

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 238 000 km of power lines of which 24 000 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.

1993 Since the launch of the electrification programme in 1991, Eskom has brought electricity to 506 508 homes in South Africa.

Electricity Council

As at 13 June 1994
Dr J.B. Maree OMSG SSAS
(Chairman)
Dr E. Calitz
A.B. Dickman
Dr B.L. Fanaroff
S. Immelman
Dr E. Kuzwayo
Prof. I.J. Lambrechts
Dr F. le Roux (alternate member to Dr E. Calitz)
B.J. Lessing
Mrs N. Majija
G. Mantashe
G. Maude
M.D. Mofokeng
A.J. Morgan
D.B. Mostert
A.S. Nkonyeni
C.J. Pretorius
C.G. van Veijeren
Dr G.P.N. Venter
H.R. Whitehead

Management Board

As at 13 June 1994
A.J. Morgan *Chief Executive*
(Chairman)
B.T. Crookes *Executive Director: Generation*
J.A. de Beer *Executive Director: Electrification and Industry Restructuring*
P.A. Faling *Executive Director: Transmission*
A.J. Ham *Executive Director: Technology*
Dr W.J. Kok *Executive Director: Finance*
Dr G.F. Lindeque *Executive Director: Human Resources*
L.J. Messerschmidt *Executive Director: Distribution*
H.J. Pienaar *Executive Director: Services*

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Foreword

As a new era dawns for South Africa there is growing recognition of the interdependence of all countries in the sub-Saharan region of Africa and the potential benefits of closer cooperation.

Eskom has long been convinced that ties between the various countries of the region should be strengthened and that electricity can play an important role in the fight against the poverty which besets so many of our people. Electricity can act as a catalyst for sorely needed economic upliftment.

The process of reconstruction and development needs careful planning based on accurate data. We believe that the information in the Eskom Statistical Yearbook provides sound comprehensive and up-to-date information which will make a significant contribution to planning in the electricity industry.

Allen Morgan
Chief Executive
13 June 1994

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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.

Front cover: Matimba Power Station, the world's largest direct dry-cooled power station, near Ellisras in Northern Transvaal.

THE NEW SOUTH AFRICAN PROVINCIAL BOUNDARIES

as at 13 June 1994



ESKOM: Statistical overview

	1993	1992	1991
Financial, Rm			
Turnover	13 793	12 649	11 726
Net income	1 646	1 489 ^a	988
Fixed assets in commission, at cost	45 623	42 688	39 990
Works under construction	3 552	3 115	3 668
Net capital expenditure	3 591	3 242 ^a	3 335
Net interest-bearing debt	28 027	27 616	27 266
Plant performance			
Total power station nominal capacity, MW	39 746	39 060	38 396
Total power station net maximum capacity, MW	37 636	36 846	36 228
Peak demand on integrated Eskom system, MW	23 169	22 640	22 342
Average station availability (unit capability factor), % ^b	80,5 (81,7)	76,7	76,1
Station load factor (after excess capacity management), % ^c	46,8 (56,4)	46,9 (54,6)	49,8 (58,5)
Integrated Eskom system load factor, %	75,1	73,5	74,6
Water consumed in Eskom power stations, Mℓ	223 650	226 240	237 660
Coal burnt, thousands of tons	75 926,4	71 037,9	70 523,2
Coal consumption, kg/kWh net	0,522	0,519	0,520
Average heat rate of coal-fired stations, MJ/kWh net	10,47	10,54	10,49
Average heat content of coal (as received), MJ/kg	20,05	20,25	20,21
Overall thermal efficiency, net generation %	34,4	34,2	34,3
Average coal cost, R/ton	28,48 ^a	27,47	25,70
Average coal cost, c/kWh	1,4860	1,4263	1,3354
Electricity output			
Total electricity production in South Africa, GWh ^d	155 812	149 427	148 919
Total electricity production as a % of South African total	97,9	97,9	98,0
Total electricity for Eskom system (Eskom stations and purchased), GWh ^e	154 361	148 556	148 934
Total produced by Eskom stations, GWh	154 260	148 207	148 671
Subtotal from coal-fired stations, GWh	145 514	136 830	135 743
Subtotal from hydroelectric stations, GWh	146	752	1 980
Subtotal from pumped storage stations, GWh	1 345	1 333	1 804
Subtotal from diesel and gas-turbine stations, GWh	0	4	0
Subtotal from nuclear power station, GWh	7 255	9 288	9 144
Total purchased for Eskom system, GWh	101	349	263
Total consumed by Eskom power stations, GWh ^f	1 898	2 295	2 933
Total available for distribution, GWh	152 463	146 261	146 001
Electricity sales, GWh ^g	143 800	138 126 ^a	138 698
Growth in GWh sales, %	4,1	-0,4	1,8
Power station net maximum capacity, MW			
Subtotal coal-fired (17 stations) ^h	33 488	32 698	32 058
Subtotal gas turbine (3 stations) ⁱ	368	368	390
Subtotal hydroelectric (2 stations) ^j	540	540	540
Subtotal pumped storage (2 stations) ^k	1 400	1 400	1 400
Subtotal nuclear (1 station)	1 840	1 840	1 840
Total power station net maximum capacity, MW	37 636	36 846	36 228
Employees			
Total number at 31 December	40 128	42 223	46 637
Sales (GWh) per employee	3,584	3,271	2,974

^a Revised figures. ^b Capacity hours available x 100/total capacity hours in year. ^c MWh produced x 100/(Average net maximum capacity 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. ^f In respect of pumped storage facilities and synchronous condenser mode of operation. See Note k. ^g Difference between electricity available for distribution and sales is due to transmission losses.

	1990	1989	1988	1987	1986	1985	1984
Turnover	10 736	9 271	8 159	7 046	5 845	4 625	3 832
Net income	845	728	816	702	781	738	732
Fixed assets in commission, at cost	35 753	31 199	28 680	24 986	19 907	15 496	12 058
Works under construction	5 771	6 638	5 512	6 075	7 753	8 552	7 271
Net capital expenditure	3 662	3 993	3 969	3 895	3 755	4 757	3 719
Net interest-bearing debt	26 590	24 630	22 779	21 475	19 462	17 621	13 861
Total power station nominal capacity, MW	35 673	34 141	33 176	31 261	28 086	25 716	24 514
Total power station net maximum capacity, MW	33 843	32 403	31 465	29 618	26 682	24 359	23 168
Peak demand on integrated Eskom system, MW	21 863	21 871	20 589	20 001	18 278	17 852	17 296
Average station availability (unit capability factor), % ^b	75,0	78,1	79,1	79,2	78,5	77,5	74,9
Station load factor (after excess capacity management), % ^c	50,5 (57,3)	51,1	52,3	54,3	55,5	58,0	58,1
Integrated Eskom system load factor, %	74,9	73,7	75,5	73,9	77,3	76,2	75,0
Water consumed in Eskom power stations, Mℓ	257 000	260 154	262 804	274 804	262 372	275 716	269 868
Coal burnt, thousands of tons	70 861,2	67 529,3	64 489,6	65 787,0	58 915,9	59 488,6	58 703,6
Coal consumption, kg/kWh net	0,526	0,521	0,521	0,535	0,515	0,522	0,533
Average heat rate of coal-fired stations, MJ/kWh net	10,66	10,72	10,71	11,00	10,95	11,26	11,45
Average heat content of coal (as received), MJ/kg	20,26	20,20	20,44	20,48	21,19	21,52	21,38
Overall thermal efficiency, net generation %	33,7	33,6	33,6	32,7	32,9	32,0	31,4
Average coal cost, R/ton	23,91	20,94	18,67	17,11	14,87	13,25	12,55
Average coal cost, c/kWh	1,2575	1,1023	0,9727	0,9155	0,7665	0,6916	0,6692
Total electricity production in South Africa, GWh ^d	147 069	146 162	140 802	134 751	130 056	126 206	120 835
Total electricity production as a % of South African total	97,4	96,7	97,0	96,1	95,1	94,5	94,3
Total electricity for Eskom system (Eskom stations and purchased), GWh ^e	146 320	143 548	139 197	132 774	126 766	122 494	117 086
Total produced by Eskom stations, GWh	146 047	143 204	138 837	132 507	126 511	121 987	116 581
Subtotal from coal-fired stations, GWh	134 744	128 304	123 777	122 947	114 298	113 941	110 094
Subtotal from hydroelectric stations, GWh	1 010	2 759	3 162	1 617	1 623	624	560
Subtotal from pumped storage stations, GWh	1 841	1 039	1 403	1 774	1 785	2 107	1 994
Subtotal from diesel and gas-turbine stations, GWh	3	3	2	2	2	0	8
Subtotal from nuclear power station, GWh	8 449	11 099	10 493	6 167	8 083	5 315	3 925
Total purchased for Eskom system, GWh	273	344	360	267	255	507	505
Total consumed by Eskom power stations, GWh ^f	2 953	2 265	2 567	3 229	3 018	3 265	3 188
Total available for distribution, GWh	143 367	141 283	136 630	129 545	123 748	119 229	113 898
Electricity sales, GWh ^g	136 185	134 358	129 620	122 524	117 353	112 306	106 904
Growth in GWh sales, %	1,4	3,7	5,8	4,4	4,5	5,1	8,8
Subtotal coal-fired (17 stations) ^h	29 673	28 233	27 295	25 848	22 912	20 637	20 366
Subtotal gas turbine (3 stations) ⁱ	390	390	390	390	390	342	342
Subtotal hydroelectric (2 stations) ^j	540	540	540	540	540	540	540
Subtotal pumped storage (2 stations) ^k	1 400	1 400	1 400	1 000	1 000	1 000	1 000
Subtotal nuclear (1 station)	1 840	1 840	1 840	1 840	1 840	1 840	920
Total power station net maximum capacity, MW	33 843	32 403	31 465	29 618	26 682	24 359	23 168
Total number at 31 December	50 000	51 554	56 726	56 830	60 800	66 000	64 560
Sales (GWh) per employee	2,724	2,606	2,285	2,156	1,930	1,702	1,656

^h Base-load stations, except in the case of older, uneconomical plant which are used only for peak demands or in emergencies. ⁱ Used only for peaking or in emergencies. ^j Use restricted to peaking and emergencies and availability of water in Hendrik Verwoerd and P.K. le Roux dams. ^k Pumped storage facilities are net users of electricity and are used for peaking. Water is pumped during off-peak periods to generate electricity during peak periods.

ESKOM: Highlights of the year

	1993	1992-93 1992	Change %	Average yearly change 1989-93 %
Financial				
Turnover, Rm	13 793	12 649	9,0	11,1
Net income, Rm	1 646	1 489	10,5	15,1
Fixed assets in commission at cost, Rm	45 623	42 688	6,9	9,2
Works under construction, Rm ^a	3 552	3 115	14,0	-8,4
Net expenditure on fixed assets, Rm	3 591	3 242	10,8	-0,5
Net interest-bearing debt, Rm	28 027	27 616	1,5	4,2
Average price per kWh sold, cents	9,59	9,16	4,7	8,8
Average total cost per kWh sold, cents	8,45	8,08	4,5	8,3
Operations				
Electricity sales, GWh	143 800	138 126	4,1	2,1
Coal burnt in power stations, Mt	75,9	71,0	6,9	3,4
Water consumed by power stations, Mℓ	223 650 ^b	226 240	-1,1	-3,1
Peak demand on integrated system, MW	23 169	22 640	2,3	2,4
	(22.06.93)	(08.07.92)		
Assets in commission				
at 31 December				
Nominal capacity, MW	39 746	39 060	1,8	3,7
Net maximum capacity, MW	37 636	36 846	2,1	3,6
Power lines, km	238 964	233 109	2,5	3,4
Staff employed				
at 31 December ^c	40 128	42 223	-5,0	-6,7

^a Includes construction materials.

^b Restated since publication of Annual Report 1993.

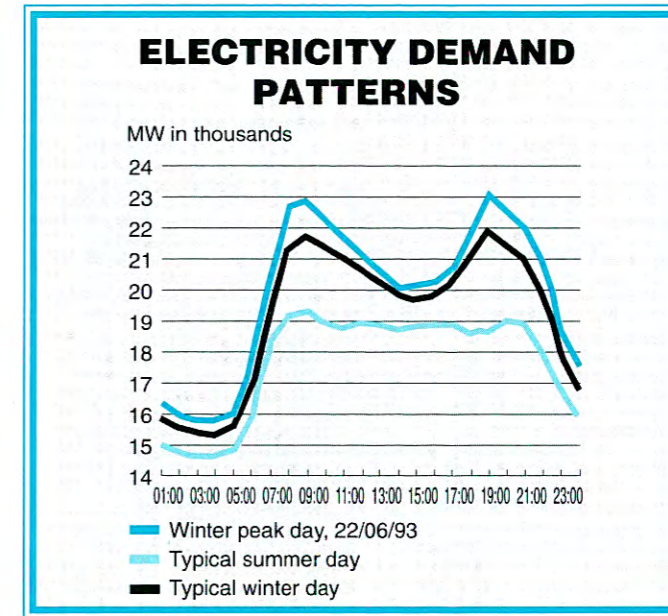
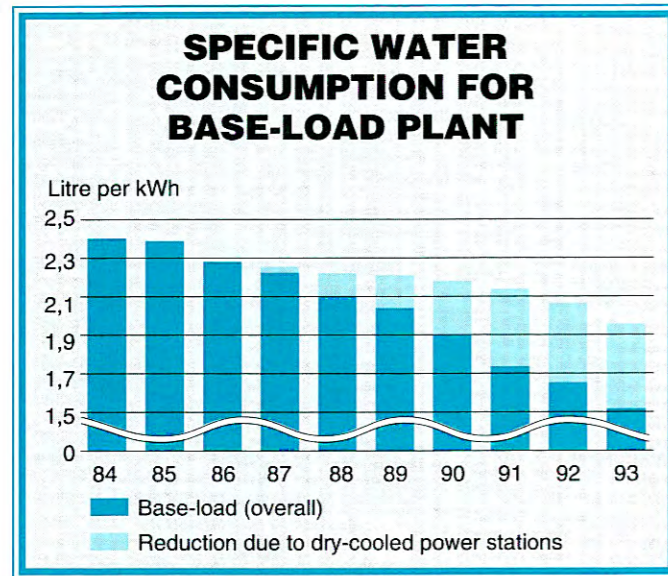
^c Excludes employees of subsidiary companies.

ESKOM: Financial statistics

	1993	1992	1991	1990
Turnover, Rm	13 793	12 649	11 726	10 736
Annual increase, %	9,0	7,9	9,2	15,8
Cents per kWh	9,59	9,16	8,46	7,88
Annual increase, %	4,7	8,3	7,4	14,2
Charges against revenue, Rm				
Total operating expenditure, Rm	9 000	8 173 ^a	7 450 ^a	6 461 ^a
Annual increase, %	10,1	9,7	15,3	14,5
Depreciation, Rm	1 884	1 762	1 630	1 441
Annual increase, %	6,9	8,1	13,12	5,65
Net interest and finance charges, Rm	3 147	2 987	3 240	3 302
Annual increase, %	5,36	-7,81	-1,88	13,90
Retained income for the year, Rm	1 852	1 397	988	845
Assets, Rm				
Fixed assets (at book value), Rm	38 605	36 895	35 405	34 030
Fixed assets in commission (net - after depreciation), Rm	33 017 ^b	31 746 ^b	30 661	28 047
Works under construction and construction materials, Rm	3 552	3 115	3 668	5 771
Non-current assets, Rm	3 762	3 501 ^a	2 387	2 501
Coal and stores, Rm	731	851 ^a	1 433	1 312
Debtors, Rm	1 299	1 208	1 020	874
Financing, Rm				
Net interest-bearing debt, Rm	28 027	27 616	27 266	26 590
Interest-free liabilities, Rm	2 137	2 340	2 014	2 196
Reserves, Rm	13 837	12 191 ^a	10 702 ^a	9 700 ^a
Debt/equity ratio	2,03	2,27	2,55	2,74

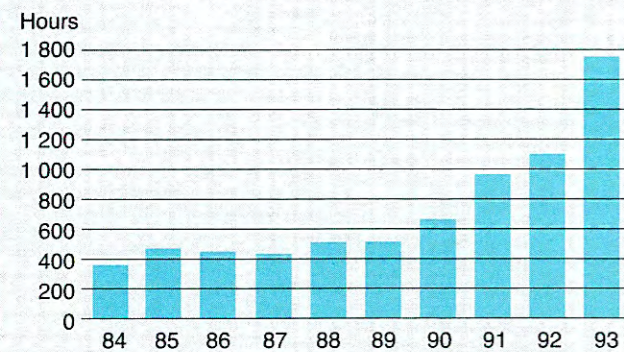
^a Restated.

^b Excluding plant at mothballed stations.



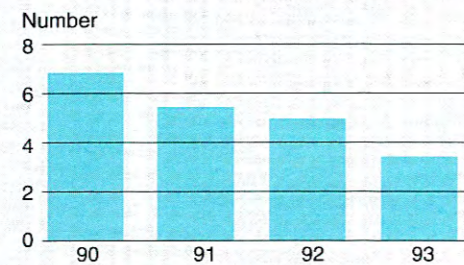
GENERATION PLANT RELIABILITY

Weighted mean time to trip (WMTT)



UNPLANNED AUTOMATIC GRID SEPARATION

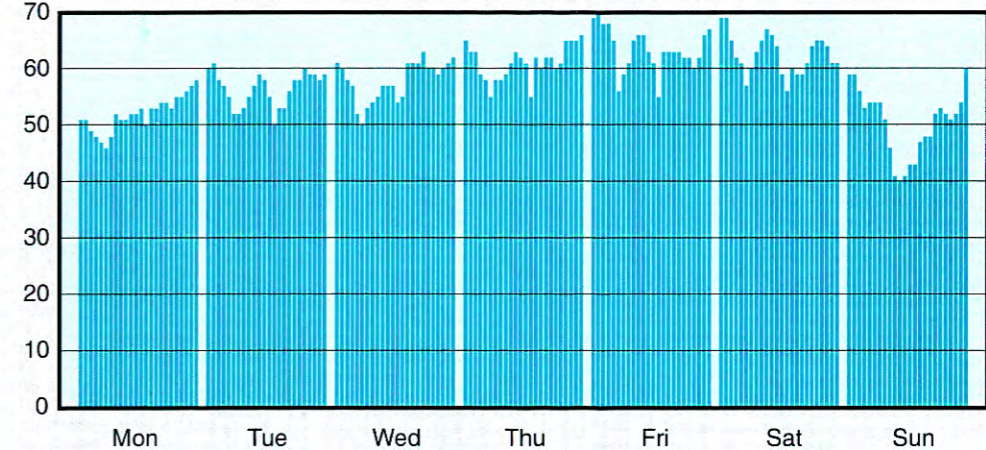
per 7 000 operating hours per unit



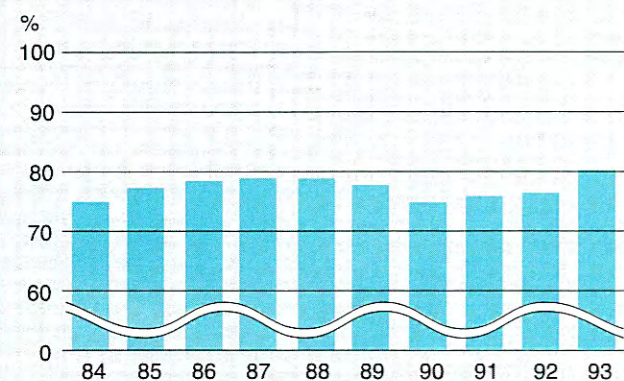
Eskom is adopting the international UNPEDE indicator. This will replace the WMTTT indicator in future.

WEEKLY DEMAND PROFILE A TYPICAL GOLD MINE

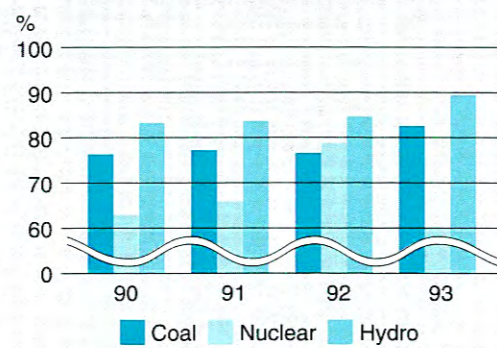
MW



GENERATION PLANT AVAILABILITY



UNIT CAPABILITY FACTOR

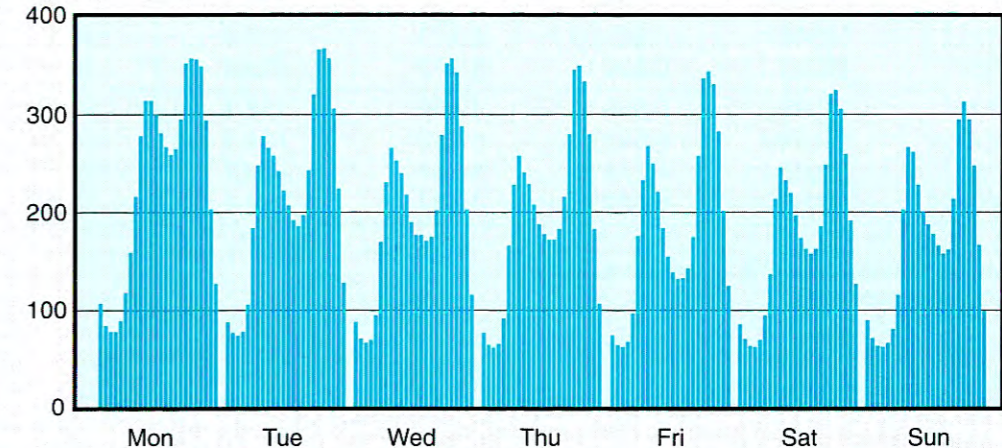


Eskom is adopting the international UNPEDE indicator. This will replace the generation plant availability indicator in future.

Generation plant availability and unit capability factor international achievements lie within the 90% zone.

WEEKLY DEMAND PROFILE A TYPICAL RESIDENTIAL AREA

MW



ESKOM: Summary of operations

Year	Coal-fired power stations						Coal cost	
	Coal used					Coal cost		
	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	
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	
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	
1993	75 926,4	20,05	0,522	10,47	34,4	28,48	1,4860	

^a MWh net x 100/(average net maximum capacity x hours in year).

^b After excess capacity management.

Power station output (net)

Coal-fired stations GWh	Hydro-electric stations GWh	Pumped storage stations GWh	Diesel and gas-turbine stations GWh	Nuclear station GWh	Total power station output GWh	Total power station maximum capacity MW	Average station load factor net basis ^a %
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	0	9 144	148 671	36 228	58,5 ^b
136 830	752	1 333	4	9 288	148 207	36 846	54,6 ^b
145 514	146	1 345	0	7 255	154 260	37 636	56,4 ^b

ESKOM: Power station operating statistics

for the year ended 31 December 1993

Source: Eskom Energy Management Department, Megawatt Park

Power station	Net maximum capacity MW	Net electricity generation GWh	Net maximum power produced MW	Generation load factor ^a %
Coal-fired				
Arnot	965	4 089	1 009	48,4
Duvha	3 450	18 000	3 351	59,6
Hendrina	1 900	11 310	1 857	68,0
Kendal ^c	3 840	14 021	3 160	46,2
Kriel	2 850	15 080	2 683	60,4
Lethabo	3 558	21 102	3 557	67,7
Matimba	3 690	20 564	3 328	63,6
Matla	3 450	22 634	3 484	74,9
Salt River ^d	114	12	117	1,2
Tutuka	3 510	18 699	3 447	60,8
Wilge ^d	110	3	38	0,3
Subtotal coal-fired	27 437	145 514		61,4
Gas turbine				
Acacia	171	0 ^f	41	0
Port Rex	171	0 ^f	116	0
Paratus	26	—	—	—
Subtotal gas turbine	368	0		0
Hydroelectric				
Hendrik Verwoerd	320	123	406	4,4
Vanderkloof	220	23	207	1,2
Subtotal hydroelectric	540	146		3,1
Pumped storage				
Drakensberg	1 000	837	1 125	9,6
Palmiet	400	508	543	14,5
Subtotal pumped storage	1 400	1 345		11,0
Nuclear				
Koeberg	1 840	7 255	1 664	45,0
Subtotal nuclear	1 840	7 255		45,0
Total/weighted average all Eskom	31 585	154 260		56,4
Other power sources				
External purchases		101		
Subtotal other sources		101		
Total/weighted average	31 585	154 361		54,7

$$^a \text{ Generation load factor} = \frac{\text{Net kWh production} \times 100}{(\text{Ave. net maximum capacity}) \times \text{hours in year}}$$

$$^b \text{ Unit capability factor} = \frac{\text{Capacity hours available} \times 100}{\text{Total max. capacity hours in year}}$$

^c Kendal operating statistics are based on average capacity during year.

