—	—	3 656	1,01	41,5	—	14 112
53 047	4 837	—	—	57 884	—	—	—	22 300
4 249	2 767	143	—	7 159	3,40	13,0	—	7 236
—	—	—	—	—	—	—	—	—
1 065	118	—	—	1 183	0,60	50,0	—	40 000
—	—	—	76 584	76 584	15,31	57,1	—	—
—	—	—	7 547	7 547	3,00	55,0	5,5	5 500
81	2	—	—	83	0,04	56,7	—	7 832
—	—	—	182 869	182 869	44,74	46,7	—	—
—	—	—	105 518	105 518	20,54	58,6	—	13 000
—	—	—	7 947	7 947	1,86	48,8	—	—
25 460	5 520	20 810	6 222	58 012	14,72	61,7	6,3	21 104
19 573	11 940	22 136	58 993	112 642	22,17	58,0	8,6	17 207
—	—	—	1 072	1 072	0,27	44,6	—	—
10 630	18 306	—	2 844	31 780	5,53	57,0	14,8	29 100
3 772	389	23	72	4 256	0,90	69,8	8,5	1 108
—	—	—	16 776	16 776	4,09	46,9	—	—
1 340	—	—	2 464	3 804	0,91	47,8	8,0	4 361
200 000	4 000	—	—	204 000	53,00	35,5	20,0	275 000
6 466	5 383	9 867	1 173	22 889	5,80	53,0	10,1	2 900
—	—	—	4 990	4 990	—	—	—	21 189
—	—	—	2 760	2 760	0,48	65,4	—	—
—	—	—	7 331	7 331	1,36	61,3	—	—
—	—	—	2 690	2 690	0,93	56,2	—	—
5 632	5 398	703	—	11 733	4,10	59,3	15,0	15 006
38 029	11 929	70 037	—	119 995	19,58	70,0	6,6	14 200
2 534	26	21	50	2 631	7,50	56,6	—	80 000
105 453	17 246	96 764	16 522	235 985	43,21	88,0	12,3	79 911
45 600	6 080	237 991	5 200	294 871	52,74	62,0	3,1	30 824
—	—	—	945	945	0,31	34,8	—	—
3 715	249	520 719	928	525 611	64,00	88,0	4,0	8 155
729	101	—	8	838	0,20	43,7	—	4 195
20 379	—	—	7 472	27 851	6,92	62,4	—	69 000
—	—	—	752	752	—	—	—	4 323
—	—	—	—	—	—	—	—	—
1 324	758	57	—	2 139	3,00	11,0	—	4 457
3 695	623	—	134	4 452	0,97	52,6	—	3 796
—	—	—	—	—	—	—	—	—
7 167	18 133	534	—	25 834	4,52	65,2	9,8	6 515
—	—	—	26 674	26 674	6,26	48,6	—	56 000
—	—	—	—	—	—	—	—	—
82 791	48 173	21 603	—	152 567	32,28	54,2	9,7	60 100
—	—	—	—	—	—	—	—	—
52 265	15 436	118 330	12 115	198 146	34,20	61,4	5,4	91 880
11 356	12 838	—	2 681	26 875	6,67	65,0	9,7	12 240
2 565	1 600	1 298	—	5 463	5,91	57,2	19,3	460
—	—	—	337	337	0,12	30,9	—	—
—	—	—	—	—	—	—	—	—
875	385	—	—	1 260	0,24	58,8	13,0	1 086
36 154	11 417	—	776	48 347	12,64	64,0	8,8	44 000
—	—	—	5 160	5 160	1,21	48,8	—	—

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers					Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	and other	Not defined Total	Total houses	Those not electrified	Those electrified
<i>Transvaal continued</i>									
Ottoshoop	1991	29	-	-	-	29	31	2	29
Phagameng	1991	44	-	-	-	44	595	551	44
Phalaborwa	6/90	2 378	193	127	677	3 375	2 873	91	2 782
Phola	6/91	1 708	15	-	-	1 723	2 484	889	1 595
Piet Retief	6/91	1 594	741	21	91	2 447	1 291	30	1 261
Pietersburg	6/91	9 390	2 159	375	68	11 992	9 390	-	9 390
Piva	1991	-	-	-	-	-	-	-	-
Potchefstroom	6/90	10 177	-	-	10 147	20 324	10 177	695	9 482
Potgietersrus	6/90	3 344	538	50	253	4 185	2 742	-	2 742
Pretoria	6/90	132 287	4 351	446	5 337	142 421	132 287	-	132 287
Randburg	6/90	18 754	1 501	245	-	20 500	26 938	88	26 850
Randfontein	1991	10 078	767	154	435	11 434	8 193	78	8 115
Ratanda	1991	1 703	-	-	-	1 703	2 853	1 150	1 703
Rayton	6/90	-	-	-	-	-	-	-	-
Reagile	1991	14	-	-	-	14	970	956	14
Refenggotso	1991	31	-	-	-	31	198	167	31
Refilwe	1991	410	-	-	-	410	485	75	410
Regorogile	1991	69	-	-	-	69	69	-	69
Reigerpark/Delmore	1991	2 493	-	-	-	2 493	2 670	177	2 493
Residensia	6/89	1 150	-	-	-	1 150	-	-	-
Roedtan	1991	-	-	-	-	-	-	-	-
Roodepoort	1991	38 032	64	1 718	135	39 949	38 032	-	38 032
Roosenekal	6/90	450	11	-	5	466	-	-	-
Roshunville	1991	29	-	-	-	29	29	-	29
Rustenburg	6/90	12 173	1 765	26	32	13 996	13 301	1 128	12 173
Sabie	6/89	1 000	200	10	-	1 210	810	110	700
Sakhelwe	6/91	130	1	-	3	134	132	68	64
Sakhile	6/91	1 499	20	-	-	1 519	3 629	2 130	1 499
Salamat	1991	32	-	-	-	32	32	9	23
Sandton	6/90	7 940	40	-	-	7 980	27 031	88	26 943
Sannieshof	6/90	284	132	2	8	426	294	10	284
Schoongezicht	1991	283	-	-	-	283	450	167	283
Schweizer-Reneke	6/90	606	120	11	14	751	647	-	647
Sebokeng	6/89	10 817	-	-	-	10 817	27 111	16 294	10 817
Secunda	6/91	6 833	338	-	-	7 171	7 113	237	6 876
Seshogo	1991	-	-	-	-	-	-	-	-
Sharondale	1991	-	-	-	-	-	-	-	-
Sharpeville	1991	6 766	-	-	-	6 766	6 766	-	6 766
Silendele	6/91	10	-	-	-	10	-	-	-
Silobela	1991	78	-	-	-	78	606	528	78
Sitobela	6/90	669	11	1	-	681	-	-	-
Sivukile	6/91	3	-	-	-	3	219	216	3
Siyabuswa	6/90	617	43	6	4	670	-	-	-
Siyathemba	1991	1 236	-	-	-	1 236	1 236	1 048	188
Siyathuthuka	6/91	489	20	-	14	523	1 081	744	337
Siyazenzela	1991	332	-	-	-	332	332	231	101
Soshanguve/Mobopane	1991	-	-	-	-	-	-	-	-
Soweto	6/89	124 850	150	-	-	125 000	83 520	2 172	81 348
Springs	6/89	15 853	1 673	295	77	17 898	14 619	387	14 232
Standerton	6/91	3 473	676	13	215	4 377	3 626	-	3 626
Stanwest	1991	209	-	-	-	209	209	-	209
Stilfontein	6/90	3 821	-	461	-	4 282	3 811	-	3 811
Swartruggens	6/90	258	50	11	47	366	394	1	393
Tembisa	1991	15 801	199	-	-	16 000	25 200	14 238	10 962
Thabazimbi	6/90	1 203	160	10	98	1 471	1 118	-	1 118
Thistle Grove	1991	386	-	-	-	386	753	367	386
Tigane	1991	43	-	-	-	43	1 511	1 468	43
Tlhabologang	1991	50	-	-	-	50	373	323	50
Toevlug	1991	21	-	-	-	21	40	19	21
Tokoza	1991	4 882	-	-	-	4 882	7 640	2 758	4 882

^a Source: CSIR

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				
-	-	-	-	-	-	-	-	160
-	-	-	-	-	-	-	-	4 500
34 922	12 418	31 679	10 992	90 011	14,50	54,0	8,8	11 275
6 424	-	-	-	6 424	2,24	47,9	9,0	17 902
30 065	5 819	1 800	-	37 684	9,88	40,0	12,1	21 238
105 278	103 845	48 950	20 116	278 189	57,94	64,6	9,0	35 000
-	-	-	15 372	15 372	3,16	55,5	-	-
-	-	-	283 848	283 848	63,47	67,3	3,5	86 299
38 170	12 823	44 334	20 612	115 940	23,84	63,1	14,0	19 675
1 426 274	540 350	2 485 327	946 459	5 398 410	817,00	69,0	4,0	868 500
331 051	51 920	190 952	3 709	577 632	130,00	68,0	9,4	130 000
98 758	27 557	141 327	15 795	283 437	47,49	68,1	7,2	105 022
13 097	-	-	-	13 097	3,75	39,9	-	21 000
5	1	1	-	7	2,20	50,0	-	-
-	-	-	-	-	-	-	-	-
-	-	-	2 730	2 730	0,79	39,3	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
37 770	-	-	-	37 770	-	-	-	-
-	-	-	1 900	1 900	0,33	66,3	-	-
451 005	102 927	258 000	22 600	834 532	148,94	64,0	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	3,9	52 400
13 998	-	-	-	13 998	3,40	53,0	9,0	4 300
163	8	-	2	173	0,57	48,8	-	1 247
2 880	720	-	-	3 600	3,84	36,0	-	75 000
-	-	-	-	-	-	-	-	-
140 159	47 420	-	25	187 604	51,10	56,0	5,0	126 821
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
72 505	25 750	-	-	98 255	26,00	65,0	6,4	36 340
-	-	-	72 808	72 808	15,88	52,4	-	100 000
-	-	-	9 274	9 274	1,77	59,8	-	-
16 571	-	-	-	16 571	4,81	39,3	-	-
-	-	-	194	194	0,60	40,0	-	5 000
-	-	-	-	-	-	-	-	-
84	1	-	-	85	0,03	41,8	-	5 500
85	-	-	-	85	0,05	56,0	-	15 000
9 407	878	1 881	125	12 291	1,93	61,8	-	39 870
-	-	-	-	-	-	-	-	-
526	7	-	4	537	1,50	57,7	-	12 000
-	-	-	-	-	-	-	-	-
-	-	-	117 611	117 611	29,39	45,7	-	146 000
917 115	30 957	-	-	948 072	330,37	33,0	-	1 200 000
164 760	68 857	376 149	22 088	631 854	95,10	62,0	4,7	162 783
102 626	36 314	18 946	-	157 886	32,50	70,0	9,5	49 120
-	-	-	-	-	-	-	-	-
22 428	-	14 167	-	36 595	11,66	69,7	8,9	15 000
1 262	1 086	481	637	3 466	1,42	57,5	25,0	2 427
119 592	-	-	-	119 592	34,56	43,9	10,0	500 000
10 506	4 701	408	6 164	21 779	5,90	63,0	6,5	14 000
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Transvaal continued</i>									
Tonga	1991	–	–	–	–	–	–	–	
Trichardt	6/91	550	345	50	5	950	629	629	
Tsakane	1991	3 262	–	–	–	3 262	14 000	10 738	
Tshing	1991	133	–	–	–	133	680	547	
Tswelelang	1991	53	–	–	–	53	1 081	1 028	
Turloop/Mankweng	1991	–	–	–	–	–	–	–	
Tutuka	6/91	1 500	388	–	–	1 888	–	–	
Tweefontein	6/90	142	4	2	2	150	–	–	
Tzaneen	6/91	1 898	516	106	102	2 622	1 898	1 898	
Vaalbank	6/90	272	11	2	2	287	–	–	
Vaalwater	1991	–	–	–	–	–	–	–	
Valencia Park	1991	161	–	–	–	161	161	161	
Vanderbijlpark	6/89	17 603	1 170	156	43	18 972	17 539	17 481	
Ventersdorp	6/90	1 001	40	51	–	1 092	890	393	
Venterspos	1991	–	–	–	–	–	–	–	
Vereeniging	6/89	19 100	1 913	170	390	21 573	17 620	465	
Verwoerdburg	6/90	16 768	286	71	714	17 839	19 036	–	
Volksrust	6/91	1 639	227	8	–	1 874	1 592	20	
Vosloorus	1991	14 790	60	5	45	14 900	16 694	4 273	
Vrede	1991	800	55	–	–	855	700	41	
Vukuzakhe	6/91	783	–	–	–	783	1 635	852	
Wakkerstroom	1991	307	–	–	–	307	327	20	
Warmbaths	6/90	1 940	198	49	456	2 643	1 451	19	
Waterval Boven	6/91	450	60	1	–	511	488	34	
Wattville	6/89	2 553	45	–	6	2 604	2 592	–	
Welgedacht	1991	–	–	–	–	–	–	–	
Wesselton	6/91	2 120	30	–	–	2 150	3 259	1 618	
Westonaria	1991	4 420	711	22	–	5 153	3 560	12	
White River	6/91	2 550	495	105	22	3 172	2 550	–	
Witbank	6/91	11 479	979	37	34	12 529	11 176	–	
Wolmaransstad	6/90	714	112	15	63	904	897	65	
Wonderkop (Boph.)	1991	–	–	–	–	–	–	–	
Zakkariya Park	6/89	145	–	–	–	145	–	–	
Zamdela	6/89	2 853	–	–	–	2 853	2 853	–	
Zeerust	6/90	1 064	172	100	18	1 354	1 403	271	
Zenele	1991	–	–	–	–	–	–	–	
Zithobeni	6/91	528	4	–	11	543	528	–	
TOTAL TRANSVAAL		1 212 741	54 231	14 098	24 340	1 305 410	1 336 398	182 795	1 153 603

^aSource: CSIR

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				
–	–	–	1 077	1 077	0,44	28,1	–	–
5 395	10 019	–	–	15 414	5,00	40,0	5,8	3 140
16 262	–	–	15 680	31 942	8,36	43,6	–	115 300
–	–	–	–	–	–	–	–	5 000
–	–	–	–	–	–	–	–	–
–	–	–	37 912	37 912	8,01	54,0	–	–
4 684	8 699	–	–	13 383	7,50	55,0	–	2 800
1 555	1 071	72	54	2 752	0,48	50,2	–	123 211
22 008	318 156	51 651	4 066	395 881	55,00	60,0	12,0	15 756
961	21	63	–	1 045	0,37	48,6	–	13 056
–	–	–	2 704	2 704	0,51	60,2	–	–
–	–	–	–	–	–	–	–	–
167 415	27 947	529 799	6	725 167	129,62	63,0	2,3	72 438
5 067	867	4 255	6 588	16 777	4,80	59,6	17,7	9 000
–	–	–	3 066	3 066	0,62	56,7	–	–
205 240	193 633	1 742 998	20 131	2 162 002	223,66	47,0	6,3	134 900
213 928	24 772	186 805	31 960	457 465	92,17	67,0	2,6	86 144
18 200	7 700	4 700	–	30 600	5,92	61,2	4,6	75 000
99 541	6 924	2 398	6 261	115 125	38,78	35,3	5,0	150 000
6 007	2 821	–	2 098	10 926	2,47	50,6	–	14 023
3 760	–	–	–	3 760	–	–	–	12 000
–	–	–	–	–	–	–	–	4 217
12 262	18 419	673	2 387	33 741	6,53	75,0	7,7	17 239
4 026	1 598	224	365	6 213	1,22	81,9	5,1	1 500
14 138	–	–	–	14 138	–	–	10,1	32 000
–	–	–	5 882	5 882	1,25	53,7	–	–
–	–	–	20 401	20 401	5,70	40,9	–	43 100
50 700	8 876	3 817	2 553	65 946	12,00	52,0	4,9	121 469
24 000	–	–	48 377	72 377	14,00	65,0	9,5	7 000
124 791	39 205	55 365	91 358	310 719	80,82	60,2	7,9	45 000
5 500	3 567	2 918	634	12 619	4,40	80,0	15,1	23 648
–	–	–	929	929	0,22	47,7	–	–
310	–	–	–	310	–	–	–	–
31 715	–	–	–	31 715	–	–	–	35 000
8 361	1 676	2 302	2 302	14 641	5,15	48,0	10,6	6 000
–	–	–	3 656	3 656	1,01	41,5	–	–
1 666	–	–	–	1 666	0,54	45,4	7,5	3 025
11 140 128	2 881 594	15 414 642	3 735 868	33 172 231	–	–	–	12 418 086

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)			Population
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified	
<i>Orange Free State continued</i>										
Lindley	6/90	350	15	—	1	366	260	58	202	750
Madikgetta	6/90	13	1	—	—	14	374	361	13	6 000
Mafahlaneng	6/90	34	5	—	1	40	245	211	34	4 038
Mahlatswetsa	6/90	1	6	—	—	7	590	589	1	7 000
Majwemasweu	6/90	43	13	—	6	62	1 001	958	43	12 000
Makelekella	6/90	24	6	—	10	40	756	735	21	11 000
Makwallo	6/90	90	6	—	4	100	—	—	—	7 523
Malebogo	1991	48	—	—	—	48	323	275	48	3 500
Mamafubedu	6/90	80	—	—	—	80	554	474	80	6 500
Mangaung	1991	6 467	—	—	—	6 467	19 478	13 011	6 467	—
Manyseng	6/90	218	—	13	—	231	1 763	1 545	218	17 500
Maokeng	6/90	3 600	55	—	114	3 769	9 890	6 193	3 697	110 000
Marquard	6/89	314	88	1	13	416	463	149	314	5 774
Mashaeng	1991	15	—	—	—	15	776	761	15	8 700
Masilo	1991	187	—	—	—	187	1 250	1 063	187	8 000
Matlakeng	1991	285	—	—	—	285	606	321	285	4 500
Matwangtlwang	6/90	45	3	—	6	54	732	687	45	6 000
Matoporong	6/90	32	2	1	7	42	436	404	32	2 500
Matwabeng	6/90	77	17	—	17	111	2 042	1 969	73	14 421
Mautse	6/90	3	—	—	3	6	252	249	3	3 000
Meloding	1991	405	—	—	—	405	2 700	2 295	405	—
Memel	1991	195	—	—	—	195	207	12	195	—
Meqheleng	6/90	119	26	—	4	149	2 300	2 181	119	38 000
Metsimaholo	1991	51	—	—	—	51	339	288	51	—
Mmamahabane	1991	4	3	—	6	13	594	593	1	16 000
Moemaneng	6/90	20	7	—	8	35	667	647	20	6 200
Mofulatshepe	1991	68	—	—	—	68	451	383	68	—
Mokwallo	1991	158	—	—	—	158	1 056	898	158	—
Monyakeng	1991	230	16	—	5	251	1 537	1 307	230	8 000
Morojaneng	6/90	127	—	—	—	127	849	722	127	—
Namahadli	6/90	292	23	—	—	315	1 397	1 105	292	16 000
Ngwathe	1991	—	—	—	—	—	—	—	—	—
Nqwathe	1991	32	—	—	—	32	407	375	32	—
Ntha	6/90	95	—	—	—	95	—	—	—	—
Ntswanatsatsi	6/90	36	—	—	—	36	240	204	36	20 000
Nyakallong	1991	191	—	—	—	191	2 255	2 064	191	—
Odenaalsrus	6/90	2 433	351	36	—	2 820	2 459	—	2 459	11 000
Oranjekrag	1991	—	—	—	—	—	—	—	—	—
Parys	6/90	2 839	316	41	75	3 271	2 859	20	2 839	11 000
Paul Roux	6/90	220	10	—	—	230	223	3	220	520
Petrus Steyn	1991	242	73	2	—	317	242	—	242	600
Petrusburg	6/90	290	48	6	40	384	261	—	261	5 820
Petsana	6/90	281	21	—	—	302	1 200	919	281	16 500
Phahameng	6/90	51	8	—	5	64	—	—	—	19 200
Philippolis	6/91	236	38	—	122	396	247	5	242	4 216
Phiritona	6/90	232	12	1	12	257	—	—	—	22 000
Phomolong	6/90	164	8	—	8	180	2 056	1 892	164	33 000
Poding Tse Rolo	1991	64	—	—	—	64	425	361	64	3 260
Qalabotsha	6/90	114	13	—	—	127	1 217	1 103	114	13 200
Qibing	6/90	52	10	—	—	62	820	768	52	8 500
Rammulotsi	1991	149	10	—	9	168	992	843	149	20 000
Reddersburg	1991	252	51	—	—	303	243	67	176	3 455
Reitz	6/90	976	63	11	42	1 092	881	382	499	2 462
Rosendal	6/90	63	17	—	5	85	75	12	63	200
Rouxville	1991	—	—	—	—	—	—	—	—	14 000
Rweleleyathunya	1991	94	—	—	—	94	630	536	94	—
Sasolburg	1991	8 280	400	—	866	9 546	8 307	27	8 280	56 000
Senekal	6/90	758	280	12	—	1 050	754	—	754	2 465
Seretse	6/91	72	3	—	1	76	481	409	72	6 000
Smithfield	6/90	200	55	—	—	255	221	—	221	4 700