^d Specific water consumption, overall thermal efficiency and heat rate based on gross electricity production.

^e Efficiency calculated on moisture-free basis coal burnt and calorific values.

^f Auxiliary consumption exceeded gross production.

Specific water consumption t/kWh	Unit capability factor ^b %	Overall thermal efficiency net generation %	Fuel burnt tons	Average coal consumption kg/kWh net	Gross calorific value of coal (as received) MJ/kg	Average heat rate kJ/kWh net
1,95	87,9	31,9	2 027 145	0,50	22,74	11,29
1,80	75,8	35,0	8 304 455	0,46	22,22	10,28
1,86	78,4	31,8	5 758 983	0,51	22,22	11,32
0,18	86,4	33,7	7 342 997	0,52	20,72 ^e	10,67
1,97	82,8	34,7	7 798 428	0,52	20,05	10,38
1,85	88,5	35,2	13 987 701	0,66	15,44	10,22
0,19	72,4	32,5	10 889 919	0,53	20,92 ^e	11,08
2,00	85,8	35,3	11 042 354	0,49	21,01	10,20
2,54	99,8	21,3	12 288	1,02	26,20	16,90
1,92	88,0	35,7	8 747 648	0,47	21,42	10,09
60,16	26,2	9,7	14 507	4,84	21,50	37,26
1,53	82,5	34,4	75 926 425	0,52	20,05	10,47
			111			
			189			
			—			
	80,2					
	89,8					
	88,6					
	89,3					
	86,4					
	88,0					
	86,9					
0,11	60,3	32,0				
0,11	60,3	32,0				
	81,7	34,0				

ESKOM: Power stations in service

at 31 December 1993

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	6 x 686	4 116	3 840	—	—
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	2 850	—	—
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	2	78
Subtotal (17)			35 508	33 488	53	6 040
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	—	—
Hydroelectric^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			39 746	37 636	53	6 040

^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 set taken into service during 1993

Station	Total nominal capacity, MW	Total net maximum capacity, MW
Kendal, set 6	686	640
Total, MW	686	640

ESKOM: Generating sets on order

at 31 December 1993

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
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						4 104	3 837	

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 1993

Source: Eskom Energy Management Department, Megawatt Park

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	18 699	60,8	21,42	35,7	1985-90	Reheat
Matla	16,1	535	3 450	22 634	74,9	21,01	35,3	1979-83	Reheat
Lethabo	16,1	535	3 558	21 102	67,7	15,44	35,2	1986-90	Reheat
Duvha	16,1	535	3 450	18 000	59,6	22,22	35,0	1980-84	Reheat
Kriel	16,0	510	2 850	15 080	60,4	20,05	34,7	1976-79	Reheat
Kendal ^a	16,1	535	3 840	14 021	46,2	20,72	33,7	1988-93	Reheat
Matimba	16,1	535	3 690	20 564	63,6	20,92	32,5	1987-91	Reheat
Arnot	15,9	510	965	4 089	48,4	22,74	31,9	1971-75	Reheat
Hendrina	10,3	538	1 900	11 310	68,0	22,19	31,8	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.

ESKOM: Maximum one-hour demand

	1993	1992	1991	1990	1989	1988	Increase 1992-93 %	Average yearly increase 1988-93 %
Maximum simultaneous one-hour demand on total Eskom system, MW	23 169	22 640	22 342	21 863	21 871	20 589	2,3	2,4
Date	22.06.93	08.07.92	21.06.91	29.06.90	21.07.89	24.06.88		
Time	19:00	19:00	09:00	09:00	09:00	09:00		

ESKOM: Transmission and distribution equipment in service

as at December 1993

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

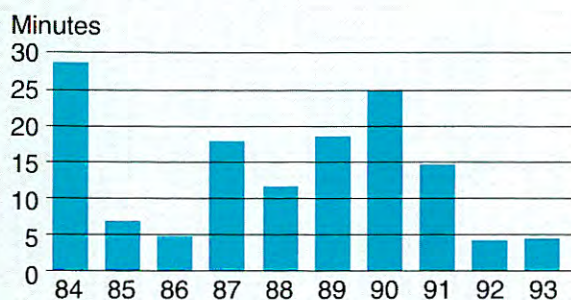
		1993	1992	Change
Main transmission system, km	765 kV	1 153 ^a	871	282
	533 kV DC (monopolar)	1 031	1 030	1
	400 kV	13 848	13 782	66
	275 kV	7 167	7 199	-32
	220 kV	1 186	1 243	-57
	132 kV	371 ^b	491	-120
Distribution lines, km	165-132 kV	17 102	16 910	192
	88-33 kV	20 953	21 099	-146
Reticulation lines, km	22 kV and lower	176 153	170 484	5 669
Total all lines, km		238 964	233 109	5 855
Cables, km	165-132 kV	53	56	-3
	88-33 kV	278	313	-35
	22 kV and lower	5 510	4 740	770
Total all cables, km		5 841	5 109	732
Transformers	Transmission capacity, MVA	105 540	Not quoted	
	Distribution and reticulation capacity, MVA	61 873	Not quoted	
Total capacity, MVA		167 413	164 865	2 548
Transformers	Transmission, number	383	Not quoted	
	Distribution and reticulation, number	149 214	Not quoted	
Total number		149 597	141 407	8 190

^a 765 kV construction line, presently operating at 400 kV, added to 765 kV line category.

^b 132 kV circuits re-allocated to Distribution and circuit voltage change.

TOTAL TRANSMISSION SYSTEM INTERRUPTION TIME

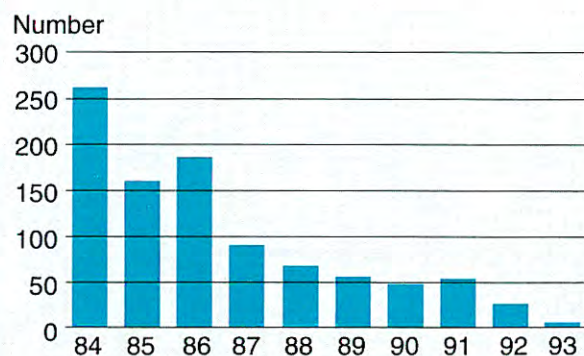
System minutes lost per annum



This graph excludes the effect of load shedding

LOW-FREQUENCY INCIDENTS

Below 49,7 Hz



ESKOM: Transmission and distribution equipment by business unit

as at 31 December 1993

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

Transmission lines

Business unit	765 kV	533 kV DC (monopolar)	400 kV	275 kV	220 kV	165 kV to 132 kV	88 kV to 33 kV	22 kV and lower	Total
Transmission	1 153 ^a	1 031	13 848	7 167	1 186	371 ^b			24 756
Bloemfontein Distributor						5 927	5 527	54 535	65 989
Cape Town Distributor						4 043	4 356	43 679	52 078
Pretoria Distributor						4 884	3 577	43 072	51 533
Durban Distributor						1 292	3 596	26 072	30 960
Johannesburg Distributor						956	3 897	8 795	13 648
Total all lines, km	1 153	1 031	13 848	7 167	1 186	17 473	20 953	176 153	238 964

Underground cables

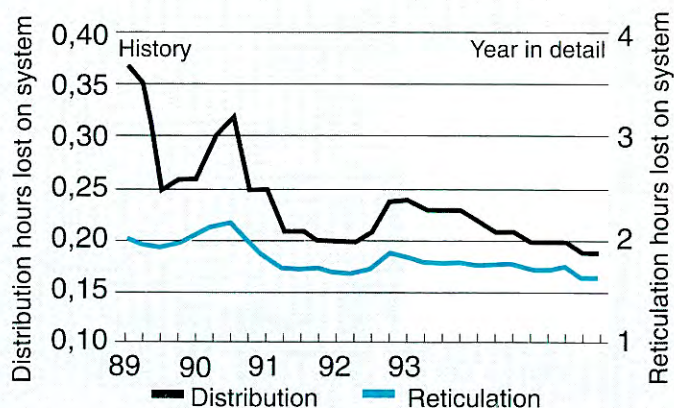
Business unit	Underground cables				Transformers	
	165 kV to 132 kV	88 kV to 33 kV	22 kV and lower	Total	Capacity MVA	Number in service
Transmission				–	105 540	383
Bloemfontein Distributor		2	25	27	15 926	35 699
Cape Town Distributor	24	82	2 471	2 577	9 188	34 094
Pretoria Distributor		9	91	100	15 163	36 256
Durban Distributor			1 552	1 552	6 475	26 320
Johannesburg Distributor	29	184	1 371	1 584	15 120	16 845
Total	53	278	5 510	5 841	167 413	149 597

^a 765 kV construction line, presently operating at 400 kV, added to 765 kV line category.

^b 132 kV circuits re-allocated to Distribution and circuit voltage change.

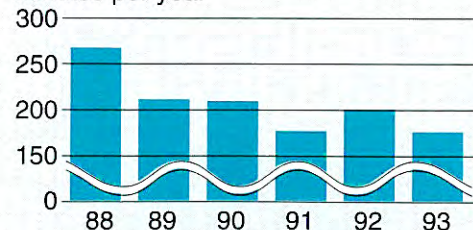
SUPPLY LOSS INDICATORS

12 month moving averages



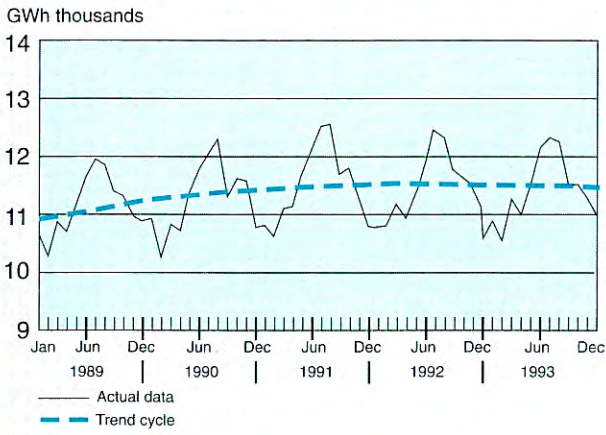
AVERAGE SYSTEM INTERRUPTION DURATION INDEX (ASIDI)

Minutes per year

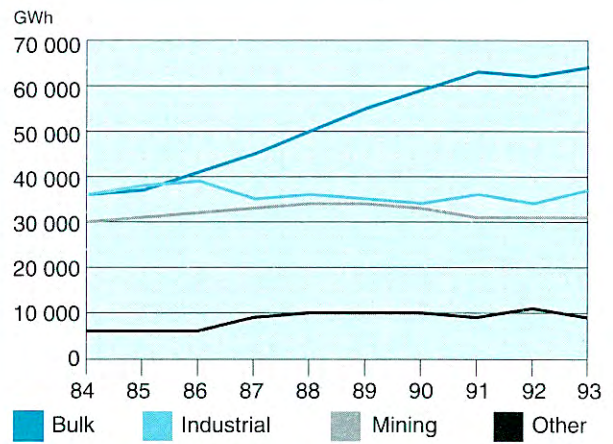


Eskom is adopting the ASIDI indicator to allow for international comparisons. This will replace the supply loss indicators in future.

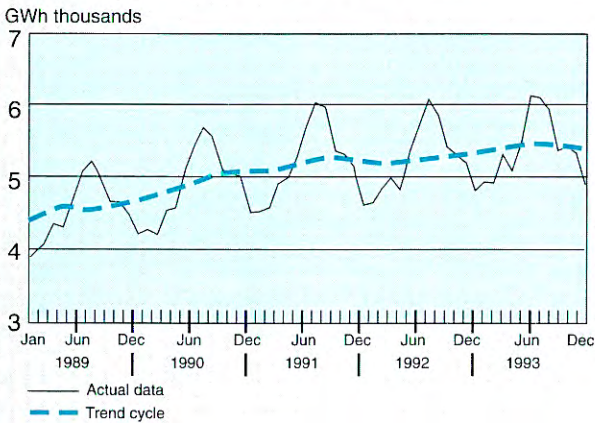
ESKOM TOTAL SALES



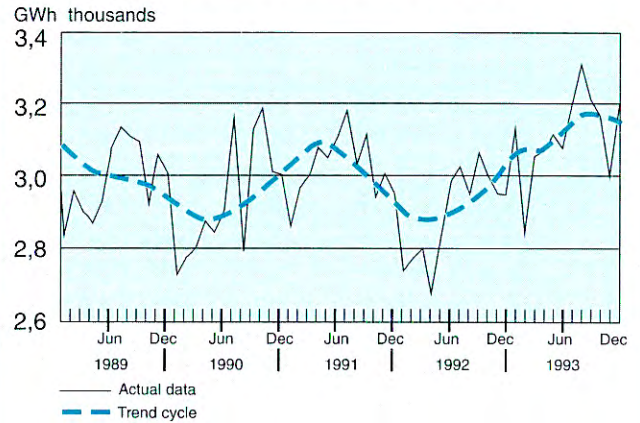
SALES BY CATEGORY



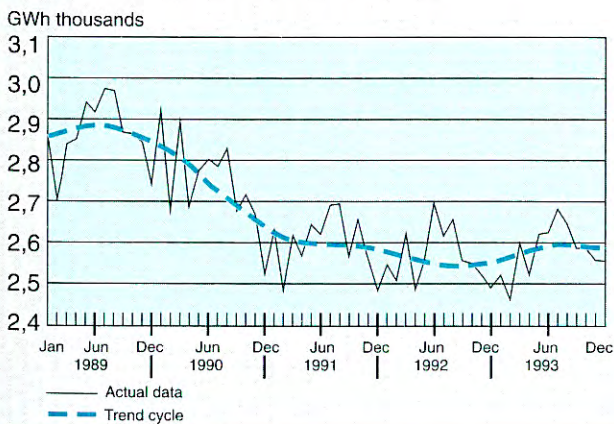
BULK SALES



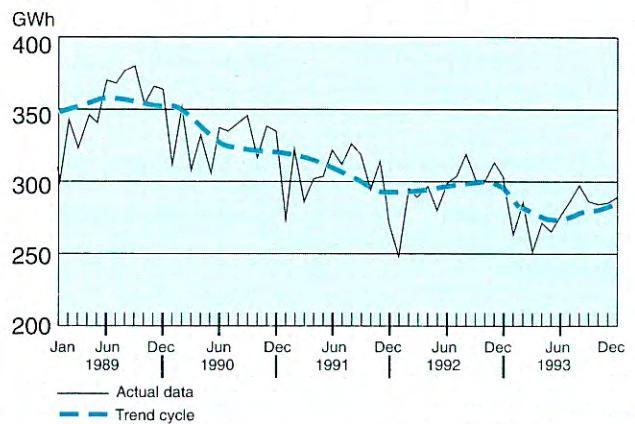
INDUSTRIAL SALES



MINING SALES



TRACTION SALES



ESKOM: Electricity production and sales

Year	Electricity produced						
	South Africa total produced GWh	Eskom electricity produced as a percentage of South African total ^a	Electricity produced by Eskom power stations GWh	Electricity purchased from other sources GWh	Own consumption GWh	Available for distribution GWh	Peak demand on integrated Eskom system MW
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	94,5	121 987	507	3 265	119 229	17 852
1986	130 055	95,2	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	96,7	143 204	344	2 265	141 283	21 871
1990	147 069	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
1993	155 812	97,9	154 260	101	1 898	152 463	23 169

^a Includes Eskom electricity supplied to neighbouring countries.

^b Estimates based on limited information.

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

^d Air and steam production excluded.

^e Revised figure.

Integrated Eskom system load factor %	Electricity sales				Employees	
	Ratio GWh sales/available for distribution	Electricity sales GWh	Growth %	Average selling price c/kWh	Total number at 31 Dec	Ratio GWh sales/employee
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 ^d	26 657,1 ^d	8,7 ^d	0,5466 ^d	19 817	1,345 ^d
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
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
74,6	0,950	138 697,9 ^a	1,8	8,4718 ^a	46 637	2,974
73,5	0,944	138 126,0	-0,4	9,1580 ^e	42 223	3,271
75,1	0,943	143 800,0	4,1	9,5920	40 128	3,584

ESKOM: Customer categories by business unit (excluding own use)

in order of sales volume

Business unit and categories	Number of customers	GWh sold 1993	% of total GWh	% growth 1992-93	Revenue R000 1993	% of total revenue	Average price cents per kWh 1993 1992	
Pretoria Distributor								
Bulk	180	13 804,9	36,0	-3,9	1 320 018	37,3	9,562	9,012
Domestic and street lighting	110 747	69,6	0,2	99,6	18 458	0,5	26,523	17,575
Commercial	727	20,1	0,1	6,8	3 408	0,1	16,915	15,325
Industrial	675	15 111,8	39,4	11,7	1 121 984	31,7	7,425	7,879
Mining	287	7 495,7	19,6	2,7	768 640	21,7	10,254	9,518
Rural	32 996	1 145,2	3,0	-2,6	210 402	5,9	18,372	16,788
Traction	12	667,5	1,7	67,5	94 157	2,7	14,106	14,338
Total	145 624	38 314,9	100,0	3,2	3 537 066	100,0	9,232	9,014
Johannesburg Distributor								
Bulk	86	18 527,7	50,2	1,0	1 768 007	50,3	9,543	9,141
Domestic and street lighting	252 744	1 806,9	4,9	84,9	154 047	4,4	8,526	11,134
Commercial	17 640	257,0	0,7	55,7	41 489	1,2	16,140	15,647
Industrial	729	10 069,9	27,3	0,9	923 598	26,3	9,172	8,558
Mining	91	5 332,9	14,4	0,1	495 280	14,1	9,287	8,709
Rural	7 065	295,5	0,8	1,0	50 632	1,4	17,133	15,952
Traction	2	650,9	1,8	-19,5	79 027	2,3	12,142	11,544
Total	278 357	36 940,7	100,0	2,6	3 512 080	100,0	9,507	9,109
Bloemfontein Distributor								
Bulk	200	5 097,3	20,1	-4,5	515 841	20,5	10,120	9,396
Domestic and street lighting	90 350	90,1	0,4	217,3	17 768	0,7	19,726	19,328
Commercial	1 341	16,0	0,1	63,3	3 078	0,1	19,239	18,247
Industrial	270	914,5	3,6	-4,7	97 097	3,9	10,617	9,878
Mining	163	17 843,2	70,5	-0,2	1 647 428	65,4	9,233	8,564
Rural	31 715	828,2	3,3	-2,0	166 125	6,6	20,059	18,479
Traction	11	508,4	2,0	-6,9	70 370	2,8	13,842	11,900
Total	124 050	25 297,6	100,0	-1,2	2 517 707	100,0	9,952	9,200
Durban Distributor								
Bulk	61	12 802,8	55,0	5,8	1 210 428	55,6	9,454	8,969
Domestic and street lighting	132 995	320,4	1,4	20,2	61 115	2,8	19,073	17,483
Commercial	3 442	115,6	0,5	8,0	18 241	0,8	15,783	14,715
Industrial	572	8 029,5	34,5	5,9	600 132	27,5	7,474	7,540
Mining	59	308,0	1,3	-6,7	37 715	1,7	12,247	11,689
Rural	23 000	747,3	3,2	-3,6	133 142	6,1	17,817	16,237
Traction	8	960,9	4,1	-19,1	118 118	5,4	12,292	11,238
Total	160 137	23 284,4	100,0	4,0	2 178 891	100,0	9,358	9,026
Cape Town Distributor								
Bulk	215	13 358,2	74,2	2,7	1 220 347	64,7	9,136	8,489
Domestic and street lighting	128 383	491,2	2,7	16,7	101 128	5,4	20,586	19,012
Commercial	3 385	84,4	0,5	7,7	14 998	0,8	17,764	16,393
Industrial	711	2 420,7	13,4	22,8	254 255	13,5	10,503	10,155
Mining	32	17,9	0,1	3,8	2 363	0,1	13,233	19,350
Rural	31 337	1 053,1	5,8	8,3	193 883	10,3	18,411	17,276
Traction	8	577,1	3,2	-6,5	99 332	5,3	17,212	15,750
Total	164 071	18 002,7	100,0	5,3	1 886 306	100,0	10,478	9,748
Business units total								
Bulk	742	63 590,9	44,8	0,7	6 034 641	44,3	9,490	8,966
Domestic and street lighting	715 219	2 778,2	2,0	60,7	352 515	2,6	12,689	14,297
Commercial	26 535	493,2	0,3	30,1	81 214	0,6	16,467	15,589
Industrial	2 957	36 546,4	25,8	7,4	2 997 066	22,0	8,201	8,191
Mining	632	30 997,6	21,9	0,5	2 951 427	21,7	9,521	8,854
Rural	126 113	4 069,3	2,9	0,2	754 183	5,5	18,533	17,091
Traction	41	3 364,7	2,4	-5,5	461 003	3,4	13,701	12,539
Total	872 239	141 840,4	100,0	2,6	13 632 049	100,0	9,611	9,166

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

Prior to 1988, rural/farming and commercial customers were included under Industrial.

Year	Domestic and street lighting		Commercial	Industrial	Mining	Rural/farming	International ^b	Total for all categories	Change %
	Bulk								
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	16 054	2 877	555	101 708	–	275 379	6,2
1989	625	103 111	11 958	2 593	565	110 083	–	228 935	-16,9
1990	673	111 709	11 948	2 561	592	114 771	–	242 254	5,8
1991	704	142 759	12 416	2 646	585	118 631	–	277 741	14,6
1992 ^a	718	397 562	17 918	2 682	583	122 097	4	541 564	95,0
1993	742	715 219	26 535	2 957	632	126 113	4	872 202	61,1

^a Restated.

^b International category (Botswana, Mozambique, Namibia and Zimbabwe) previously included under Bulk.

ESKOM: Total electricity sales

Prior to 1988, rural/farming and commercial customers were included under Industrial.

Year	Sales per category, GWh								
	Bulk	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Inter-national ^b	Own usage
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	450	36 016	34 228	3 151	4 138	–	467
1989	54 861	1 237	368	35 360	34 376	3 403	4 237	–	516
1990	59 203	1 098	340	34 439	32 981	3 639	3 965	–	520
1991	62 538	1 156	344	35 530	31 257	3 762	3 656	–	455
1992 ^a	62 417	1 604	379	34 034	30 840	4 038	3 568	776	470
1993	63 591	2 778	493	36 546	30 998	4 070	3 365	1 565	394

^a Restated.

^b International category (Botswana, Mozambique, Namibia and Zimbabwe) previously included under Bulk.

Total	Sales as a percentage of total GWh sold								
	Bulk	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Inter-national ^b	Own usage
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	38,4	1,0	0,3	27,8	26,4	2,4	3,2	–	0,4
134 358	40,8	0,9	0,3	26,3	25,6	2,5	3,2	–	0,4
136 185	43,5	0,8	0,2	25,3	24,2	2,7	2,9	–	0,4
138 698	45,1	0,8	0,2	25,6	22,5	2,7	2,6	–	0,3
138 126	45,2	1,2	0,3	24,6	22,3	2,9	2,6	0,6	0,3
143 800	44,2	1,9	0,3	25,4	21,6	2,8	2,3	1,1	0,3

Eskom: Revenue per kWh by category of customer

Prior to 1988, rural/farming and commercial customers were included under Industrial.

Year	Actual price in c/kWh									Change %
	Bulk	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Inter-national ^b	Average for all categories	
1954	0,464	1,325	—	0,388	0,299	—	0,532	—	0,376	7,8
1955	0,523	1,349	—	0,399	0,326	—	0,618	—	0,410	8,9
1956	0,545	1,363	—	0,399	0,334	—	0,635	—	0,421	2,7
1957	0,569	1,385	—	0,415	0,353	—	0,645	—	0,441	4,8
1958	0,586	1,429	—	0,441	0,379	—	0,656	—	0,466	5,8
1959	0,605	1,441	—	0,468	0,396	—	0,667	—	0,486	4,3
1960	0,601	1,449	—	0,483	0,414	—	0,664	—	0,499	2,5
1961	0,613	1,484	—	0,494	0,422	—	0,673	—	0,510	2,2
1962	0,609	1,478	—	0,487	0,417	—	0,740	—	0,511	0,3
1963	0,604	1,476	—	0,488	0,419	—	0,728	—	0,513	0,3
1964	0,591	1,443	—	0,490	0,412	—	0,691	—	0,507	-1,0
1965	0,591	1,398	—	0,482	0,406	—	0,696	—	0,505	-0,4
1966	0,597	1,385	—	0,511	0,418	—	0,717	—	0,522	3,3
1967	0,606	1,393	—	0,537	0,444	—	0,752	—	0,547	4,8
1968	0,604	1,391	—	0,551	0,449	—	0,755	—	0,555	1,5
1969	0,599	1,370	—	0,550	0,455	—	0,755	—	0,557	0,3
1970	0,600	1,345	—	0,550	0,450	—	0,756	—	0,555	-0,4
1971	0,614	1,361	—	0,573	0,472	—	0,763	—	0,577	4,1
1972	0,637	1,416	—	0,601	0,510	—	0,791	—	0,611	5,8
1973	0,674	1,505	—	0,638	0,542	—	0,842	—	0,648	6,2
1974	0,704	1,548	—	0,706	0,557	—	0,883	—	0,682	5,2
1975	0,808	1,708	—	0,822	0,659	—	1,016	—	0,795	16,5
1976	1,053	2,092	—	1,064	0,873	—	1,326	—	1,036	30,3
1977	1,578	3,178	—	1,564	1,295	—	2,004	—	1,535	48,2
1978	1,779	3,788	—	1,799	1,604	—	2,387	—	1,789	16,5
1979	1,872	3,983	—	1,892	1,731	—	2,602	—	1,898	6,1
1980	2,003	4,275	—	2,026	1,854	—	2,676	—	2,024	6,6
1981	2,270	4,731	—	2,284	2,079	—	2,989	—	2,281	12,7
1982	2,808	5,418	—	2,825	2,541	—	3,650	—	2,804	22,9
1983	3,367	6,232	—	3,377	3,048	—	4,551	—	3,361	19,9
1984	3,593	6,661	—	3,595	3,268	—	4,696	—	3,584	6,7
1985	4,124	7,507	—	4,120	3,789	—	5,373	—	4,118	14,9
1986	4,871	9,195	—	5,025	4,722	—	6,237	—	4,980	20,9
1987	5,580	10,954	—	5,470	5,540	10,440	7,612	—	5,751	15,5
1988	6,121	11,861	10,906	5,875	6,030	11,666	8,179	—	6,293	9,4
1989	6,688	12,318	11,222	6,468	6,670	12,604	9,083	—	6,898	9,6
1990	7,650	14,513	12,797	7,330	7,587	14,487	10,406	—	7,883	14,3
1991	8,252	15,779	14,284	7,784	8,127	15,858	11,419	—	8,472	7,4
1992 ^a	8,983	15,274	15,567	8,174	8,791	17,137	12,444	8,634	9,158	8,1
1993	9,490	12,707	16,430	8,203	9,520	18,526	13,700	7,668	9,592	4,7 ^c

^a Restated

^b International category (Botswana, Mozambique, Namibia and Zimbabwe) previously included under Bulk.

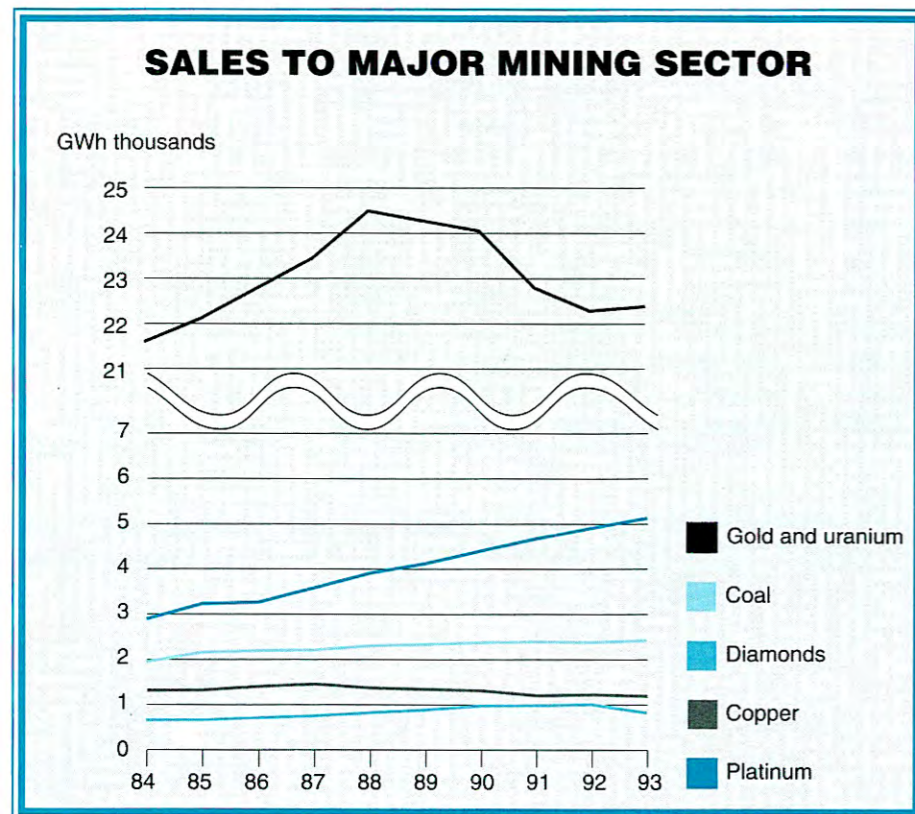
^c Official price increase 8%, actual 4,7%, due to incidence of discounts and incentives as well as flat tariffs in domestic.

Production Price Index 1990 = 100	Real price in c/kWh									
	Bulk	Domestic and street lighting	Commercial	Industrial	Mining	Rural/farming	Traction	Inter-national ^b	Average for all categories	Change %
6,1	7,598	21,701	—	6,358	4,902	—	8,712	—	6,165	6,8
6,3	8,332	21,505	—	6,365	5,202	—	9,851	—	6,537	6,0
6,4	8,537	21,350	—	6,255	5,240	—	9,949	—	6,595	0,9
6,5	8,808	21,419	—	6,419	5,456	—	9,974	—	6,820	3,4
6,5	9,027	22,016	—	6,788	5,837	—	10,099	—	7,183	5,3
6,5	9,357	22,291	—	7,242	6,130	—	10,319	—	7,522	4,7
6,5	9,177	22,131	—	7,381	6,328	—	10,146	—	7,616	1,2
6,7	9,201	22,290	—	7,423	6,331	—	10,102	—	7,653	0,5
6,7	9,076	22,018	—	7,259	6,216	—	11,018	—	7,609	-0,6
6,8	8,891	21,714	—	7,176	6,167	—	10,714	—	7,539	-0,9
7,0	8,489	20,718	—	7,039	5,917	—	9,922	—	7,284	-3,4
7,2	8,227	19,458	—	6,706	5,645	—	9,689	—	7,029	-3,5
7,5	7,997	18,558	—	6,844	5,603	—	9,609	—	6,991	-0,5
7,6	7,946	18,258	—	7,035	5,824	—	9,861	—	7,164	2,5
7,7	7,798	17,970	—	7,122	5,804	—	9,757	—	7,169	0,1
7,9	7,572	17,318	—	6,950	5,748	—	9,548	—	7,037	-1,8
8,2	7,356	16,492	—	6,740	5,518	—	9,270	—	6,797	-3,4
8,5	7,184	15,923	—	6,710	5,518	—	8,928	—	6,754	-0,6
9,2	6,890	15,321	—	6,502	5,524	—	8,564	—	6,611	-2,1
10,4	6,461	14,425	—	6,113	5,193	—	8,075	—	6,215	-6,0
12,3	5,711	12,566	—	5,728	4,523	—	7,166	—	5,538	-10,9
14,5	5,589	11,815	—	5,686	4,559	—	7,030	—	5,499	-0,7
16,6	6,335	12,584	—	6,402	5,250	—	7,981	—	6,233	13,3
18,8	8,400	16,917	—	8,327	6,892	—	10,668	—	8,173	31,1
20,6	8,629	18,372	—	8,726	7,782	—	11,578	—	8,676	6,2
23,8	7,880	16,768	—	7,968	7,289	—	10,955	—	7,991	-7,9
27,7	7,218	15,409	—	7,300	6,682	—	9,645	—	7,295	-8,7
31,5	7,201	15,011	—	7,245	6,595	—	9,482	—	7,237	-0,8
35,9	7,814	15,079	—	7,862	7,070	—	10,157	—	7,803	7,8
39,7	8,480	15,696	—	8,505	7,677	—	11,461	—	8,464	8,5
43,0	8,350	15,479	—	8,353	7,594	—	10,911	—	8,329	-1,6
50,3	8,203	14,932	—	8,194	7,536	—	10,688	—	8,191	-1,7
60,1	8,104	15,300	—	8,361	7,857	—	10,377	—	8,287	1,2
68,5	8,148	15,996	—	7,988	8,091	15,245	11,116	—	8,399	1,3
77,5	7,899	15,306	14,073	7,582	7,781	15,054	10,555	—	8,120	-3,3
89,3	7,490	13,796	12,568	7,243	7,469	14,115	10,172	—	7,726	-4,9
100,0	7,650	14,513	12,797	7,330	7,587	14,487	10,406	—	7,883	2,0
108,6 ^a	7,598	14,530	13,153	7,168	7,484	14,603	10,514	—	7,801	-1,0
116,5 ^a	7,711	13,111	13,362	7,016	7,546	14,710	10,682	7,411	7,861	0,8
123,5	7,684	10,289	13,304	6,642	7,709	15,001	11,093	6,209	7,767	-1,2

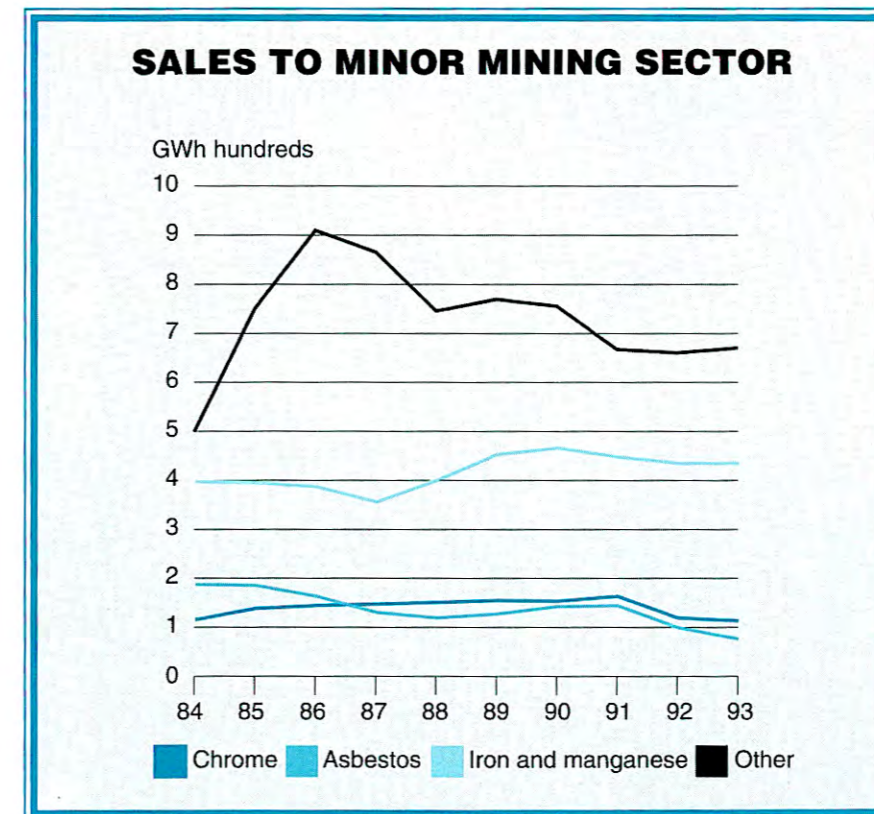
ESKOM: Sales to mining sector, GWh

Year	Gold and uranium	Diamonds	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	649	1 718	2 425	1 303	106
1984	21 580	635	1 929	2 874	1 295	114
1985	22 088	640	2 141	3 213	1 304	137
1986	22 759	692	2 177	3 247	1 386	143
1987	23 423	735	2 193	3 565	1 439	146
1988	24 471	808	2 289	3 892	1 355	154
1989	24 251	870	2 321	4 105	1 326	158
1990	24 034	916	2 364	4 387 ^b	1 296	152
1991	22 779	969	2 381	4 659 ^b	1 187	162
1992	22 268 ^a	993	2 367 ^a	4 897 ^b	1 208	118
1993	22 368	809	2 408	5 116 ^b	1 175	112

^a Restated.
^b Platinum mines also included under Bulk.



Asbestos	Iron	Manganese	Other	Total	Growth %
91		74	59	11 441	
107		81	59	11 995	4,8
118		80	68	12 642	5,4
137		88	92	13 948	10,3
152		92	100	14 227	2,0
161		101	117	14 509	2,0
168	86		123	15 800	8,9
193	104	27	142	16 941	7,2
238	121	37	167	17 444	3,0
266	180	49	205	18 746	7,5
275	271	62	295	20 139	7,4
223	272	72	319	22 219	10,3
233	334	83	365	24 000	8,0
242	361	94	387	25 882	7,8
240	335	104	548	27 131	4,8
235	305	113	554	27 372	0,9
225	243	78	522	28 021	2,4
186	321	75	497	29 506	5,3
184	310	84	748	30 849	4,6
162	298	89	908	31 860	3,3
129	267	88	864	32 849	3,1
118	295	104	744	34 228	4,2
126	323	129	768	34 376	0,4
141	325	140	754	34 510	0,4
143	315	131	666	33 393	-3,2
98	313	121	659	33 041	-1,1
75	326	108	669	33 166	0,4



ESKOM: Sales to industry, GWh

By Standard Industrial Classification (SIC) of selected economic activities ^a

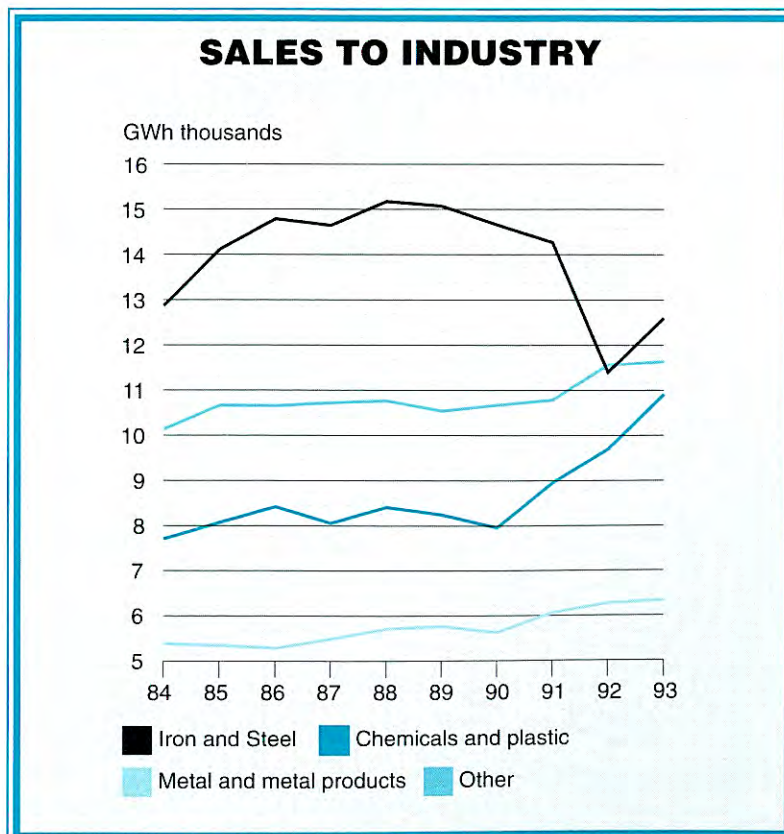
Year	Division										Growth %
	11	31	32	33	34	35 ^b	351	352	Other	Total	
1983	259	347	1 184	7 258	1 307	286	10 664	4 699	6 282	32 286	
1984	297	361	1 470	7 716	1 379	291	12 874	5 096	6 635	36 119	13,4
1985	341	401	1 735	8 079	1 236	282	14 116	5 067	6 957	38 215	5,8
1986	327	422	1 689	8 427	1 209	236	14 792	5 054	7 015	39 170	2,5
1987	318	403	1 429	8 063	1 226	170	14 649	5 320	7 351	38 929	-0,6
1988	308	410	1 474	8 417	1 345	157	15 177	5 561	7 236	40 085	3,0
1989	309	398	1 270	8 253	1 221	132	15 077	5 639	7 348	39 647	-1,1
1990	349	366	1 332	7 966	1 195	122	14 662	5 509	7 436	38 938	-1,8
1991	340	365	1 351	8 958	1 074	103	14 275	5 962	7 663	40 091	3,0
1992	383	372	1 436	9 704	986	101	11 402	6 147	8 390	38 921	-2,9
1993	390	391	1 365	10 915	975	103	12 608	6 236	8 521	41 503	6,6

Standard Industrial Classification Divisions

- 11 Agriculture, hunting and related services.
- 31 Manufacture of textiles, clothing and leather goods.
- 32 Manufacture of wood and of products of wood and cork, manufacture of paper and paper products.
- 33 Manufacture of coke, refined petroleum products and nuclear fuel, manufacture of chemicals and chemical products, manufacture of rubber and plastic products.
- 34 Manufacture of other non-metallic mineral products.
- 35 Manufacture of basic metals, fabricated metal products, machinery and equipment and office, accounting and computing machinery.
- 351 Manufacture of basic iron and steel.
- 352 Manufacture of basic precious and non-ferrous metals.

^a SIC codes were revised in 1992.

^b This reflects the balance after deduction of codes 351 and 352.

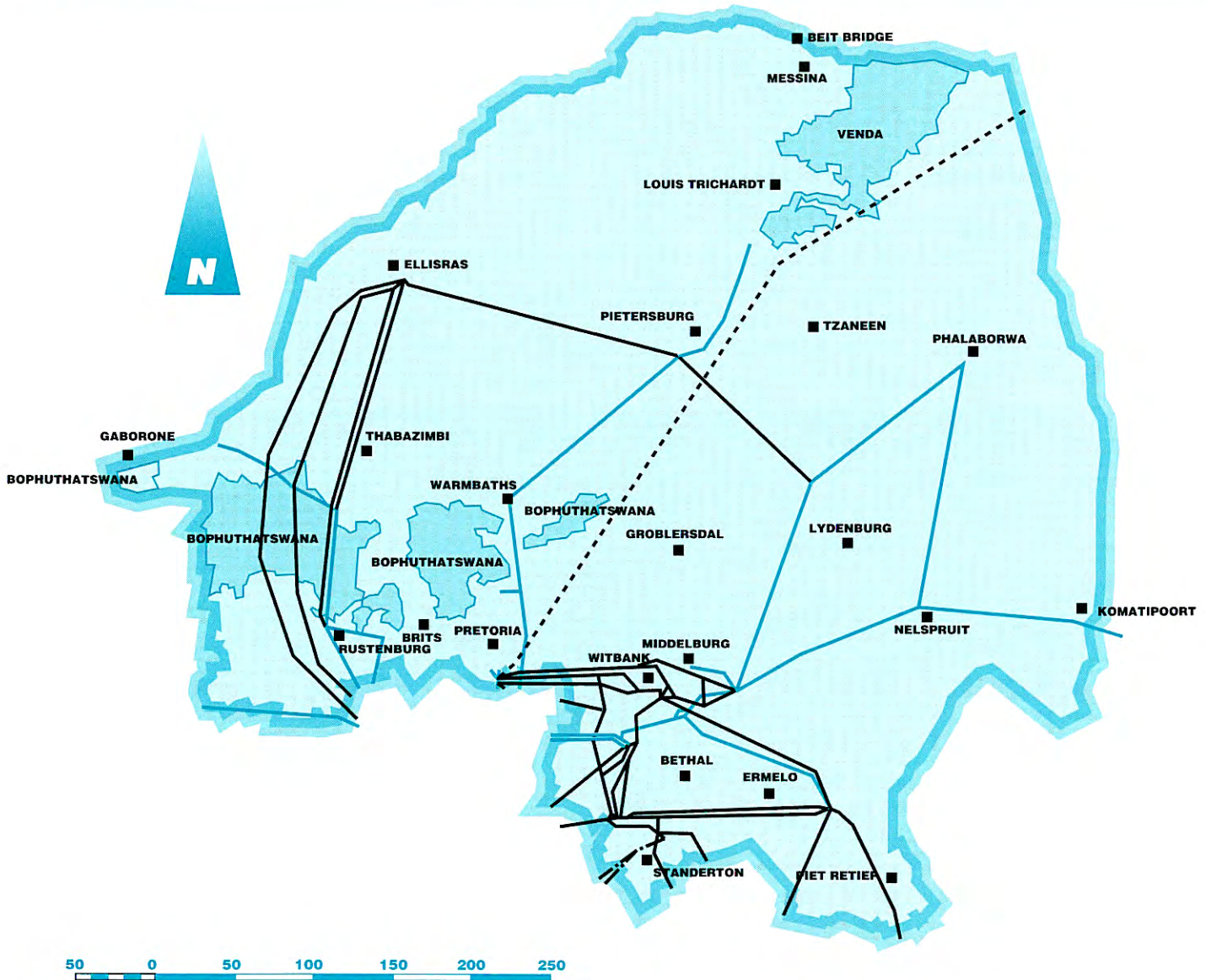


ESKOM: Business units

- Pretoria Distributor
- Johannesburg Distributor
- Bloemfontein Distributor
- Durban Distributor
- Cape Town Distributor