^a Source: CSIR

Town	Financial year ended	MWh sold				Total	Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
		Domestic	Business	Industry	Not defined and other					
Lindley	6/90	1 538	372	—	59	1 969	0,43	51,9	2,1	750
Madikgetta	6/90	51	10	—	—	61	—	—	—	6 000
Mafahlaneng	6/90	285	74	—	8	367	—	—	—	4 038
Mahlatswetsa	6/90	1	32	—	—	33	—	—	—	7 000
Majwemasweu	6/90	72	157	—	1	231	—	—	—	12 000
Makelekella	6/90	106	106	—	106	317	—	—	—	11 000
Makwallo	6/90	385	26	—	17	428	—	—	—	7 523
Malebogo	1991	18	—	—	—	18	0,01	19,8	—	3 500
Mamafubedu	6/90	83	—	—	—	83	—	—	—	6 500
Mangaung	1991	—	—	—	—	—	—	—	—	—
Manyseng	6/90	1 925	—	115	—	2 040	—	—	—	17 500
Maokeng	6/90	20 376	1 882	—	8 155	30 413	—	—	—	110 000
Marquard	6/89	3 470	9 280	4 320	—	17 070	13,20	48,7	2,2	5 774
Mashaeng	1991	29	—	—	167	196	0,06	38,3	—	8 700
Masilo	1991	1 079	—	—	—	1 079	0,35	35,6	—	8 000
Matlakeng	1991	—	—	—	—	—	—	—	—	—
Matwangtlwang	6/90	128	62	—	31	221	—	—	—	6 000
Matoporong	6/90	134	12	5	1	153	—	—	—	2 500
Matwabeng	6/90	270	648	—	162	1 080	—	—	—	14 421
Mautse	6/90	—	—	—	4	4	—	—	—	3 000
Meloding	1991	—	—	—	12 563	12 563	3,16	45,4	—	—
Memel	1991	—	—	—	—	—	—	—	—	—
Meqheleng	6/90	936	24	—	17	977	—	—	—	38 000
Metsimaholo	1991	—	—	—	—	—	—	—	—	—
Mmamahabane	1991	19	14	—	62	95	0,03	39,4	—	16 000
Moemaneng	6/90	54	87	—	19	160	—	—	—	6 200
Mofulatshepe	1991	—	—	—	—	—	—	—	—	—
Mokwallo	1991	—	—	—	—	—	—	—	—	—
Monyakeng	1991	204	480	—	31	715	—	—	—	8 000
Morojaneng	6/90	—	—	—	—	—	—	—	—	—
Namahadli	6/90	1 369	166	—	—	1 534	—	—	—	16 000
Ngwathe	1991	—	—	—	18	18	0,05	47,4	—	—
Nqwathe	1991	—	—	—	—	—	—	—	—	—
Ntha	6/90	490	—	—	—	490	—	—	—	20 000
Ntswanatsatsi	6/90	—	—	—	—	—	—	—	—	—
Nyakallong	1991	—	—	—	—	—	—	—	—	—
Odenaalsrus	6/90	24 109	5 577	6 185	670	36 540	9,12	67,6	8,4	11 000
Oranjekrag	1991	—	—	—	3 800	3 800	0,91	47,9	—	—
Parys	6/90	19 992	4 473	16 576	7 634	48 676	1,26	68,4	5,9	11 000
Paul Roux	6/90	—	—	—	1 684	1 684	0,51	45,6	—	520
Petrus Steyn	1991	1 915	130	1 993	150	4 188	1,08	44,2	13,0	600
Petrusburg	6/90	699	415	3 380	34	4 528	1,36	47,2	7,9	5 820
Petsana	6/90	1 308	420	—	—	1 728	—	—	—	16 500
Phahameng	6/90	110	149	—	169	427	—	—	—	19 200
Philippolis	6/91	1 360	355	—	221	1 936	0,34	60,0	—	4 216
Phiritona	6/90	—	—	—	1 874	1 874	0,50	43,1	—	22 000
Phomolong	6/90	590	121	—	210	921	—	—	—	33 000
Poding Tse Rolo	1991	58	—	—	—	58	—	—	—	3 260
Qalabotsha	6/90	858	113	—	—	971	—	—	—	13 200
Qibing	6/90	201	145	—	—	346	—	—	—	8 500
Rammulotsi	1991	137	67	—	36	240	—	—	—	20 000
Reddersburg	1991	1 829	1 069	—	—	2 898	0,71	46,8	8,0	3 455
Reitz	6/90	10 469	2 984	—	1 283	14 736	4,20	48,6	8,1	2 462
Rosendal	6/90	291	346	—	27	664	0,21	51,7	16,0	200
Rouxville	1991	—	—	—	2 549	2 549	0,63	46,0	—	14 000
Rweleleyathunya	1991	—	—	—	—	—				

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Orange Free State continued</i>									
Soutpan	1991	41	–	–	–	41	44	3	41
Springfontein	6/91	173	6	1	–	180	228	56	172
Steynsrus	6/90	228	39	2	1	270	231	–	231
Teisesville	1991	91	–	–	–	91	300	209	91
Thabong	1991	4 725	–	–	–	4 725	9 469	4 744	4 725
Thapelang	1991	22	–	–	–	22	150	128	22
Thembalihle	6/90	303	–	11	–	314	1 914	1 611	303
Theunissen	6/90	617	125	9	2	753	503	–	503
Tikwana	6/90	7	3	–	5	15	510	503	7
Tlholong	6/90	43	–	–	–	43	–	–	–
Trompsburg	1991	213	–	–	–	213	213	–	213
Tshepong	6/90	34	–	–	1	35	230	196	34
Tswaraganang	6/90	35	3	–	–	38	378	343	35
Tumahole	6/90	623	27	–	23	673	7 589	6 966	623
Tweeling	6/90	173	34	–	–	207	174	1	173
Tweespruit	6/90	111	43	3	5	162	225	5	220
Van Stadensrus	6/90	35	11	–	–	46	40	16	24
Ventersburg	6/90	345	24	4	–	373	430	–	430
Verkeerdevlei	6/90	36	21	1	–	58	44	8	36
Viljoenskroon	1991	610	120	13	19	762	710	100	610
Villiers	6/90	345	75	6	–	426	382	37	345
Virginia	1991	5 263	650	47	3	5 963	5 263	–	5 263
Vredefort	1991	429	55	4	–	488	468	299	169
Warden	1991	341	69	14	–	424	364	23	341
Waterkloof (Philippolis)	1991	4	–	–	–	4	14	10	4
Welkom	6/89	16 767	1 664	194	22	18 647	17 036	269	16 767
Wepener	1991	317	–	–	–	317	394	77	317
Wesselsbron	6/90	405	96	9	–	510	405	–	405
Winburg	6/90	765	61	–	–	826	813	48	765
Witqwa	1991	–	–	–	–	–	–	–	–
Zamani	1991	24	–	–	–	24	162	138	24
Zastron	1991	700	13	–	–	713	412	–	412
TOTAL ORANGE FREE STATE		136 705	14 284	1 320	1 800	154 109	212 415	85 114	127 301

^a Source: CSIR

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				
–	–	–	–	–	–	–	–	–
1 334	66	447	465	2 313	0,50	55,1	–	4 870
1 522	427	112	305	2 366	0,90	–	4,4	700
–	–	–	–	–	–	–	–	–
–	–	–	69 610	69 610	16,19	49,1	–	–
10	–	–	–	10	0,01	21,1	–	–
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	–	–	133	272	0,08	39,8	–	3 265
–	–	–	3 392	3 392	0,86	45,2	–	1 500
–	–	–	7	7	–	–	–	2 000
188	4	–	–	192	–	–	–	4 000
4 666	207	–	167	5 040	–	–	–	46 000
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	6 555	15 399	3,13	56,9	13,7	18 580
3 908	2 828	244	–	6 980	1,74	40,1	5,2	1 000
57 115	11 154	18 744	–	87 013	15,41	64,5	7,7	10 200
4 276	1 169	1 048	–	6 493	1,08	58,1	8,0	1 476
3 249	1 351	587	–	5 187	1,36	43,6	1,0	9 270
–	–	–	–	–	–	–	–	–
165 193	49 556	86 170	6 473	307 392	84,79	58,7	8,2	61 831
–	–	–	4 928	4 928	0,96	58,5	–	15 000
2 162	1 499	3 697	–	7 358	2,83	57,4	6,0	1 250
4 200	1 900	2 300	–	8 400	2,08	50,6	7,0	1 200
–	–	–	70 317	70 317	16,73	48,0	–	–
–	–	–	–	–	–	–	–	–
4 057	1 781	–	1 445	7 284	1,68	49,6	8,7	5 000
943 716	335 748	692 071	392 906	2 364 441				1 666 224

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^c (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
Natal									
Amanzimtota ^a	1991	5 129	-	-	-	5 129	5 554	425	5 129
Ashburton	1991	158	-	-	-	158	159	1	158
Ballito	6/90	3 480	398	3	-	3 881	895	224	671
Bendigo	1991	1 222	-	-	-	1 222	1 328	106	1 222
Bergville	6/91	144	73	12	433	662	160	16	144
Bhekuzulu	1991	725	-	-	-	725	1 034	309	725
Bhongweni	1991	171	-	-	-	171	244	73	171
Blythedale Beach	1991	253	-	-	-	253	274	21	253
Bruntville	1991	268	-	-	-	268	453	185	268
Camperdown	1991	181	-	-	-	181	197	16	181
Canelands	1991	191	-	-	-	191	207	16	191
Cato Ridge	1991	199	-	-	-	199	218	19	199
Cedarville	1991	111	-	-	-	111	141	30	111
Chesterville	1991	1 139	-	-	-	1 139	1 139	-	1 139
Colenso	6/90	494	56	4	-	554	382	61	321
Creighton	1991	55	-	-	-	55	60	5	55
Dalton	1991	29	-	-	-	29	74	45	29
Dannhauser	1991	517	-	-	-	517	615	98	517
Darnall	1991	372	-	-	-	372	455	83	372
Drummond	1991	139	-	-	-	139	150	11	139
Dumbe	1991	259	-	-	-	259	369	110	259
Dundee	12/91	1 113	783	-	38	1 934	2 154	1 041	1 113
Durban	6/90	249 470	29 849	552	-	279 871	142 143	-	142 143
Ekuvukeni ^b	12/90	6	-	-	-	6	-	-	-
Empangeni	2/90	3 586	876	11	7	4 480	3 386	-	3 386
Enhlalakahle	1991	608	-	-	-	608	608	-	608
Enseleni ^b	12/90	463	-	-	-	463	800	337	463
Eshowe	6/90	961	224	43	118	1 346	931	-	931
Ezinqaweni ^b	12/90	4 205	-	-	-	4 205	-	-	-
Estcourt	6/91	2 469	505	23	4	3 001	2 566	97	2 469
Everton	1991	164	-	-	-	164	178	14	164
Ezakheni ^b	12/90	1 422	-	-	-	1 422	-	-	-
Gamalakhe ^b	12/90	848	-	-	-	848	-	-	-
Gezinsila ^b	12/90	425	-	-	-	425	-	-	-
Gillitts	1991	1 434	-	-	-	1 434	1 553	119	1 434
Gingindlovu	1991	81	-	-	-	81	88	7	81
Glencoe	6/90	965	76	17	303	1 361	1 008	43	965
Greytown	6/91	1 386	353	8	54	1 801	1 340	-	1 340
Hambanati	1991	561	-	-	-	561	561	-	561
Harding	6/90	423	119	11	-	553	408	-	408
Hattingspruit	1991	53	-	-	-	53	57	4	53
Hibberdene	1991	380	-	-	-	380	411	31	380
Hillcrest	1991	1 143	-	-	-	1 143	1 238	95	1 143
Hilton	1991	930	-	-	-	930	930	-	930
Himeville	1991	101	-	-	-	101	147	46	101
Howick	6/91	1 463	227	2	3	1 695	2 769	1 362	1 407
Illovo	1991	216	-	-	-	216	263	47	216
Imbali	06/91	-	-	-	-	-	-	-	-
Isipingo ^a	1991	6 100	-	-	-	6 100	6 100	-	6 100
Itsokolele	1991	109	-	-	-	109	156	47	109
Ixopo	1991	155	-	-	-	155	168	13	155
Kingsburgh ^a	1991	4 239	-	-	-	4 239	4 590	351	4 239
Klaarwater	1991	212	-	-	-	212	303	91	212
Kloof ^a	1991	3 518	-	-	-	3 518	3 518	-	3 518
Kokstad	6/90	1 198	297	15	31	1 541	899	48	851
Kranskop	1991	29	-	-	-	29	32	3	29
KwaMashu ^a	12/90	3 955	-	-	-	3 955	-	-	-
KwaMakhutha ^a	12/90	1 297	-	-	-	1 297	-	-	-
KwaMbono ^b	12/90	-	-	-	-	-	-	-	-
KwaMevana	1991	96	-	-	-	96	137	41	96

^a Supplied by Durban Corporation.

^b KwaZulu Government electrification projects.

^c CSIR

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				
-	-	-	-	-	-	-	-	27 000
-	-	-	-	-	-	-	-	-
28 156	14 228	1 180	288	43 852	11,40	54,4	10,1	8 000
-	-	-	-	-	-	-	-	4 400
1 403	3 122	100 601	13 660	118 785	-	-	-	1 080
-	-	-	-	-	-	-	-	6 500
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	900
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	1 090
-	-	-	-	-	-	-	-	1 400
-	-	-	-	-	-	-	-	800
-	-	-	-	-	-	-	-	550
4 287	793	189	-	5 268	1,21	49,7	1,9	8 000
-	-	-	-	-	-	-	-	4 300
-	-	-	-	-	-	-	-	-
-	-	-	166	166	0,04	44,8	-	18 000
-	-	-	-	-	-	-	-	1 600
-	-	-	-	-	-	-	-	800
18 893	28 307	-	1 910	49 110	10,28	56,4	5,9	22 707
2 033 225	1 253 485	3 829 334	-	7 116 044	1 232,62	73,3	5,0	994 300
24	-	-	-	24	0,07	38,3	-	16 383
35 084	15 737	41 240	3 423	95 484	23,70	61,0	4,6	13 200
-	-	-	-	-	-	-	-	5 000
3 527	-	-	-	3 527	0,89	45,3	-	12 985
9 560	4 145	9 870	745	24 320	3,95	59,3	14,9	14 179
35 547	-	-	-	35 547	8,59	47,3	-	33 371
21 844	9 055	134 413	6 246	171 558	28,75	70,0	2,7	10 467
-	-	-	-	-	-	-	-	900
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
-	-	-	-	-	-	-	-	6 000
-	-	-	-	-	-	-	-	700
7 612	-	-	9 782	17 394	4,68	55,2	8,4	12 116
16 382	10 600	240	1 678	28 900	6,20	56,0	5,1	8 708
-	-	-	-	-	-	-	-	-
2 190	2 298	3 716	-	8 204	2,09	44,7	8,9	4 505
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	5 500
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	500
12 050	3 479	10 336	2 463	28 327	6,66	57,2	5,0	13 680
-	-	-	-	-	-	-	-	1 777
-	-	-	19 536	19 536	-	-	-	-
-	-	-	-	-	-	-	-	27 000
-	-	-	-	-	-	-	-	-
-	-	-	160	160	0,06	31,7	-	850
-	-	-	-	-	-	-	-	20 000
-	-	-	-	-	-	-	-	-
8 021	6 391	8 306	1 079	23 797	8,00	56,1	10,7	17 544
-	-	-	-	-	-	-	-	20 000
-	-	-	-	-	-	-	-	8 000
-	-	-	-	-	-	-	-	310 800
-	-	-	-	-	-	-	-	28 610
-	-	-	-	-	-	-	-	2 664
-	-	-	-	-	-	-	-	-

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^c (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Natal continued</i>									
KwaMsane ^b	12/90	138	-	-	-	138	-	-	-
KwaNdengezi ^a	12/90	280	-	-	-	280	-	-	-
Ladysmith	6/91	6 250	949	80	4	7 283	7 260	1 010	6 250
Lakeside (Vryheid)	1991	44	-	-	-	44	110	66	44
Lamontville	1991	1 664	-	-	-	1 664	1 958	294	1 664
Madadeni ^d	6/91	7 300	44	1	-	7 345	26 000	18 700	7 300
Magabeni ^d	12/90	344	-	-	-	344	-	-	-
Mandini	6/90	814	26	-	-	840	814	-	814
Marburg	1991	1 516	-	-	-	1 516	1 877	361	1 516
Margate	1991	2 233	-	-	-	2 233	2 418	185	2 233
Marina Beach	1991	119	-	-	-	119	149	30	119
Matatiele	1991	350	120	6	-	476	264	-	264
Melmoth	6/90	407	74	-	-	481	390	23	367
Mondlo ^d	12/90	1 000	-	-	-	1 000	-	-	-
Mooi River	6/91	627	153	37	27	844	-	-	-
Mount Michael	1991	282	-	-	-	282	282	-	282
Mpophomeni ^d	12/90	487	-	-	-	487	-	-	-
Mpumalanga ^d	12/90	3 737	-	-	-	3 737	-	-	-
Mpungamhlope ^d	12/90	-	-	-	-	-	-	-	-
Mtubatuba	6/90	344	124	5	-	473	252	-	252
Mtunzini	6/90	432	47	-	-	479	546	114	432
Munster	1991	985	-	-	-	985	1 067	82	985
Mzingisi	1991	75	-	-	-	75	75	-	75
Ncotshane ^d	12/90	42	-	-	-	42	-	-	-
New Germany ^a	1991	1 889	-	-	-	1 889	2 046	157	1 889
Newcastle	6/91	10 075	1 161	93	166	11 495	9 401	-	9 401
Ngwelezana ^b	12/90	679	-	-	-	679	-	-	-
Nkanyesi	1991	50	-	-	-	50	151	101	50
Ntuzuma ^a	12/90	700	-	-	-	700	-	-	-
Osizweni ^b	3/91	7 300	17	1	27	7 345	-	-	-
Paulpietersburg	6/90	298	77	7	3	385	267	-	267
Pennington	1991	646	-	-	-	646	700	54	646
Pietermaritzburg	6/91	41 850	5 779	-	-	47 629	32 556	-	32 556
Pinetown ^a	1991	17 487	-	-	-	17 487	17 487	-	17 487
Pongola	1991	187	30	13	-	230	194	11	183
Port Edward	1991	1 090	-	-	-	1 090	1 180	90	1 090
Port Shepstone	6/90	2 570	371	11	66	3 018	1 508	184	1 324
Queensburgh ^a	1991	5 782	-	-	-	5 782	6 261	479	5 782
Ramsgate	1991	1 145	-	-	-	1 145	1 240	95	1 145
Richards Bay	6/90	4 575	241	45	-	4 861	4 379	825	3 554
Richmond	1991	430	-	-	-	430	489	59	430
Scottburgh	6/90	970	135	-	-	1 105	1 804	-	1 804
Shakaville	1991	54	-	-	-	54	178	124	54
Shayamoya	1991	33	-	-	-	33	47	14	33
Shelly Beach	1991	887	-	-	-	887	962	75	887
Sibongile	1991	426	-	-	-	426	852	426	426
Sithembile	1991	76	-	-	-	76	530	454	76
Sobantu	1991	1 095	-	-	-	1 095	1 095	-	1 095
Southbroom	1991	494	-	-	-	494	535	41	494
Stanger	6/90	3 188	702	66	88	4 044	4 945	1 388	3 557
Steadville	1991	573	-	-	-	573	1 147	574	573
Sundumbili ^b	12/90	380	-	-	-	380	-	-	-
Thubalethu	1991	93	-	-	-	93	132	39	93
Tongaat	6/90	5 431	547	39	84	6 101	3 826	35	3 791
Ulundi ^b	12/90	3 461	-	-	-	3 461	-	-	-
Umbogintwini	1991	180	-	-	-	180	196	16	180
Umdloti Beach	1991	1 163	-	-	-	1 163	1 163	-	1 163
Umhlali	1991	923	-	-	-	923	1 000	77	923
Umhlanga	1991	4 319	-	-	-	4 319	4 677	358	4 319
Umkomaas	1991	501	-	-	-	501	501	-	501

^a Supplied by Durban Corporation.

^b KwaZulu Government electrification projects.

^c CSIR

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				
1 491	-	-	-	1 491	0,35	49,0	-	3 792
-	-	-	-	-	-	-	-	26 658
64 062	20 746	125 952	14 427	225 187	40,58	62,7	2,7	53 000
-	-	-	-	-	-	-	-	-
8 075	18	5	-	8 098	2,20	44,4	10,0	200 000
2 171	-	-	-	2 171	0,59	42,1	-	4 617
10 658	490	-	-	11 148	2,50	50,0	7,0	3 720
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	11 000
-	-	-	-	-	-	-	-	-
3 996	2 075	-	16 034	16 034	3,33	54,9	-	3 700
3 351	-	-	-	3 351	1,50	56,4	4,9	4 000
4 503	3 444	31 587	1 824	41 359	0,72	53,5	-	61 291
-	-	-	-	-	7,97	58,6	6,3	14 561
-	-	-	-	-	-	-	-	1 300
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
-	-	-	-	-	-	-	-	8 378
100 689	115 030	29 447	15 421	260 587	47,83	75,0	5,0	40 644
11 538	-	-	-	11 538	2,38	55,3	-	18 332
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	94 461
-	1	5	1	7	0,22	-	-	200 000
2 913	-	2 497	2 487	7 897	2,30	42,0	7,0	5 859
-	-	-	-	-	-	-	-	2 250
361 546	672 443	-	29 001	1 062 990	225,80	66,9	4,0	234 316
-	-	-	-	-	-	-	-	89 580
983	4 220	3 675	-	8 878	1,93	52,6	-	500
-	-	-	-	-	-	-	-	-
22 708	-	-	31 500	54 208	10,30	46,6	14,6	48 848
-	-	-	-	-	-	-	-	28 423
46 252	13 928	406 583	-	466 763	76,30	74,3	3,8	23 650
-	-	-	-	-	-	-	-	24 000
7 625	3 898	-	-	11 523	-	-	-	6 050
-	-	-	-	-	-	-	-	1 300
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	7 800
-	-	-	-	-	-	-	-	-
44 946	18 645	123 345	4 334	191 270	30,31	79,1	2,5	36 000
-	-	-	-	-	-	-	-	6 000
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
-	-	-	-	-	-	-	-	1 000
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	2 792
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	2 000

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^c (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Natal continued</i>									
Umlazi ^a	12/90	15 956	—	—	—	15 956	—	—	—
Umtentweni	1991	936	—	—	—	936	1 014	78	936
Underberg	1991	70	—	—	—	70	151	81	70
Utrecht	6/90	680	56	2	1	739	—	—	—
Uvongo	1991	2 300	—	—	—	2 300	2 491	191	2 300
Valley View	1991	37	—	—	—	37	40	3	37
Verulam	1991	4 580	—	—	—	4 580	4 580	—	4 580
Vryheid	6/91	3 324	98	—	79	3 501	3 118	445	2 673
Vulindlela ^b	12/90	198	—	—	—	198	—	—	—
Wartburg	6/91	205	21	9	211	446	223	24	199
Wembezi ^d	12/90	986	—	—	—	986	1 830	844	986
Westville ^a	1991	6 160	—	—	—	6 160	6 160	—	6 160
Widenham	1991	238	—	—	—	238	258	20	238
Winterton	12/91	75	38	2	136	251	81	—	81
Yellowwood Park	1991	1 073	—	—	—	1 073	1 162	89	1 073
Zinkwazi Beach	1991	332	—	—	—	332	360	28	332
TOTAL NATAL		498 640	44 646	1 118	1 883	546 287	359 929	34 035	325 894

^a Supplied by Durban Corporation.
^b KwaZulu Government electrification projects.
^c Source: CSIR

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				
—	—	—	—	—	—	—	—	176 393
—	—	—	—	—	—	—	—	3 670
—	—	—	—	—	—	—	—	10 000
10 199	1 104	13	444	11 760	3,00	48,2	16,7	4 196
—	—	—	—	—	—	—	—	6 560
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	20 000
37 022	42 169	—	1 402	80 593	18,88	53,8	9,1	23 700
3 292	—	—	—	3 292	0,80	47,1	—	1 153
2 244	957	2 546	5 515	11 261	—	—	—	1 000
7 192	—	—	—	7 192	2,08	39,6	—	25 989
—	—	—	—	—	—	—	—	28 021
—	—	—	—	—	—	—	—	—
894	1 308	757	7 645	10 603	—	—	—	297
—	—	—	—	—	—	—	—	4 500
—	—	—	—	—	—	—	—	—
3 173 463	2 279 284	4 972 578	192 026	10 617 351				3 612 094