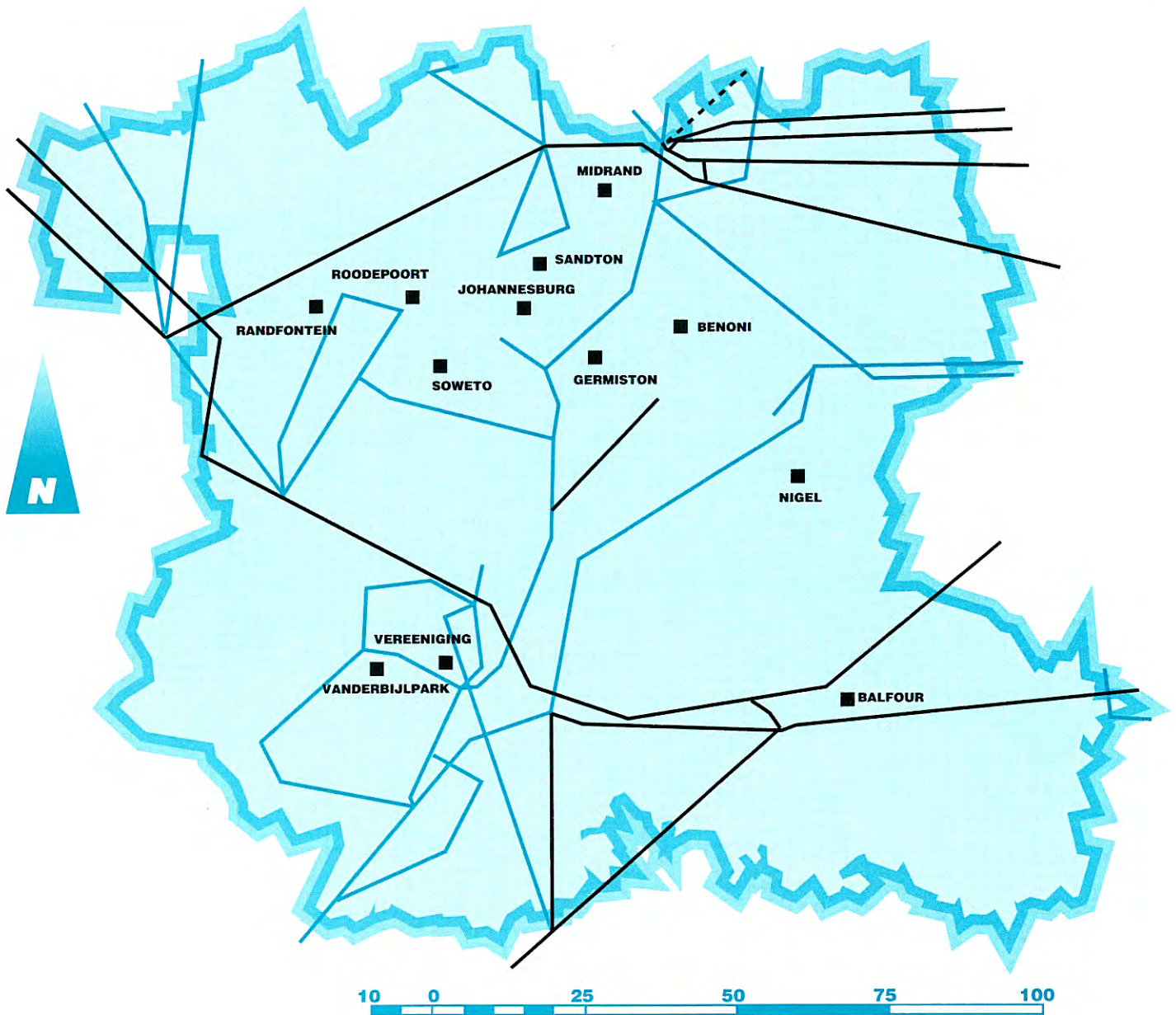
ESKOM: Pretoria Distributor



Pretoria Distributor	(012) 421-3111
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
Warmbaths	(014) 736-2140
Sales & Customer Service - North-eastern Transvaal	
Nelspruit	(01311) 55-9000
Customer Service offices:	
Lebowa	(0152) 295-5691
Lydenburg	(01323) 2314
Nelspruit	(01311) 55-9000
Phalaborwa	(01524) 8-7331
Pietersburg	(014) 736-2140
Sales & Customer Service - Eastern Transvaal	
Witbank	(0135) 93-3111
Customer Service offices:	
Bethal	(01361) 7-1200
Groblersdal	(01202) 4039
Middelburg	(0132) 46-1631/2/3/4/5/6/7

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

ESKOM: Johannesburg Distributor



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

Johannesburg Distributor	(011) 711-9111
Sales & Customer Service - East Rand	
Johannesburg	(011) 711-2947
Customer Service offices:	
Benoni	(011) 422-3900
Germiston	(011) 871-3481
Midrand	(011) 315-2060
Sales & Customer Service - South Vaal	
Johannesburg	(011) 711-2825
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

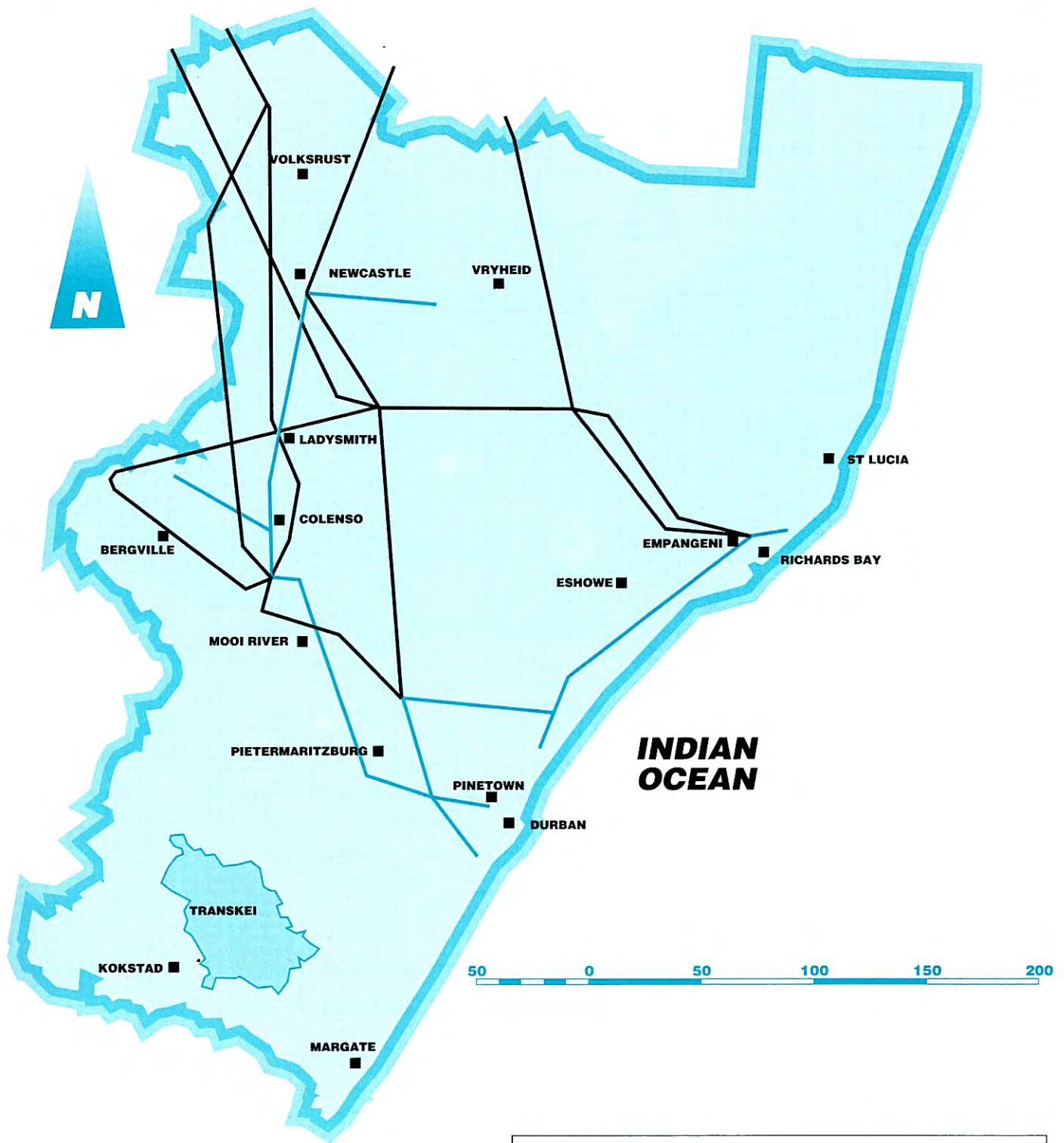
ESKOM: Bloemfontein Distributor



Bloemfontein Distributor	(051) 404-2111
Sales & Customer Service - Orange Free State	
Bloemfontein	(051) 30-2300
Customer Service offices:	
Bethlehem	(058) 303-5133
Harrismith	(05861) 3-1788/98
Kroonstad	(0562) 3-2757
Parys	(0568) 2341/2
Senekal	(05848) 3801
Sales & Customer Service - Northern Cape	
Kimberley	(0531) 80-5911
Customer Service offices:	
Kimberley	(0531) 80-5731
Kuruman	(05373) 2-2151
Upington	(054) 37-1111
Vryburg	(05391) 7-1116
Sales & Customer Service - Goldfields	
Klerksdorp	(018) 464-6666
Customer Service offices:	
Bothaville	(0565) 2118
Carletonville	(01491) 7-2064/5
Delareyville	(053) 948-1228
Lichtenburg	(01441) 2-6284/5/6/7
Welkom	(057) 392-2962
Wolmaransstad	(01811) 2-2515

- 765 kV lines
- 400 kV lines
- 220 kV lines and 275 kV lines

ESKOM: Durban Distributor



400 kV lines
 275 kV lines



Durban Distributor	(031) 360-2111
Sales & Customer Service - Natal Coastal	
Durban	(031) 360-2111
Customer Service offices:	
Empangeni	(0351) 2-6931
Margate	(03931) 7-6363
Pinetown	(031) 701-1201
Sales & Customer Service - Natal Inland	
Pietermaritzburg	(0331) 42-6013
Customer Service offices:	
Ladysmith	(0361) 31-0370
Newcastle	(03431) 5-1274
Pietermaritzburg	(0331) 94-7351

ESKOM: Cape Town Distributor



50 0 50 100 150 200 250

Cape Town Distributor		(021) 915-9111
Sales & Customer Service - West		
Bellville		(021) 915-9111
Customer Service offices:		
Grabouw		(024) 859-9405
Malmesbury		(0224) 7-1530
Vredenburg		(02281) 3-1153
Bellville		(021) 915-9111
Sales & Customer Service - East		
East London		(0431) 39-2111
Customer Service offices:		
Colesberg		(051) 753-0741
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		(0443) 29-1667/8
Worcester		(0231) 2-2394

 400 kV lines
 220 kV lines
 132 kV lines

SOUTH AFRICA: Motive power employed - electricity

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

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	–	–	–	1,9	–	0,6	2,5
Total public undertakings, MW	33 755,0	708,1	0,0	43,1	0,0	2 125,6	36 631,8
Self-producers	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

^a The 1992 census statistics have not yet been published.

SOUTH AFRICA: Electricity available for consumption

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

Ownership and group	Gross production of electricity GWh	Purchases outside South Africa GWh	Units consumed by auxiliary installations and lost in station transformers GWh	Units lost in transmission and transformers GWh	Sales outside South Africa GWh	Supply available for consumption in South Africa 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 ^b	75	–	6	270	–	-201
Manufacturing	7 327	–	1 804	145	–	5 378
Transnet	–	–	–	74	–	-74
Other	44	–	0	1	–	43
Total, GWh	7 446	0	1 810	490	0	5 146
Total all undertakings, GWh	163 476	344	12 974	10 220	4 389	136 237

^a The 1992 census statistics have not yet been published.

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

SOUTH AFRICA: Monthly data on electricity available for consumption

Source: Central Statistical Service Release P4141, 8 February 1994

Month Actual	1993 GWh	1992 GWh	1991 GWh	1990 GWh	1989 GWh	1988 GWh
January	12 416	12 013	12 084	12 055	11 893	11 163
February	11 460	11 536	11 156	11 025	10 946	10 891
March	12 872	12 224	12 347	12 082	11 773	11 330
April	12 244	11 740	12 150	11 533	11 881	11 073
May	13 109	12 590	12 742	12 585	12 259	11 058
June	13 952	13 033	13 099	12 754	12 649	12 271
July	14 027	13 605	13 676	13 294	13 363	12 914
August	13 941	13 351	13 385	13 175	12 861	12 543
September	12 958	12 353	12 241	12 052	12 316	11 917
October	13 243	12 855	12 615	12 712	12 508	12 278
November	12 993	12 232	11 964	12 348	11 930	11 772
December	12 597	11 895	11 460	11 454	11 783	11 592
Total, GWh	155 812	149 427	148 919	147 069	146 162	140 802
Seasonally adjusted						
January	12 691	12 275	12 330	12 317	12 173	11 474
February	12 739	12 823	12 382	12 222	12 114	12 031
March	12 922	12 282	12 426	12 173	11 855	11 376
April	12 757	12 224	12 636	11 981	12 346	11 508
May	12 830	12 330	12 491	12 364	12 055	10 873
June	13 275	12 413	12 491	12 179	12 082	11 714
July	12 830	12 441	12 499	12 138	12 196	11 782
August	12 961	12 424	12 484	12 332	12 068	11 799
September	13 100	12 474	12 345	12 138	12 394	11 985
October	12 960	12 565	12 311	12 417	12 223	12 039
November	13 337	12 550	12 276	12 667	12 215	12 025
December	13 445	12 683	12 203	12 172	12 484	12 249

SOUTH AFRICA: Production and consumption of electricity

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

Production						Electricity supplied for consumption						
Census year	Gross production of electricity	Purchases outside South Africa	Used in power stations and lost in distribution	Sales outside South Africa	Total number of units consumed in South Africa	Transnet			For domestic purposes	Manufacturing, commerce, etc ^b	For other purposes ^c	Consumption per capita
						Mining	Traction	Other purposes				
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	kWh
1962	25 699	—	3 633	—	22 066	9 121	1 181	223	3 469	7 087	985	1 223
1963	27 457	—	3 263	—	24 194	9 524	1 296	249	3 724	8 316	1 085	1 304
1964	29 399	—	4 142	—	25 213	9 758	1 389	277	4 221	8 617	951	1 322
1965	34 423	—	5 346	—	29 077	10 482	1 676	347	4 960	10 251	1 428	1 483
1967	39 636	—	5 599	—	34 037	11 759	1 913	409	5 682	12 464	1 810	1 642
1969	45 968	—	6 359	—	39 610	12 882	2 142	535	6 714	15 246	2 091	1 810
1971	54 647	—	7 417	14	47 216	14 457	2 676	602	8 088	19 282	2 111	2 086
1973	64 390	—	8 441	194	55 755	16 102	2 904	616	9 265	24 408	2 461	2 327
1975	74 894	25	10 121	283	64 514	17 749	3 159	696	9 991	29 784	3 136	2 546
1976	79 358	1 214	10 559	327	69 686	18 994	3 356	735	10 474	32 558	3 569	2 920
1977	80 323	4 288	10 547	417	73 648	20 318	3 538	775	11 302	33 615	4 099	3 000
1978	84 496	6 973	11 837	1 441	78 190	22 400	3 517	796	11 718	35 427	4 332	3 256
1979	89 748	10 356	12 571	1 795	85 739	23 939	3 730	915	12 330	40 101	4 723	3 524
1980	98 951	9 645	14 079	1 871	92 646	25 260	4 323	989	13 522	43 049	5 502	3 689
1981	113 656	2 660	15 894	2 232	98 190	26 311	4 652	999	14 738	45 735	5 755	3 771
1982	119 012	2 167	18 542	2 406	100 230	27 166	4 883	1 115	14 618	45 691	6 757	3 715
1983	121 122	5 084	20 367	2 875	102 965	27 806	4 339	921	14 490	49 232	6 177	3 867
1986	146 521	312	22 850	3 634	120 348	29 942	3 903	828	17 644	60 858	7 174	4 238
1989	163 476	344	23 194	4 389	136 238	33 909		4 915	20 780	68 181	8 452	4 512

^a The 1992 census statistics have not yet been published.

^b Private businesses.

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

SOUTH AFRICA: Consumption of electricity

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

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 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

^a The 1992 census statistics have not yet been published.

SOUTH AFRICA: Municipal statistics

Sources: Municipalities, Eskom and National Electrification Forum

Not all municipalities have been prepared to supply their current statistics. This table is based on the most recent statistics at our disposal and consists only of municipalities that are distributors of electricity and have more than 500 customers.

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Eastern Cape						
Adelaide	1993	421	60	5	63	549
Aliwal North	1992	1 562	227	2	10	1 801
Beacon Bay	1992	2 745	59	10	–	2 814
Burgersdorp	1993	833	130	9	48	1 020
Craddock	1993	1 701	477	52	82	2 312
Despatch	1992	3 575	135	20	–	3 730
East London	1992	21 000	3 950	5	45	25 000
Fort Beaufort	1990	739	87	8	61	895
Gonubie	1993	2 221	108	–	6	2 335
Graaff-Reinet	1993	3 008	52	6	60	3 126
Grahamstown	1992	3 407	217	37	459	4 120
Humansdorp	1992	825	264	–	44	1 133
Jeffreys Bay	1992	2 593	285	1	6	2 885
King Williams Town	1992	4 123	483	75	–	4 681
Kirkwood	1992	650	130	–	190	970
Kokstad	1992	1 198	328	15	–	1 541
Kruisfontein	1991	528	–	–	–	528
Middelburg	1992	1 280	135	19	86	1 520
Plettenberg Bay	1992	2 938	313	–	–	3 251
Port Alfred	1992	1 923	429	3	–	2 355
Port Elizabeth	1993	75 803	6 284	707	65	82 859
Queenstown	1993	3 369	650	16	118	4 153
Somerset East	1992	1 088	8	–	645	1 741
St Francis Bay	1991	586	–	–	–	586
Stutterheim	1991	670	125	15	25	835
Uitenhage	1992	11 847	1 212	63	314	13 436

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
3 643	656	251	216	4 766	1993	1,31	56,8
13 198	8 760	2 065	8 315	32 338	1993	8,00	58,9
27 414	1 628	3 348	–	32 390	1993	7,57	59,9
5 562	1 991	1 131	1 230	9 914	1993	2,96	53,2
11 226	5 443	3 156	5 650	25 475	1993	5,58	62,7
27 489	1 658	3 840	2 298	35 285	1993	8,60	59,3
164 179	391 800	29 283	20 814	606 076	1993	117,35	62,2
5 653	2 148	776	6 788	15 365	1993	4,38	59,8
16 500	2 600	–	3 310	22 410	1993	5,30	62,1
16 243	5 554	3 888	4 598	30 283	1993	6,54	65,5
23 802	15 169	1 198	28 871	69 040	1993	14,75	82,8
5 408	8 064	–	3 932	17 404	1993	4,79	55,4
5 000	10 000	5 000	1 884	21 884	1993	7,16	56,1
32 919	10 631	30 656	–	74 206	1993	14,04	64,5
4 371	2 074	–	531	6 976	1993	2,22	52,5
19 400	9 676	4 666	–	33 742	1993	8,52	59,9
3 043	–	–	–	3 043	1991	–	–
6 189	3 337	5 525	2 777	17 828	1993	4,68	57,0
17 862	13 777	–	–	31 639	1993	10,76	54,5
10 030	4 875	651	–	15 556	1993	3,96	56,9
547 336	111 782	1 029 626	467 304	2 156 048	1993	429,80	66,8
29 007	40 394	10 754	11 645	91 800	1990	19,10	39,0
5 459	5 346	–	21 515	32 320	1993	7,31	62,9
–	–	–	3 853	3 853	1993	1,54	348,7
5 081	2 098	2 752	679	10 610	1993	2,42	58,0
74 860	40 198	283 602	2 860	401 520	1991	77,40	57,0

SOUTH AFRICA: Municipal statistics

Sources: Municipalities, Eskom and National Electrification Forum

Not all municipalities have been prepared to supply their current statistics. This table is based on the most recent statistics at our disposal and consists only of municipalities that are distributors of electricity and have more than 500 customers.

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Eastern Transvaal						
Balfour	1990	693	114	3	31	841
Barberton	1993	1 443	374	9	–	1 826
Belfast	1993	595	108	7	2	712
Bethal	1991	2 003	556	25	–	2 584
Carolina	1991	753	85	15	–	853
Delmas	1993	1 179	234	18	78	1 509
Embalenhle	1991	4 791	–	–	–	4 791
Emzinoni	1991	1 580	–	–	–	1 580
Ermelo	1991	3 397	407	5	164	3 973
Evander	1991	2 101	235	62	–	2 398
Groblersdal	1991	876	245	16	–	1 137
Hendrina	1993	629	–	3	2	634
Kinross	1991	1 306	162	6	–	1 474
Kriel	1993	2 785	316	79	13	3 193
KwaGuqa	1992	7 361	93	–	19	7 473
KwaZamokuhle	1991	538	8	–	6	552
Kwamhlanga	1990	740	25	9	1	775
Lydenburg	1992	1 932	61	107	–	2 100
Marble Hall	1991	636	187	16	28	867
Mhluzi	1991	3 408	36	2	65	3 511
Middelburg	1993	6 512	979	215	497	8 203
Nelspruit	1992	5 137	1 030	110	–	6 277
Phola	1992	1 835	15	–	1	1 851
Piet Retief	1992	1 592	375	–	62	2 029
Sabie	1989	1 000	200	10	–	1 210
Sakhile	1991	1 499	20	–	–	1 519
Secunda	1993	8 457	370	–	–	8 827
Siyabuswa	1990	617	43	6	4	670
Siyathuthuka	1991	489	20	–	14	523
Standerton	1993	3 814	520	13	261	4 608
Trichardt	1991	550	345	50	5	950
Tutuka	1991	1 500	388	–	–	1 888
Volksrust	1991	1 639	227	8	–	1 874
Vukuzakhe	1991	783	–	–	–	783
Waterval Boven	1991	450	60	1	–	511
Wesselton	1991	2 120	30	–	–	2 150
White River	1991	2 550	495	105	22	3 172
Witbank	1993	21 665	1 934	141	–	23 740

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
5 161	7 501	4 051	1 366	18 079	1993	5,22	64,6
28 474	11 008	4 883	–	44 365	1993	10,89	64,3
7 001	2 551	277	2 248	12 077	1993	3,17	57,2
3 290	1 410	1 175	–	5 876	1993	13,76	63,0
5 719	2 859	4 654	422	13 654	1993	3,54	55,7
12 719	4 189	10 293	3 994	31 195	1993	8,21	61,4
34 338	8 584	–	–	42 922	1993	15,84	48,9
2 160	240	–	–	2 400	1991	3,60	34,0
39 634	–	–	38 555	78 189	1993	16,30	63,4
22 513	5 822	10 480	–	38 815	1993	8,16	70,5
–	–	–	32 960	32 960	1993	5,55	64,6
11 111	–	326	543	11 980	1993	1,64	57,7
10 903	3 001	3 499	–	17 403	1993	5,80	50,6
31 015	4 762	3 933	1 814	41 524	1993	10,74	66,7
45 029	6 511	–	182	51 722	1993	9,76	41,8
4 091	36	–	4	4 131	1993	1,32	44,0
3 182	842	515	14	4 553	1990	1,00	38,1
12 525	2 486	22 949	–	37 960	1993	9,60	54,0
6 466	5 383	9 867	1 173	22 889	1993	5,59	54,3
2 534	26	21	50	2 631	1991	7,50	56,6
129 868	59 707	11 764	463	201 802	1993	51,09	65,0
48 940	26 821	64 933	–	140 694	1993	37,40	57,1
7 132	58	–	4	7 194	1993	5,40	44,1
15 283	–	–	27 272	42 555	1993	8,70	58,0
13 998	–	–	–	13 998	1993	6,95	60,0
2 880	720	–	–	3 600	1991	3,84	36,0
77 910	26 245	–	5 647	109 802	1993	25,92	64,9
9 407	878	1 881	125	12 291	1990	1,93	61,8
526	7	–	4	537	1991	1,50	57,7
444 880	23 317	65 228	23 372	556 797	1993	31,70	71,8
5 395	10 019	–	–	15 414	1993	4,24	55,4
4 684	8 699	–	–	13 383	1991	7,50	55,0
18 200	7 700	4 700	–	30 600	1993	8,10	64,0
3 760	–	–	–	3 760	1991	–	–
4 026	1 598	224	365	6 213	1993	1,40	61,0
–	–	–	20 401	20 401	1993	6,85	36,4
24 000	–	–	48 377	72 377	1993	15,06	69,3
193 165	57 521	76 140	–	326 826	1993	74,68	62,8

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Mhluzi	1991	3 408	36	2	65	3 511
Middelburg	1993	6 512	979	215	497	8 203
Nelspruit	1992	5 137	1 030	110	–	6 277
Phola	1992	1 835	15	–	1	1 851
Piet Retief	1992	1 592	375	–	62	2 029
Sabie	1989	1 000	200	10	–	1 210
Sakhile	1991	1 499	20	–	–	1 519
Secunda	1993	8 457	370	–	–	8 827
Siyabuswa	1990	617	43	6	4	670
Siyathuthuka	1991	489	20	–	14	523
Standerton	1993	3 814	520	13	261	4 608
Trichardt	1991	550	345	50	5	950
Tutuka	1991	1 500	388	–	–	1 888
Volksrust	1991	1 639	227	8	–	1 874
Vukuzakhe	1991	783	–	–	–	783
Waterval Boven	1991	450	60	1	–	511
Wesselton	1991	2 120	30	–	–	2 150
White River	1991	2 550	495	105	22	3 172
Witbank	1993	21 665	1 934	141	–	23 740
Kwazulu/Natal						
Ballito	1992	4 200	273	13	440	4 926
Bergville	1991	144	73	12	433	662
Colenso	1990	494	56	4	–	554
Danhauser	1991	517	–	–	–	517
Dundee	1993	2 154	872	–	1	3 027
Durban	1992	295 887	31 169	595	–	327 651
Empangeni	1990	3 586	876	11	7	4 480
Eshowe	1992	1 552	244	43	–	1 839
Esikhaweni	1990	4 205	–	–	–	4 205
Estcourt	1992	2 466	547	32	50	3 095
Ezakheni	1990	1 422	–	–	–	1 422
Gamalakhe	1990	848	–	–	–	848
Glencoe	1990	965	76	17	303	1 361
Greytown	1991	1 386	353	8	54	1 801
Harding	1990	423	119	11	–	553
Howick	1991	1 463	227	2	3	1 695
Ladysmith	1992	6 617	1 020	75	–	7 712
Madadeni	1991	7 300	44	1	–	7 345
Mandini	1993	814	24	2	–	840
Mondlo	1990	1 000	–	–	–	1 000
Mooi River	1991	627	153	37	27	844
Motherwell	1989	1 390	6	–	4	1 400
Mpumalanga	1990	3 737	–	–	–	3 737
Newcastle	1992	9 534	1 158	192	1	10 885
Ngwelezana	1990	679	–	–	–	679
Pietermaritzburg	1992	42 887	–	5 995	–	48 882
Port Shepstone	1992	1 805	1 015	10	2	2 832
Richards Bay	1992	5 410	301	45	3	5 759
Scottburgh	1990	970	135	–	–	1 105

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
2 534	26	21	50	2 631	1991	7,50	56,6
129 868	59 707	11 764	463	201 802	1993	51,09	65,0
48 940	26 821	64 933	–	140 694	1993	37,40	57,1
7 132	58	–	4	7 194	1993	5,40	44,1
15 283	–	–	27 272	42 555	1993	8,70	58,0
13 998	–	–	–	13 998	1993	6,95	60,0
2 880	720	–	–	3 600	1991	3,84	36,0
77 910	26 245	–	5 647	109 802	1993	25,92	64,9
9 407	878	1 881	125	12 291	1990	1,93	61,8
526	7	–	4	537	1991	1,50	57,7
444 880	23 317	65 228	23 372	556 797	1993	31,70	71,8
5 395	10 019	–	–	15 414	1993	4,24	55,4
4 684	8 699	–	–	13 383	1991	7,50	55,0
18 200	7 700	4 700	–	30 600	1993	8,10	64,0
3 760	–	–	–	3 760	1991	–	–
4 026	1 598	224	365	6 213	1993	1,40	61,0
–	–	–	20 401	20 401	1993	6,85	36,4
24 000	–	–	48 377	72 377	1993	15,06	69,3
193 165	57 521	76 140	–	326 826	1993	74,68	62,8
28 700	9 953	1 612	9 290	49 555	1993	13,06	59,7
1 403	3 122	100 601	13 660	118 785	1991	–	–
4 287	793	189	–	5 268	1993	1,57	53,0
–	–	–	166	166	1991	0,04	44,8
18 076	8 159	–	19 179	45 414	1993	15,62	60,9
2 299 568	1 297 360	4 162 951	–	7 759 879	1993	1 328,34	73,5
35 084	15 737	41 240	3 423	95 484	1993	26,30	60,4
9 560	4 145	9 295	–	23 000	1993	5,19	56,4
35 547	–	–	–	35 547	1990	8,59	47,3
22 746	9 912	131 800	6 403	170 861	1993	30,81	72,2
20 548	–	–	–	20 548	1990	–	50,3
7 282	–	–	–	7 282	1990	1,80	46,2
7 612	–	–	9 782	17 394	1993	4,56	54,4
16 382	10 600	240	1 678	28 900	1993	9,34	59,8
2 190	2 298	3 716	–	8 204	1993	2,48	53,9
12 050	3 479	10 336	2 463	28 327	1993	8,44	56,7
62 871	20 919	134 419	–	218 209	1993	46,98	66,2
8 075	18	5	–	8 098	1991	2,20	44,4
6 000	3 570	960	–	10 530	1993	2,82	54,0
3 351	–	–	–	3 351	1990	0,72	53,5
4 503	3 444	31 587	1 824	41 359	1993	8,61	62,7
680	81	–	–	761	1989	–	–
25 888	–	–	–	25 888	1990	6,69	44,2
96 695	27 526	170 177	1 353	295 751	1993	99,40	71,5
11 538	–	–	–	11 538	1990	2,38	55,3
364 410	–	688 908	–	1 053 318	1993	230,40	66,9
28 514	16 034	158	32	44 738	1993	12,43	57,5
56 370	180 524	149 136	133 925	519 955	1993	112,51	74,3
7 625	3 898	–	–	11 523	1990	–	–

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Thabong	1991	4 725	–	–	–	4 725
Theunissen	1993	658	139	9	126	932
Tumahole	1992	719	41	–	74	834
Viljoenskroon	1993	614	182	33	12	841
Virginia	1992	5 142	547	134	–	5 823
Vrede	1993	738	183	–	15	936
Welkom	1993	19 548	1 825	210	2	21 585
Wesselsbron	1993	391	98	–	16	505
Zamdela	1989	2 853	–	–	–	2 853
Zastron	1992	480	56	4	6	546
PWV						
Akasia	1992	3 652	28	256	1 421	5 357
Alberton	1993	17 000	646	396	7 758	25 800
Alexandra	1990	18 787	–	–	–	18 787
Atteridgeville	1992	11 753	46	1	–	11 800
Bedfordview	1992	2 829	176	–	17	3 022
Bekkersdal	1991	975	–	–	–	975
Benoni	1992	24 913	2 012	420	–	27 345
Boipatong	1991	2 004	–	–	–	2 004
Boksburg	1992	23 826	–	1 641	203	25 670
Brakpan	1992	12 811	1 096	346	301	14 554
Bronkhorstspuit	1993	3 150	250	100	–	3 500
Daveyton	1991	14 020	–	–	–	14 020
Duduza	1991	3 100	720	–	–	3 820
Edenvale	1992	8 133	621	309	279	9 342
Eersterust	1990	4 371	70	–	–	4 441
Ekgangala	1991	3 600	20	–	–	3 620
Ennerdale	1991	2 300	–	–	–	2 300
Evaton	1991	2 249	–	–	–	2 249
Germiston	1992	23 600	754	4 030	900	29 284
Hartbeespoort	1988	1 672	–	–	–	1 672
Heidelberg	1993	3 287	325	98	61	3 771
Johannesburg	1992	124 732	8 015	4 035	–	136 782
Kagiso	1991	1 548	–	–	–	1 548
Katlehong	1991	16 568	–	–	–	16 568
Kempton Park	1992	22 220	1 988	872	–	25 080
Krugersdorp	1989	15 115	1 354	619	823	17 911
KwaThema	1991	10 245	375	–	–	10 620
Laudium/Claudius	1990	3 422	58	–	–	3 480
Lenasia	1991	1 540	–	–	–	1 540
Mamelodi	1990	18 542	310	–	–	18 852
Meyerton	1992	2 971	187	71	255	3 484
Midrand	1993	3 887	98	103	249	4 337
Modderfontein	1990	550	11	3	3	567
Mohlakeng	1991	4 146	–	–	–	4 146
Nigel	1992	6 002	504	183	389	7 078
Pretoria	1993	135 229	–	4 597	3 506	143 332
Randburg	1992	21 777	326	843	1	22 947
Randfontein	1993	10 537	854	263	2 337	13 991
Ratanda	1991	1 703	–	–	–	1 703

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
69 610	–	–	–	69 610	1991	16,19	49,10
4 481	2 911	–	2 275	9 667	1993	2,40	55,2
1 739	2 265	–	36	4 040	1992	–	–
5 116	3 218	2 794	3 372	14 500	1993	3,80	59,3
53 564	10 613	1 863	–	66 040	1993	20,68	65,2
6 910	2 453	–	491	9 854	1993	2,66	51,8
162 894	37 535	92 396	9 239	302 064	1993	78,02	60,6
3 419	7 491	–	706	11 616	1993	3,56	59,5
31 715	–	–	–	31 715	1989	–	–
3 630	1 541	110	538	5 819	1993	2,04	57,1
43 659	1 239	343 533	25 139	413 570	1990	8,50	57,3
235 430	19 120	425 000	55 450	735 000	1993	165,92	64,3
48 105	–	–	–	48 105	1993	23,01	41,0
73 017	4 172	6 258	22 022	105 469	1990	33,00	45,0
96 100	3 923	–	92 323	192 346	1993	42,20	70,5
3 166	–	–	7 895	11 061	1993	5,52	39,3
262 118	71 444	524 291	–	857 853	1993	211,20	56,0
11 174	–	–	–	11 174	1993	3,65	45,2
301 874	–	68 762	530 797	901 433	1993	198,43	63,8
114 807	21 926	142 753	180 119	459 605	1993	87,62	73,4
30 240	19 520	30 553	47 099	127 412	1993	29,04	60,4
7 037	–	–	–	7 037	1991	–	89,0
5 593	2 038	–	–	7 631	1993	1,99	57,7
123 200	12 400	83 300	6 500	225 400	1993	51,66	64,3
33 156	2 522	–	–	35 678	1990	11,09	36,7
15 400	474	–	–	15 874	1991	–	–
4 972	–	–	–	4 972	1993	0,17	71,4
910	–	–	–	910	1993	6,27	45,5
305 107	934 165	86 911	36 121	1 362 304	1993	285,70	65,3
23 744	–	–	–	23 744	1988	7,05	48,0
32 136	14 772	50 876	7 970	105 754	1993	24,08	62,0
2 070 994	211 578	3 686 079	–	5 968 651	1993	1 222,54	58,3
12 561	–	–	38 618	51 179	1993	34,24	44,4
129 154	–	–	38 821	167 975	1993	72,82	41,9
285 080	471	804 931	27 478	1 117 960	1993	206,30	72,8
152 255	48 321	218 849	44 725	464 150	1993	108,52	59,5
61 470	–	–	23 738	85 208	1993	39,12	43,1
53 047	4 837	–	–	57 884	1990	–	–
105 518	–	–	–	105 518	1993	28,25	62,0
200 000	4 000	–	–	204 000	1990	53,00	35,5
34 154	6 774	65 633	7 124	113 685	1993	22,64	72,1
41 878	11 152	266 763	9 204	328 997	1993	36,44	59,8
3 715	249	520 719	928	525 611	1993	65,70	85,5
20 379	–	–	7 472	27 851	1993	10,93	45,1
54 467	23 780	90 505	5 358	174 110	1993	30,98	59,1
1 387 647	–	3 272 273	852 448	5 512 368	1993	922,27	64,9
329 832	13 077	217 378	42 291	602 578	1993	160,91	59,8
86 622	27 304	123 504	19 136	256 566	1993	52,29	68,7
13 097	–	–	–	13 097	1993	4,70	37,9

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Residensia	1989	1 150	–	–	–	1 150
Roodepoort	1993	35 071	895	930	–	36 896
Sandton	1992	8 500	100	50	–	8 650
Sebokeng	1989	10 817	–	–	–	10 817
Sharpeville	1991	6 766	–	–	–	6 766
Soweto	1989	124 850	150	–	–	125 000
Springs	1992	15 030	1 337	319	222	16 908
Tembisa	1991	15 801	199	–	–	16 000
Tsakane	1991	3 262	–	–	–	3 262
Vanderbijlpark	1989	17 603	1 170	156	43	18 972
Vereeniging	1993	17 471	1 159	202	1 595	20 427
Verwoerdburg	1992	17 714	316	98	721	18 849
Vosloorus	1991	14 790	60	5	45	14 900
Wattville	1989	2 553	45	–	6	2 604
Westonaria	1992	4 822	328	52	1	5 203
Zithobeni	1991	528	4	–	11	543
Western Cape						
Agulhas/Struisbaai	1988	852	11	–	9	872
Albertinia	1992	781	42	5	–	828
Ashton	1993	666	61	12	2	741
Atlantis	1992	8 394	–	321	–	8 715
Beaufort West	1990	2 312	354	–	195	2 861
Belhar	1992	1 632	–	6	–	1 638
Bellville	1993	20 266	1 763	207	29	22 265
Blue Downs	1990	3 584	117	–	–	3 701
Bonnievale	1990	689	65	89	9	852
Brackenfell	1993	4 939	472	32	2	5 445
Bredasdorp	1993	1 755	178	14	1	1 948
Caledon	1993	1 463	147	16	1	1 627
Calitzdorp	1991	488	23	3	26	540
Cape Town	1992	229 897	14 589	555	2 633	247 674
Ceres	1992	2 368	219	45	319	2 951
Clanwilliam	1990	576	134	19	–	729
Darling	1990	547	38	22	4	611
Durbanville	1993	5 945	262	18	79	6 304
Franschhoek	1993	648	75	12	84	819
Gansbaai	1992	490	65	–	–	555
George	1992	11 337	1 307	173	49	12 866
Goodwood	1992	11 777	988	79	2	12 846
Gordons Bay	1993	1 956	89	–	103	2 148
Grabouw	1991	1 147	–	–	–	1 147
Great Brak River	1992	1 739	50	3	–	1 792
Greyton	1991	1 271	–	–	–	1 271
Hartenbos	1992	1 056	57	20	–	1 133
Heidelberg	1991	963	–	–	–	963
Hermanus	1992	3 603	350	21	–	3 974
Khyelitsha	1988	673	46	–	23	742
Kleinmond	1991	1 300	27	6	20	1 353
Knysna	1992	4 608	599	52	125	5 384
Kraaifontein	1993	8 282	198	19	75	8 574
Kuils River	1993	6 678	401	37	13	7 129

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
37 770	–	–	–	37 770	1989	–	–
456 180	139 350	195 534	18 058	809 122	1993	184,36	66,1
139 595	3 761	53 417	–	196 773	1993	5,15	53,7
85 988	–	–	–	85 988	1989	–	–
16 571	–	–	–	16 571	1991	4,81	39,3
917 115	30 957	–	–	948 072	1989	330,37	33,0
164 834	69 793	396 588	20 931	652 146	1993	83,53	72,7
119 592	–	–	–	119 592	1993	74,14	42,9
16 262	–	–	15 680	31 942	1993	0,00	0,0
167 415	27 947	529 799	6	725 167	1993	124,03	73,4
217 819	30 640	643 756	64 851	957 066	1993	170,32	72,5
204 875	38 484	189 102	38 158	470 619	1993	109,20	67,9
99 541	6 924	2 398	6 261	115 125	1993	78,81	30,6
14 138	–	–	–	14 138	1989	–	–
51 850	7 320	1 830	6 608	67 608	1993	9,46	63,1
1 666	–	–	–	1 666	1993	0,80	45,3
12 870	3 910	–	5 610	22 390	1988	10,00	25,6
2 855	864	40	–	3 759	1993	0,98	59,4
2 395	3 499	8 753	2 232	16 879	1993	5,02	55,6
53 589	–	215 315	1 962	270 866	1993	54,00	64,7
12 413	10 597	–	5 212	28 222	1993	6,52	58,8
9 112	–	111	–	9 223	1993	4,16	42,5
164 802	40 039	445 860	16 106	666 807	1993	129,94	66,9
14 491	1 244	–	–	15 735	1990	11,00	23,5
1 750	854	15 057	450	18 111	1993	5,52	62,1
33 795	32 733	14 918	375	81 821	1993	22,06	62,7
12 175	4 058	868	1 228	18 329	1993	4,52	61,9
7 429	4 334	4 004	378	16 145	1993	3,89	57,3
2 147	192	385	321	3 045	1993	0,98	51,1
1 826 389	596 025	1 338 283	185 844	3 946 541	1993	733,80	78,2
16 633	4 025	35 399	9 143	65 200	1993	19,76	66,6
3 218	1 325	189	287	5 019	1993	1,92	53,5
1 537	404	338	5 605	7 884	1993	2,22	53,5
64 400	5 958	10 393	4 377	85 128	1993	23,74	59,8
3 837	3 425	1 723	782	9 767	1993	2,50	54,2
3 387	2 080	–	–	5 467	1993	2,56	44,6
76 203	25 930	79 468	18 835	200 436	1993	44,26	63,8
85 512	18 361	99 453	2 640	205 966	1993	38,19	66,0
16 072	731	–	846	17 649	1993	4,44	57,8
1 079	–	–	–	1 079	1991	0,28	43,4
6 265	1 331	2 715	–	10 311	1993	2,91	51,0
1 630	–	–	–	1 630	1993	0,69	44,9
5 031	896	1 910	–	7 837	1992	1,60	28,3
6 129	–	–	–	6 129	1993	1,60	50,8
18 617	5 764	4 836	1 200	30 417	1993	8,48	56,9
1 462	1 462	–	2 925	5 849	1993	10,50	51,1
5 713	568	263	276	6 820	1993	2,74	47,1
24 962	10 923	14 102	1 603	51 590	1993	11,76	61,8
64 016	5 566	4 799	4 373	78 754	1993	26,17	52,1
47 824	10 215	40 518	2 546	101 103	1993	19,85	72,9

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Ladismith	1992	863	58	9	–	930
Lambert's Bay	1993	769	69	2	–	840
Langebaan	1991	730	34	–	–	764
Lingeletu West	1989	3 278	71	–	29	3 378
Malmesbury	1992	2 633	349	44	132	3 158
Melkbos/Bloubergstrand	1992	1 999	–	100	–	2 099
Milnerton	1991	12 085	443	65	31	12 624
Montagu	1990	1 149	275	15	1	1 440
Moorreesburg	1992	1 632	157	26	5	1 820
Mossel Bay	1993	6 391	616	224	142	7 373
Oudtshoorn	1992	5 894	86	50	131	6 161
Paarl	1993	14 933	857	99	944	16 833
Pacaltsdorp	1992	1 790	21	1	–	1 812
Parow	1993	15 000	1 200	800	8	17 008
Piketberg	1990	1 083	78	10	31	1 202
Porterville	1993	752	6	–	–	758
Riversdale	1992	1 880	210	–	6	2 096
Robertson	1992	3 174	256	448	912	4 790
Sandbaai	1988	527	2	–	–	529
Sedgefield	1990	932	89	2	–	1 023
Somerset West	1992	8 827	823	–	–	9 650
Stellenbosch	1992	8 220	718	–	–	8 938
Stilbaai	1990	1 104	34	3	–	1 141
Strand	1992	9 349	976	7	92	10 424
Swellendam	1992	1 368	225	–	2	1 595
Touws River	1991	978	57	–	–	1 035
Tulbagh	1991	591	–	–	–	591
Van Dyks Bay	1988	643	2	1	1	647
Vanrhynsdorp	1992	709	–	–	52	761
Velddrif	1990	867	59	7	44	977
Villiersdorp	1990	533	72	1	39	645
Vredenburg/Saldanha	1992	4 437	400	47	35	4 919
Vredendal	1993	1 623	250	–	170	2 043
Wellington	1992	5 865	410	35	–	6 310
Wilderness	1990	766	33	–	–	799
Wolseley	1990	476	47	3	–	526
Worcester	1993	8 728	1 187	102	1	10 018

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
5 002	334	3 690	–	9 026	1993	2,36	60,6
3 875	1 035	356	–	5 266	1993	1,87	49,7
5 019	–	–	2 052	7 071	1993	1,46	55,7
862	400	–	277	1 539	1989	–	56,0
17 561	4 941	23 749	454	46 705	1993	12,66	62,1
16 599	–	6 225	–	22 824	1990	6,00	44,0
3 084	–	–	–	3 084	1991	0,85	41,26
4 719	1 005	7 884	1 901	15 509	1993	3,94	63,1
7 258	4 896	814	121	13 089	1993	3,84	53,0
37 416	9 961	34 324	15 706	97 407	1993	20,51	69,5
40 959	11 383	24 957	1 352	78 651	1993	19,61	63,5
102 025	51 593	170 089	81 415	405 122	1993	83,38	64,6
9 362	670	2 500	–	12 532	1989	1,60	50,0
111 600	50 400	143 772	–	305 772	1993	76,57	60,7
4 119	2 106	2 727	796	9 748	1993	2,80	58,7
6 165	49	–	–	6 214	1993	1,50	54,3
9 848	4 387	–	1 842	16 077	1993	3,78	59,9
10 474	5 529	27 524	39 398	82 925	1993	21,36	70,9
1 181	–	–	–	1 181	1993	0,96	40,4
3 313	2 269	175	–	5 757	1993	2,77	52,1
78 861	39 778	–	–	118 639	1993	29,20	62,0
65 486	134 425	–	–	199 911	1993	44,88	64,0
–	–	–	4 284	4 284	1993	2,96	48,0
58 374	18 955	4 444	4 538	86 311	1993	18,40	68,1
6 930	6 804	–	1 085	14 819	1993	3,96	56,4
6 700	3 800	–	–	10 500	1993	1,92	53,5
6 554	–	–	–	6 554	1993	1,88	52,9
–	–	–	2 881	2 881	1988	1,00	32,9
1 984	–	–	1 686	3 670	1993	1,22	56,1
7 100	250	4 080	1 013	12 443	1993	4,10	54,1
2 880	1 613	366	376	5 235	1993	1,69	55,5
30 927	6 353	39 349	1 151	77 780	1993	20,40	58,8
8 434	8 000	–	2 776	19 210	1993	5,32	52,0
31 832	6 561	18 594	–	56 987	1993	13,61	59,2
3 976	4 657	–	–	8 633	1990	2,16	57,8
1 210	2 942	1 671	–	5 823	1990	1,92	63,7
54 335	12 654	81 631	4 668	153 288	1993	35,41	64,5