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
Cape Province and Walvis Bay									
Abbotsdale	1991	161	-	-	-	161	260	99	161
Aberdeen	12/90	-	-	-	-	-	-	-	-
Adelaide	6/91	421	60	5	224	710	377	135	242
Aggeneys	1991	406	-	-	-	406	515	109	406
Agulhas/Struisbaai	6/88	852	11	-	9	872	709	27	682
Albertinia	6/90	960	38	10	12	1 020	960	-	960
Alexandria	1991	450	50	3	20	523	500	50	450
Alicedale	1991	256	1	-	-	257	310	54	256
Aliwal North	1991	1 515	62	14	-	1 591	1 748	233	1 515
Ashton	6/90	321	63	12	35	431	867	546	321
Atlantis	6/90	8 122	154	113	38	8 427	-	-	-
Aurora	1991	89	-	-	-	89	101	12	89
Bakanas	1991	192	-	-	-	192	204	12	192
Barkly East	6/90	479	113	-	-	592	529	50	479
Barkly West	6/91	455	69	12	2	538	668	258	410
Barrydale	1991	350	20	2	-	372	400	50	350
Bathurst	1991	-	-	-	-	-	-	-	-
Beachview	1991	41	-	-	-	41	44	3	41
Beacon Bay	6/90	3 008	57	-	6	3 087	2 940	-	2 940
Beaufort West	6/90	2 386	-	355	59	2 800	5 190	2 807	2 383
Bedford	6/90	419	35	1	-	455	667	248	419
Belhar	6/90	712	-	-	5	717	10 700	9 988	712
Bellville	6/90	17 959	1 457	186	44	19 646	19 178	141	19 037
Bergsig	1991	225	-	-	-	225	1 009	784	225
Berlin	1991	-	-	-	-	-	-	-	-
Betty's Bay	1991	579	-	-	-	579	601	22	579
Bezuidenhoutville	1991	32	-	-	-	32	390	358	32
Bhongweni	1991	202	-	-	-	202	524	322	202
Bitterfontein	6/90	64	15	-	12	91	177	113	64
Blanckenbergvlei	1991	-	-	-	-	-	-	-	-
Blue Downs	6/90	3 584	117	-	-	3 701	-	-	-
Blue Horizon Bay	1991	59	-	-	-	59	63	4	59
Boesmansriviermond	1991	399	-	-	-	399	424	25	399
Boitshoko	6/90	66	4	-	12	82	827	761	66
Bongani	1991	22	-	-	-	22	296	274	22
Bongolethu	1991	245	-	-	-	245	527	282	245
Bonnievale	6/90	689	65	89	9	852	955	277	678
Bontrug	1991	401	-	-	-	401	1 039	638	401
Bot River	6/88	40	-	-	-	40	426	5	421
Brackenfell	6/90	3 680	181	30	3	3 894	4 429	-	4 429
Brandvlei	6/90	220	19	3	-	242	298	96	202
Bredasdorp	1991	1 580	174	14	23	1 791	1 740	160	1 580
Bretby	6/91	-	-	1	-	1	-	-	-
Britstown	6/91	313	61	-	-	374	-	-	-
Buffelsbaai	6/88	180	4	-	6	190	-	-	-
Bull Hill (Boph.)	6/91	28	-	-	-	28	-	-	-
Burgersdorp	1991	669	125	2	11	807	669	-	669
Caledon	6/90	1 090	147	14	16	1 267	3 246	616	2 630
Calitzdorp	1991	488	23	3	26	540	698	210	488
Calvinia	6/90	630	153	-	3	786	471	-	471
Cannon Rocks	1991	98	-	-	-	98	104	6	98
Cannonville	1991	87	-	-	-	87	93	6	87
Cape St Francis	1991	188	-	-	-	188	200	12	188
Cape Town	6/90	223 060	16 254	499	127	239 940	208 452	6 441	202 011
Carnarvon	6/91	404	29	1	26	460	1 329	577	752
Carolusberg	1991	128	-	-	-	128	161	33	128
Cassel Village (Boph.)	6/91	43	-	-	-	43	-	-	-
Cathcart	6/90	369	21	6	-	396	344	-	344
Ceres	6/90	2 970	219	24	249	3 462	3 260	300	2 960
Chatsworth/Dassenberg	1991	126	-	-	-	126	204	78	126
Chelsea 25	1991	44	-	-	-	44	47	3	44
Cillie	1991	6	-	-	-	6	18	12	6
Citrusdal	6/90	343	75	10	5	433	580	53	527
Clanwilliam	6/90	576	134	19	-	729	657	72	585
Clarendon Marine	1991	123	-	-	-	123	131	8	123

^a Source: CSIR

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
4 741	770	415	216	6 142	1,18	48,1	5,7	40 400
-	-	-	-	-	-	-	-	-
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	658	-	4 713	1,02	53,0	6,3	10 272
-	-	-	1 398	1 398	0,41	38,6	-	7 833
31 231	2 091	25 258	-	18 534	14,99	58,8	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
268	-	-	-	268	0,13	23,5	-	750
-	-	-	-	-	-	-	-	-
3 238	186	-	-	3 424	1,20	39,0	18,0	7 902
2 743	1 443	775	1 121	6 081	2,00	56,0	15,0	12 000
1 298	1 704	-	-	3 002	0,62	55,0	3,0	1 900
-	-	-	-	-	-	-	-	5 285
-	-	-	-	-	-	-	-	-
25 678	2 004	4 157	44	31 883	7,50	53,0	8,0	14 000
11 804	-	7 491	6 078	25 373	6,16	51,9	12,6	28 846
-	-	-	3 007	3 007	0,80	43,0	-	12 263
2 821	-	-	37	2 858	1,00	29,1	12,5	12 500
134 129	43 788	379 685	11 203	568 805	102,95	68,9	6,6	105 000
-	-	-	-	-	-	-	-	-
-	-	-	-	-	4,60	43,0	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
225	247	-	23	495	0,17	37,6	-	1 000
-	-	-	1 398	1 398	0,48	33,0	-	-
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
-	-	-	-	-	-	-	-	1 300
-	-	-	-	-	-	-	-	4 300
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	16 800
907	124	3	6	1 040	0,40	30,5	8,7	1 675
-	-	-	19 153	19 153	3,58	61,2	10,0	12 153
-	-	3	-	3	0,00	90,4	0,5	-
3 417	468	-	-	3 885	0,70	46,0	16,0	6 088
2 800	1 260	-	400	4 460	2,80	18,2	-	-
387	-	-	-	387	0,16	39,1	6,0	110
6 669	4 069	289	1 122	12 149	2,47	56,3	13,0	15 475
6 975	4 140	2 961	765	14 841	4,00	51,4	4,9	7 525
2 147	192	385	321	3 045	0,68	51,5	2,0	3 380
2 847	2 030	-	947	5 824	1,90	49,4	7,8	7 548
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	638	638	0,19	39,4	-	-
1 675 592	574 407	1 280 330	177 876	3 708 205	759,00	55,8	5,8	2 120 325
2 680	39	19	842	3 580	1,60	29,0	18,0	9 330
-	-	-	-	-	-	-	-	-
388	-	-	-	388	0,16	54,2	6,0	-
3 303	460	104	-	3 867	1,10	47,0	15,0	7 300
34 400	4 418	23 266	3 919	66 003	16,37	61,9	12,4	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	3 483
-	-	-	-	-	-	-	-	-

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Cape and Walvis Bay continued</i>									
Colchester	1991	73	-	-	-	73	78	5	73
Colesberg	6/90	563	84	4	28	679	-	-	-
Colleen Glen	1991	72	-	-	-	72	77	5	72
Concordia	1991	-	-	-	-	-	-	-	-
Cookhouse	1991	210	-	-	-	210	210	-	210
Cradock	6/90	1 886	168	24	110	2 188	2 543	657	1 886
Crossroads	6/90	17	-	-	-	17	1 703	1 046	657
Cumakala	1991	354	-	-	-	354	917	563	354
Daleview	1991	311	-	-	-	311	363	52	311
Danielskuil	1991	451	-	-	-	451	451	-	451
Darling	6/90	547	38	22	4	611	787	226	561
De Aar	6/90	1 906	286	22	57	2 271	6 278	1 810	4 468
De Doorns	6/90	351	65	10	21	447	857	40	817
De Kelders	6/88	213	-	-	-	213	280	67	213
De Rust	6/90	194	12	-	5	211	336	60	276
Deben	1991	410	-	-	-	410	410	-	410
Delportshoop	6/91	346	24	-	29	399	445	352	93
Dennekruin	1991	20	-	-	-	20	46	26	20
Despatch	6/90	3 845	172	2	14	4 033	3 723	-	3 723
Ditloung	1991	133	-	-	-	133	328	195	133
Dordrecht	6/91	234	65	-	13	312	230	-	230
Douglas	6/91	347	86	-	29	462	890	604	286
Durbanville	6/90	4 987	182	16	252	5 437	6 987	888	6 099
Dwarskersbos	1991	172	-	-	-	172	180	8	172
Dysselsdorp	6/88	115	10	4	25	154	-	-	-
East London	6/91	23 779	2 437	261	1	26 478	-	-	-
Eendekuil	1991	93	-	-	-	93	124	31	93
Elandsbaai	1991	50	15	4	-	69	215	165	50
Elliot	1991	396	26	7	-	429	423	27	396
Ethembeni	1991	19	-	-	-	19	407	388	19
Eureka	1991	34	-	-	-	34	209	175	34
Ezibeleni (Transkei)	1991	-	-	-	-	-	-	-	-
Fish Hoek	1991	3 852	-	-	-	3 852	3 852	-	3 852
Fisherhaven	1991	146	-	-	-	146	165	19	146
Fort Beaufort	6/90	739	87	8	61	895	4 165	351	3 814
Fort Jackson (Ciskei)	1991	-	-	-	-	-	-	-	-
Franschhoek	6/90	477	94	2	92	665	945	-	945
Franskraalstrand	1991	524	-	-	-	524	540	16	524
Fraserburg	1991	617	11	-	-	628	617	-	617
Galeshewe	6/91	7 340	15	1	-	7 356	9 547	1 644	7 903
Gansbaai	6/90	507	45	6	-	558	581	134	447
Ganyesa (Boph.)	6/91	141	10	-	2	153	-	-	-
Garies	6/91	197	28	5	17	247	280	83	197
George	6/90	10 511	1 272	152	47	11 982	10 100	-	10 100
Ginsberg	1991	522	-	-	-	522	1 121	599	522
Goedverwacht	1991	157	-	-	-	157	253	96	157
Gompo Town	1991	468	-	-	-	468	3 117	2 649	468
Gonubie	6/91	2 087	114	-	634	2 835	2 519	-	2 519
Goodwood	12/90	11 265	989	84	-	12 338	11 167	-	11 167
Gordon's Bay	6/90	1 610	72	-	-	1 682	1 660	-	1 660
Gouda	1991	153	-	-	-	153	230	77	153
Gouritsmond	6/88	163	4	-	-	167	-	-	-
Graaff-Reinet	6/91	2 461	451	-	44	2 956	3 960	1 863	2 097
Graafwater	6/90	328	13	-	-	341	331	3	328
Grabouw	1991	1 147	-	-	-	1 147	1 563	416	1 147
Grahamstown	6/91	3 433	675	34	115	4 257	3 732	-	3 732
Great Brak River	6/90	1 623	59	10	7	1 699	1 243	114	1 129
Greenhaven	1991	650	-	-	-	650	650	-	650
Greyton	1991	1 271	-	-	-	1 271	1 271	-	1 271
Griekwastad	6/91	180	28	2	39	249	-	-	-
Groblershoop	1991	43	-	-	-	43	132	89	43
Grootdrink	1991	1	-	-	-	1	159	158	1
Hanover	1991	30	-	-	-	30	103	73	30
Hartenbos	6/87	942	63	-	-	1 005	1 029	135	894
Hartswater	6/91	520	205	24	-	749	756	180	576

^a Source: CSIR

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				
-	-	-	-	-	-	-	-	-
1 200	677	60	460	2 397	2,60	39,0	2,7	13 315
-	-	-	-	-	-	-	-	-
-	-	-	897	897	0,27	38,4	-	-
-	-	-	-	-	-	-	-	900
21 000	1 800	300	1 300	24 400	6,80	43,0	-	40 016
41	-	-	72	113	-	-	-	90 000
-	-	-	-	-	-	-	-	6 000
-	-	-	-	-	-	-	-	-
-	-	-	10 095	10 095	2,19	52,7	-	-
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
-	-	-	-	-	-	-	-	-
5 71	317	-	1 295	2 183	0,25	51,5	11,2	7 500
-	-	-	-	-	-	-	-	-
34 410	729	429	160	35 728	8,50	63,2	8,0	20 000
-	-	-	-	-	-	-	-	-
790	363	267	2 138	3 558	5,84	59,2	-	13 500
3 468	4 831	-	1 500	9 799	2,54	48,3	5,7	10 000
50 807	4 283	7 401	2 888	65 379	20,60	52,6	11,0	21 500
-	-	-	-	-	-	-	-	500
392	240	192	742	1 566	0,50	35,8	5,0	15 000
120 052	63 279	384 695	9 599	577 625	130,50	60,0	6,4	86 000
-	-	-	-	-	-	-	-	500
-	-	-	1 487	1 487	0,42	40,8	-	821
4 971	462	113	-	5 546	1,12	56,5	-	5 331
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	11 376	11 376	2,86	45,4	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	12 895
5 653	2 148	776	6 788	15 365	3,90	52,0	14,0	24 417
-	-	-	139 336	139 336	31,15	51,1	-	-
2 747	1 810	772	2 398	7 727	2,20	85,0	6,6	3 460
-	-	-	-	-	-	-	-	-
2 000	115	-	-	2 115	0,43	56,0	7,0	2 289
28 268	210	24	-	28 502	11,97	46,1	-	70 458
2 770	246	1 881	-	4 897	1,75	40,3	21,0	2 450
1 093	929	-	163	2 185	0,65	57,7	6,0	60 000
589	443	35	402	1 469	0,32	49,9	10,0	1 352
59 088	25 616	66 661	13 089	164 454	39,96	57,8	8,9	100 033
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
4 648	-	-	-	4 648	-	-	-	112 000
18 369	4 090	-	1 032	23 491	4,61	60,1	5,0	8 500
81 015	19 023	98 723	3 000	201 761	45,20	63,2	6,0	38 064
10 338	3 293	-	505	14 136	3,70	56,1	8,0	4 300
-	-	-	-	-	-	-	-	1 300
900	200	-	-	1 100	0,30	41,9	-	162
12 451	13 291	-	2 412	28 154	5,90	66,0	6,9	30 466
670	640	-	120	1 430	0,35	44,2	9,5	1 600
-	-	-	1 079	1 079	0,28	43,4	-	10 300
24 959	12 138	30 834	2 847	70 778	17,40	53,0	9,7	74 458
4 194	600	4 006	2	8 802	2,50	49,4	4,5	8 000
-	-	-	-	-	-	-	-	-
-	-	-	1 630	1 630	0,45	41,2	-	-
918	494	13	739	2 164	0,68	38,0	12,9	3 698
-	-	-	-	-	-	-	-	550
-	-	-	-	-	-	-	-	-
-	-	-	1 479	1 479	0,32	52,0	-	5 700
3 663	1 287	-	-	4 950	1,60	28,3	5,0	2 010
5 420	4 599	6 354	695	17 068	4,65	48,3	7,2	3 460

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)			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 houses	Those not electrified	Those electrified	Domestic	Business	Industry	Not defined and other	Total				
<i>Cape and Walvis Bay continued</i>																		
Hawston	6/88	230	5	—	1	236	838	608	230	—	—	—	1 770	1 770	0,75	45,6	12,0	4 857
Heidelberg	1991	963	—	—	—	963	1 212	249	963	—	—	—	6 129	6 129	1,33	52,7	—	5 981
Herbertdale	1991	101	—	—	—	101	101	—	101	—	—	—	—	—	—	—	—	452
Hermanus	6/90	3 395	313	21	7	3 736	3 767	—	3 767	—	—	—	—	—	8,08	54,3	6,3	8 568
Hofmeyr	1991	110	20	—	1	131	227	117	110	—	—	—	99	1 064	0,27	45,5	—	3 122
Hondeklipbaai	1991	55	—	—	—	55	76	21	55	—	—	—	—	—	—	—	—	—
Hopefield	6/90	379	26	4	33	442	214	—	214	—	—	—	645	3 236	1,00	53,0	9,0	4 630
Hopetown	6/90	275	50	8	—	333	814	539	275	—	—	—	—	4 133	1,18	47,9	—	6 450
Hornlee	1991	1 068	—	—	—	1 068	1 533	465	1 068	—	—	—	—	—	—	—	—	—
Huhudi	1991	535	—	—	—	535	1 815	1 280	535	—	—	—	—	—	—	—	—	15 000
Humansdorp	6/91	838	286	—	456	1 580	833	33	800	—	—	—	854	13 619	7,67	47,0	18,5	2 500
Ibhayi	1991	9 562	—	—	—	9 562	27 319	17 757	9 562	—	—	—	—	—	—	—	—	—
Ikapa	1991	—	—	—	—	—	—	—	—	—	—	—	5 798	5 798	1,54	43,1	—	—
Imfuleni	6/88	44	3	—	—	47	—	—	—	—	—	—	—	207	0,28	51,4	—	6 700
Indwe	6/89	165	—	—	—	165	191	26	165	—	—	—	—	1 807	0,39	52,4	11,0	6 000
Infanta	1991	65	—	—	—	65	67	2	65	—	—	—	—	—	—	—	—	—
Jamestown	1991	117	—	—	—	117	130	13	117	—	—	—	—	—	—	—	—	2 000
Jan Kempdorp	6/91	591	95	9	—	695	837	335	502	—	—	—	—	—	—	—	—	8 000
Jansenville	1991	215	65	—	—	280	339	124	215	—	—	—	—	2 052	0,50	46,7	15,8	3 268
Jeffreys Bay	1991	3 530	75	3	5	3 613	3 530	—	3 530	—	—	—	—	—	5,72	34,0	15,0	10 000
Jongensfontein	1991	198	2	—	—	200	—	—	—	—	—	—	—	819	0,28	33,8	—	930
Joubertina	1991	332	—	—	—	332	552	220	332	—	—	—	—	—	—	—	—	7 609
Kabah	1991	398	—	—	—	398	1 032	634	398	—	—	—	—	—	—	—	—	—
Kakamas	6/91	658	81	19	8	766	986	563	423	—	—	—	—	—	—	—	—	—
Kalksloot	1991	51	—	—	—	51	156	105	51	—	—	—	—	—	—	—	—	—
Kamieskroon	6/90	92	25	—	—	117	169	77	92	—	—	—	—	—	—	—	—	1 018
Kareedouw	1991	273	—	—	—	273	273	—	273	—	—	—	—	—	—	—	—	1 000
Karos	1991	48	—	—	—	48	147	99	48	—	—	—	—	—	—	—	—	—
Kathu and Dingleton	6/91	1 697	79	10	125	1 911	1 778	—	1 778	—	—	—	—	—	—	—	—	—
Katikati	1991	259	—	—	—	259	672	413	259	—	—	—	—	—	—	—	—	—
Kaya Mandi	1991	62	—	—	—	62	259	197	62	—	—	—	—	—	—	—	—	2 000
Kei Mouth	1991	254	—	—	—	254	281	27	254	—	—	—	—	—	—	—	—	—
Keimoes	6/90	617	82	13	72	784	997	534	463	—	—	—	—	—	—	—	—	—
Kei Road	1991	41	—	—	—	41	41	—	41	—	—	—	—	—	—	—	—	13 545
Kenhardt	6/90	215	40	—	12	267	—	—	—	—	—	—	—	—	—	—	—	—
Kenton on Sea	1991	745	—	—	—	745	745	—	745	—	—	—	—	—	—	—	—	—
Keurboomstrand	6/88	91	8	—	3	102	82	8	74	—	—	—	—	—	—	—	—	—
Khanyiso	1991	109	—	—	—	109	282	173	109	—	—	—	—	—	—	—	—	—
Khayelethu South	1991	60	—	—	—	60	255	195	60	—	—	—	—	—	—	—	—	—
Khayamandi	1991	312	—	—	—	312	810	498	312	—	—	—	—	—	—	—	—	—
Khwezinaledi	1991	194	—	—	—	194	504	310	194	—	—	—	—	—	—	—	—	—
Khyelitsha	6/88	673	46	—	23	742	16 826	16 153	673	—	—	—	—	—	—	—	—	150 000
Kimberley	6/91	18 770	866	255	—	19 891	22 000	3 500	18 500	—	—	—	—	—	—	—	—	90 372
King William's Town	6/88	3 821	466	65	—	4 352	3 496	—	3 496	—	—	—	—	—	—	—	—	25 053
Kini Bay	1991	40	—	—	—	40	43	3	40	—	—	—	—	—	—	—	—	—
Kirkwood	6/91	549	112	—	16	677	597	191	406	—	—	—	—	—	—	—	—	—
Klawer	1991	341	47	—	7	395	—	—	—	—	—	—	—	—	—	—	—	—
Kleinmond	1991	1 300	27	6	20	1 353	1 656	552	1 104	—	—	—	—	—	—	—	—	—
Kleinsee	1991	362	—	—	—	362	446	84	362	—	—	—	—	—	—	—	—	1 350
Klipplaat	6/91	117	12	—	33	162	318	223	95	—	—	—	—	—	—	—	—	—
Knysna	6/90	3 564	502	43	118	4 227	3 504	—	3 504	—	—	—	—	—	—	—	—	—
Koekenaap	1991	22	—	—	—	22	36	14	22	—	—	—	—	—	—	—	—	—
Koingnaas	1991	116	—	—	—	116	146	30	116	—	—	—	—	—	—	—	—	—
Komga	1991	306	16	5	—	327	248	27	221	—	—	—	—	—	—	—	—	—
Koringberg	1991	86	—	—	—	86	86	—	86	—	—	—	—	—	—	—	—	13 887
Kraaifontein	6/90	6 657	134	18	—	6 809	7 494	—	7 494	—	—	—	—	—	—	—	—	350
Kruisfontein	1991	528	—	—	—	528	1 202	674	528	—	—	—	—	—	—	—	—	41 489
Kuils River	1991	5 512	244	18	19	5 793	5 512	—	5 512	—	—	—	—	—	—	—	—	16 000
Kuisebmond	6/87	934	14	14	—	962	1 692	—	1 692	—	—	—	—	—	—	—	—	27 340
Kuruman	6/91	1 713	335	99	12	2 159	2 265	33	2 232	—	—	—	—	—	—	—	—	10 363
Kutlwano	6/91	2	1	—	2	5	37	35	2	—	—	—	—	—	—	—	—	12 800
Kuyasa	1991	190	—	—	—	190	846	656	190	—	—	—	—	—	—	—	—	—
KwaNobuhle	1991	350	—	—	—	350	350	—	350	—	—	—	—	—	—	—	—	—
KwaNojoli	1991	216	—	—	—	216	1 091	875	216	—	—	—	—	—	—	—	—	120 000
KwaNomzamo	1991	191	—	—	—	191	496	305	191	—	—	—	—	—	—	—	—	—
KwaNonqubela	1991	228	—	—	—	228	590	362	228	—	—	—	—	—	—	—	—	4 000