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Colesberg	2 429	1 019	1 061	264	1 368	755	15 411
De Aar	5 516	496	3 189	146	2 327	350	26 139
Fraserburg	590	608	564	189	26	419	4 315
Gordonia	12 747	13 721	10 563	3 957	2 184	9 764	122 726
Hanover	639	400	147	103	492	297	4 326
Hartswater	2 732	4 472	1 740	1 116	992	3 356	29 334
Hay	1 064	1 453	671	447	393	1 006	11 038
Herbert	2 001	3 632	747	894	1 254	2 738	27 233
Hopetown	1 328	1 164	1 013	330	315	834	11 034
Kenhardt	1 721	1 243	733	384	988	859	11 300
Kimberley	35 615	2 032	21 430	593	14 185	1 439	169 440
Kuruman	2 626	2 970	2 251	1 108	375	1 862	24 524
Namakwaland	4 386	10 145	2 321	4 738	2 065	5 407	62 410
Noupoort	1 606	269	802	76	804	193	8 326
Philipstown	1 426	827	731	234	695	593	8 820
Postmasburg	8 386	3 887	5 019	1 626	3 367	2 261	55 555
Prieska	2 617	1 759	868	548	1 749	1 211	18 879
Richmond	842	711	345	201	497	510	6 249
Sutherland	500	555	211	187	289	368	3 529
Victoria West	1 752	1 095	1 291	315	461	780	11 989
Warrenton	3 097	2 018	1 223	569	1 874	1 449	22 371
Williston	735	616	347	197	388	419	4 082
Northern Transvaal							
Bochum	–	30 909	–	494	–	30 415	162 032
Bolobedu	1 535	39 672	913	412	622	39 260	213 455
Dzanani	139	24 464	31	397	108	24 067	135 428
Ellisras	2 697	3 465	2 651	1 441	46	2 024	26 607
Giyani	3 655	41 870	1 998	393	1 657	41 477	240 425
Hlanganani	990	24 915	831	280	159	24 635	140 072
Letaba	2 689	12 462	2 141	5 014	548	7 448	59 491
Lulekani	1 209	11 435	667	196	542	11 239	53 922
Malamulele	1 040	36 105	580	411	460	35 694	195 099
Mapulaneng	2 129	46 129	303	857	1 826	45 272	232 231
Messina	2 459	3 364	1 578	1 098	881	2 266	23 084
Mhala	2 913	55 474	1 421	764	1 492	54 710	289 825
Mokerong	5 893	82 545	2 397	1 626	3 496	80 919	489 005
Mutale	70	10 678	31	118	39	10 560	60 692
Namakgale	6 963	5 539	4 391	206	2 572	5 333	59 854
Naphuno	1 748	34 981	1 263	568	485	34 413	188 823
Nebo	3 875	65 533	714	1 852	3 161	63 681	353 612
Phalaborwa	3 661	5 309	3 400	2 864	261	2 445	30 218
Pietersburg	11 638	5 901	11 154	2 657	484	3 244	65 263
Potgietersrus	5 152	11 394	4 224	3 740	928	7 654	67 620
Retavi	3 062	30 848	1 636	1 479	1 426	29 369	158 437
Sekgosese	296	26 307	169	633	127	25 674	135 666
Sekhukhuleni	1 913	87 360	421	2 173	1 492	85 187	426 865
Seshego	10 314	51 452	2 712	1 037	7 602	50 415	321 356
Soutpansberg	2 489	6 826	2 225	2 782	264	4 044	35 050
Thabamopo	7 275	67 251	2 723	1 932	4 552	65 319	385 039
Thabazimbi	2 032	7 693	1 887	3 827	145	3 866	49 035
Thohoyandou	4 318	45 593	1 833	1 021	2 485	44 572	268 887
Vuwami	751	26 292	331	283	420	26 009	149 812

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Warmbaths	4 112	5 007	1 672	1 772	2 440	3 235	41 891
Waterberg	3 448	6 618	2 631	2 268	817	4 350	49 135
Orange Free State							
Bethlehem	11 771	6 109	5 896	1 917	5 875	4 192	81 395
Bethulie	1 606	596	506	199	1 100	397	9 220
Bloemfontein	78 782	5 322	52 289	1 797	26 493	3 525	309 768
Boshof	2 192	4 583	1 095	1 396	1 097	3 187	31 685
Bothaville	5 932	5 549	1 341	1 567	4 591	3 982	55 186
Botshabelo	43 894	–	1 684	–	42 210	–	226 715
Brandfort	2 852	2 606	1 014	774	1 838	1 832	22 995
Bultfontein	2 746	3 072	578	873	2 168	2 199	28 589
Clocolan	1 978	2 197	434	602	1 544	1 595	18 342
Dewetsdorp	1 219	1 879	310	532	909	1 347	13 419
Edenburg	1 009	652	321	220	688	432	6 822
Excelsior	1 687	2 214	426	625	1 261	1 589	17 687
Fauresmith	1 057	1 229	336	438	721	791	8 859
Ficksburg	4 533	3 614	1 226	1 028	3 307	2 586	37 361
Fouriesburg	955	2 414	203	684	752	1 730	16 829
Frankfort	5 153	4 398	1 853	1 225	3 300	3 173	44 773
Harrismith	6 666	6 037	3 344	1 748	3 322	4 289	62 537
Heilbron	4 376	4 481	1 495	1 330	2 881	3 151	41 139
Hennenman	2 940	2 093	1 220	865	1 720	1 228	25 850
Hoopstad	1 411	3 964	368	1 095	1 043	2 869	27 905
Jacobsdal	637	1 656	107	621	530	1 035	9 912
Jagersfontein	1 299	292	315	98	984	194	6 354
Koffiefontein	1 719	820	820	331	899	489	10 851
Koppies	1 397	2 956	369	896	1 028	2 060	19 484
Kroonstad	20 239	5 979	15 583	1 766	4 656	4 213	111 880
Ladybrand	3 081	3 977	1 663	1 148	1 418	2 829	30 292
Lindley	5 003	3 116	1 490	899	3 513	2 217	37 673
Marquard	1 198	2 353	217	629	981	1 724	17 026
Odendaalsrus	17 753	3 945	3 915	2 230	13 838	1 715	106 266
Parys	11 780	1 641	4 267	490	7 513	1 151	51 396
Petrusburg	921	1 617	336	498	585	1 119	11 032
Philippolis	707	1 097	196	465	511	632	7 030
Reddersburg	654	724	267	217	387	507	6 000
Reitz	2 754	3 668	1 073	1 067	1 681	2 601	30 575
Rouxville	822	1 709	216	557	606	1 152	11 830
Sasolburg	22 502	4 660	16 893	2 040	5 609	2 620	91 997
Senekal	3 849	4 684	1 826	1 289	2 023	3 395	40 914
Smithfield	741	1 027	354	302	387	725	7 873
Thaba Nchu	2 152	12 228	1 196	781	956	11 447	66 213
Theunissen	4 067	2 447	437	947	3 630	1 500	39 932
Trompsburg	656	579	301	190	355	389	5 066
Ventersburg	1 928	1 237	350	353	1 578	884	14 505
Viljoenskroon	3 081	7 017	702	2 982	2 379	4 035	60 094
Virginia	9 127	4 845	5 123	3 049	4 004	1 796	82 684
Vrede	2 876	4 441	895	1 224	1 981	3 217	36 905
Vredefort	1 394	1 643	430	484	964	1 159	13 345
Welkom	40 467	9 865	25 890	6 434	14 577	3 431	261 473
Wepener	1 806	1 411	445	404	1 361	1 007	12 919
Wesselsbron	3 664	2 214	516	632	3 148	1 582	26 600

SUB-SAHARAN AFRICA: Net maximum generating capacity

Sources: United Nations Energy Statistics Yearbook, 1991, utility annual reports and Southern African Development Community (SADC) Yearbook, 1991

MW

Country	Year ended	Thermal	Hydro	Nuclear	Geo-thermal	Total	% of total
Angola ^{a,d}		198,86	324,25	—	—	523,11	1,08
Botswana ^{a,b}	3/94	174,00	—	—	—	174,00	0,36
Kenya	6/93	37,30	586,40	—	31,00	654,70	1,35
Lesotho ^{a,b}	3/93	1,56	3,27	—	—	4,83	0,01
Malawi ^a	3/93	25,03	164,60	—	—	189,63	0,39
Mozambique ^{a,c}	12/93	156,90	94,60	—	—	251,50	0,52
Namibia ^{a,b}	6/93	120,00	240,00	—	—	360,00	0,74
South Africa ^{b,f}	12/93	35 945,00	2 120,00 ^e	1 840,00	—	39 905,00	82,03
Swaziland ^{a,b}	3/93	9,50	40,50	—	—	50,00	0,10
Tanzania ^a	6/93	—	350,72	—	—	350,72	0,72
Zaire	12/92	51,00	2 533,40	—	—	2 584,40	5,31
Zambia ^a	3/93	—	1 632,75	—	—	1 632,75	3,36
Zimbabwe ^a	6/93	1 299,50	666,00	—	—	1 965,50	4,04
Total, MW		38 018,65	8 756,49	1 840,00	31,00	48 646,14	100,00
SADC, MW		1 985,35	3 516,69	—	—	5 502,04	11,31
South African Customs Union, MW		36 250,06	2 403,77	1 840,00	0,00	40 493,83	83,24

a Member of the SADC.

b Member of the South African Customs Union.

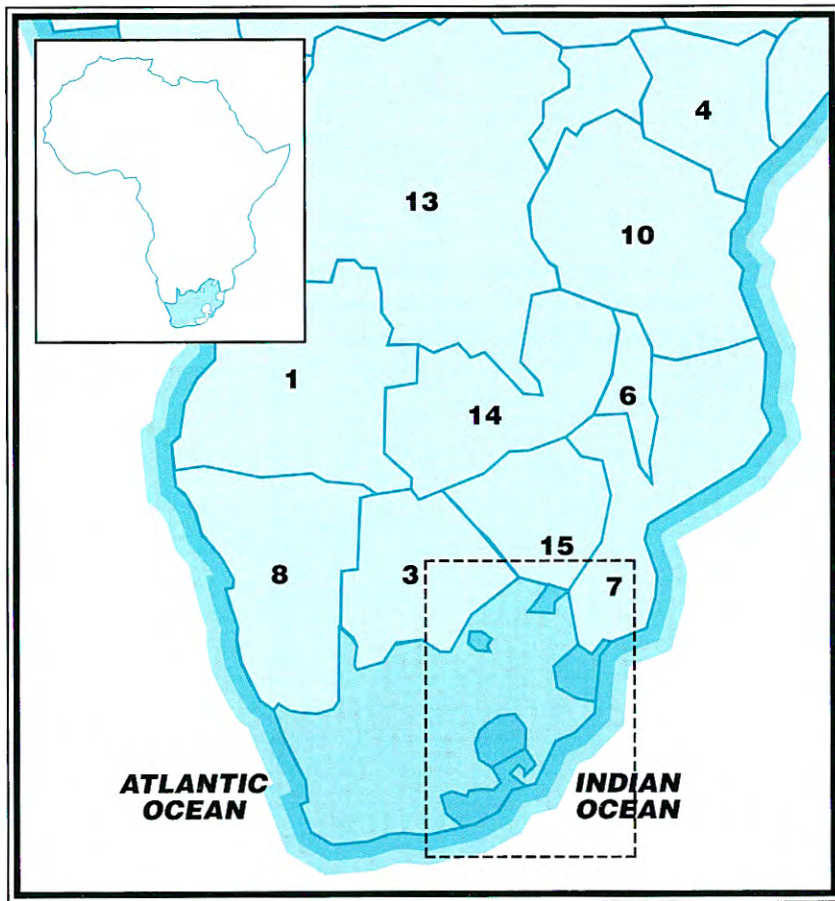
c Excludes Cahora Bassa.

d No data available for Eastern system.

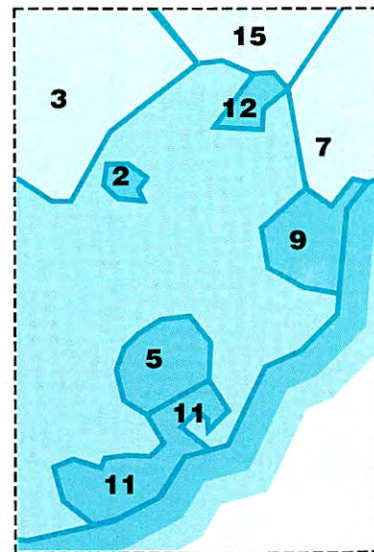
e Includes pumped storage.

f Includes Bophuthatswana, Ciskei, Transkei and Venda.

Electricity in Sub-Saharan Africa



- 1 Angola
- 2 Bophuthatswana
- 3 Botswana
- 4 Kenya
- 5 Lesotho
- 6 Malawi
- 7 Mozambique
- 8 Namibia
- 9 Swaziland
- 10 Tanzania
- 11 Transkei
- 12 Venda
- 13 Zaire
- 14 Zambia
- 15 Zimbabwe



SUB-SAHARAN AFRICA: Gross production of electricity

Sources: United Nations Energy Statistics Yearbook, 1991, utility annual reports and Southern African Development Community (SADC) Yearbook, 1991

Country	Year ended	Thermal	Hydro	Nuclear	Geo-thermal	Total	% of total
Angola ^{a,d}		163,0	772,0	–	–	935,0	0,51
Botswana ^{a,b}	3/94	1 015,0	–	–	–	1 015,0	0,55
Kenya	6/93	80,9	3 246,1	–	272,5	3 599,5	1,95
Lesotho ^{a,b}	3/94	–	1,2	–	–	1,2	0,00
Malawi ^a	3/93	2,1	779,6	–	–	781,7	0,42
Mozambique ^{a,c}	12/93	45,8	238,3	–	–	284,1	0,15
Namibia ^{a,b}	6/93	26,8	975,7	–	–	1 002,5	0,54
South Africa ^{b,e}	12/93	147 065,8	1 491,2 ^f	7 255,0	–	155 812,0	84,27
Swaziland ^{a,b}	3/93	2,7	81,5	–	–	84,2	0,05
Tanzania ^a	6/93	–	1 879,0	–	–	1 879,0	1,02
Zaire	12/92	–	–	–	–	5 581,2	3,02
Zambia ^a	3/93	–	6 461,0	–	–	6 461,0	3,49
Zimbabwe ^a	6/93	2 062,0	5 406,0	–	–	7 468,0	4,04
Total, GWh		150 464,1	21 331,6	7 255,0	272,5	184 904,4	100,00
SADC, GWh		3 317,4	16 594,3	–	–	19 911,7	10,77
South African Customs Union, GWh		148 110,3	2 549,6	7 255,0	–	157 914,9	85,40

a Member of the SADC.

b Member of the South African Customs Union.

c Excludes Cahora Bassa.

d SADC, 1991.

e Includes Bophuthatswana, Ciskei, Transkei and Venda.

f Includes pumped storage.

SUB-SAHARAN AFRICA: Utilisation of nominal generating capacity

Sources: United Nations Energy Statistics Yearbook, 1991, utility annual reports and Southern African Development Community (SADC) Yearbook, 1991

Kilowatt-hours produced per kilowatt

Country	Year ended	Thermal	Hydro	Nuclear	Geo-thermal	Total
Angola ^a		820	2 381	–	–	1 787
Botswana ^{a,b}	3/94	5 833	–	–	–	5 833
Kenya	6/93	2 169	5 536	–	8 790	5 498
Lesotho ^{a,b}	3/94	–	367	–	–	249
Malawi ^a	3/93	84	4 736	–	–	4 122
Mozambique ^{a,c}	12/93	292	2 519	–	–	1 130
Namibia ^{a,b}	6/93	223	4 065	–	–	2 785
South Africa ^{b,d}	12/93	4 091	703	3 943	–	3 905
Swaziland ^{a,b}	3/93	284	2 012	–	–	1 684
Tanzania ^a	6/93	–	5 358	–	–	5 358
Zaire	12/92	–	–	–	–	2 160
Zambia ^a	3/93	–	3 957	–	–	3 957
Zimbabwe ^a	6/93	1 587	8 117	–	–	3 800
Total		3 958	2 436	3 943	8 790	3 801
SADC, MW		1 671	4 719	–	–	3 619
South African Customs Union, MW		4 086	1 061	3 943	–	3 900

a Member of the SADC.

b Member of the South African Customs Union.

c Excludes Cahora Bassa.

d Includes Bophuthatswana, Ciskei, Transkei and Venda.

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

Sources: United Nations Energy Statistics Yearbook, 1991, utility annual reports and Southern African Development Community (SADC) Yearbook, 1991

Quantities in gigawatt-hours and in kilowatt-hours per capita

Country	Year ended	Gross production	Imports	Exports	Total	% of total	Estimated kWh per capita ^c
Angola ^{a,g}		935,0	–	–	935,0	0,50	98
Botswana ^{a,b}	3/94	1 015,0	226,0	–	1 241,0	0,67	955
Kenya	6/93	3 599,5	–	–	3 599,5	1,93	148
Lesotho ^{a,b}	3/94	1,2	289,2	–	290,4	0,16	168
Malawi ^a	3/93	781,7	–	–	781,7	0,42	54
Mozambique ^{a,d}	12/93	284,1	636,5 ^e	–	920,6	0,49	60
Namibia ^{a,b}	6/93	1 002,5	752,3	134,3	1 620,5	0,87	1 256
South Africa ^{b,f}	12/93	155 812,0	101,6	2 589,4	153 324,2	82,31	3 901
Swaziland ^{a,b}	3/93	84,2	555,8	–	640,0	0,34	842
Tanzania ^a	6/93	1 879,0	–	74,2	1 804,8	0,97	66
Zaire	12/92	5 581,2	36,2	1 230,1	4 387,3	2,36	114
Zambia ^a	3/93	6 461,0	1 412,0	11,0	7 862,0	4,22	937
Zimbabwe ^a	6/93	7 468,0	1 414,6	22,4	8 860,2	4,76	863
Total, GWh		184 904,4	5 424,2	4 061,4	186 267,2	100,00	967
SADC, GWh		19 911,7	5 286,4	241,9	24 956,2	13,40	276
South African Customs Union, GWh		157 914,9	1 924,9	2 723,7	157 116,1	84,3	3 540

^a Member of the SADC.

^b Member of the South African Customs Union.

^c Based on 1989 estimates.

^d Excludes Cahora Bassa.

^e Includes 118,1 GWh purchased from Cahora Bassa.

^f Includes Bophuthatswana, Ciskei, Transkei and Venda.

^g SADC, 1991.

SUB-SAHARAN AFRICA: Angola

Sources: Empresa Nacional de Electricidade for the year ended August 1992 and Southern African Development Community (SADC) Yearbook, 1991

Nominal 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				
Luanda I	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
Cuando I	Hydro	1 x 0,5 3 x 0,25	1,25	8,0
Cuando 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

^a Under construction – first set operational 1993.

^b Station under reconstruction – first set to restart 1994.

^c Out of operation.

^d Excludes Capanda hydro station.

^e Source: SADC, 1991.

^f At present operated at 60 kV.

^g At present operated at 30 kV.

SUB-SAHARAN AFRICA: Angola – continued

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
Queve-Catumbela	46	5 887	27 915
Cunene	25	1 590	6 746
Cubango	10	349	1 566
Total	125	16 505	73 584

Electricity produced ^e		GWh
Hydro		772
Thermal		163
Total produced, GWh		935
Electricity sales ^e		
Agriculture		33
Industry		274
Domestic		291
Other		232
Total sales, GWh		830

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 ^f	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 ^g	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

SUB-SAHARAN AFRICA: Bophuthatswana

Source: Bophuthatswana Electricity Corporation (BECOR) for the year ended 31 March 1993

	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

Source: Botswana Power Corporation (BPC) for the year ended 31 March 1994

Source of power	Type	MW	
Nominal capacity			
Morupule	Coal	132	
Selebi-Phikwe	Coal	65	
Total nominal capacity, MW		197	
Other sources			
Eskom		150	
Zimbabwe		120	
Total source of power, MW		467	
	1993/94	1992/93	Change
Production and purchases of electricity	GWh	GWh	%
Morupule	910	952	-4,4
Selebi-Phikwe	105	122	-13,9
Gaborone	–	–	–
Imports	226	100	126,0
Total production and purchased, GWh	1 241	1 174	5,7
	1993/94	1992/93	Change
Transmission and distribution equipment in service	km	km	km
Overhead lines			
220 kV	902	902	–
132 kV	470	407	63
66 kV	324 *	344	-20
33 kV	575	573	2
11 kV	956	805	151
Low voltage	980	855	125
Total transmission line length, km	4 207	3 886	321
Underground cable			
11 kV	211	205	6
Low voltage	231	197	34
Total underground cables, km	442	402	40
	MVA	MVA	Change
Substations (highest voltage)	MVA	MVA	MVA
220 kV	485	480	5
132 kV	330	230	100
66 kV	62,5	32	30,5
33/11 kV	73	69	4
11/0,4 kV	271	237	34
Total, MVA	1 221,5	1 048	173,5
	1993/94	1992/93	Change
Electricity sales by category	GWh	GWh	%
Mining	585,9	593,4	-7,5
Commercial	239,7	215,8	23,9
Domestic	123,5	109,1	14,4
Government	72,8	72,7	0,1
Total sales, GWh	1 022,1	990,5	3,2
Station usage, GWh	120,1	132,3	-9,2
Distribution and other losses, GWh	90,6	71,2	27,2
Total, GWh	1 232,8	1 194,0	3,2

* Adjusted

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* Adjusted

SUB-SAHARAN AFRICA: Botswana – continued

	1993/94	1992/93	Change %
Number of customers			
Commercial/mining	4 464	4 023	11,0
Domestic	30 232	25 671	17,8
Government	1 708	1 537	11,1
Total	36 404	31 231	16,6
System maximum demand, MW	–	194,50	–
Number of employees	1 712 ^a	1 745	-1,9
GWh sold per employee	0,597	0,568	5,2
Average selling price, thebe/kWh	19,7 ^b	18,9	4,2
Population	1 326 796 ^c	–	–

^a Excluding apprentices.

^b Pre-adjustments.

^c 1991 census.

SUB-SAHARAN AFRICA: Botswana – continued

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SUB-SAHARAN AFRICA: Kenya

Source: Kenya Power and Lighting Company Ltd (KP & LC) for the year ended 30 June 1993

Source of power			
Generating capacity, MW	Type	Nominal	Effective ^a
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	3,6 ^b
UEB (imports)	Hydro	30,0	0,0 ^c
Masinga (TARDA)	Hydro	40,0	40,0
Kiambere (TARDA)	Hydro	144,0	144,0
Turkwell (KVDA)	Hydro	106,0	106,0
Kipevu	Thermal	93,0	20,8 ^d
Olkaria	Geothermal	45,0	31,0
Nbi South	Gas turbine	13,5	12,0
Kipevu	Gas turbine	30,0	0,0 ^d
Diesel stations (interconnected)	Diesel	4,0	1,0 ^e
Total interconnected system, MW		814,0	651,2
Isolated diesel stations	Diesel	3,8	3,5
Total, MW		817,8	654,7
Energy produced	1992/93 GWh	1991/1992 GWh	Change %
Hydro	3 246,1	3 016,2	7,6
Thermal	58,8	75,5	-22,1
Geothermal	272,5	271,9	0,2
Gas turbine	2,1	2,9	-27,6
Diesel (interconnected)	0,3	3,4	-91,0
Diesel (isolated system)	19,7	15,8	25,1
Total production, GWh	3 599,5	3 385,6	6,3
Auxiliary consumption	29,0	30,2	-3,8
System losses	565,6	509,7	11,0
Total sales, GWh	3 004,8	2 845,7	5,6
System peak demand, MW	595,7	566,0	5,2
System load factor, %	68,60	67,97	0,9
Transmission and distribution lines in service	1992/93 km	1991/1992 km	Change km
220 kV	877	877	0
132 kV	1 980	1 980	0
66 kV	451	451	0
40 kV	126	126	0
33 kV	3 583	3 451	132
11 kV	8 613	8 309	304
Total, km	15 630	15 194	436

^a Effective capacity comprises both auxiliary consumption and sent-out capacity.

^b Effective capacity of KP & LC small hydroelectric stations is low due to one power station going out of service.

^c Uganda Electricity Board supply is considered to have zero firm energy for Kenya

^d Kipevu power station was undergoing repairs during the year resulting in low effective capacity for both steam and gas turbine units.

^e Interconnected diesel stations had low effective capacity due to outages.

^f There was a load shedding in April and May 1992, in order to conserve water, resulting in an estimated loss of sales of 38 GWh.

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Kindaruma (TRDC)	Hydro	44,0	44,0
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Olkaria	Geothermal	45,0	31,0
Nbi South	Gas turbine	13,5	12,0
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SUB-SAHARAN AFRICA: Kenya – continued

	1992/93	1991/1992	Change
Electricity sales ^f	GWh	GWh	%
Domestic (240 V)	582,0	543,3	7,1
Small commercial (240 V)	345,3	333,9	3,4
Irrigation (240/415 V)	47,9	54,0	-11,3
Medium and large commercial (240/415 V)	948,2	895,2	5,9
Medium and large industrial (11/33/66/132 kV)	849,4	816,0	4,1
Off-peak (240 V)	115,3	104,4	10,4
Street lighting (240 V)	12,9	13,7	-5,8
Rural electrification	103,8	85,1	22,0
Total sales, GWh	3 004,8	2 845,6	5,6
Number of customers	1992/93	1991/1992	Change
Domestic	256 128	239 816	6,8
Small commercial	68 325	63 025	8,4
Irrigation	327	325	0,6
Medium commercial and industrial	1 965	1 861	5,6
Large commercial and industrial	381	357	6,7
Off-peak	1 839	1 641	12,1
Street lighting	116	110	5,5
Total customers	329 081	307 135	7,1

SUB-SAHARAN AFRICA: Kenya – continued

	1992/93	1991/1992	Change
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Street lighting	116	110	5,5
Total customers	329 081	307 135	7,1

SUB-SAHARAN AFRICA: Lesotho

Source: Lesotho Electricity Corporation (LEC) for the year ended 31 March 1994

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
Total source of power, MW			4,828
Other sources – Eskom (registered peak at intake points)			
Maseru		132 kV	66,302
Hololo		88 kV	5,920
Peka		11 kV	0,162
Total from Eskom, MW			72,384
	1993/94	1992/93	Change
Production and purchase of electricity	GWh	GWh	%
Hydro	1,18	–	–
Diesel	0,03	–	–
Eskom	289,23	250,36	15,5
Total production and purchases, GWh	290,44	250,36	16,0
Peak load, MW	66,00	65,00	1,5
Losses, %	16,30	11,80	38,1
Load factor, %	–	45,00	–
	1993/94	1992/93	Change
Transmission and distribution equipment	km	km	km
Overhead lines			
132 kV	164,0	144,0	20,0
88 kV	86,0	86,0	0,0
33 kV	700,0	700,0	0,0
11 kV	885,0	811,0	74,0
Total, km	1 835,0	1 741,0	94,0
	1993/94	1992/93	Change
Transformers, MVA			%
132/33 kV			
88/33 kV			
66/11 kV			
33/11 kV	120	120	0,00
33/0,4 kV			
11/0,4 kV	136	133	2,26
Total, MVA	256	253	1,19

SUB-SAHARAN AFRICA: Lesotho

Source: Lesotho Electricity Corporation (LEC) for the year ended 31 March 1994

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
Total source of power, MW			4,828
Other sources – Eskom (registered peak at intake points)			
Maseru		132 kV	66,302
Hololo		88 kV	5,920
Peka		11 kV	0,162
Total from Eskom, MW			72,384
	1993/94	1992/93	Change
Production and purchase of electricity	GWh	GWh	%
Hydro	1,18	–	–
Diesel	0,03	–	–
Eskom	289,23	250,36	15,5
Total production and purchases, GWh	290,44	250,36	16,0
Peak load, MW	66,00	65,00	1,5
Losses, %	16,30	11,80	38,1
Load factor, %	–	45,00	–
	1993/94	1992/93	Change
Transmission and distribution equipment	km	km	km
Overhead lines			
132 kV	164,0	144,0	20,0
88 kV	86,0	86,0	0,0
33 kV	700,0	700,0	0,0
11 kV	885,0	811,0	74,0
Total, km	1 835,0	1 741,0	94,0
	1993/94	1992/93	Change
Transformers, MVA			%
132/33 kV			
88/33 kV			
66/11 kV			
33/11 kV	120	120	0,00
33/0,4 kV			
11/0,4 kV	136	133	2,26
Total, MVA	256	253	1,19

SUB-SAHARAN AFRICA: Lesotho – continued

Sale of electricity by category	1993/94 GWh	1992/93 GWh	Change %
Domestic	48,49	54,73	-11,4
General purpose	42,28	45,81	-7,7
Commercial	51,27	61,67	-16,9
Industrial	39,87	36,42	9,5
LHDA contractors	60,01	22,73	164,0
Prepaid	0,11	–	–
Total, GWh	242,03	221,36	9,3

Number of customers	1993/94	1992/93	Change %
Domestic	9 000	8 125	10,8
General purpose	2 861	2 679	6,8
Commercial	85	87	-2,3
Industrial	71	71	0,0
LHDA contractors	13	13	0,0
Prepaid	580	–	–
Total	12 610	10 975	14,9

SUB-SAHARAN AFRICA: Lesotho – continued

	1993/94	1992/93	Change
Sale of electricity by category	GWh	GWh	%
Domestic	48,49	54,73	-11,4
General purpose	42,28	45,81	-7,7
Commercial	51,27	61,67	-16,9
Industrial	39,87	36,42	9,5
LHDA contractors	60,01	22,73	164,0
Prepaid	0,11	–	–
Total, GWh	242,03	221,36	9,3
Number of customers	1993/94	1992/93	Change
			%
Domestic	9 000	8 125	10,8
General purpose	2 861	2 679	6,8
Commercial	85	87	-2,3
Industrial	71	71	0,0
LHDA contractors	13	13	0,0
Prepaid	580	–	–
Total	12 610	10 975	14,9

SUB-SAHARAN AFRICA: Malawi

Source: Electricity Supply Commission of Malawi (ESCOM) for year ended 31 March 1993

Source of power			
Nominal capacity		Type	MW
Tedzani Falls		Hydro	40,00
Nkula Falls A		Hydro	24,00
Nkula Falls B		Hydro	100,00
Zomba		Hydro	0,60
Chichiri		Gas turbine	15,00
Lilongwe		Diesel	5,40
Kasungu		Diesel	0,19
Mtunthama		Diesel	0,29
Mzuzu		Diesel	2,05
Karonga		Diesel	1,80
Chitipa		Diesel	0,30
Total source of power, MW			189,63
	1993	1992	Change
Electricity produced	GWh	GWh	%
Hydro	779,638	771,529	1,1
Diesel	1,788	1,271	40,7
Gas turbine	0,276	-	-
Total produced, GWh	781,702	772,800	1,2
System losses, GWh	126,727	119,396	6,1
Available for distribution, GWh	654,975	653,404	0,2
	1993	1992	Change
Transmission and distribution lines in service	km	km	km
132 kV line (steel tower)	362,00	113,00	249,00
132 kV line (wooden poles)	591,00	303,00	288,00
66 kV lines	820,00	1 018,00	-198,00
33 kV lines	1 733,00	1 647,00	86,00
11 kV lines	1 955,70	1 883,70	72,00
400/230 V lines	2 149,40	1 982,40	167,00
33 kV underground cables	3,15	3,09	0,06
11 kV underground cables	87,60	84,00	3,60
400/230 V underground cables	163,70	154,60	9,10
Total, km	7 865,55	7 188,79	676,76
	1993	1992	Change
Sales of electricity (interconnected system)	GWh	GWh	%
Domestic (in low-density areas)	117,337	100,597	16,6
Domestic (in high-density areas)	30,498	17,832	71,0
Non-domestic (demand less than 25 kVA)	94,338	103,445	-8,8
Non-domestic (demand more than 25 kVA)	356,475	366,164	-2,6
Largest industrial customer	57,890	62,701	-7,7
Total, GWh	656,538	650,739	0,9
	1993	1992	Change
Number of customers			%
Domestic (in low-density areas)	39 371	21 347	84,4
Domestic (in high-density areas)	7 796	14 634	-46,7
Non-domestic (demand less than 25 kVA)	3 269	9 981	-67,2
Non-domestic (demand more than 25 kVA)	559	542	3,1
Largest industrial customer	1	1	0,0
Total	50 996	46 505	9,7

SUB-SAHARAN AFRICA: Mozambique

Source: Electricidade De Mozambique (EDM) for the year ended 31 December 1993

Source of power	Type	Number of sets	Nominal capacity MW	Net maximum capacity MW
Interconnected stations				
Chicamba	Hydro	2	38,40	34,00
Corumana	Hydro	2	14,40	14,00
Mavuzi	Hydro	5	52,00	45,00
Maputo	Thermal	5	20,00	55,00
Lionde	Diesel	6	3,95	2,75
Mocuba	Diesel	2	0,84	0,70
Nacala	Diesel	8	21,54	3,75
Nampula	Diesel	4	6,40	1,80
Quelimane	Diesel	3	7,15	6,25
Tete	Diesel	2	0,80	0,60
Xai-Xai	Diesel	4	2,67	1,70
Beira	Gas turbine	1	12,00	12,00
Maputo	Gas turbine	3	78,50	64,00
Total interconnected, MW			258,65	241,55
Isolated stations				
Cuamba	Hydro	2	1,09	1,00
Lichinga	Hydro	1	0,75	0,60
Angoche	Diesel	3	1,60	0,95
Inhambane	Diesel	6	3,88	1,60
Lichinga	Diesel	3	0,60	0,60
Pemba	Diesel	6	8,04	5,20
Total isolated, MW			15,96	9,95
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			504,61	481,50
Energy available for distribution				
		1993	1992	Change
		GWh	GWh	%
Energy produced				
Hydro		238,3	182,1	30,9
Coal		14,8	48,8	-69,7
Gas turbine		0,4	0,1	260,0
Diesel		30,6	42,9	-28,6
Total produced, GWh				
		284,1	273,9 ^c	3,7
Import from Eskom		517,6	530,1 ^c	-2,4
Import from Zimbabwe		0,1	0,1 ^c	0,0
Import from Malawi		0,6	0,6 ^c	0,0
Purchased from Hidroelectrica de Cahora Bassa		118,1	95,0 ^c	24,3
Total produced and purchased, GWh				
		920,6	899,8	2,3
Export to Zimbabwe and transmission losses		50,4 ^a	91,3	-44,8
Total available for distribution, GWh				
		870,2	808,5	7,6

^a No export to Zimbabwe.

^b Estimated data.

^c Updated according to official 1992 annual report.

SUB-SAHARAN AFRICA: Mozambique – continued

Transmission and distribution lines in service	1993 km	1990 km	Change km
275 kV	75	75	0
220 kV	1 757	1 757	0
110 kV	1 158	1 158	0
66/60 kV	268	268	0
33/22 kV	2 230	2 230	0
11/6,6 kV	1 050	1 050	0
Total, km	6 538	6 538	0
Sales of electricity by category			
	1993	1992	Change
	GWh	GWh	%
General (low voltage)	135,0 ^b	131,2 ^c	2,9
Domestic	270,0 ^b	252,2 ^c	7,0
Medium and high voltage	325,0 ^b	293,8 ^c	10,6
Public lighting	1,8 ^b	1,5 ^c	19,2
Total sales, GWh	731,8 ^b	678,7 ^c	7,8
Number of customers			
	1993	1992	Change
			%
General (low voltage)	22 000 ^b	19 656 ^c	11,9
Domestic	114 000 ^b	111 891 ^c	1,9
Medium and high voltage	720 ^b	689 ^c	4,5
Public lighting	10 ^b	6 ^c	66,7
Total	136 730 ^b	132 242 ^c	3,4

SUB-SAHARAN AFRICA: Namibia

Source: SWA Water and Electricity Corporation (Pty) Ltd (SWAWEK) for the year ended 30 June 1993

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
		1992/93	1991/92
		GWh	GWh
Energy available for distribution			Change
			%
Energy produced			
Ruacana (hydro)		967,4	1 149,0
Van Eck (thermal)		26,8	6,8
Eskom - purchases		752,3	792,8
Caprivi region (99,5% ZESCO, 0,5% local generation)		8,3	7,6
Total energy into system, GWh		1 754,8	1 956,2
Transmission losses		195,1	234,1
Transmission losses %		11,1	12,0
		1992/93	1991/92
		km	km
Transmission and distribution lines in service			Change
			km
330 kV		521	521
220 kV		1 480	1 480
132 kV		946	946
66 kV and less		7 576	6 507
Total, km		10 523	9 454
		1992/93	1991/92
		GWh	GWh
Sales of electricity			Change
			%
Namibia			
Local authorities		664,8	635,0
Mining		642,6	688,5
Business/manufacturing		6,4	4,2
Government departments (including Caprivi)		92,5	88,5
Rural supplies		19,1	17,5
Subtotal, GWh		1 425,4	1 433,7
Export to Eskom			
Walvis Bay enclave		85,6	84,8
Eskom at Aggeneys		48,7	203,6
Subtotal, GWh		134,3	288,4
Total energy sold, GWh		1 559,7	1 722,1
Number of SWAWEK customers		1 298,0	1 111,0

* Paratus Power Station is situated in Walvis Bay enclave.

SUB-SAHARAN AFRICA: Swaziland

Source: Swaziland Electricity Board (SEB) for year ended 31 March 1993

Nominal capacity, MW	1993	1992 *	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	112,0	103,0	8,7
Energy sources, GWh			
Own generation – hydro	81,5	166,3	-51,0
– diesel	2,7	0,2	1 250,0
Energy purchased from Eskom	555,8	427,7	30,0
Total produced and purchased, GWh	640,0	594,2	7,7
Energy sold, GWh	555,2	523,8	6,0
Own use and system losses, GWh	84,8	70,4	20,5
Own use and system losses, %	13,2	11,9	10,9
Annual load factor, %	65,0	66,0	-1,5
Transmission and distribution equipment in service			
	1993	1992	Change
Overhead lines	km	km	km
132 kV	206	206	0
66 kV	912	898	14
33 kV	89	65	24
11 kV	2 371	2 228	143
Total, km	3 578	3 397	181
Substations	MVA	MVA	Change
132/66 kV	138	138	0
Number	4	4	0
66/11 kV	198,0	187,5	11
Number	29	26	3
66/33, 6,6 or 0,4 kV	13 + (10) *	13 + (10) *	0
Number	7	8	-1
33 or 11/0,4 kV	209,1	188,6	21
Number	2 438	2 184	254
	1993	1992	Change
Sales of electricity by category	GWh	GWh	%
Domestic	115,0	102,0	12,7
Commercial	50,6	47,4	6,8
Industrial	268,8	243,7	10,3
Irrigation	120,8	130,7	-7,6
Total, GWh	555,2	523,8	6,0
Number of customers	1993	1992	Change %
Domestic	17 980	17 053	5,4
Commercial	3 769	3 896	-3,3
Industrial	602	579	4,0
Irrigation	104	106	-1,9
Total customers	22 455	21 634	3,8
Average selling price, cents/kWh	18,7	15,9	17,6

* Consumer-owned transformers.

SUB-SAHARAN AFRICA: Tanzania

Source: Tanzania Electric Supply Co Ltd (TANESCO) for the year ended 30 June 1993

Nominal capacity	Type	MW	
Interconnected system			
Kidatu	Hydro	204,00	
Mtera	Hydro	80,00	
Pangani system	Hydro	66,00	
Total interconnected system, MW		350,00	
Isolated system			
Uwemba	Hydro	0,72	
Total nominal capacity, MW		350,72	
	1993	1992	Change
Production of electricity	GWh	GWh	%
Interconnected system	1 797,0	1 737,0	3,5
Isolated system	82,0	79,0	3,8
Total production, GWh		1 816,0	3,5
	1993^a	1992	Change
Sale of electricity	GWh	GWh	%
Domestic	540,5	506,3	6,8
Agriculture	64,6	61,5	5,0
Commercial	168,0	160,2	4,9
Light industrial	68,8	68,4	0,6
Low-voltage industrial and commercial	141,4	126,9	11,4
High-voltage industrial	166,5	169,1	-1,5
Energy-intensive consumers	168,6	196,6	-14,2
Public lighting	9,3	11,2	-17,0
National Urban Water Authority	64,4	83,1	-22,5
Bulk sales to Zanzibar	74,2	60,4	22,8
Total, GWh		1 443,7	1,6
	1993^a	1992	Change
Number of customers			%
Domestic	172 246	152 969	12,6
Agriculture	254	226	12,4
Commercial	46 394	40 727	13,9
Light industrial	6 375	5 221	22,1
Low-voltage industrial and commercial	616	496	24,2
High-voltage industrial	95	87	9,2
Energy-intensive consumers	11	8	37,5
Public lighting	2 329	2 004	16,2
National Urban Water Authority	88	53	66,0
Bulk sales to Zanzibar	1	1	0,0
Total		201 792	13,2

^a Sales figures and number of customers for 1993 are estimates.

SUB-SAHARAN AFRICA: Transkei

Source: Transkei Electricity Supply Corporation (TESCOR) as at 31 March 1993

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	1993 GWh	1992 GWh	Change %
Own production	93,2	166,5	-44,0
Purchased from Eskom	313,6	247,0	27,0
Total production and purchased, GWh	406,8	413,5	-1,6
Sold to Eskom, GWh	1,9	13,0	-85,4
System losses, GWh	40,1	49,9	-19,6
Available for distribution, GWh	364,8	350,6	4,1
Non-coincident demand, MW	85,9	82,8	3,7
Transmission and distribution equipment in service	1993 km	1991 km	Change km
Lines			
132 kV	133,0	133,0	0,0
66 kV	375,5	375,5	0,0
33 kV and lower	1 239,2	1 159,2	80,0
Total, km	1 747,7	1 667,7	80,0
Substations		Number	MVA
132/66 kV		4	160,0
66/22/(11) kV		18	149,5
22/11 kV		25	62,5
22(11)/0,4 kV		694	132,0
Total		741	504,0
Sales of electricity by category	1993 GWh	1992 GWh	Change %
Domestic	33,0	25,5	29,4
Commercial	44,2	78,6	-43,8
Industrial	128,2	91,5	40,1
Bulk	159,3	155,0	2,8
Total sales, GWh	364,7	350,6	4,0
Number of customers	1993	1992	Change %
Domestic	6 671	5 845	14,1
Commercial	1 614	1 439	12,2
Industrial	182	181	0,6
Bulk	2	2	0,0
Total	8 469	7 467	13,4

SUB-SAHARAN AFRICA: Venda

Source: Venda Electricity Corporation (VEC) for year ended 31 March 1993

	1993	1992	Change
Energy available for distribution	GWh	GWh	%
Electricity purchases			
Eskom	137,81	133,48	3,2
Louis Trichardt	2,19	3,01	-27,2
Total, GWh	140,00	136,49	2,6
Distribution losses, %	9,34	7,88	18,6
Annual load factor (Eskom supply), %	62,9	62,9	0,0
Average monthly load factor (Eskom supply), %	68,6	69,6	-1,4
System maximum demand (Eskom supply), MVA	27,2	26,9	1,1
Transmission and distribution lines in service, km	1993	1992	Change
	km	km	km
132 kV	95	95	0
66 kV	14	14	0
22 and 11 kV	738	639	99
380/220 volts	764	583	181
Total, km	1 611	1 331	280
Sales of electricity by category	1993	1992	Change
	GWh	GWh	%
Large power users	67,46	72,99	-7,6
Small power users	16,04	15,91	0,8
Domestic users	41,82	35,27	18,6
Other (street lighting, robot supplies, etc)	1,61	1,57	2,5
Total, GWh	126,93	125,74	0,9
Number of customers	1993	1992	Change
			%
Large power users	139	133	4,5
Small power users	1 455	1 265	15,0
Domestic users	13 270	9 579	38,5
Other (street lighting, robot supplies, etc)	149	126 ^a	18,3
Total	15 013	11 103	35,2
Total population	580 488	560 858 ^a	3,5

^a Restated.

SUB-SAHARAN AFRICA: Zaire

Source: Societe Nationale d'Electricite (SNEL) for year ended 31 December 1992

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.

Nominal capacity (SNEL)	Number of units	Total MW
Western system:		
Inga I	6	350,0
Inga II	8	1 424,0
Zongo	5	75,0
Sanga	6	11,5
Mpozo (isolated)	2	2,2
Southern system:		
Mwadingusha	6	68,0
Koni	3	42,1
Nzilo	4	108,0
Nseke	4	248,0
Kiyimbi (isolated)	4	28,2
Kilubi (isolated)	3	9,9
Lungudi (isolated)	2	1,56
Eastern system:		
Ruzizi I	4	28,2
Ruzizi II (SINELAC power station)*	2	26,6
Northern system:		
Tshopo (isolated)	3	18,8
Mobayi (isolated)	3	10,5
Total hydro, MW		2 452,6
28 diesel and 1 natural gas power station (isolated)		51,0
Total nominal capacity (SNEL), MW		2 503,6

Privately owned power stations (all hydro)

	Company	Town	
Budana	Kilomto	Bunia	13,5
Soleniama I	Kilomto	Bunia	13,8
Soleniama II	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 and Lubilanji I	Miba	Mbuji Mayi	8,6
Zaire Etain	Piana Mwanga	Manono	29,5
Total privately owned, MW			80,8
Total generating capacity (Zaire), MW			2 584,4

Transmission and distribution equipment in service

	1992	km
Overhead lines for three systems (Northern system has no transmission lines over long distances.)		
500 kV (DC)		1 700,0
220 kV		1 475,0
132 kV		185,3
120 kV		1 198,8
70 kV		504,5
50 kV		144,4
Total, km		5 208,0

SUB-SAHARAN AFRICA: Zaire

Source: Societe Nationale d'Electricite (SNEL) for year ended 31 December 1992

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.