^a Source: CSIR

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Cape and Walvis Bay continued</i>									
KwaNonqaba	1991	421	-	-	-	421	841	420	421
KwaNonzame	1991	528	-	-	-	528	1 370	842	528
KwaNonzwakazi	1991	155	-	-	-	155	401	246	155
KwaTinidubu	1991	696	-	-	-	696	1 805	1 109	696
KwaZamukucinga	1991	145	-	-	-	145	376	231	145
KwaZamuxolo	1991	21	-	-	-	21	642	621	21
KwaZenzele	6/91	355	10	-	7	372	394	242	152
Ladismith	1991	531	76	3	-	610	971	440	531
Lady Grey	6/90	178	50	-	3	231	-	-	-
Laingsburg	6/90	343	41	-	8	392	-	-	-
Lambert's Bay	6/90	700	22	-	8	730	930	230	700
Langa	1991	2 241	-	-	-	2 241	5 645	3 404	2 241
Langebaan	1991	730	34	-	-	764	682	-	682
Langleg	1991	-	-	-	-	-	-	-	-
Leerkrans	1991	-	-	-	-	-	113	113	0
Leeu-Gamka	1991	124	-	-	-	124	200	76	124
Lingeletu (Adelaide)	1991	24	-	-	-	24	1 331	1 307	24
Lingelihle	1991	710	-	-	-	710	1 842	1 132	710
Lingeletu West	6/89	3 278	71	-	29	3 378	6 137	3 517	2 620
Loeriesfontein	6/90	252	31	-	21	304	-	-	-
Louis Rood	2/91	216	2	-	-	218	-	-	-
Louisvale	1991	-	-	-	-	-	400	400	0
Loxton	6/90	71	21	-	29	121	190	116	74
Luckhoff	1991	303	12	-	-	315	436	133	303
Lukhanyisweni	1991	5	-	-	-	5	192	187	5
Lutzburg	1991	3	-	-	-	3	9	6	3
Lutzville	6/90	196	28	2	51	277	175	78	97
Luxolweni	1991	189	-	-	-	189	490	301	189
Lwandle	1991	17	-	-	-	17	45	28	17
Lyciumville	1991	83	-	-	-	83	306	223	83
Maclear	1991	-	-	-	-	-	-	-	-
Malmesbury	6/90	2 362	269	83	62	2 776	2 875	223	2 652
Marydale	6/91	112	10	4	14	140	420	304	116
Masakhane	1991	148	-	-	-	148	383	235	148
Masibambane	1991	248	-	-	-	248	644	396	248
Masinyusane	1991	73	-	-	-	73	217	144	73
Mataleng	1991	139	-	-	-	139	616	477	139
Matjieskloof	1991	226	-	-	-	226	226	-	226
Matlomola	6/91	12	3	-	1	16	210	201	9
Mavuya	1991	282	-	-	-	282	730	448	282
Mbekweni	1991	1 524	-	-	-	1 524	3 030	1 506	1 524
McGregor	1991	215	-	-	-	215	215	-	215
Mdantsane	1991	-	-	-	-	-	-	-	-
Melkbos/Bloubergstrand	6/90	1 834	64	9	18	1 925	858	79	779
Mfuleni	6/90	419	5	1	7	432	536	117	419
Middelburg	1991	980	140	34	-	1 154	783	-	783
Middleton	1991	62	-	-	-	62	101	39	62
Midros	1991	252	-	-	-	252	1 107	855	252
Milnerton	1991	12 085	443	65	31	12 624	12 085	-	12 085
Mlungisi	1991	1 359	-	-	-	1 359	3 524	2 165	1 359
Molteno	6/90	229	18	4	-	251	230	1	229
Montagu	6/90	1 149	275	15	1	1 440	1 380	141	1 239
Moorreesburg	6/90	1 629	105	25	36	1 795	1 606	-	1 606
Morokweng (Boph.)	6/91	13	-	-	-	13	-	-	-
Mossel Bay	6/90	4 993	580	71	372	6 016	5 616	1 329	4 287
Motherwell	6/89	1 390	6	-	4	1 400	10 546	9 156	1 390
Mothibistad (Boph.)	6/91	650	60	-	3	713	-	-	-
Motswedimosa	6/91	77	3	-	3	83	341	264	77
Munnikville	1991	51	-	-	-	51	51	-	51
Murraysburg	1991	503	-	-	-	503	503	-	503
Mzamohle	1991	22	-	-	-	22	1 084	1 062	22
Mzivabantu	1991	25	-	-	-	25	110	85	25
Nababeep	1991	514	-	-	-	514	514	-	514
Napier	6/90	346	23	1	24	394	584	166	418
Nature's Valley	6/88	293	1	-	2	296	-	-	-

^a Source: CSIR

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				
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	4 000
-	-	-	-	-	-	-	-	4 000
-	-	-	-	-	-	-	-	5 000
8 000	10 000	-	650	18 650	0,96	37,0	7,0	14 000
5 020	877	2 957	1 000	9 854	1,94	58,0	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	-	-	2 052	7 071	1,64	49,3	16,0	1 980
-	-	-	518	518	0,17	35,4	-	-
-	-	-	-	-	-	-	-	-
235	-	-	-	235	-	-	-	10 000
-	-	-	-	-	-	-	-	-
862	400	-	277	1 539	-	56,0	23,5	298 000
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
-	-	-	1 053	1 053	0,25	48,1	-	1 200
-	-	-	-	-	-	-	-	1 500
-	-	-	-	-	-	-	-	-
892	503	11	456	1 862	0,68	35,2	28,0	1 700
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
16 421	6 597	17 594	3 484	45 288	0,70	56,5	-	8 370
376	162	8	4 676	911	10,50	59,0	7,0	18 236
-	-	-	365	-	2,50	49,9	2,0	2 227
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
32	20	-	54	106	0,18	19,2	4,6	1 253
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
15 684	1 090	2 568	2 612	21 954	33,40	45,0	-	200 000
2 992	-	-	-	2 992	6,00	44,0	9,5	9 055
10 011	3 466	5 776	-	19 253	-	-	5,0	6 000
-	-	-	-	-	4,03	54,5	12,2	17 005
-	-	-	-	-	-	-	-	-
-	-	-	3 084	3 084	0,85	41,26	-	47 581
-	-	-	-	-	-	-	-	26 000
1 619	1 181	592	-	3 392	1,10	37,0	3,0	16 780
4 719	1 005	7 884	1 901	15 509	3,68	53,0	9,0	13 217
6 526	2 807	966	1 943	12 242	3,30	52,3	3,3	6 928
250	-	-	-	250	0,12	39,5	6,0	-
29 214	14 634	31 047	5 068	79 963	20,00	60,0	11,1	38 320
680	81	-	-	761	-	-	8,0	100 000
4 000	4 800	-	90	8 890	2,44	56,4	6,0	15 000
612	84	21	-	717	0,18	42,6	6,0	3 200
-	-	-	-	-	-	-	-	-
-	-	-	1 679	1 679	0,39	49,2	-	3 953
-	-	-	-	-	-	-	-	500
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	750
2 174	145	6	151	2 476	0,75	72,2	12,5	1 801
292	940	-	180	1 412	0,50	32,2	-	-

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Cape and Walvis Bay continued</i>									
Nduli	1991	78	-	-	-	78	202	124	78
Neilersdrif	1991	6	-	-	-	6	42	36	6
New Crossroads	6/90	530	-	-	-	530	-	-	-
New Horizons	1991	403	-	-	-	403	403	-	403
Newtown	1991	733	-	-	-	733	1 185	452	733
Niekerkshoop	6/90	57	10	-	-	67	187	130	57
Nieu-Bethesda	1991	136	-	-	-	136	244	108	136
Nieuwoudtville	12/90	101	14	1	23	139	342	235	107
Nkqubela	1991	44	-	-	-	44	114	70	44
Nkululeko	1991	324	-	-	-	324	840	516	324
Nkwenkezi	1991	561	-	-	-	561	1 559	998	561
Nolukhanyo	1991	203	-	-	-	203	527	324	203
Nomonde	1991	463	-	-	-	463	1 200	737	463
Nompumelelo	1991	70	-	-	-	70	311	241	70
Norlim (Boph.)	1991	-	-	-	-	-	-	-	-
Noupoort	6/90	494	18	-	-	512	-	-	-
Nozizwe	1991	2	-	-	-	2	178	176	2
Nuwerus	2/91	19	8	-	-	27	-	-	-
Nyanga	6/90	630	12	-	-	642	-	-	-
Nyarha	1991	284	-	-	-	284	736	452	284
Oester Bay	1991	155	-	-	-	155	165	10	155
Okiep	1991	332	-	-	-	332	332	-	332
Olifantshoek	6/91	288	42	8	40	378	568	285	283
Onrusrivier	1991	688	-	-	-	688	710	22	688
Oudekraalfontein	1991	320	-	-	-	320	533	213	320
Oudtshoorn	6/90	5 632	-	253	131	6 016	7 113	1 311	5 802
Oviston	1991	-	-	-	-	-	-	-	-
Paarl	6/90	13 997	867	233	3 756	18 853	14 702	-	14 702
Paballelo	1991	25	-	-	-	25	1 235	1 210	25
Pacaltsdorp	6/89	924	17	10	-	951	3 606	751	2 855
Paradysstrand	1991	193	-	-	-	193	205	12	193
Parow	6/90	14 369	1 276	269	8	15 922	16 779	-	16 779
Patensie	1991	212	-	-	-	212	381	169	212
Paterson	1991	119	-	-	-	119	170	51	119
Pearly Beach	6/88	249	2	-	-	251	-	-	-
Pearston	6/86	210	-	-	-	210	279	30	249
Petrusville	1991	143	-	-	-	143	358	215	143
Philipstown	1991	292	-	-	-	292	543	251	292
Piketberg	6/90	1 083	78	10	31	1 202	1 300	217	1 083
Pinelands	6/89	3 299	-	-	-	3 299	3 299	-	3 299
Plettenberg Bay	6/90	2 535	258	19	988	3 800	2 159	-	2 159
Pofadder	6/90	221	36	-	30	287	800	364	436
Pomfret	1991	-	-	-	-	-	-	-	-
Port Alfred	6/88	1 516	196	-	46	1 758	226	-	226
Port Elizabeth	6/91	63 949	6 160	642	1	70 752	62 442	-	62 442
Port Nolloth	6/90	750	45	4	5	804	720	390	330
Porterville	6/90	427	59	5	12	503	820	393	427
Postmasburg	6/91	1 023	74	16	174	1 287	1 611	626	985
Prieska	6/90	620	149	17	79	865	1 562	909	653
Prince Alfred Hamlet	1991	347	-	-	-	347	436	89	347
Pringle Bay	1991	363	-	-	-	363	374	11	363
Prins Albert	1991	681	-	-	450	1 131	897	216	681
Queenstown	6/90	3 421	706	15	1	4 143	3 559	943	2 616
Qumrha	1991	171	-	-	-	171	444	273	171
Ratanang	6/91	20	7	-	-	27	268	228	40
Ravensmead	1991	2 494	-	-	-	2 494	4 031	1 537	2 494
Rawsonville	1991	255	-	-	-	255	296	41	255
Redelinghuys	6/90	43	-	-	-	43	60	17	43
Reivilo	6/91	702	18	1	19	740	154	-	154
Rini	1991	159	-	-	-	159	4 139	3 980	159
Richmond	6/90	230	21	-	-	251	502	29	273
Riebeeck East	1991	38	-	-	-	38	40	2	38
Riebeeck-Kasteel	1991	248	-	-	-	248	317	69	248
Ritchie	1991	456	-	-	-	456	456	-	456
Riversdale	1991	1 924	254	15	-	2 193	1 924	-	1 924

^a Source: CSIR

Town	Financial year ended	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				
Nduli	1991	-	-	-	-	-	-	-	-	1 500
Neilersdrif	1991	-	-	-	-	-	-	-	-	-
New Crossroads	6/90	-	-	-	-	-	-	-	15,0	13 437
New Horizons	1991	-	-	-	-	-	-	-	-	-
Newtown	1991	-	-	-	-	-	-	-	-	-
Niekerkshoop	6/90	387	70	-	-	457	0,20	50,0	15,0	1 100
Nieu-Bethesda	1991	-	-	-	-	-	-	-	-	-
Nieuwoudtville	12/90	311	163	3	234	711	0,25	50,6	13,4	1 200
Nkqubela	1991	-	-	-	-	-	-	-	-	-
Nkululeko	1991	-	-	-	-	-	-	-	-	-
Nkwenkezi	1991	-	-	-	-	-	-	-	-	-
Nolukhanyo	1991	-	-	-	-	-	-	-	-	6 000
Nomonde	1991	-	-	-	-	-	-	-	-	-
Nompumelelo	1991	-	-	-	-	-	-	-	-	2 200
Norlim (Boph.)	1991	-	-	-	37 389	37 389	7,51	56,9	-	-
Noupoort	6/90	2 722	217	-	-	2 939	1,30	49,0	8,9	8 000
Nozizwe	1991	-	-	-	-	-	-	-	-	1 500
Nuwerus	2/91	83	35	-	10	128	0,08	37,4	20,9	194
Nyanga	6/90	-	-	-	-	-	-	-	5,0	49 321
Nyarha	1991	-	-	-	-	-	-	-	-	-
Oester Bay	1991	-	-	-	284	284	0,09	34,9	-	-
Okiep	1991	-	-	-	-	-	-	-	-	-
Olifantshoek	6/91	2 339	1 246	52	506	4 143	1,11	55,0	13,6	4 000
Onrusrivier	1991	-	-	-	-	-	-	-	-	623
Oudekraalfontein	1991	-	-	-	-	-	-	-	-	-
Oudtshoorn	6/90	38 092	25 612	2 846	-	66 550	19,50	64,4	12,0	15 607
Oviston	1991	-	-	-	1 061	1 061	0,26	47,0	-	-
Paarl	6/90	120 370	6 045	222 251	14 218	362 884	75,80	63,8	3,1	90 411
Paballelo	1991	-	-	-	-	-	-	-	-	10 500
Pacaltsdorp	6/89	5 075	-	-	-	5 075	1,60	50,0	5,0	14 300
Paradysstrand	1991	-	-	-	904	904	0,28	36,6	-	-
Parow	6/90	121 650	47 091	133 045	3 986	305 772	85,30	55,2	3,9	75 000
Patensie	1991	-	-	-	-	-	-	-	-	3 000
Paterson	1991	-	-	-	-	-	-	-	-	-
Pearly Beach	6/88	602	88	-	-	690	0,50	15,8	-	157
Pearston	6/86	1 080	-	-	-	1 080	-	-	-	7 231
Petrusville	1991	-	-	-	1 304	1 304	0,28	54,1	-	-
Philipstown	1991	-	-	-	1 209	1 209	0,25	54,4	-	7 894
Piketberg	6/90	4 119	2 106	2 727	796	9 748	3,00	56,5	4,0	5 701
Pinelands	6/89	-	-	-	-	-	-	-	-	11 540
Plettenberg Bay	6/90	12 537	3 840	8 378	3 588	28 343	8,54	51,3	5,4	12 097
Pofadder	6/90	1 060	2 032	-	1 735	4 827	4,10	49,2	2,8	4 670
Pomfret	1991	-	-	-	11 725	11 725	2,97	45,0	-	-
Port Alfred	6/88	9 750	4 695	-	1 405	15 850	3,25	55,8	10,0	19 030
Port Elizabeth	6/91	496 173	115 429	999 384	515 629	2 126 615	382,90	66,4	5,4	790 000
Port Nolloth	6/90	1 562	416	1 666	104	3 748	0,76	57,4	2,3	6 600
Porterville	6/90	3 183	1 057	720	242	5 202	1,25	53,2	6,3	3 997
Postmasburg	6/91	10 941	2 360	681	3 561	17 543	5,20	51,0	8,5	16 920
Prieska	6/90	4 783	4 527	352	13 565	23 227	4,24	53,5	5,2	13 172
Prince Alfred Hamlet	1991	-	-	-	-	-	-	-	-	1 800
Pringle Bay	1991	-	-	-	-	-	-	-	-	-
Prins Albert	1991	3 654	-	-	-	3 654	0,71	58,47	-	5 436
Queenstown	6/90	30 449	40 510	8 561	470	79 990	19,10	39,0	7,0	95 200
Qumrha	1991	-	-	-	-	-	-	-	-	-
Ratanang	6/91	77	37	-	-	115	0,05	34,7	2,4	1 444
Ravensmead	1991	-	-	-	-	-	-	-	-	-
Rawsonville	1991	-	-	-	-	-	-	-	-	1 600
Redelinghuys	6/90	213	-	-	5	218	0,08	32,8	17,0	95
Reivilo	6/91	2 486	343	1 936	434	5 199	1,32	44,5	25,0	2 750
Rini	1991	229	-	-	-	229	0,07	35,5	-	48 000
Richmond	6/90	1 648	412	-	-					

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Cape and Walvis Bay continued</i>									
Riversonderend	1991	383	60	4	5	452	501	118	383
Robertson	6/90	3 097	282	31	416	3 826	2 742	—	2 742
Rooi-Els	1991	163	—	—	—	163	168	5	163
Sabelo	1991	51	—	—	—	51	226	175	51
Sada (Ciskei)	1991	—	—	—	—	—	—	—	—
Sandbaai	6/88	527	2	—	—	529	668	141	527
Seafiel	1991	126	—	—	—	126	134	8	126
Sedgefield	6/90	932	89	2	—	1 023	1 328	61	1 267
Sesheng	1991	21	—	—	—	21	95	74	21
Sidesaviwa	1991	364	—	—	—	364	944	580	364
Simon's Town	6/89	2 503	—	—	—	2 503	2 504	1	2 503
Sinakho	1991	79	—	—	—	79	740	661	79
Sishen/Kathu	6/88	1 900	39	8	—	1 947	2 300	400	1 900
Soebatsfontein	1991	15	—	—	—	15	18	3	15
Somerset East	6/90	1 382	181	4	24	1 591	980	—	980
Somerset West	6/90	8 347	730	27	—	9 104	8 347	—	8 347
Springbok	6/91	2 347	663	103	227	3 340	2 154	198	1 956
St Francis Bay	1991	586	—	—	—	586	632	46	586
St Helena Bay	1991	583	—	—	—	583	826	243	583
Stanford	6/90	364	12	—	—	376	375	11	364
Steinkopf	6/90	193	12	—	13	218	—	—	—
Stella	6/90	123	46	1	—	170	152	73	79
Stellenbosch	6/90	10 850	610	204	41	11 705	8 977	6	8 971
Sterkspruit	1991	—	—	—	—	—	—	—	—
Sterkstroom	6/90	207	16	—	—	223	241	34	207
Steynsburg	1991	—	—	—	—	—	—	—	—
Steytlerville	1991	—	—	—	—	—	—	—	—
Stilbaai	6/90	1 104	34	3	—	1 141	1 303	199	1 104
Storms River	1991	27	—	—	—	27	29	2	27
Strand	6/90	9 074	843	9	82	10 008	8 137	14	8 123
Strandfontein	6/89	296	5	—	—	301	294	—	294
Struisbaai	1991	609	—	—	—	609	827	218	609
Strydenburg	6/91	150	23	—	76	249	347	273	74
Stutterheim	6/90	670	125	15	25	835	747	58	689
Sutherland	1991	350	—	—	—	350	400	50	350
Swellendam	6/90	1 304	215	16	5	1 540	1 928	752	1 176
Tarkastad	1991	—	—	—	—	—	—	—	—
Taung/Pudimoe (Boph.)	6/91	4 000	88	—	3	4 091	—	—	—
Teslaarsdal	1991	76	—	—	—	76	120	44	76
Theescombe	1991	216	—	—	—	216	230	14	216
Thembalesizwe	1991	9	—	—	—	9	254	245	9
Thembalethu	1991	400	—	—	—	400	1 650	1 250	400
Thembinkosi	1991	8	—	—	—	8	147	139	8
Tidimalo	1991	101	—	—	—	101	450	349	101
Tihakalatlou	6/91	218	4	—	—	222	324	116	208
Touws River	1991	978	57	—	—	1 035	1 383	405	978
Tulbagh	1991	591	—	—	—	591	796	205	591
Two Rivers	1991	125	—	—	—	125	233	108	125
Ugie	1991	116	—	—	—	116	272	156	116
Uitenhage	6/91	11 225	841	54	420	12 540	12 145	1 115	11 030
Uitkyk	1991	6	—	—	—	6	173	167	6
Umasizakhe	1991	132	—	—	—	132	1 350	1 218	132
Uniondale	1991	—	—	—	—	—	—	—	—
Upington	6/91	6 385	560	46	1	6 992	5 927	906	5 021
Uitwanang	6/91	10	6	—	5	21	1 020	999	21
Vaal-Gamagara	6/91	70	—	—	—	70	—	—	—
Van Dyks Bay	6/88	643	2	1	1	647	235	—	235
Vanderkloof	1991	356	15	—	—	371	—	—	—
Vanrhynsdorp	6/90	438	43	—	1	482	630	364	266
Van Wyksvlei	6/91	72	9	—	6	87	292	222	70
Veldrif	6/90	867	59	7	44	977	1 153	208	945
Venterstad	1991	481	21	—	—	502	289	140	149
Vermont	1991	328	—	—	—	328	338	10	328
Victoria West	6/91	701	16	—	7	724	833	126	707
Villiersdorp	6/90	533	72	1	39	645	884	351	533

^a Source: CSIR

Town	Financial year ended	MWh sold				Total	Maximum demand MW/MVA	Average monthly load factor	Distribution loss as a % of kWh sold	Population
		Domestic	Business	Industry	Not defined and other					
Riversonderend	1991	2 533	151	446	7	3 137	0,74	48,6	12,1	1 800
Robertson	6/90	16 782	5 758	30 677	23 275	76 492	18,60	64,4	10,8	17 412
Rooi-Els	1991	—	—	—	—	—	—	—	—	—
Sabelo	1991	—	—	—	—	—	—	—	—	—
Sada (Ciskei)	1991	—	—	—	—	—	—	—	—	—
Sandbaai	6/88	—	—	—	9 866	9 866	2,02	55,7	—	—
Seafiel	1991	1 181	—	—	—	1 181	0,75	18,0	12,0	450
Sedgefield	6/90	—	—	—	—	—	—	—	—	—
Sesheng	1991	3 313	2 269	175	—	5 757	2,30	33,0	20,8	2 600
Sidesaviwa	1991	—	—	—	—	—	—	—	—	—
Simon's Town	6/89	—	—	—	—	—	—	—	—	10 810
Sinakho	1991	163	—	—	—	163	—	—	—	12 000
Sishen/Kathu	6/88	24 800	13 200	1 392	—	39 392	7,92	36,0	3,6	10 000
Soebatsfontein	1991	—	—	—	—	—	—	—	—	—
Somerset East	6/90	23 779	4 774	2 412	3 304	34 269	6,70	59,0	7,3	26 453
Somerset West	6/90	70 223	25 257	8 397	3 092	106 969	27,00	63,5	4,1	24 985
Springbok	6/91	4 691	3 996	1 769	4 461	14 917	1,52	54,0	8,8	8 586
St Francis Bay	1991	—	—	—	3 853	3 853	1,04	42,2	—	—
St Helena Bay	1991	—	—	—	—	—	—	—	—	—
Stanford	6/90	1 296	288	—	—	1 584	0,46	39,3	8,0	1 100
Steinkopf	6/90	1 130	479	—	364	1 973	0,53	51,4	35,5	8 300
Stella	6/90	1 249	1 296	4	—	2 549	0,82	36,6	5,0	680
Stellenbosch	6/90	58 559	28 611	93 419	5 013	185 602	63,90	54,6	7,3	56 886
Sterkspruit	1991	—	—	—	3 326	3 326	0,69	55,0	—	—
Sterkstroom	6/90	983	9	—	—	992	0,40	35,0	23,0	6 245
Steynsburg	1991	—	—	—	3 629	3 629	0,77	54,0	—	5 326
Steytlerville	1991	—	—	—	1 070	1 070	0,26	47,7	—	6 000
Stilbaai	6/90	—	—	—	4 284	4 284	1,50	50,0	10,8	2 950
Storms River	1991	—	—	—	—	—	—	—	—	—
Strand	6/90	53 065	15 040	9 259	4 042	81 406	21,70	60,0	5,1	37 956
Strandfontein	6/89	4 230	440	—	—	4 670	1,57	48,8	—	550
Struisbaai	1991	—	—	—	—	—	—	—	—	—
Strydenburg	6/91	755	190	—	—	945	0,24	40,0	11,0	2 000
Stutterheim	6/90	5 081	2 098	2 752	679	10 610	2,50	50,0	3,0	24 400
Sutherland	1991	—	—	—	1 865	1 865	0,42	50,4	—	1 954
Swellendam	6/90	7 149	2 890	3 646	476	14 161	3,92	51,0	6,2	8 739
Tarkastad	1991	—	—	—	3 002	3 002	0,64	53,7	—	9 000
Taung/Pudimoe (Boph.)	6/91	17 573	16 823	—	750	35 146	9,40	57,0	6,0	185 000
Teslaarsdal	1991	—	—	—	—	—	—	—	—	—
Theescombe	1991	—	—	—	—	—	—	—	—	1 100
Thembalesizwe	1991	—	—	—	—	—	—	—	—	—
Thembalethu	1991	—	—	—	—	—	—	—	—	—
Thembinkosi	1991	—	—	—	—	—	—	—	—	1 300
Tidimalo	1991	—	—	—	—	—	—	—	—	—
Tihakalatlou	6/91	814	502	—	—	1 316	0,41	37,0	2,1	2 400
Touws River	1991	6 700	3 800	—	—	10 500	1,51	54,8	2,1	2 200
Tulbagh	1991	—	—	—	6 554	6 554	1,39	53,8	—	9 004
Two Rivers	1991	—	—	—	—	—	—	—	—	—
Ugie	1991	—	—	—	1 754	1 754	0,39	50,8	—	1 200
Uitenhage	6/91	86 187	20 780	287 430	12 957	407 354	77,40	57,0	2,0	147 000
Uitkyk	1991	—	—	—	—	—	—	—	—	—
Umasizakhe	1991	—	—	—	—	—	—	—	—	—
Uniondale	1991	—	—	—	2 566	2 566	0,58	50,2	—	8 000
Upington	6/91	31 410	32 597	13 930	11 902	89 839	19,87	60,6	5,3	54 200
Uitwanang	6/91	47	163	—	52	262	0,48	44,8		

SOUTH AFRICA: Municipal statistics

Table 25 continued

Town	Financial year ended	Number of customers				Total	Formal housing units ^a (formal houses and flats)		
		Domestic	Business	Industry	Not defined and other		Total houses	Those not electrified	Those electrified
<i>Cape and Walvis Bay continued</i>									
Vioolsdrif	1991	38	—	—	—	38	39	1	38
Vleesbaai	1991	—	—	—	—	—	—	—	—
Vosburg	6/91	63	15	2	30	110	213	—	213
Vredenburg-Saldanha	12/90	3 780	416	74	38	4 308	6 398	2 459	3 939
Vredendal	6/90	1 323	205	34	—	1 562	1 805	131	1 674
Vryburg	6/91	2 377	432	83	7	2 899	2 512	129	2 383
Vuyolwethu	1991	73	—	—	—	73	189	116	73
Waenhuiskraal	6/88	176	2	—	5	183	—	—	—
Walvis Bay	6/91	2 536	218	62	11	2 827	2 829	—	2 829
Warrenton	6/90	931	134	8	26	1 099	909	—	909
Wegdraai	1991	1	—	—	—	1	133	132	1
Wellington	6/90	4 045	386	54	15	4 500	4 226	492	3 734
Wilderness	6/90	766	33	—	—	799	—	—	—
Williston	6/90	260	23	—	36	319	644	381	263
Willowmore	6/90	324	62	1	147	534	975	644	331
Witsand	1991	198	5	—	—	203	83	8	75
Wittedrif	6/88	32	4	—	6	42	—	—	—
Witwater	1991	64	—	—	—	64	103	39	64
Wolseley	6/90	476	47	3	—	526	999	517	482
Wongalethu	1991	135	—	—	—	135	350	215	135
Worcester	6/90	9 561	16 389	1 384	—	27 334	8 940	888	8 052
Yzerfontein	12/90	453	2	—	—	455	472	9	463
Zola	1991	297	—	—	—	297	770	473	297
Zolani	1991	149	—	—	—	149	386	237	149
Zweletemba	6/89	12	17	—	13	42	1 233	1 221	12
Zweihle	6/88	22	2	—	—	24	152	130	22
TOTAL CAPE AND WALVIS BAY		7 38 265	68 894	6 834	11 904	825 897	841 567	168 739	672 828
TOTAL SOUTH AFRICA		2 586 351	182 055	23 370	39 927	2 831 703	2 750 310	470 684	2 279 626

^a Source: CSIR

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				
—	—	—	—	—	—	—	—	—
—	—	—	337	337	0,11	35,5	—	—
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	38 755
7 170	4 815	3 000	1 029	16 014	3,60	48,0	6,3	8 198
20 280	6 158	18 043	7 962	52 443	13,20	63,2	12,4	34 547
2 630	2 410	—	960	6 000	4,00	17,1	—	726
15 995	5 085	34 159	19 209	74 448	16,90	66,0	4,3	30 452
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	0,04	41,0	—	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	7,1	63 900
2 774	53	—	21	2 848	1,00	32,5	11,0	212
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
79	28	—	—	107	0,03	40,7	—	12 500
—	—	—	—	—	—	—	—	1 390
4 607 823	1 512 838	4 877 338	1 459 528	12 417 481	—	—	—	7 579 517
19 865 130	7 009 463	25 956 629	5 780 328	58 571 505	—	—	—	25 275 921

SUB-SAHARAN AFRICA: Nominal generating capacity

Table 26

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports and South African Development Coordination Conference (SADCC) Yearbook 1989

Country	Hydro	Thermal	Nuclear	Geo-thermal	Total	% of total
Angola ^{a, e}	324,25	198,86	–	–	523,11	1,08
Bophuthatswana ^{b, f}	–	–	–	–	–	–
Botswana ^{a, b, f}	–	219,00	–	–	219,00	0,45
Ciskei ^{b, h}	–	–	–	–	–	–
Kenya ^e	628,50	168,10	–	45,00	841,60	1,74
Lesotho ^{a, b, f}	3,27	1,56	–	–	4,83	0,01
Malawi ^{a, f}	144,60	25,20	–	–	169,80	0,35
Mozambique ^{a, c, h}	101,15	207,02	–	–	308,17	0,64
Namibia ^{a, b, g}	240,00	120,00	–	–	360,00	0,74
South Africa ^{b, h}	541,20	36 890,00	1 930,00	0,00	39 361,20	81,28
Swaziland ^{a, b, f}	40,50	9,50	–	–	50,00	0,10
Tanzania ^{a, g}	326,22	–	–	–	326,22	0,67
Transkei ^{b, f}	61,40	–	–	–	61,40	0,13
Venda ^{b, f}	–	–	–	–	–	–
Zaire ^d	2 551,30	51,00	–	–	2 602,30	5,37
Zambia ^{a, f}	1 631,75	–	–	–	1 631,75	3,37
Zimbabwe ^{a, g}	666,00	1 299,50	–	–	1 965,50	4,06
Total, MW	7 260,14	39 189,74	1 930,00	45,00	48 424,88	100,00
^a SADCC	3 477,74	2 080,64	–	–	5 558,38	11,48
^b South African Customs Union, MW	886,37	37 240,06	1 930,00	0,00	40 056,43	82,72

^c Excludes Cahora Bassa

^d For the year ended 31 December 1990

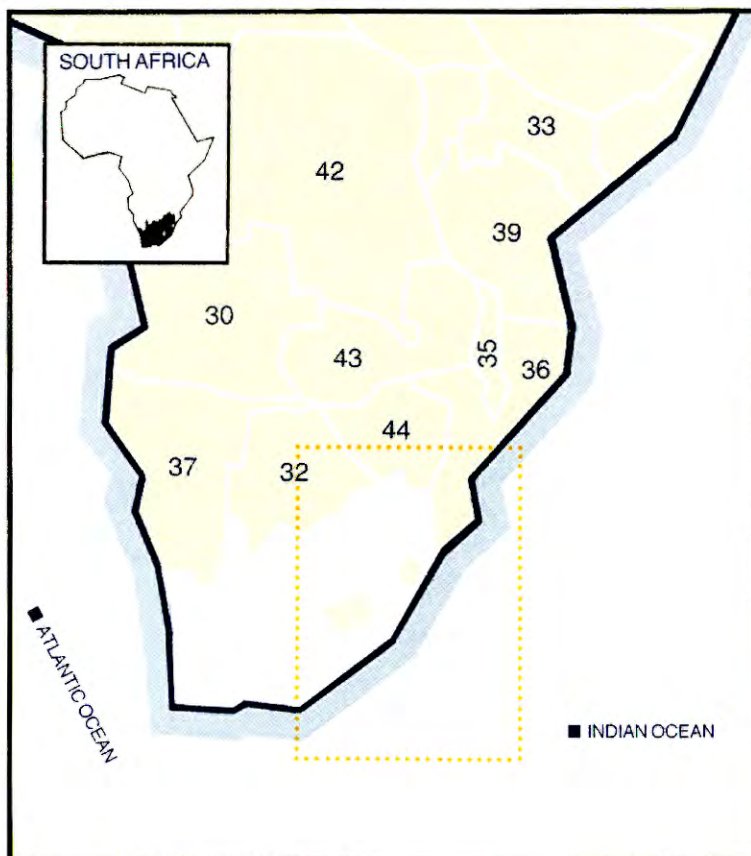
^e For the year ended 30 June 1991

^f For the year ended 31 March 1992

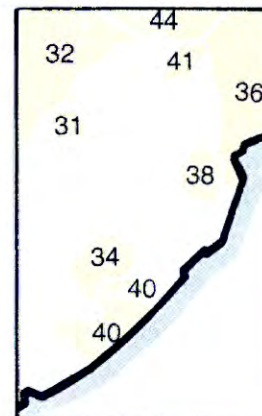
^g For the year ended 30 June 1992

^h For the year ended 31 December 1992

Electricity in Sub-Saharan Africa:



- Table 30: Angola
- Table 31: Bophuthatswana
- Table 32: Botswana
- Table 33: Kenya
- Table 34: Lesotho
- Table 35: Malawi
- Table 36: Mozambique
- Table 37: Namibia
- Table 38: Swaziland
- Table 39: Tanzania
- Table 40: Transkei
- Table 41: Venda
- Table 42: Zaire
- Table 43: Zambia
- Table 44: Zimbabwe



SUB-SAHARAN AFRICA: Nominal generating capacity

Table 26

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports and South African Development Coordination Conference (SADCC) Yearbook 1989

Country	Hydro	Thermal	Nuclear	Geo-thermal	Total	% of total
Angola ^{a, e}	324,25	198,86	-	-	523,11	1,08
Bophuthatswana ^{b, f}	-	-	-	-	-	-
Botswana ^{a, b, f}	-	219,00	-	-	219,00	0,45
Ciskei ^{b, h}	-	-	-	-	-	-
Kenya ^e	628,50	168,10	-	45,00	841,60	1,74
Lesotho ^{a, b, f}	3,27	1,56	-	-	4,83	0,01
Malawi ^{a, f}	144,60	25,20	-	-	169,80	0,35
Mozambique ^{a, c, h}	101,15	207,02	-	-	308,17	0,64
Namibia ^{a, b, g}	240,00	120,00	-	-	360,00	0,74
South Africa ^{b, h}	541,20	36 890,00	1 930,00	0,00	39 361,20	81,28
Swaziland ^{a, b, i}	40,50	9,50	-	-	50,00	0,10
Tanzania ^{a, g}	326,22	-	-	-	326,22	0,67
Transkei ^{b, f}	61,40	-	-	-	61,40	0,13
Venda ^{b, f}	-	-	-	-	-	-
Zaire ^d	2 551,30	51,00	-	-	2 602,30	5,37
Zambia ^{a, f}	1 631,75	-	-	-	1 631,75	3,37
Zimbabwe ^{a, g}	666,00	1 299,50	-	-	1 965,50	4,06
Total, MW	7 260,14	39 189,74	1 930,00	45,00	48 424,88	100,00
^a SADCC	3 477,74	2 080,64	-	-	5 558,38	11,48
^b South African Customs Union, MW	886,37	37 240,06	1 930,00	0,00	40 056,43	82,72

^c Excludes Cahora Bassa

^d For the year ended 31 December 1990

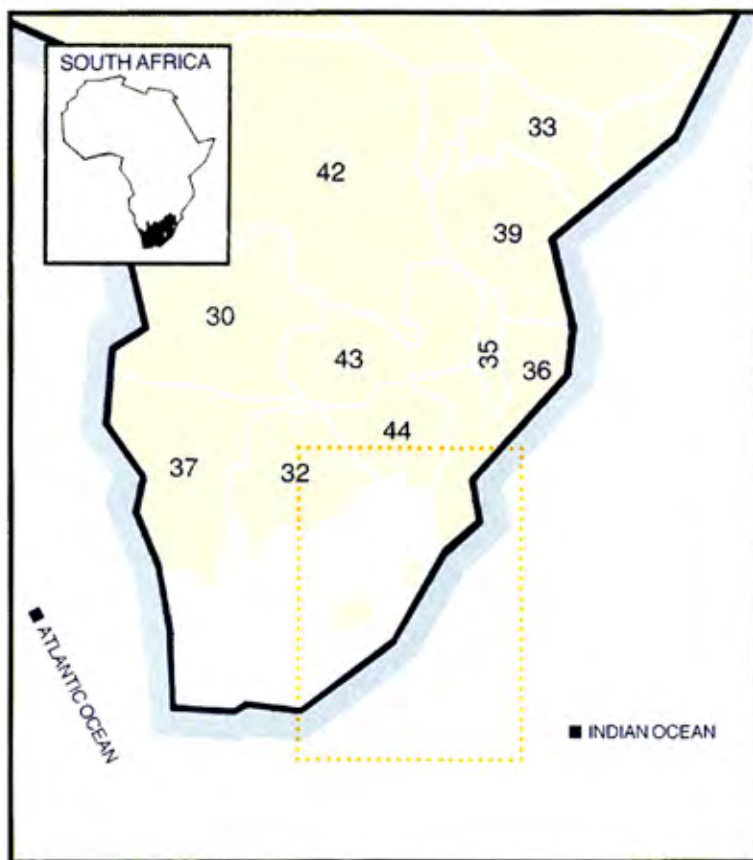
^e For the year ended 30 June 1991

^f For the year ended 31 March 1992

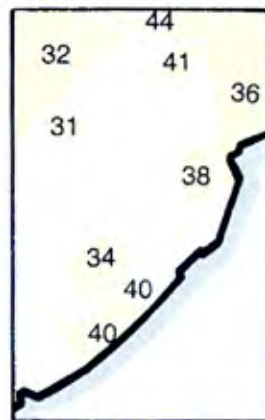
^g For the year ended 30 June 1992

^h For the year ended 31 December 1992

Electricity in Sub-Saharan Africa:



- Table 30: Angola
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- Table 32: Botswana
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- Table 34: Lesotho
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- Table 36: Mozambique
- Table 37: Namibia
- Table 38: Swaziland
- Table 39: Tanzania
- Table 40: Transkei
- Table 41: Venda
- Table 42: Zaire
- Table 43: Zambia
- Table 44: Zimbabwe



SUB-SAHARAN AFRICA: Gross production of electricity

Table 27

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports and Southern African Development Co-ordination Conference (SADCC) Yearbook 1989

Country	Hydro	Thermal	Nuclear	Geo-thermal	Total	% of total
Angola ^{a, e}	840,0	107,0	—	—	947,0	0,50
Bophuthatswana ^{b, f}	—	—	—	—	—	—
Botswana ^{a, b, f}	—	900,9	—	—	900,9	0,47
Ciskei ^{b, h}	—	—	—	—	—	—
Kenya ^e	2 884,0	109,3	—	298,0	3 291,3	1,73
Lesotho ^{a, b, f}	1,9	1,0	—	—	2,9	—
Malawi ^{a, f}	771,5	1,3	—	—	772,8	0,41
Mozambique ^{a, c, h}	178,7	91,3	—	—	270,0	0,14
Namibia ^{a, b, g}	1 149,0	6,8	—	—	1 155,8	0,61
South Africa ^{b, h}	774,9	146 655,5	9 875,8	0,0	157 306,1	82,75
Swaziland ^{a, b, f}	166,3	0,2	—	—	166,5	0,09
Tanzania ^{a, g}	1 823,5	—	—	—	1 823,5	0,96
Transkei ^{b, f}	166,5	—	—	—	166,5	0,09
Venda ^{b, f}	—	—	—	—	—	—
Zaire ^d	6 000,0	155,0	—	—	6 155,0	3,24
Zambia ^{a, f}	8 907,0	—	—	—	8 907,0	4,69
Zimbabwe ^{a, g}	3 160,7	5 076,3	—	—	8 237,0	4,33
Total, GWh	26 824,0	153 104,5	9 875,8	298,0	190 102,3	100,00
^a SADCC, GWh	16 998,6	6 184,7	—	—	23 183,3	12,20
^b South African Customs Union, GWh	2 258,6	147 564,4	9 875,8	0,0	159 698,7	84,01
^c Excludes Cahora Bassa						
^d For the year ended 31 December 1990						
^e For the year ended 30 June 1991						
^f For the year ended 31 March 1992						
^g For the year ended 30 June 1992						
^h For the year ended 31 December 1992						

SUB-SAHARAN AFRICA: Utilisation of nominal generating capacity

(quantities in kilowatt-hours produced per kilowatt)

Table 28

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports and Southern African Development Coordination Conference (SADCC) Yearbook 1989

Country	Hydro	Thermal	Nuclear	Geo-thermal	Total
Angola ^{a, e}	2 591	538	—	—	1 810
Bophuthatswana ^{b, f}	—	—	—	—	—
Botswana ^{a, b, f}	—	4 114	—	—	4 114
Ciskei ^{b, h}	—	—	—	—	—
Kenya ^e	4 589	650	—	6 622	3 911
Lesotho ^{a, b, f}	588	615	—	—	597
Malawi ^{a, f}	5 336	50	—	—	4 551
Mozambique ^{a, c, h}	1 766	441	—	—	876
Namibia ^{a, b, g}	4 788	57	—	—	3 211
South Africa ^{b, h}	1 432	3 975	5 117	0	3 996
Swaziland ^{a, b, f}	4 106	21	—	—	3 330
Tanzania ^{a, g}	5 590	—	—	—	5 590
Transkei ^{b, f}	2 712	—	—	—	2 712
Venda ^{b, f}	—	—	—	—	—
Zaire ^d	2 352	3 039	—	—	2 365
Zambia ^{a, f}	5 459	—	—	—	5 459
Zimbabwe ^{a, g}	4 746	3 906	—	—	4 191
Total	3 695	3 907	5 117	6 622	3 926
^a SADCC	4 888	2 973	—	—	4 171
^b South African Customs Union	2 548	3 963	5 117	—	3 987

^c Excludes Cahora Bassa

^d For the year ended 31 December 1990

^e For the year ended 30 June 1991

^f For the year ended 31 March 1992

^g For the year ended 30 June 1992

^h For the year ended 31 December 1992

SUB-SAHARAN AFRICA: Production, trade and consumption of electricity

(quantities in gigawatt-hours and in kilowatt-hours per capita)

Table 29

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports and Southern African Development Coordination Conference (SADCC) Yearbook 1989

Country	Gross production	Imports	Exports	Total	% of total	Estimated kWh per capita
Angola ^{a, e}	947,0	–	–	947,0	0,49	97
Bophuthatswana ^{b, f}	–	3 382,0	–	3 382,0	1,76	1 563
Botswana ^{a, b, f}	900,9	227,6	–	1 128,5	0,59	868
Ciskei ^{b, h}	–	404,4	–	404,4	0,21	524
Kenya ^e	3 291,3	–	–	3 291,3	1,71	142
Lesotho ^{a, b, f}	2,9	208,2	–	211,1	0,11	122
Malawi ^{a, f}	772,8	–	0,2	772,6	0,40	89
Mozambique ^{a, c, h}	270,0	533,0	–	803,0	0,42	53
Namibia ^{a, b, g}	1 155,8	800,4	288,4	1 667,8	0,87	1 293
South Africa ^{b, h}	157 306,1	334,1	6 179,4	151 460,9	78,75	4 161
Swaziland ^{a, b, f}	166,5	427,7	–	594,2	0,31	782
Tanzania ^{a, g}	1 823,5	–	56,9	1 766,6	0,92	74
Transkei ^{b, f}	166,5	247,0	13,0	400,5	0,21	122
Venda ^{b, f}	–	136,5	–	136,5	0,07	275
Zaire ^d	6 155,0	58,1	61,7	6 151,4	3,20	183
Zambia ^{a, f}	8 907,0	326,0	290,0	8 943,0	4,65	1 144
Zimbabwe ^{a, g}	8 237,0	2 046,2	18,8	10 264,4	5,34	1 124
Total, GWh	190 102,3	9 131,2	6 908,4	192 325,1	100,00	1 071

^a SADCC, GWh

^b South African Customs Union, GWh

^c Excludes Cahora Bassa

^d For the year ended 31 December 1990

^e For the year ended 30 June 1991

^f For the year ended 31 March 1992

^g For the year ended 30 June 1992

^h For the year ended 31 December 1992

SUB-SAHARAN AFRICA: Angola

Table 30

Source: Empresa Nacional de Electricidade, August 1992

Installed generating capacity	Type	Number of units and capacity MW	Nominal capacity MW	Firm energy GWh/year
Independent electricity systems				
Northern system				
Cambambe	Hydro	4 x 45,0	180,0	690,0
Mabubas	Hydro	2 x 5,9 2 x 3,0	17,8	58,0
Capanda ^a	Hydro			
Luanda 1	Gas turbine	1 x 25,6	25,6	179,4
Luanda II	Gas turbine	1 x 30,4	30,4	213,0
Luanda III	Gas turbine	1 x 45,0	45,0	320,0
Refinery	Gas turbine	1 x 10,0	10,0	70,0
Central system				
Lomaum ^b	Hydro	2 x 10,0 3 x 15,0	65,00	157,0
Biopio	Hydro	4 x 3,65 3 x 0,46	15,98	23,0
Quando I	Hydro	1 x 0,5 3 x 0,25	1,25	8,0
Quando II	Hydro	3 x 0,4 1 x 0,6	1,80	
Cunje ^c	Hydro	3 x 0,54	1,62	
TG Biopio	Gas turbine	1 x 22,8	22,80	159,8
Huambo II	Gas turbine	1 x 10,0	10,00	70,0
CT Lobito	Diesel	4 x 5,0	20,00	140,2
Lobito	Diesel	2 x 0,6 1 x 0,86 1 x 1,4	3,46	24,2
Benguela	Diesel	2 x 0,6	1,20	8,4
Huambo I	Diesel	2 x 0,8 1 x 0,86 3 x 1,1 1 x 0,5	6,26	43,0
Kuito	Diesel	1 x 1,1 1 x 0,9 2 x 0,2	2,40	16,8
Southern system				
Matala	Hydro	3 x 13,6	40,80	165,0
Xitoto	Diesel	2 x 5,67	11,34	79,2
Tombwa	Diesel	1 x 1,4	1,40	9,8
Jamba	Diesel	3 x 1,88	5,64	39,2
Tchamutete	Diesel	2 x 1,68	3,36	23,8
Eastern system (no detail available)				
Total			523,11	2 497,8
Future hydro potential (provisionally planned)				
River		Number	Capacity MW	Firm energy GWh/year
Kwanza ^d		37	7 489	31 317
Longa		7	1 190	6 040
Queue-Catumbela		46	5 887	27 915
Cunene		25	1 590	6 746
Cubango		10	349	1 566
Total		125	16 505	73 584

SUB-SAHARAN AFRICA: Angola

Table 30 continued

Source: Empresa Nacional de Electricidade, August 1992

Transmission and distribution equipment

From	To	Circuits	Voltage	Length km
Northern system				
Cambambe	Luanda	1	220	176,0
Cambambe	Viana	1	220	175,0
Cambambe	NDalatando	1	220	73,0
Cambambe ^e	Gabela	1	220	125,0
Cacuso	Malange	1	100	66,0
NDalatando	Cacuso	1	100	93,0
Mabubas	Quibaxe	1	60	106,5
Mabubas	Luanda	2	60	56,5
Central system				
A. Catumbela	Huambo	1	150	118,5
Biopio	Lomaum	1	150	96,5
Biopio	Quileva	1	150	20,0
Lomaum	A. Catumbela	1	150	48,5
Biopio	Catumbela	1	60	20,0
Huambo ^f	Catchiungo	1	60	65,0
Southern system				
Matala	Lubango	1	150	168,0
Matala	Jamba	1	150	120,0
Lubango	Namibe	1	60	162,0
Lubango	Namibe	1	60	162,0
Jamba	Tchamutete	1	60	68,0
Namibe	Tombwa	1	60	93,0
Total, km				2 012,5
Population (estimated)				9 million

^a Under construction - 1st set operational 1993

^b Station under reconstruction - 1st set to restart 1994

^c Out of operation

^d Excludes Capanda hydro station

^e At present operated at 60 kV

^f At present operated at 30 kV

SUB-SAHARAN AFRICA: Bophuthatswana

Table 31

Source: Bophuthatswana Electricity Corporation (BECOR) for year ended 31 March 1992

	1992/93	1991/92	Change %
System load factor, %	64,2	66,0	-2,7
Non-coincident maximum demand, MW	601,1	567,3	6,0
Transmission efficiency, %	96,2	95,3	0,9
Total bulk imports, GWh	3 382,0	3 290,0	2,8
Total bulk sales, GWh	3 253,1	3 135,4	3,8
Distribution losses on bulk sales, %	4,0	4,9	-18,9
Number of customers supplied by BECOR	60 638	54 257	11,8
Power lines added to system, km	333	385	-13,5
Staff employed	961	939	2,3

SUB-SAHARAN AFRICA: Botswana

Table 32

Source: Botswana Power Corporation (BPC) for the year ended 31 March 1993

Source of power	Type			MW
Nominal capacity				
Morupule	Coal			132
Selebi-Phikwe	Coal			65
Gaborone (standby)	Diesel			7
Total nominal capacity, MW				204
Other sources				
Eskom				75
Zimbabwe				100
Total source of power, MW				379
Production and purchases of electricity		1992/93	1991/92	Change
		GWh	GWh	%
Morupule		952	803	18,6
Selebi-Phikwe		122	98	24,4
Gaborone		—	—	—
Imports		100	227	-51,4
Total production and purchased, GWh		1 184	1 128	5,0
Transmission and distribution equipment in service		1992/93	1991/92	Change
		km	km	%
Overhead lines				
220 kV		902	902	—
132 kV		407	407	—
66 kV		344	319	25
33 kV		573	563	10
11 kV		805	736	69
Low voltage		855	793	62
Total transmission line length, km		3 886	3 720	166
Underground cable				
11 kV		205	179	26
Low voltage		197	113	84
Total underground cables, km		402	292	110
Substations (highest voltage)		MVA	MVA	Change MVA
220 kV		480	480	0
132 kV		230	230	0
66/11 kV		32	28	4
33/11 kV		69	65	4
11/0,4 kV		237	233	4
Total, MVA		1 048	1 036	12
Electricity sales by category		1992/93	1991/92	Change
		GWh	GWh	%
Mining		n/a	595,5	—
Commercial		n/a	183,6	—
Domestic		n/a	94,6	—
Government		n/a	66,3	—
Total sales, GWh		990,5	940,0	5,4
Station usage, GWh		132,3	111,7	18,4
Distribution and other losses, GWh		71,2	76,8	-7,3
Total, GWh		1 194,0	1 128,5	5,8

SUB-SAHARAN AFRICA: Botswana

Table 32 continued

Botswana Power Corporation (BPC) for the year ended 31 March 1993

	1992/93	1991/92	% Change
Number of customers			
Commercial/mining	4 023	3 386	18,8
Domestic	25 671	20 968	22,4
Government	1 537	1 237	24,3
Total	31 231	25 591	22,0
System maximum demand, MW	194,50	179,50	8,4
Number of employees	1 745	1 698	2,8
GWh sold per employee	0,568	0,554	2,5
Average selling price, thebe/kWh	18,9	17,3	9,2
Population	–	1 306 926	–

SUB-SAHARAN AFRICA: Kenya

Table 33

Source: Kenya Power and Lighting Company Ltd for the year ended 30 June 1991

Source of power			
Generating capacity, MW	Type	Installed	Sent-out
Tana (KPC)	Hydro	14,4	12,4
Wanjii (KPC)	Hydro	7,4	7,4
Kamburu (TRDC)	Hydro	91,5	84,0
Gitaru (TRDC)	Hydro	145,0	145,0
Kindaruma (TRDC)	Hydro	44,0	44,0
KP & LC	Hydro	6,2	6,2
UEB (imports)	Hydro	30,0	0,0
Masinga (TARDA)	Hydro	40,0	40,0
Kiambere (TARDA)	Hydro	144,0	140,0
Turkwell (KVDA)	Hydro	106,0	106,0
Kipevu	Thermal	98,0	26,0
Olkaria	Geothermal	45,0	43,0
Nbi South	Gas turbine	17,9	13,8
Kipevu	Gas turbine	30,0	30,0
Diesel stations (interconnected)	Diesel	18,3	8,0
Total interconnected system, MW		837,7	705,8
Isolated diesel stations	Diesel	3,9	3,9
Gross generation, MW		841,6	709,7
Energy generated			
	1990/91 GWh	1989/90 GWh	Change %
Hydro	2 884,0	2 691,0	7,2
Thermal	74,0	97,0	-23,7
Geothermal	298,0	336,0	-11,3
Gas turbine	21,0	10,0	110,0
Diesel (interconnected)	0,3	2,0	-85,0
Diesel (isolated system)	14,0	12,0	16,7
Gross generation, GWh	3 291,3	3 148,0	4,6
Auxiliary consumption	33,0	33,0	0,0
System losses	474,0	453,0	4,6
Total sales, GWh	2 784,3	2 662,0	4,6
System peak demand, MW	550	520	5,8
System load factor, %	68,0	68,9	0,0
Transmission and distribution lines in service			
	1990/91 km	1989/90 km	Change km
220 kV	877	657	220
132 kV	1 980	1 980	0
66 kV	451	444	7
40 kV	113	113	0
33 kV	3 342	3 300	42
11 kV	7 870	7 627	243
Total, km	14 633	14 121	512

SUB-SAHARAN AFRICA: Kenya

Table 33 continued

Source: Kenya Power and Lighting Company Ltd for the year ended 30 June 1991

	1990/91	1989/90	Change
	GWh	GWh	%
Sales of electricity			
Domestic	508,0	488,0	4,1
Small commercial	315,0	292,0	7,9
Irrigation	39,8	27,5	44,7
Medium and large commercial	884,0	842,0	5,0
Medium and large industrial	839,0	815,0	2,9
Off-peak	108,5	116,6	-6,9
Street lighting	14,1	13,0	8,5
Rural electrification	76,3	66,5	14,8
Total sales, GWh	2 784,7	2 660,6	4,7
	1990/91	1989/80	Change
			%
Number of customers*			
Domestic	224 612	209 023	7,5
Small commercial	58 179	52 668	10,5
Irrigation	293	283	3,5
Medium commercial and industrial	1 840	1 760	4,5
Large commercial and industrial	339	281	20,6
Off-peak	1 446	1 301	11,1
Street lighting	104	101	3,0
Total, customers	286 813	265 417	8,1

* Includes rural electrification

SUB-SAHARAN AFRICA: Lesotho

Table 34

Source: Lesotho Electricity Corporation (LEC) for the year ended 31 March 1993

Source of power			MW
Nominal hydro capacity			
Mantsonyane			2,000
Semonkong			0,180
Qacha's Nek			0,432
Mokhotlong			0,656
Total hydro, MW			3,268
Nominal diesel capacity			
Qacha's Nek	(backup to hydro)		0,800
LEC headquarters	(standby)		0,168
33 kV LEC border substation	(standby)		0,024
Mantsonyane	(backup to hydro)		0,048
Semonkong	(backup to hydro)		0,120
Mokhotlong	(backup to hydro)		0,400
Total diesel, MW			1,560
Other sources – Eskom (registered peak at intake points)			
Maseru	132 kV		58,207
Hololo	88 kV		5,600
Peka	11 kV		0,208
Total from Eskom, MW			64,015
Total source of power, MW			68,843
Production and purchase of electricity (1992/3 production not available)	1991/92 GWh	1990/91 Gwh	Change %
Hydro	1,92	–	–
Diesel	0,96	–	–
Eskom	208,20	196,00	6,2
Total production and purchases, GWh	211,08	196,00	–
Peak load, MW	50,5	47,8	5,6
Losses, %	8,1	10,4	–22,1
Load factor, %	47	47	0,0
Transmission and distribution equipment	1991/92 km	1990/91 km	Change km
Overhead lines			
132 kV	80,0	–	–
88 kV	86,0	86,0	–
33 kV	700,0	604,7	95,3
11 kV	800,0	794,0	6,0
Total, km	1 666,0	1 484,7	181,3
Transformers, MVA			1991/92
132/33 kV			140
88/33 kV			40
66/11 kV			
33/11 kV			110
33/0,4 kV			5
11/0,4 kV			120
Total, MVA			415

SUB-SAHARAN AFRICA: Lesotho

Table 34 continued

Source: Lesotho Electricity Corporation (LEC) for the year ended 31 March 1993

Sale of electricity by category (1992 figures not available)	1990/91 GWh	1989/90 GWh	Change %
Domestic	57,98	55,4	4,7
General purpose	43,92	42,0	4,6
Commercial	42,17	40,3	4,6
Industrial	31,63	30,7	3,0
Total, GWh	175,70	168,4	4,3
Number of customers	1990/91	1989/90	Change %
Domestic	7 832	7 252	8,0
General purpose	2 310	2 256	2,4
Commercial	84	78	7,7
Industrial	74	70	5,7
Total	10 300	9 656	6,7

SUB-SAHARAN AFRICA: Malawi

Table 35

Source: Electricity Supply Commission of Malawi for year ended 31 March 1992

Source of power			
Nominal 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	5,40
Kasungu		Diesel	0,36
Mtunthama		Diesel	0,90
Mzuzu		Diesel	2,05
Karonga		Diesel	1,19
Chitipa		Diesel	0,30
Total source of power, MW			169,80
Energy produced			
	1992 GWh	1991 GWh	Change %
Hydro	771,529	705,883	9,3
Diesel	1,271	1,066	19,2
Gas turbine	0	0,128	-100,0
Total produced, GWh	772,800	707,077	9,3
System losses, GWh	119,396	104,926	13,8
Available for distribution, GWh	653,404	602,151	8,5
Transmission and distribution lines in service (1991 figures not available)			
	1992 km	1990 km	Change km
132 kV line (wooden poles)	303,00	303,0	0,00
132 kV line (steel tower)	113,00	113,0	0,00
66 kV lines	1 018,00	1 018,0	0,00
33 kV lines	1 647,00	1 574,0	73,00
11 kV lines	1 883,70	1 837,0	46,70
400/230 V lines	1 982,40	1 825,0	157,40
33 kV underground cables	3,09	2,8	0,29
11 kV underground cables	84,00	81,0	3,00
400/230 V underground cables	154,60	149,3	5,30
Total, km	7 188,79	6 903,1	285,69
Sales of electricity			
	1992 GWh	1991 GWh	Change %
Domestic (in low-density areas)	100,597	90,120	11,6
Domestic (in high-density areas)	17,832	16,164	10,3
Non-domestic (demand less than 25 kVA)	103,445	92,870	11,4
Non-domestic (demand more than 25 kVA)	366,164	337,183	8,6
Largest industrial customer	62,701	63,551	-1,3
Total, GWh	650,739	599,888	8,5
Number of customers			
	1992	1991	Change %
Domestic (in low-density areas)	21 347	19 329	10,4
Domestic (in high-density areas)	14 634	14 312	2,2
Non-domestic (demand less than 25 kVA)	9 981	9 200	8,5
Non-domestic (demand more than 25 kVA)	542	497	9,1
Largest industrial customer	1	1	0,0
Total	46 505	43 339	7,3

SUB-SAHARAN AFRICA: Mozambique

Table 36

Source: *Electricidade De Mozambique for the year ended 31 December 1992*

Source of power	Type	Number of sets	Nominal capacity MW	Net maximum capacity MW
Interconnected stations				
Chicamba	Hydro	2	38,40	35,00
Corumana	Hydro	2	15,00	14,50
Mavuzi	Hydro	5	46,00	37,00
Maputo	Thermal	5	57,50	46,00
Lionde	Diesel	6	4,00	2,80
Mocuba	Diesel	2	1,00	0,75
Nacala	Diesel	8	21,54	17,00
Nampula	Diesel	5	8,00	2,80
Quelimane	Diesel	3	7,00	6,00
Tete	Diesel	2	0,80	0,60
Xai-Xai	Diesel	4	2,60	1,70
Beira	Gas turbine	1	12,00	12,00
Maputo	Gas turbine	2	78,50	63,00
Total interconnected, MW			292,34	239,15
Isolated stations				
Cuamba	Hydro	2	1,00	1,00
Lichinga	Hydro	1	0,75	0,60
Angoche	Diesel	3	1,60	1,30
Inhambane	Diesel	5	3,88	1,40
Lichinga	Diesel	4	1,60	1,00
Pemba	Diesel	6	7,00	4,50
Total isolated, MW			15,83	9,80
Import facilities				
Eskom			200,00	200,00
Zimbabwe			30,00	30,00
Malawi			-	-
Total import facilities, MW			230,00	230,00
Total source of power, MW			538,17	478,95
Energy available for distribution				
		1992	1991	Change
		GWh	GWh	%
Energy produced				
Hydro		178,66	177,90	0,4
Coal		48,81	78,50	-37,8
Gas turbine		4,20	0,10	4 100,0
Diesel		38,33	69,40	-44,8
Total produced, GWh			270,00	325,90
Import from Eskom		437,64	373,10	17,3
Import from Zimbabwe		0,18	-	-
Import from Malawi		0,19	-	-
Purchased from HCB		94,99	98,70	-3,8
Total produced and purchased, GWh			803,00	797,70
Export to Zimbabwe and transmission losses		86,75	26,00	233,7
Total available for distribution, GWh			716,25	771,70

SUB-SAHARAN: Mozambique

Table 36 continued

Source: *Electricidade de Mozambique for the year ended 31 December 1992*

Transmission and distribution lines in service	1992 km	1989 km	Change km
275 kV	75	75	-
220 kV	1 756	910	846
110 kV	1 158	862	296
66/60 kV	268	175	93
33/22 kV	2 230	1 950	280
11/6,6 kV	1 050	850	200
Total, km	6 537	4 822	1 715
Sales of electricity by category			
	1991	1990	Change
	GWh	GWh	%
General (low voltage)			
Domestic	126,00	93,10	35,3
Medium and high voltage	257,70	222,40	15,9
Other	311,00	276,90	12,3
Total sales, GWh	1,60	3,10	-48,4
Number of customers			
	1991	1990	Change
			%
General (low voltage)			
Domestic	19 165	17 996	6,5
Medium and high voltage	107 209	100 028	7,2
Public lighting	886	882	0,5
Total	-	3	-
Total	127 260	118 909	7,0

SUB-SAHARAN AFRICA: Namibia

Table 37

Source: SWA Water and Electricity Corporation (Pty) Ltd (SWAWEK) annual report for year ended 30 June 1992

Source of power				
Nominal capacity	Type	MW		
SWAWEK power stations				
Ruacana	Hydro	240		
Van Eck	Thermal	120		
Total, MW		360		
Import facility (from Eskom)				
Paratus*	Diesel	24,0		
Eskom at Aggeneys, MVA		200,0		
Eskom at Lower Orange River, MVA		38,5		
ZESCO for Caprivi region, MVA		2,0		
Energy available for distribution		1991/92 GWh	1990/91 GWh	Change %
Energy produced				
Ruacana (hydro)		1 149,0	1 322,0	-13,1
Van Eck (thermal)		6,8	46,3	-85,3
Eskom – purchases		792,8	550,9	43,9
Caprivi region (97% ZESCO, 3% local generation)		7,6	6,9	-
Total energy into system, GWh		1 956,2	1 926,1	1,6
Transmission losses		234,1	200,5	16,8
Transmission losses %		12,0	10,4	15,4
Transmission and distribution lines in service		1991/92 km	1990/91 km	Change km
330 kV				
		521	521	0
220 kV				
		1 480	1 480	0
132 kV				
		946	946	0
66 kV and less				
		6 507	5 688	819
Total, km		9 454	8 635	819
Sales of electricity		1991/92 GWh	1990/91 GWh	Change %
Namibia				
Local authorities		635,0	582,3	9,1
Mining		688,5	757,2	-9,1
Business/manufacturing		4,2	4,4	-4,5
Government departments (including Caprivi)		88,5	89,1	-0,7
Rural supplies		17,5	15,4	13,6
Subtotal, GWh		1 433,7	1 448,4	-1,0
Export to Eskom				
Walvis Bay enclave		84,8	76,2	11,3
Eskom at Aggeneys		203,6	201,0	1,3
Subtotal, GWh		288,4	277,2	4,0
Total energy sold, GWh		1 722,1	1 725,6	-0,2
Number of SWAWEK customers		1 111	958	16,0

*Paratus Power Station is situated in Walvis Bay enclave.

SUB-SAHARAN AFRICA: Swaziland

Table 38

Source: Swaziland Electricity Board (SEB) for year ended 31 March 1992

Nominal capacity	1992	1991	Change %
Hydro	40,5	40,5	0
Diesel	9,5	9,5	0
Capacity of Eskom link	96,0	96,0	0
Total nominal capacity, MW	146,0	146,0	0
System maximum demand, MW	103	100	3,0
Energy sources, GWh			
Own generation – hydro	166,3	163,3	1,8
– diesel	0,2	1,7	-88,2
Energy purchased from Eskom	427,7	387,0	10,5
Total produced and purchased, GWh	594,2	552,0	7,6
Energy sold, GWh			
Own use and system losses, GWh	70,4	57,4	22,6
Own use and system losses, %	11,9	10,4	14,4
Annual load factor, %	66,0	65,0	1,5
Transmission and distribution equipment in service			
	1992	1991	Change
Overhead lines	km	km	km
132 kV	206	96	110
66 kV	898	898	0
33 kV	65	65	0
11 kV	2 228	2 080	148
Total, km	3 397	3 139	258
Substations	MVA	MVA	Change
132/66 kV	138	98	40
Number	4	3	1
66/11 kV	187,5	169	19
Number	26	26	0
66/33, 6,6 or 0,4 kV	13 + (10)*	11 + (10)*	2
Number	8	6	2
33 or 11/0,4 kV	188,6	173	15
Number	2 184	1 963	221
Sales of electricity by category			
	1992	1991	Change
	GWh	GWh	%
Domestic	102,0	99,0	3,0
Commercial	47,4	47,6	-0,4
Industrial	243,7	228,2	6,8
Irrigation	130,7	118,8	10,0
Total, GWh	523,8	493,6	6,1
Number of customers			
	1992	1991	Change %
Domestic	17 053	16 043	6,3
Commercial	3 896	3 754	3,8
Industrial	579	516	12,2
Irrigation	106	98	8,2
Total customers	21 634	20 411	6,0
Average selling price, cents/kWh	15,90	14,57	9,1

* Consumer-owned transformers

SUB-SAHARAN AFRICA: Tanzania

Table 39

Source: Tanzania Electric Supply Co Ltd (TANESCO)

Nominal capacity		Type	MW
Interconnected system			
Kidatu		Hydro	204,00
Mtera		Hydro	80,00
Pangani system		Hydro	41,50
Total interconnected system, MW			325,50
Isolated system			
Uwemba		Hydro	0,72
Total nominal capacity, MW			326,22
Production of electricity	1991 GWh	1990 GWh	Change %
Interconnected system	1 750,4	1 565,0	11,8
Isolated system	73,1	64,6	13,2
Total production, GWh	1 823,5	1 629,6	11,9
Total produced			
Interconnected system	1 499,2	1 555,3	-3,6
Isolated system	13,7	60,4	-77,3
Total produced, GWh	1 512,9	1 615,7	-6,4
Sale of electricity	1991 GWh	1990 GWh	Change %
Domestic	460,3	418,3	10,0
Agricultural	68,4	60,7	12,7
Commercial	154,4	139,2	10,9
Light industrial	67,5	58,6	15,2
Low-voltage industrial and commercial	153,3	138,6	10,6
High-voltage industrial	217,0	180,4	20,3
Energy-intensive consumers	201,3	184,3	9,2
Public lighting	7,6	6,9	10,1
National Urban Water Authority	70,7	64,9	8,9
Bulk sales to Zanzibar	56,9	52,0	9,4
Total, GWh	1 457,4	1 303,9	11,8
Number of customers	1991	1990	Change %
Domestic	150 845	132 303	14,0
Agricultural	397	107	271,0
Commercial	40 625	35 780	13,5
Light industrial	5 373	4 305	24,8
Low-voltage industrial and commercial	661	466	41,8
High-voltage industrial	95	84	13,1
Energy-intensive consumers	8	7	14,3
Public lighting	2 779	1 920	44,7
National Urban Water Authority	47	32	46,9
Bulk sales to Zanzibar	1	-	-
Total	200 831	175 004	14,8

SUB-SAHARAN AFRICA: Transkei

Table 40

Source: Transkei Electricity Supply Corporation as at 31 March 1992

Nominal capacity		Type	MW
Collywobbles		Hydro	42,0
First and Second Falls		Hydro	17,0
Ncora		Hydro	2,4
Total, MW			61,4
Energy sources	1992 GWh	1991 GWh	Change %
Own production	166,5	181,4	-8,2
Purchased from Eskom	247,0	199,8	23,6
Total production and purchased, GWh	413,5	381,1	8,5
Sold to Eskom, GWh	13,0	10,0	30,4
System losses, GWh	49,9	44,1	13,2
Sale of electricity, GWh	350,6	327,1	7,2
Non-coincident demand, MW	82,8	77,8	6,5
Transmission and distribution equipment in service			
Lines	1991 km	1989 km	Change km
132 kV	133,0	133,0	0,0
66 kV	375,5	309,0	66,5
33 kV and lower	1 159,2	1 135,2	24,0
Total, km	1 667,7	1 577,2	90,5
Substations		Number	MVA
132/66 kV		4	160,0
66/22/(11) kV		18	151,0
22/11 kV		21	58,1
22(11)/0,4 kV		648	130,5
Total		691	499,6
Sales of electricity by category	1992 GWh	1991 GWh	Change %
Domestic	25,5	22,0	16,1
Commercial	78,6	72,6	8,2
Industrial	91,5	82,4	11,0
Bulk	155,0	150,1	3,3
Total sales, GWh	350,6	327,1	7,2
Number of customers	1992	1991	Change %
Domestic	5 845	5 205	12,3
Commercial	1 439	1 459	-1,4
Industrial	181	128	41,4
Bulk	2	2	0,0
Total	7 467	6 794	9,9

SUB-SAHARAN AFRICA: Venda

Table 41

Source: Venda Electricity Corporation for the year ended 31 March 1992

	1991/92 GWh	1990/91 GWh	Change %
Energy available for distribution			
Electricity purchases			
Eskom	133,48	112,79	18,3
Louis Trichardt Municipality	3,01	2,43	23,9
Total, GWh	136,49	115,22	18,5
Distribution losses, %	7,88	13,07	-39,7
Annual load factor (Eskom supply), %	62,9	65,3	-3,7
Average monthly load factor (Eskom supply), %	69,6	69,5	0,1
System maximum demand (Eskom supply), MVA	26,9	21,2	26,9
	1991/92 km	1990/91 km	Change km
Transmission and distribution lines in service			
132 kV	95	95	0
66 kV	14	14	0
22 and 11 kV	639	570	69
380/220 volts	583	426	157
Total, km	1 331	1 105	226
	1991/92 GWh	1990/91 GWh	Change %
Sales of electricity by category			
Large power users	72,99	62,21	17,3
Small power users	15,91	11,76	35,3
Domestic users*	35,27	24,65	43,1
Other (street lighting, robot supplies, etc)	1,57	1,54	1,9
Total, GWh	125,74	100,16	25,5
	1991/92	1990/91	Change %
Number of customers			
Large power users	133	125	6,4
Small power users	1 265	1 086	16,5
Domestic users*	9 579	7 298	31,3
Other (street lighting, robot supplies, etc)	149	23	547,8
Total, customers	11 126	8 532	30,4
Total, population (1989 figure)	504 911	-	-

* Dramatic increase due to Government subsidies.

SUB-SAHARAN AFRICA: Zaire

Table 42

Source: Société Nationale d'Electricité (SNEL) for year ended 31 December 1990

Source of power

For purposes of generation and transmission the country is divided into four systems which are operated independently from one another. In each system the main power stations are interconnected but there are still some small power stations operating on an isolated local grid. The systems are not interconnected except for the Western and Southern systems which are interconnected by a 500 kV DC line of 1 740 km – the so-called Inga-Shaba line.

Installed generating capacity (SNEL)	Number of units	Unit capacity MW	Total MW
Western system			
Inga 1	6	58,5	351,0
Inga 2	8	178,0	1 424,0
Zongo	2 + 3	18 & 13	75,0
Sanga	6	2,0	12,0
Mpozo (isolated)	2	1,1	2,2
Southern system			
Mwandingusha	3 + 3	11 & 12,5	70,5
Koni	3	14,0	42,0
Nzilo	4	27,0	108,0
Nseke	4	65,5	262,0
Kiyimbi (isolated)	2 + 2	6,3 & 7,8	28,2
Kilubi (isolated)	3	3,3	9,9
Lungudi (isolated)	2	0,78	1,56
Eastern system			
Ruzizi 1	2 + 2	6,3 & 7,8	28,2
Ruzizi 2 (SINELAC power station)*	2	13,3	26,6
Northern system			
Tshopo (isolated)	2 + 1	6,15 & 6,5	18,8
Mobayi (isolated)	3	3,5	10,5
Total hydro, MW			2 470,5
28 diesel stations and 1 natural gas power station (isolated)			51,0
Total generating capacity (SNEL), MW			2 521,5
Privately owned power stations (all hydro)			
	Company	Town	
Budana	Kilomto	Bunia	13,5
Soleniama 1	Kilomto	Bunia	13,8
Soleniama 2	Kilomto	Bunia	1,6
Nzoro	Kilomto	Watsa	1,4
Ambwe/Kailo	Sominki	Kalima	2,2
Lutshurukuru	Sominki	Kalima	5,1
Moga	Sominki	Kalima	0,4
Belia	Sominki	Punia	2,2
Lulingu	Sominki	Shabunda	0,7
Mangembe	Sominki	Kamitusa	1,8
Tshala & Lubilanji 1	Miba	Mbuji Mayi	8,6
Zaire Etain	Piana Mwanga	Manono	29,5
Total privately owned, MW			80,8
Total generating capacity (Zaire), MW			2 602,3
Transmission and distribution equipment in service			1990
			km
Overhead lines for three systems (Northern system has no transmission lines over long distances)			
500 kV DC			1 700,0
220 kV			1 207,3
132 kV			185,3
120 kV			1 198,8
70 kV			504,5
50 kV			144,4
Total, km			4 940,3

SUB-SAHARAN AFRICA: Zaire

Table 42

Source: Société Nationale d'Electricité (SNEL) for year ended 31 December 1990

Source of power

For purposes of generation and transmission the country is divided into four systems which are operated independently from one another. In each system the main power stations are interconnected but there are still some small power stations operating on an isolated local grid. The systems are not interconnected except for the Western and Southern systems which are interconnected by a 500 kV DC line of 1 740 km – the so-called Inga-Shaba line.

Installed generating capacity (SNEL)	Number of units	Unit capacity MW	Total MW
Western system			
Inga 1	6	58,5	351,0
Inga 2	8	178,0	1 424,0
Zongo	2 + 3	18 & 13	75,0
Sanga	6	2,0	12,0
Mpozo (isolated)	2	1,1	2,2
Southern system			
Mwandingusha	3 + 3	11 & 12,5	70,5
Koni	3	14,0	42,0
Nzilo	4	27,0	108,0
Nseke	4	65,5	262,0
Kiyimbi (isolated)	2 + 2	6,3 & 7,8	28,2
Kilubi (isolated)	3	3,3	9,9
Lungudi (isolated)	2	0,78	1,56
Eastern system			
Ruzizi 1	2 + 2	6,3 & 7,8	28,2
Ruzizi 2 (SINELAC power station)*	2	13,3	26,6
Northern system			
Tshopo (isolated)	2 + 1	6,15 & 6,5	18,8
Mobayi (isolated)	3	3,5	10,5
Total hydro, MW			2 470,5
28 diesel stations and 1 natural gas power station (isolated)			51,0
Total generating capacity (SNEL), MW			2 521,5
Privately owned power stations (all hydro)			
	Company	Town	
Budana	Kilomto	Bunia	13,5
Soleniama 1	Kilomto	Bunia	13,8
Soleniama 2	Kilomto	Bunia	1,6
Nzoro	Kilomto	Watsa	1,4
Ambwe/Kailo	Sominki	Kalima	2,2
Lutshurukuru	Sominki	Kalima	5,1
Moga	Sominki	Kalima	0,4
Belia	Sominki	Punia	2,2
Lulingu	Sominki	Shabunda	0,7
Mangembe	Sominki	Kamitusa	1,8
Tshala & Lubilanji 1	Miba	Mbuji Mayi	8,6
Zaire Etain	Piana Mwanga	Manono	29,5
Total privately owned, MW			80,8
Total generating capacity (Zaire), MW			2 602,3
Transmission and distribution equipment in service			1990
			km
Overhead lines for three systems (Northern system has no transmission lines over long distances)			
500 kV DC			1 700,0
220 kV			1 207,3
132 kV			185,3
120 kV			1 198,8
70 kV			504,5
50 kV			144,4
Total, km			4 940,3

SUB-SAHARAN AFRICA: Zaire

Table 42 continued

Source: Société Nationale d'Electricité (SNEL) for year ended 31 December 1990

Links with other countries

- Between Shaba (Southern system) and Zambia, 220 kV
- Between Kinshasa (Western system) and Congo Brazzaville, 220 kV
- Between Kivu (Eastern system) and Rwanda and Burundi via Ruzizi* power station and two direct links with Rwanda, 6,6 kV and 15 kV
- Between Mobayi power station (Northern system) and Central African Republic
- Between Western system and certain border towns in Angola

Energy sources, MWh (interconnected system only)	Peak load			Change %
	1990	1990	1989	
Inga 1	166,00	690,3	1 056,9	-34,7
Inga 2	451,00	2 581,4	2 763,9	-6,6
Zongo	20,00	84,1	113,2	-25,7
Sanga	0,38	2,8	2,5	10,4
Mwadingusha	70,80	218,5	399,9	-45,4
Koni	42,00	94,0	180,5	-47,9
Nzilo	74,74	422,6	375,5	12,5
Nseke	-	1 107,0	1 010,7	9,5
Ruzizi 1	24,90	99,9	94,6	5,6
Total gross production, MWh		5 300,5	5 997,7	-11,6
Consumed by auxiliaries		20,8	21,3	-2,6
Net energy generated		5 279,8	5 976,4	-11,7
Own consumption		1,9	2,5	-22,0
Energy sold locally		0,5	0,4	2,9
Energy sent into the grid		5 277,4	5 973,5	-11,7
Imported from Congo		21,6	1,6	1 269,0
Imported from Zambia		15,0	0,6	2 391,9
Imported from SINELAC		21,5	13,1	63,7
Exported to Congo		14,5	61,3	-76,3
Exported to Angola		0,3	0,3	-9,6
Exported to Rwanda		5,8	11,0	-46,8
Exported to Burundi		19,1	11,6	65,1
Exported to Zambia		20,6	463,8	-95,6
Exported to SINELAC		1,4	0,0	-
Available for distribution, MWh		5 273,6	5 440,8	-3,1

* Ruzizi 2 power station (SINELAC) is jointly owned with Rwanda and Burundi.

SUB-SAHARAN AFRICA: Zaire

Table 42 continued

Source: Société Nationale d'Electricité (SNEL) for year ended 31 December 1990

Links with other countries

- Between Shaba (Southern system) and Zambia, 220 kV
- Between Kinshasa (Western system) and Congo Brazzaville, 220 kV
- Between Kivu (Eastern system) and Rwanda and Burundi via Ruzizi* power station and two direct links with Rwanda, 6,6 kV and 15 kV
- Between Mobayi power station (Northern system) and Central African Republic
- Between Western system and certain border towns in Angola

Energy sources, MWh (interconnected system only)	Peak load			Change %
	1990	1990	1989	
Inga 1	166,00	690,3	1 056,9	-34,7
Inga 2	451,00	2 581,4	2 763,9	-6,6
Zongo	20,00	84,1	113,2	-25,7
Sanga	0,38	2,8	2,5	10,4
Mwadingusha	70,80	218,5	399,9	-45,4
Koni	42,00	94,0	180,5	-47,9
Nzilo	74,74	422,6	375,5	12,5
Nseke	-	1 107,0	1 010,7	9,5
Ruzizi 1	24,90	99,9	94,6	5,6
Total gross production, MWh		5 300,5	5 997,7	-11,6
Consumed by auxiliaries		20,8	21,3	-2,6
Net energy generated		5 279,8	5 976,4	-11,7
Own consumption		1,9	2,5	-22,0
Energy sold locally		0,5	0,4	2,9
Energy sent into the grid		5 277,4	5 973,5	-11,7
Imported from Congo		21,6	1,6	1 269,0
Imported from Zambia		15,0	0,6	2 391,9
Imported from SINELAC		21,5	13,1	63,7
Exported to Congo		14,5	61,3	-76,3
Exported to Angola		0,3	0,3	-9,6
Exported to Rwanda		5,8	11,0	-46,8
Exported to Burundi		19,1	11,6	65,1
Exported to Zambia		20,6	463,8	-95,6
Exported to SINELAC		1,4	0,0	-
Available for distribution, MWh		5 273,6	5 440,8	-3,1

* Ruzizi 2 power station (SINELAC) is jointly owned with Rwanda and Burundi.

SUB-SAHARAN AFRICA: Zambia

Table 43

Source: Zambia Electricity Supply Corporation for the year ending 31 March 1992

Nominal 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 system, MW		23,75	
Total nominal capacity, MW		1 631,75	
	1992	1991	Change
Production of Electricity	GWh	GWh	%
Interconnected system			
Kariba North	3 348	2 872	16,6
Kafue Gorge	4 955	4 127	20,1
Victoria Falls	496	669	-25,9
Total interconnected system, GWh	8 799	7 668	14,7
Isolated systems			
Lusiwasi	54	62	-12,9
Chishimba Falls	25	32	-21,9
Musonda Falls	26	28	-7,1
Lunzua River	3	3	0,0
Total isolated system, GWh	108	125	-13,6
Total production, GWh	8 907	7 793	14,3
Trade of electricity	1992	1991	Change
(Zaire – Societe Nationale d'Electricite)	GWh	GWh	%
Exports	290	302	-4,0
Imports	326	300	8,7
Net Zambia/SNEL	36	-2	
	1992	1991	Change
Total sent out	GWh	GWh	%
Interconnected	8 784	7 658	14,7
Isolated systems	104	124	-16,1
SNEL imports	36	-2	
Total, GWh	8 924	7 780	14,7
Bulk deliveries	1992	1991	Change
(interconnected only)	GWh	GWh	%
Local	6 375,7	6 412,6	-0,6
For export	2 107,9	985,5	113,9
Total, GWh	8 483,6	7 398,1	14,7

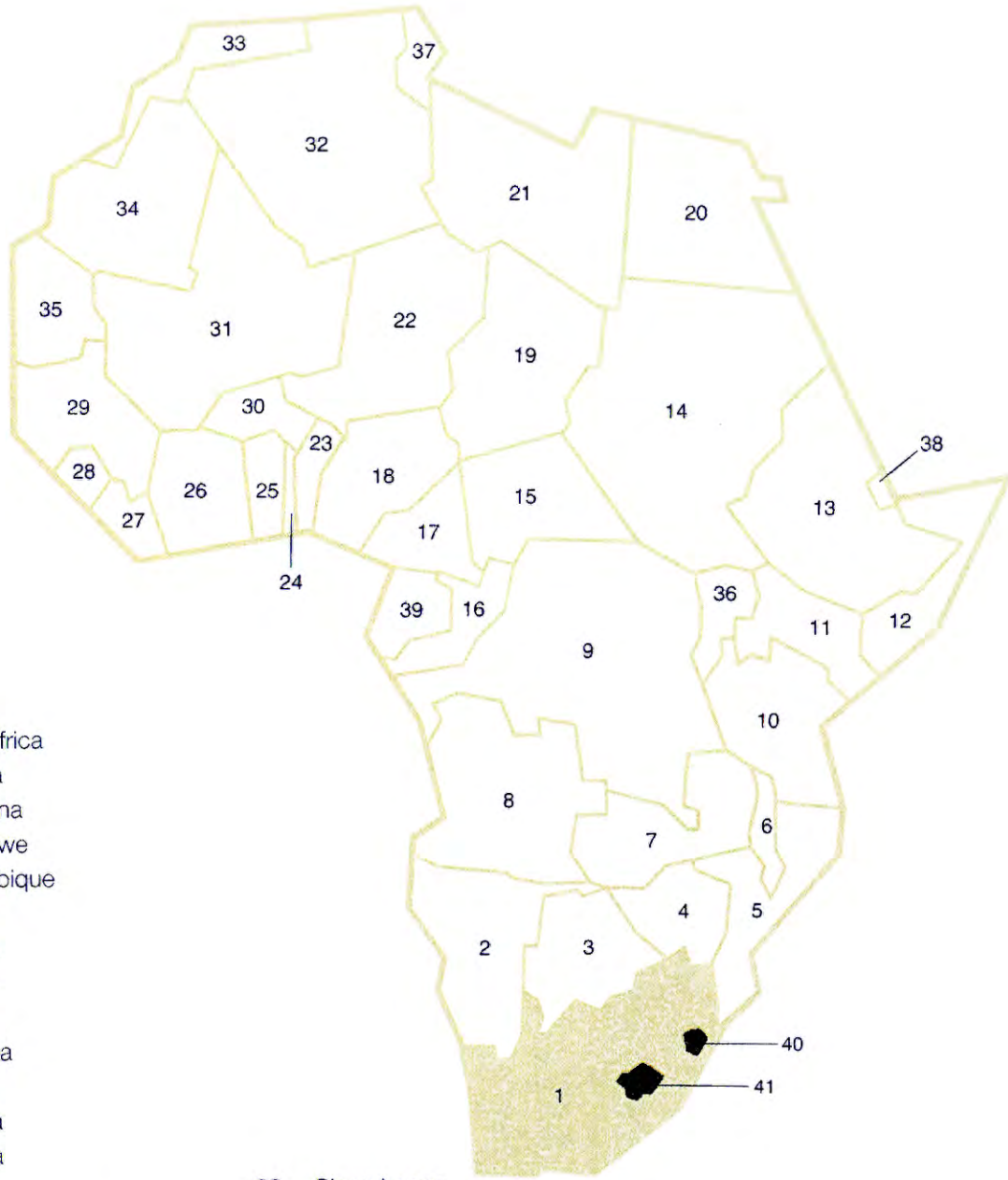
SUB-SAHARAN AFRICA: Zimbabwe

Table 44

Source: Zimbabwe Electricity Supply Authority (ZESA) annual report for year ended 30 June 1992

Source of power	Type	MW	No. units
Nominal capacity			
Hwange 1	Thermal	480,0	4
Hwange 2	Thermal	440,0	2
Munyati	Thermal	120,0	7
Harare 2	Thermal	75,0	6
Harare 3	Thermal	60,0	2
Bulawayo	Thermal	120,0	5
Kariba South	Hydro	666,0	6
Beitbridge	Diesel	4,5	3
Total nominal capacity, MW		1 965,5	
Energy available for distribution	1992 GWh	1991 GWh	Change %
Energy produced			
Thermal	5 076,3	5 771,7	-12,0
Hydro	3 160,7	3 152,5	0,3
Other	0,0	0,0	-
Total produced, GWh	8 237,0	8 924,2	-7,7
Bulk imports, GWh			
Botswana Power Corporation	0,7	0,1	944,8
Electricidade de Mozambique	4,5	0,2	2 456,8
Eskom	2,3	10,7	-78,4
Zesco, Chirundu	1,0	1,5	-32,7
Zesco, Victoria Falls	0,0	0,0	-
Zesco, bulk power imports	1 775,9	1 164,6	52,5
SNEL, bulk power imports	261,8	0,0	-
Bulk exports, GWh	18,8	32,8	-42,7
Total, GWh	10 264,4	10 068,4	1,9
Generation and transmission losses, %	3,6	4,0	-10,0
Transmission and distribution lines in service	1991/92 km	1990/1 km	Change km
330 kV	3 444,0	3 444,0	0,0
220 kV	151,0	151,0	0,0
132 kV	1 027,0	1 027,0	0,0
110 kV	5,0	5,0	0,0
88 kV	2 082,0	2 082,0	0,0
66 kV	178,0	178,0	0,0
Other	55 107,6	53 637,3	1 470,3
Total, km	61 994,6	60 524,3	1 470,3
Sales of electricity by category	1991/2 GWh	1990/1 GWh	Change %
Mining	1 549,7	1 518,5	2,1
Industrial	4 146,5	4 052,7	2,3
Farming	809,8	834,1	-2,9
Commercial and lighting	1 141,4	1 044,2	9,3
Domestic	1 620,6	1 542,9	5,0
Total national sales, GWh	9 268,0	8 992,4	3,1
Exports	18,8	28,4	-33,9
Total sales, GWh	9 286,8	9 020,8	2,9
Number of customers	1991/2	1990/1	Change %
Mining	684	666	2,7
Industrial	4 165	4 158	0,2
Farming	8 998	8 545	5,3
Commercial and lighting	31 935	29 603	7,9
Domestic	289 087	276 385	4,6
Total	334 869	319 357	4,9

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
- 40** Swaziland
- 41** Lesotho

AFRICA: Electricity supply statistics

Table 45

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports 1990, and Southern African Development Coordination Conference 1989

Country	Net maximum capacity of generating plant (self-producers and public), MW					
	Total	Thermal	Hydro	Nuclear	Geothermal	% of total
Algeria	4 657	4 371	286	—	—	5,7
Angola	523	199	324	—	—	0,6
Benin	15	15	—	—	—	0,0
Bophuthatswana	—	—	—	—	—	0,0
Botswana	219	219	—	—	—	0,3
Burkina Faso	59	59	—	—	—	0,1
Burundi	43	11	32	—	—	0,1
Cameroon	627	97	530	—	—	0,8
Cape Verde	7	7	—	—	—	0,0
Central African Republic	43	21	22	—	—	0,1
Chad	31	31	—	—	—	0,0
Ciskei	—	—	—	—	—	0,0
Comoros	5	4	1	—	—	0,0
Congo	149	29	120	—	—	0,2
Cote d'Ivoire	1 173	278	895	—	—	1,4
Djibouti	38	38	—	—	—	0,0
Egypt	11 738	8 993	2 745	—	—	14,3
Equatorial Guinea	5	4	1	—	—	0,0
Ethiopia	393	133	230	—	30	0,5
Gabon	279	75	204	—	—	0,3
Gambia	13	13	—	—	—	0,0
Ghana	1 187	115	1 072	—	—	1,4
Guinea	176	129	47	—	—	0,2
Guinea-Bissau	7	7	—	—	—	0,0
Kenya	842	168	629	—	45	1,0
Lesotho	5	2	3	—	—	0,0
Liberia	332	251	81	—	—	0,4
Libyan Arab Jamah.	4 100	4 100	—	—	—	5,0
Madagascar	220	114	106	—	—	0,3
Malawi	169	24	145	—	—	0,2
Mali	87	42	45	—	—	0,1
Mauritania	105	44	61	—	—	0,1
Mauritius	313	254	59	—	—	0,4
Morocco	2 362	1 736	626	—	—	2,9
Mozambique	2 285	207	2 078	—	—	2,8
Namibia	360	120	240	—	—	0,4
Niger	63	63	—	—	—	0,1
Nigeria	4 040	2 140	1 900	—	—	4,9
Reunion	175	50	125	—	—	0,2
Rwanda	60	4	56	—	—	0,1
Sao Tomé and Príncipe	6	4	2	—	—	0,0
Senegal	231	231	—	—	—	0,3
Seychelles	22	22	—	—	—	0,0
Sierra Leone	126	124	2	—	—	0,2
Somalia	60	60	—	—	—	0,1
South Africa, Republic of	35 958	33 511	607	1 840	—	43,7
St Helena and Depend.	2	2	—	—	—	0,0
Sudan	500	275	225	—	—	0,6
Swaziland	50	10	41	—	—	0,1
Togo	34	30	4	—	—	0,0
Transkei	61	—	61	—	—	0,1
Tunisia	1 524	1 460	64	—	—	1,9
Uganda	162	7	155	—	—	0,2
United Republic of Tanzania	326	—	326	—	—	0,4
Venda	—	—	—	—	—	0,0
Western Sahara	56	56	—	—	—	0,1
Zaire	2 602	51	2 551	—	—	3,2
Zambia	1 632	—	1 632	—	—	2,0
Zimbabwe	1 966	1 300	666	—	—	2,4
Africa	82 222	61 308	18 999	1 840	75	100,0
World	2 755 607	1 780 529	628 096	337 625	9 357	

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.
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.

Production of electricity (self-producers and public), GWh						Trade of electricity GWh		Available GWh	kWh per capita	
Thermal	Hydro	Nuclear	Geothermal	Total	% of total	Imports	Exports			
Algeria	15 859	135	—	—	15 994	5,1	210	270	15 934	638
Angola	107	840	—	—	947	0,3	—	—	947	184
Benin	5	—	—	—	5	0,0	195	—	200	43
Bophuthatswana	—	—	—	—	0	0,0	3 388	—	3 388	1 565
Botswana	865	—	—	—	865	0,3	56	—	921	837
Burkina Faso	155	—	—	—	155	0,0	0	—	155	17
Burundi	2	104	—	—	106	0,0	13	—	119	22
Cameroon	70	2 635	—	—	2 705	0,9	—	—	2 705	229
Cape Verde	36	—	—	—	36	0,0	—	—	36	97
Central African Republic	18	77	—	—	95	0,0	—	—	95	31
Chad	82	—	—	—	82	0,0	—	—	82	14
Ciskei	—	—	—	—	0	0,0	354	—	354	459
Comoros	14	2	—	—	16	0,0	—	—	16	29
Congo	0	398	—	—	398	0,1	63	—	461	203
Cote d'Ivoire	775	1 590	—	—	2 365	0,7	0	—	2 365	197
Djibouti	175	—	—	—	175	0,1	—	—	175	428
Egypt	31 450	8 100	—	—	39 550	12,5	—	—	39 550	754
Equatorial Guinea	16	2	—	—	18	0,0	—	—	18	51
Ethiopia	118	722	—	66	906	0,3	—	—	906	18
Gabon	210	705	—	—	915	0,3	—	—	915	781
Gambia	67	—	—	—	67	0,0	—	—	67	78
Ghana	53	5 235	—	—	5 288	1,7	—	285	5 003	333
Guinea	343	175	—	—	518	0,2	—	—	518	90
Guinea-Bissau	17	—	—	—	17	0,0	—	—	17	18
Kenya	109	2 884	—	298	3 291	1,0	171	—	3 462	134
Lesotho	1	2	—	—	3	0,0	208	—	211	122
Liberia	320	245	—	—	565	0,2	—	—	565	219
Libyan Arab Jamah.	19 000	—	—	—	19 000	6,0	—	—	19 000	4 180
Madagascar	248	318	—	—	566	0,2	—	—	566	47
Malawi	1	703	—	—	704	0,2	—	0	704	67
Mali	42	172	—	—	214	0,1	—	—	214	23
Mauritania	115	25	—	—	140	0,0	—	—	140	69
Mauritius	685	85	—	—	770	0,2	—	—	770	712
Morocco	8 408	1 220	—	—	9 628	3,0	—	—	9 628	384
Mozambique	168	247	—	—	416	0,1	326	0	742	52
Namibia	96	1 054	—	—	1 150	0,4	641	241	1 550	1 202
Niger	163	—	—	—	163	0,1	187	—	350	45
Nigeria	7 730	2 215	—	—	9 945	3,1	—	100	9 845	91
Reunion	316	501	—	—	817	0,3	—	—	817	1366
Rwanda	4	172	—	—	176	0,1	22	3	195	27
Sao Tomé and Príncipe	7	8	—	—	15	0,0	—	—	15	124
Senegal	684	—	—	—	684	0,2	—	—	684	93
Seychelles	85	—	—	—	85	0,0	—	—	85	1 232
Sierra Leone	224	—	—	—	224	0,1	—	—	224	54
Somalia	230	—	—	—	230	0,1	—	—	230	31
South Africa, Republic of	153 867	1 240	9 070	—	164 177	52,0	273	5 247	159 203	4 245
St Helena and Depend.	2	—	—	—	2	0,0	—	—	2	286
Sudan	390	937	—	—	1 327	0,4	—	—	1 327	53
Swaziland	1	199	—	—	200	0,1	298	—	498	655
Togo	36	5	—	—	41	0,0	289	—	330	93
Transkei	—	181	—	—	181	0,1	200	10	371	113
Tunisia	5 500	36	—	—	5 536	1,8	0	30	5 506	673
Uganda	7	596	—	—	603	0,2	—	110	493	26
United Republic of Tanzania	—	1 824	—	—	1 824	0,6	—	—	1 824	32
Venda	—	—	—	—	0	0,0	110	—	110	221
Western Sahara	85	—	—	—	85	0,0	—	—	85	478
Zaire	144	5 998	—	—	6 142	1,9	5	112	6 035	170
Zambia	—	6 291	—	—	6 291	2,0	571	85	6 777	744
Zimbabwe	4 993	4 369	—	—	9 361	3,0	305	—	9 666	1 075
Africa	254 098	52 246	9 070	364	315 777	100,0	7 884	6 493	317 169	469
World	7 543 755	2 164 035	1 986 703	39 917	11 734 409		301 314	276 882	11 758 842	2 158

WORLD: Selected electricity supply statistics

Table 43

Sources: United Nations Energy Statistics Yearbook 1990, utility annual reports 1990, and Southern African Development Co-ordination Conference 1989

Area	Net maximum capacity of generating plant (self-producers and public), MW					
	Total	Thermal	Hydro	Nuclear	Geothermal	Ranking
World	2 755 607	1 780 529	628 096	337 625	9 357	
Africa	82 222	61 308	18 999	1 840	75	6
Asia	572 942	404 973	120 592	46 107	1 270	3
Europe	678 338	376 809	171 588	128 148	1 793	2
North America	926 446	638 100	160 186	122 455	5 705	1
Oceania	45 750	32 980	12 256	—	514	7
South America	116 809	34 759	80 375	1 675	—	5
USSR	333 100	231 600	64 100	37 400	—	4
Country						
Argentina	17 128	9 611	6 499	1 018	—	26
Australia	36 782	29 264	7 268	—	250	12
Austria	16 839	5 916	10 923	—	—	27
Belgium	14 140	7 235	1 401	5 500	4	31
Brazil	52 892	6 677	45 558	657	—	10
Bulgaria	9 975	6 000	1 975	2 000	—	35
Canada	104 140	31 201	59 381	13 538	20	3
China	98 600	68 500	30 100	—	—	6
Czechoslovakia	20 740	14 300	2 940	3 500	—	21
Egypt	11 738	8 993	2 745	—	—	33
Finland	13 220	8 239	2 621	2 360	—	32
France incl. Monaco	103 410	22 673	24 747	55 750	240	4
German (former Democratic Republic)	23 410	19 736	1 844	1 830	—	19
Germany, Federal Republic	99 750	69 500	7 100	23 150	0	5
India	75 995	55 550	18 864	1 565	16	7
Indonesia	11 480	9 500	1 950	—	30	34
Iran (Islamic Republic of)	17 554	15 750	1 804	—	—	24
Italy and San Marino	56 548	37 282	18 770	0	496	9
Japan	194 763	125 017	37 830	31 645	271	2
Korea, Republic of	24 056	14 100	2 340	7 616	—	18
Mexico	29 274	20 062	7 837	675	700	16
Netherlands	17 441	16 849	36	508	48	25
Norway, Svibd, J. Myn I	27 195	250	26 945	—	—	17
Poland	30 703	28 852	1 851	—	—	15
Romania	22 903	17 320	5 583	—	0	20
South African Customs Union	36 653	33 861	952	1 840	0	13
Spain	43 273	20 250	16 050	6 973	—	11
Sweden	34 189	7 880	16 331	9 970	8	14
Switzerland, Lichtenstein	16 300	1 000	12 350	2 950	—	30
S. Arabia, pt. Ntrl. Zn.	18 510	18 510	—	—	—	23
Turkey	16 316	9 536	6 765	—	15	29
United Kingdom	73 059	57 533	4 171	11 353	2	8
United States of America	775 396	572 158	90 141	108 242	4 855	1
Venezuela	18 647	10 733	7 914	—	—	22
Yugoslavia	16 470	8 220	7 000	650	600	28

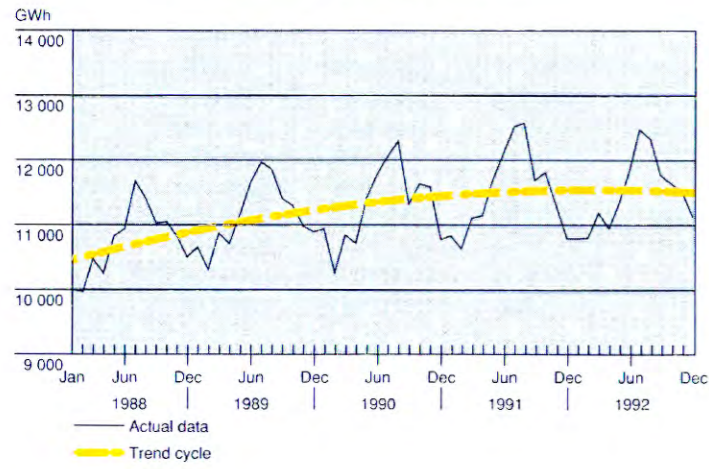
Net maximum capacity is measured at the terminals of the station, i.e. after deduction of the power absorbed by the auxiliary installations and the losses in the station transformers, if any.

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.

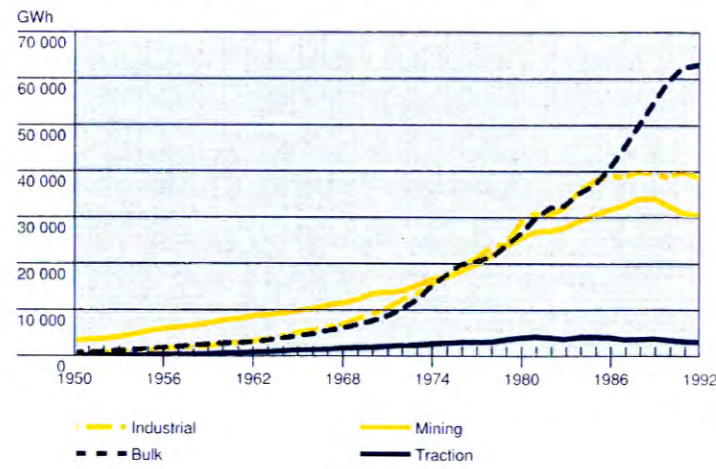
Excluded is electricity produced from pumped storage schemes.

Area	Production of electricity (self-producers and public), GWh					Trade of electricity GWh		Available GWh	kWh per capita
	Total	Thermal	Hydro	Nuclear	Geothermal	Imports	Exports		
World	11 734 409	7 543 755	2 164 035	1 986 703	39 917	301 314	276 882	11 758 842	2 158
Africa	315 777	254 098	52 246	9 070	364	7 884	6 493	317 169	469
Asia	2 572 246	1 857 316	413 034	294 393	7 503	3 710	5 279	2 570 677	817
Europe	2 809 935	1 516 763	476 922	809 074	7 176	219 925	184 136	2 845 724	5 710
North America	3 698 509	2 397 583	625 214	652 648	23 064	41 766	40 949	3 699 326	8 658
Oceania	189 647	149 732	38 105	—	1 810	—	—	189 647	7 163
South America	422 295	87 263	325 514	9 518	—	27 669	3 725	446 239	1 504
USSR	1 726 000	1 281 000	233 000	212 000	—	360	36 300	1 690 060	5 856
Country									
Argentina	50 907	25 493	18 133	7 281	—	890	54	51 743	1 601
Australia	154 571	139 786	14 785	—	0	—	—	154 571	9 161
Austria	50 414	17 922	32 492	—	—	6 839	7 298	49 955	6 588
Belgium	70 215	27 219	266	42 722	8	4 785	8 509	66 491	6 754
Brazil	222 195	12 728	207 230	2 237	—	26 545	1 741	246 999	1 643
Bulgaria	41 300	26 500	2 300	12 500	—	5 000	600	45 700	5 072
Canada	481 791	112 194	296 685	72 886	26	17 781	18 236	481 336	18 149
China	618 000	507 500	110 500	—	—	1 500	40	619 460	546
Czechoslovakia	89 345	60 600	4 745	24 000	—	10 300	7 000	92 645	5 913
Egypt	39 550	31 450	8 100	—	—	—	—	39 550	754
Finland	54 508	24 362	10 931	19 215	—	11 113	360	65 261	13 118
France incl. Monaco	419 584	48 153	57 350	314 081	—	6 674	52 112	374 146	6 661
German (former Democratic Republic)	117 292	103 500	1 992	11 800	—	5 500	4 500	118 292	7 280
Germany, Federal Republic	454 710	286 200	17 500	151 010	—	22 000	21 700	455 010	7 420
India	286 035	213 860	66 094	6 075	6	1 000	95	286 940	336
Indonesia	44 260	35 100	8 950	—	210	—	—	44 260	240
Iran (Islamic Republic of)	56 000	49 400	6 600	—	—	—	—	56 000	1 026
Italy and San Marino	216 891	178 590	35 079	0	3 222	35 577	922	251 546	4 407
Japan	857 273	557 424	95 836	202 272	1 741	—	—	857 273	6 944
Korea, Republic of	118 738	59 490	6 361	52 887	—	—	—	118 738	2 775
Mexico	122 477	89 672	25 205	2 900	4 700	600	1 950	121 127	1 367
Netherlands	71 866	68 194	120	3 502	50	9 679	471	81 074	5 423
Norway, Svibd, J. Myn I	121 601	464	121 137	—	—	283	16 233	105 651	25 083
Poland	136 337	133 035	3 302	—	—	10 437	11 477	135 297	3 521
Romania	64 306	53 326	10 980	—	0	9 476	—	73 782	3 170
South African Customs Union	166 576	154 830	2 676	9 070	0	4 401	4 808	165 809	3 411
Spain	150 622	70 184	26 165	54 273	—	3 208	3 628	150 202	3 833
Sweden	146 535	5 240	73 105	68 185	5	12 784	14 672	144 647	17 130
Switzerland, Lichtenstein	55 846	1 178	30 982	23 686	—	20 754	22 862	53 738	8 097
S. Arabia, pt. Ntrl. Zn.	47 400	47 400	—	—	—	—	—	47 400	3 354
Turkey	57 544	34 316	23 148	—	80	176	907	56 813	1 017
United Kingdom	318 979	246 168	7 062	65 747	2	11 990	47	330 922	5 761
United States of America	3 031 058	2 145 603	290 964	576 862	17 629	22 506	20 526	3 033 038	12 170
Venezuela	61 000	23 755	37 245	—	—	0	0	61 000	3 091
Yugoslavia	85 905	58 189	20 094	4 622	3 000	2 749	3 108	85 546	3 593

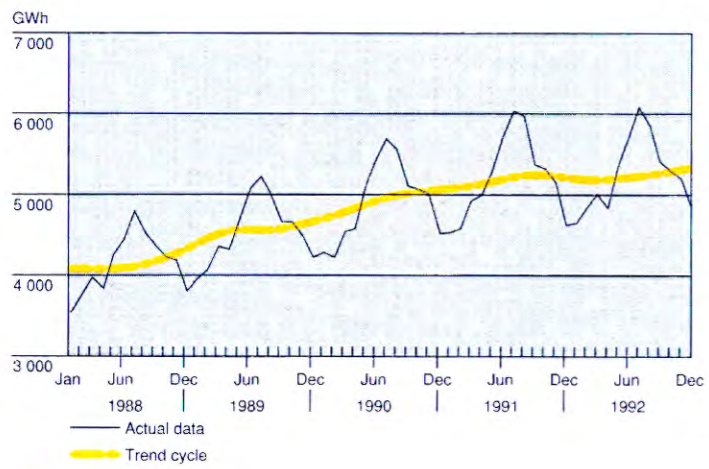
Eskom total sales



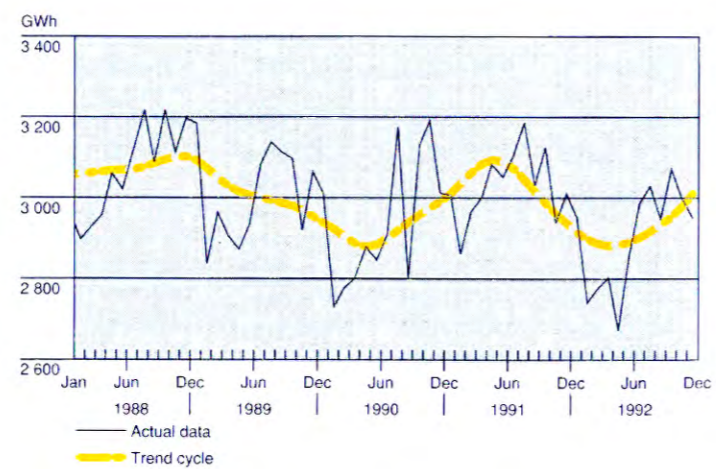
Sales growth by category



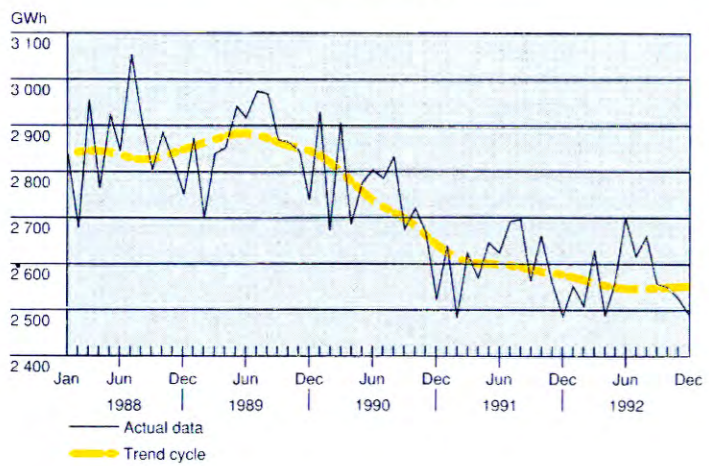
Bulk sales



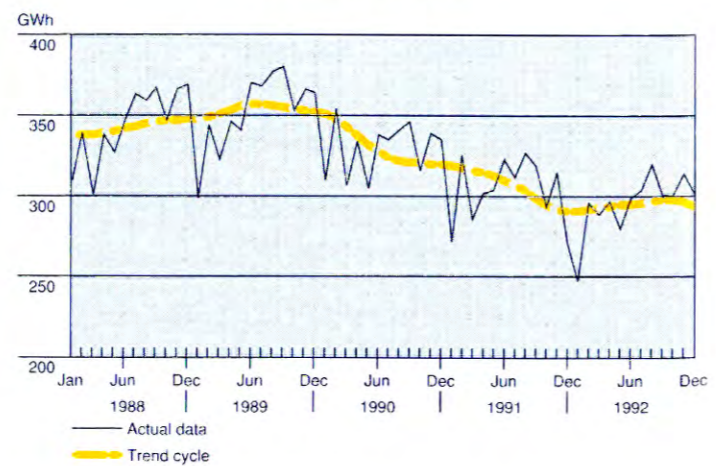
Industrial sales



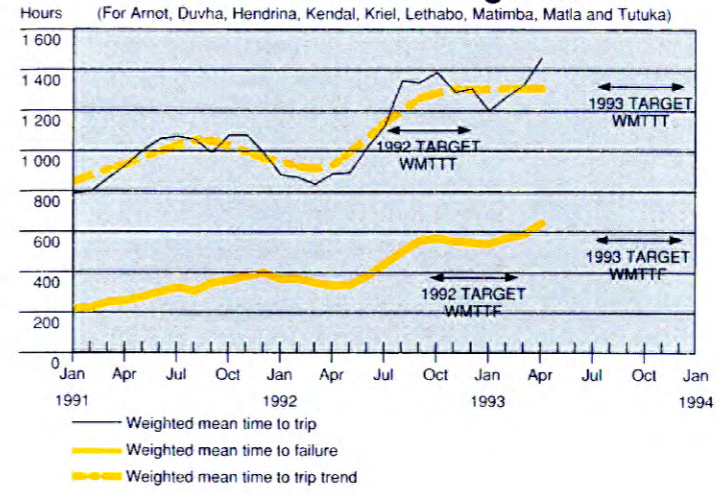
Mining sales



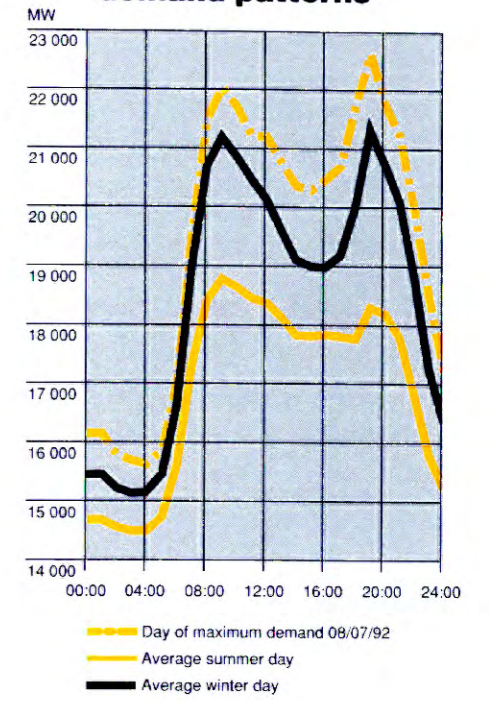
Traction sales



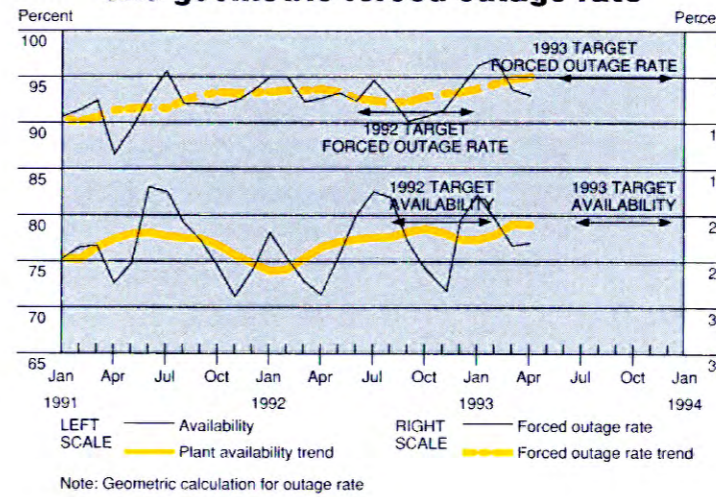
Eskom weighted MTTT and MTTT for 2 200 hours running time



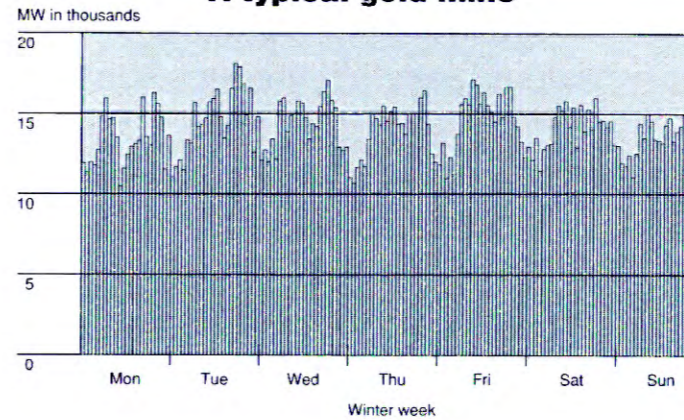
Eskom electricity demand patterns



Eskom trends in plant availability and geometric forced outage rate



Weekly demand profile A typical gold mine



Weekly demand profile A typical residential area