Nominal capacity (SNEL)	Number of units	Total MW
Western system:		
Inga I	6	350,0
Inga II	8	1 424,0
Zongo	5	75,0
Sanga	6	11,5
Mpozo (isolated)	2	2,2
Southern system:		
Mwadingusha	6	68,0
Koni	3	42,1
Nzilo	4	108,0
Nseke	4	248,0
Kiyimbi (isolated)	4	28,2
Kilubi (isolated)	3	9,9
Lungudi (isolated)	2	1,56
Eastern system:		
Ruzizi I	4	28,2
Ruzizi II (SINELAC power station)*	2	26,6
Northern system:		
Tshopo (isolated)	3	18,8
Mobayi (isolated)	3	10,5
Total hydro, MW		2 452,6
28 diesel and 1 natural gas power station (isolated)		51,0
Total nominal capacity (SNEL), MW		2 503,6
Privately owned power stations (all hydro)		
	Company	Town
Budana	Kilomto	Bunia
Soleniama I	Kilomto	Bunia
Soleniama II	Kilomto	Bunia
Nzoro	Kilomto	Watsa
Ambwe/Kailo	Sominki	Kalima
Lutshurukuru	Sominki	Kalima
Moga	Sominki	Kalima
Belia	Sominki	Punia
Lulingu	Sominki	Shabunda
Mangembe	Sominki	Kamitusa
Tshala and Lubilanji I	Miba	Mbuji Mayi
Zaire Etain	Piana Mwanga	Manono
Total privately owned, MW		80,8
Total generating capacity (Zaire), MW		2 584,4
Transmission and distribution equipment in service		1992
		km
Overhead lines for three systems (Northern system has no transmission lines over long distances.)		
500 kV (DC)		1 700,0
220 kV		1 475,0
132 kV		185,3
120 kV		1 198,8
70 kV		504,5
50 kV		144,4
Total, km		5 208,0

SUB-SAHARAN AFRICA: Zaire – continued

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 (interconnected system only)	Peak load 1992, MW	1992 MWh	1991 MWh	Change %
Inga I	113,00	508 235,0	422 167,0	20,4
Inga II	607,00	2 912 726,0	2 454 147,0	18,7
Zongo	20,00	5 221,0	100 156,0	-94,8
Sanga	0,38	2 027,0	2 304,0	-12,0
Mwadingusha	46,00	257 584,0	295 082,0	-12,7
Koni	27,20	126,8	152 737,0	-99,9
Nzilo	76,65	510 866,0	406 933,0	25,5
Nseke	204,00	1 253 624,0	1 001 924,0	25,1
Ruzizi I	23,00	130 788,0	118 079,0	10,8
Total interconnected production, MWh		5 581 197,8	4 953 529,0	12,7
Consumed by auxiliaries		19 688,0	19 440,0	1,3
Net energy generated		5 561 509,8	4 934 089,0	12,7
Own consumption		3 347,0	2 250,0	48,8
Energy sold locally		449,0	485,0	-7,4
Energy sent into the grid		5 557 713,8	4 931 354,0	12,7
Imported from Congo		11 813,0	20 185,0	-41,5
Imported from Zambia		9 304,0	39 852,0	-76,7
Imported from SINELAC		15 110,0	9 904,0	52,6
Exported to Congo		101 200,0	41 633,0	143,1
Exported to Angola		533,0	582,0	-8,4
Exported to Rwanda		12 116,0	9 280,0	30,6
Exported to Burundi		7 814,0	6 366,0	22,7
Exported to Zambia		1 104 620,0	57 892,0	1 808,1
Exported to SINELAC		3 800,0	4 281,0	-11,2
Available for distribution, MWh		4 363 857,8	4 881 261,0	-10,6

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

SUB-SAHARAN AFRICA: Zaire – continued

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

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Mwadingusha	46,00	257 584,0	295 082,0	-12,7
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Exported to Zambia		1 104 620,0	57 892,0	1 808,1
Exported to SINELAC		3 800,0	4 281,0	-11,2
Available for distribution, MWh		4 363 857,8	4 881 261,0	-10,6

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

SUB-SAHARAN AFRICA: Zambia

Source: Zambia Electricity Supply Corporation Limited (ZESCO) for the year ended 31 March 1993

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	6,00		
Lunzua River	Hydro	0,75		
Total isolated system, MW		24,75		
Total nominal capacity, MW		1 632,75		
	1993	1992	Change	
Production of electricity	GWh	GWh	%	
Interconnected system				
Kariba North	2 545	3 348	-24,0	
Kafue Gorge	3 216	4 955	-35,1	
Victoria Falls	651	496	31,3	
Total interconnected system, GWh		6 412	8 799	-27,1
Isolated systems				
Lusiwasi	8	54	-85,2	
Chishimba Falls	20	25	-20,0	
Musonda Falls	19	26	-26,9	
Lunzua River	2	3	-33,3	
Total isolated system, GWh		49	108	-54,6
Total production, GWh		6 461	8 907	-27,5
Trade of electricity (Zaire – Societe Nationale d'Electricite)	1993	1992	Change	
	GWh	GWh	%	
Exports	11	290	-96,2	
Imports	1 412	326	333,1	
Net Zambia/SNEL	1 401	36	3 791,7	
	1993	1992	Change	
Total sent out	GWh	GWh	%	
Interconnected	6 399	8 784	-27,2	
Isolated systems	105	104	1,0	
SNEL imports	1 401	36	3 791,7	
Total, GWh		7 905	8 924	-11,4
Bulk deliveries (interconnected only)	1993	1992	Change	
	GWh	GWh	%	
Local	6 625,0	6 375,7	3,9	
For export	922,6	2 107,9	-56,2	
Total, GWh		7 547,6	8 483,6	-11,0

SUB-SAHARAN AFRICA: Zimbabwe

Source: Zimbabwe Electricity Supply Authority (ZESA) for the year ended 30 June 1993

Source of power	Type	MW	No. units
Nominal capacity			
Hwange I	Thermal	480,0	4
Hwange II	Thermal	440,0	2
Munyati	Thermal	120,0	7
Harare II	Thermal	75,0	6
Harare III	Thermal	60,0	2
Bulawayo	Thermal	120,0	5
Kariba South	Hydro	666,0	6
Hwange	Diesel	4,5	3
Total nominal capacity, MW		1 965,5	
Energy available for distribution			
	1993	1992	Change
	GWh	GWh	%
Energy produced			
Thermal	5 406,0	5 076,3	6,5
Hydro	2 062,0	3 160,7	-34,8
Other	0,0	0,0	0,0
Total produced, GWh		7 468,0	8 237,0
Bulk imports, GWh			
Botswana Power Corporation	1 214,0	0,7	173 328,6
Electricidade de Mozambique	0,0	4,5	-100,0
Eskom	9,8	2,3	326,1
ZESCO, Chirundu	1,8	1,0	75,0
ZESCO, Victoria Falls	0,0	0,0	0,0
ZESCO, bulk power imports	189,0	1 775,9	-89,4
SNEL, bulk power imports	911,0	261,8	248,0
Bulk exports, GWh (wheeling)	22,4	18,8	19,1
Total, GWh		9 771,2	10 264,4
Generation and transmission losses, %		-	3,6
Transmission and distribution lines in service			
	1993	1992	Change
	km	km	km
330 kV	3 444,0	3 444,0	0,0
220 kV	160,0	152,0	8,0
132 kV	1 021,0	1 027,0	-6,0
110 kV	5,0	5,0	0,0
88 kV	2 052,0	2 082,0	-30,0
66 kV	184,0	178,0	6,0
Other	51 208,0	55 106,6	-3 898,6
Total, km		58 074,0	61 994,6

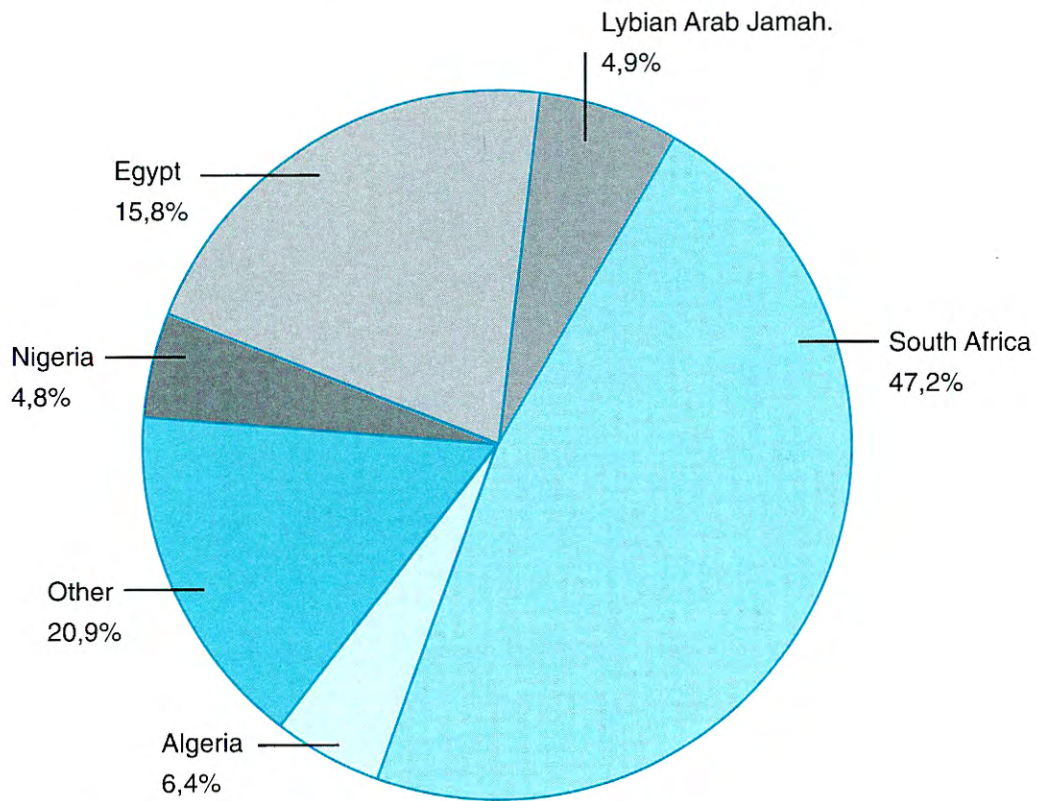
SUB-SAHARAN AFRICA: Zimbabwe – continued

Sales of electricity by category	1993	1992	Change
	GWh	GWh	%
Mining	1 306,2	1 549,7	-15,7
Industrial	3 079,1	4 146,5	-25,7
Farming	593,0	809,8	-26,8
Commercial and lighting	1 036,0	1 141,4	-9,2
Domestic	1 719,0	1 620,6	6,1
Total national sales, GWh		7 733,3	9 268,0
Exports		0,0	18,8
Total sales, GWh		7 733,3	9 286,8
Number of customers			
	1993	1992	Change
			%
Mining	689	684	0,7
Industrial	1 690	4 165	-59,4
Farming	9 576	8 998	6,4
Commercial and lighting	33 531	31 935	5,0
Domestic	294 246	289 087	1,8
Total		339 732	334 869



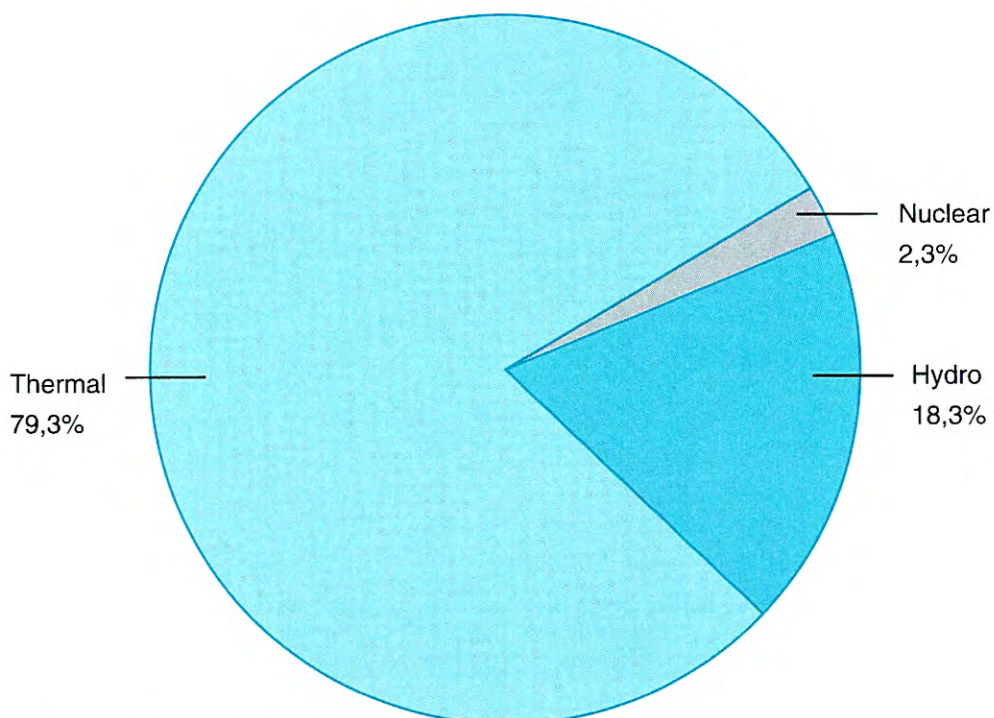
- | | | | |
|----|--------------------------|----|------------|
| 1 | South Africa | 32 | Algeria |
| 2 | Namibia | 33 | Morocco |
| 3 | Botswana | 34 | Mauritania |
| 4 | Zimbabwe | 35 | Senegal |
| 5 | Mozambique | 36 | Uganda |
| 6 | Malawi | 37 | Tunisia |
| 7 | Zambia | 38 | Djibouti |
| 8 | Angola | 39 | Gabon |
| 9 | Zaire | 40 | Swaziland |
| 10 | Tanzania | 41 | Lesotho |
| 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 | | |

NET MAXIMUM CAPACITY OF GENERATING PLANT SHOWING FIVE LARGEST PRODUCERS



Total net maximum capacity: 84 503 MW

PRODUCTION OF ELECTRICITY BY ENERGY SOURCES



Total production: 309 515 GWh

AFRICA: Electricity supply statistics

Source: United Nations Energy Statistics Yearbook, 1991, utility annual reports and Southern African Development Community, 1991

Country	Financial year end	Net maximum capacity of generating plant (self-producers and public), MW					% of total
		Thermal	Hydro	Nuclear	Geothermal	Total	
Algeria		5 083	286	-	-	5 369	6,4
Angola	8/92	199	324	-	-	523	0,6
Benin		15	-	-	-	15	0,0
Botswana	3/94	174	-	-	-	174	0,2
Burkina Faso		59	-	-	-	59	0,1
Burundi		11	32	-	-	43	0,1
Cameroon		97	530	-	-	627	0,7
Cape Verde		7	-	-	-	7	0,0
Central African Republic		21	22	-	-	43	0,1
Chad		31	-	-	-	31	0,0
Comoros		4	1	-	-	5	0,0
Congo		29	89	-	-	118	0,1
Côte d'Ivoire		278	895	-	-	1 173	1,4
Djibouti		38	-	-	-	38	0,0
Egypt		10 600	2 745	-	-	13 345	15,8
Equatorial Guinea		4	1	-	-	5	0,0
Ethiopia		133	230	-	30	393	0,5
Gabon		75	204	-	-	279	0,3
Gambia		13	-	-	-	13	0,0
Ghana		115	1 072	-	-	1 187	1,4
Guinea		129	47	-	-	176	0,2
Guinea-Bissau		11	-	-	-	11	0,0
Kenya ^a	6/93	37	586	-	31	655	0,8
Lesotho	3/94	2	3	-	-	5	0,0
Liberia		251	81	-	-	332	0,4
Libyan Arab Jamah.		4 100	-	-	-	4 100	4,9
Madagascar		114	106	-	-	220	0,3
Malawi	3/93	25	165	-	-	190	0,2
Mali		42	45	-	-	87	0,1
Mauritania		44	61	-	-	105	0,1
Mauritius		253	60	-	-	313	0,4
Morocco		1 741	693	-	-	2 434	2,9
Mozambique ^d	12/93	157	95	-	-	252	0,3
Namibia	6/93	120	240	-	-	360	0,4
Niger		63	-	-	-	63	0,1
Nigeria		2 140	1 900	-	-	4 040	4,8
Reunion		50	125	-	-	175	0,2
Rwanda		4	56	-	-	60	0,1
St. Helena & Depend.		5	-	-	-	5	0,0
Sao Tome - Principe		4	2	-	-	6	0,0
Senegal		231	-	-	-	231	0,3
Seychelles		29	-	-	-	29	0,0
Sierra Leone		124	2	-	-	126	0,1
Somalia		60	-	-	-	60	0,1
South Africa, Republic of	12/93	35 945	2 120 ^g	1 840	-	39 905	47,2
Sudan		275	225	-	-	500	0,6
Swaziland	3/93	10	41	-	-	50	0,1
Tanzania, United Republic of		-	351	-	-	351	0,4
Togo		30	4	-	-	34	0,0
Tunisia		1 350	64	-	-	1 414	1,7
Uganda		7	155	-	-	162	0,2
Western Sahara		56	-	-	-	56	0,1
Zaire	12/92	51	2 533	-	-	2 584	3,1
Zambia	3/93	-	-	-	-	1 633	1,9
Zimbabwe	3/93	1 300	666	-	-	1 966	2,3
AFRICA		65 745	16 857	1 840	61	84 503	100,0
WORLD		1 852 921	650 504	343 378	9 355	2 856 158	

^a No detail available for Eastern system.

^b Statistics, 1991.

^c Based on estimated population in 1991.

^d Excludes Cahora Bassa.

^e Includes 118,1 GWh purchased from Cahora Bassa.

^f Includes Bophuthatswana, Ciskei, Transkei and Venda.

^g Includes pumped storage.

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		
17 052	293	-	-	17 345	5,6	135	796	16 684	651
163 ^b	772 ^b	-	-	935 ^b	0,3	-	-	935 ^b	98
5	-	-	-	5	0,0	198	-	203	43
1 015	-	-	-	1 015	0,3	226	-	1 241	955
157	-	-	-	157	0,1	-	-	157	17
2	134	-	-	136	0,0	23	-	159	28
72	2 640	-	-	2 712	0,9	-	-	2 712	229
36	-	-	-	36	0,0	-	-	36	97
18	78	-	-	96	0,0	-	-	96	31
85	-	-	-	85	0,0	-	-	85	15
14	2	-	-	16	0,0	-	-	16	28
3	479	-	-	482	0,2	65	-	547	238
781	1 595	-	-	2 376	0,8	-	-	2 376	191
178	-	-	-	178	0,1	-	-	178	393
30 560	9 900	-	-	40 460	13,1	-	-	40 460	754
16	2	-	-	18	0,0	-	-	18	50
121	785	-	67	973	0,3	-	-	973	19
207	707	-	-	914	0,3	-	-	914	764
68	-	-	-	68	0,0	-	-	68	77
44	6 108	-	-	6 152	2,0	-	285	5 867	379
345	176	-	-	521	0,2	-	-	521	88
41	-	-	-	41	0,0	-	-	41	42
81	3 246	-	273	3 600	1,2	-	-	3 600	148
-	1	-	-	1	0,0	289	-	290	168
290	160	-	-	450	0,1	-	-	450	169
19 500	-	-	-	19 500	6,3	-	-	19 500	4 142
249	320	-	-	569	0,2	-	-	569	46
2	780	-	-	782	0,3	-	-	782	54
91	185	-	-	276	0,1	-	-	276	29
118	25	-	-	143	0,0	-	-	143	69
738	75	-	-	813	0,3	-	-	813	749
8 608	1 226	-	-	9 834	3,2	-	-	9 834	408
46	238	-	-	284	0,1	637 ^e	-	921	60
27	976	-	-	1 003	0,3	752	134	1 621	1 257
168	-	-	-	168	0,1	188	-	356	45
7 735	2 220	-	-	9 955	3,2	-	100	9 855	88
313	610	-	-	923	0,3	-	-	923	1 503
2	177	-	-	179	0,1	10	3	186	26
5	-	-	-	5	0,0	-	-	5	714
7	8	-	-	15	0,0	-	-	15	124
756	-	-	-	756	0,2	-	-	756	100
102	-	-	-	102	0,0	-	-	102	1 437
230	-	-	-	230	0,1	-	-	230	54
110	-	-	-	110	0,0	-	-	110	12
147 066	1 491 ^g	7 255	-	155 812	50,3	102	2 589	153 324	3 901
391	938	-	-	1 329	0,4	-	-	1 329	51
3	82	-	-	84	0,0	556	-	640	842
-	1 879	-	-	1 879	0,6	-	74	1 805	66
55	5	-	-	60	0,0	290	-	350	96
5 510	45	-	-	5 555	1,8	-	42	5 513	670
7	776	-	-	783	0,3	-	112	671	37
85	-	-	-	85	0,0	-	-	85	354
-	-	-	-	5 581	1,8	36	1 230	4 387	114
-	-	-	-	6 461	2,1	1 412	11	7 862	937
2 062	5 406	-	-	7 468	2,4	1 415	22	8 861	863
245 339	44 540	7 255	340	309 515	100,0	6 334	5 398	310 451	466
7 659 600	2 226 995	2 081 060	38 927	12 006 581		275 602	266 073	12 028 152	2 158

WORLD: Selected electricity supply statistics

Source: United Nations Energy Statistics Yearbook, 1991, utility annual reports and Southern African Development Community, 1991

Area	Net maximum capacity of generating plant (self-producers and public), MW					
	Total	Thermal	Hydro	Nuclear	Geothermal	Ranking
World	2 856 158	1 852 921	650 504	343 378	9 355	
Africa	84 503	65 745	16 857	1 840	61	6
Asia	636 411	455 788	131 482	47 871	1 270	3
Europe	687 142	378 984	174 392	132 385	1 381	2
North America	940 094	649 597	162 422	121 707	6 368	1
Oceania	44 452	31 931	12 257	—	264	7
South America	119 856	30 087	88 094	1 675	—	5
USSR (former)	343 700	240 789	65 000	37 900	11	4
Country						
Argentina	17 469	9 844	6 607	1 018	—	26
Australia	35 461	28 192	7 269	—	—	13
Austria	16 779	5 753	11 026	—	—	28
Belgium	14 097	7 207	1 401	5 485	4	30
Brazil	54 135	6 778	46 700	657	—	10
Bulgaria	11 025	6 290	1 975	2 760	—	34
Canada	104 631	31 324	60 235	13 052	20	6
China	146 000	108 000	38 000	—	—	3
Czechoslovakia	21 329	14 773	3 036	3 520	—	20
Egypt	13 345	10 600	2 745	—	—	32
Finland	13 347	8 339	2 648	2 360	—	31
France incl. Monaco	106 879	22 552	24 920	59 167	240	5
Germany	123 160	89 236	8 944	24 980	—	4
India	79 540	58 150	19 804	1 570	16	7
Indonesia	11 800	9 720	2 050	—	30	33
Iran (Islamic Rep. of)	18 204	16 400	1 804	—	—	23
Italy and San Marino	57 871	38 226	19 078	0	567	9
Japan	199 973	127 183	39 115	33 404	271	2
Korea, Republic of	24 571	14 510	2 445	7 616	—	18
Mexico	29 274	20 062	7 837	675	700	16
Netherlands	17 545	16 919	37	505	84	25
Norway, Svld, J. Myn I	27 134	250	26 884	—	—	17
Pakistan	10 097	7 063	2 897	137	—	35
Poland	30 984	29 066	1 918	—	—	15
Romania	22 268	15 820	6 448	—	0	19
South African Customs Union	40 494	36 250	2 404	1 840	0	12
Spain	43 622	20 295	16 340	6 987	—	11
Sweden	34 089	7 880	16 200	10 000	8	14
Switzerland, Lichtenstein	16 296	1 000	12 346	2 950	—	29
S. Arabia, pt. Ntrl. Zn.	18 350	18 350	—	—	—	22
Turkey	17 207	10 078	7 114	—	15	27
United Kingdom	70 022	54 485	4 179	11 353	5	8
United States	788 312	583 304	91 510	107 980	5 518	1
Venezuela	17 726	5 761	11 965	—	—	24
Yugoslavia	21 159	12 495	8 000	664	—	21

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.

Production of electricity (self-producers and public), GWh					Trade of electricity, GWh		Available GWh	kWh per capita
Total	Thermal	Hydro	Nuclear	Geothermal	Imports	Exports		
12 006 581	7 659 600	2 226 995	2 081 060	38 927	275 602	266 073	12 028 152	2 158
309 515	245 339	44 540	7 255	340	6 334	5 398	310 451	466
2 711 562	1 960 361	432 516	310 856	7 829	5 982	6 518	2 711 026	849
2 850 580	1 523 830	481 209	841 212	4 329	197 465	170 315	2 877 730	5 726
3 777 707	2 418 943	633 341	700 524	24 899	38 060	35 822	3 779 945	8 796
191 415	150 659	39 256	—	1 500	—	—	191 415	7 061
464 944	94 598	361 133	9 213	—	27 691	28 614	464 021	1 550
1 712 900	1 265 870	235 000	212 000	30	70	19 406	1 693 564	5 818
54 048	29 846	16 431	7 771	—	885	10	54 923	1 679
156 883	140 780	16 103	—	—	—	—	156 883	9 045
51 484	18 756	32 728	—	—	8 503	7 738	52 249	6 747
71 945	28 097	979	42 861	8	4 998	6 845	70 098	7 020
234 366	15 142	217 782	1 442	—	26 803	8	261 161	1 723
38 917	23 292	2 441	13 184	—	3 716	1 643	40 990	4 567
507 913	114 473	308 479	84 929	32	6 094	24 522	489 485	18 134
677 550	552 460	125 090	—	—	3 110	260	680 400	592
83 274	56 302	3 151	23 821	—	8 107	6 298	85 083	5 421
40 460	30 560	9 900	—	—	—	—	40 460	754
58 137	25 539	13 096	19 502	—	7 931	641	65 427	13 098
454 702	61 300	62 062	331 340	—	5 516	58 746	401 472	7 044
573 752	389 700	21 242	162 810	—	27 500	26 200	575 052	7 199
309 370	236 434	67 520	5 410	6	1 060	100	310 330	360
44 660	35 900	8 550	—	210	—	—	44 660	238
56 900	50 300	6 600	—	—	—	—	56 900	949
222 041	173 253	45 606	—	3 182	35 454	372	257 123	4 452
888 086	567 258	105 594	213 460	1 774	—	—	888 086	7 161
132 228	70 866	5 051	56 311	—	—	—	132 228	3 020
126 375	93 755	24 300	3 030	5 290	375	2 500	124 250	1 440
74 252	70 771	80	3 329	72	9 778	624	83 406	5 542
110 950	427	110 523	—	—	3 227	6 039	108 138	25 319
47 334	28 646	18 303	385	—	—	—	47 334	390
134 696	131 303	3 393	—	—	6 708	9 326	132 078	3 448
56 912	42 663	14 249	—	—	7 047	—	63 959	2 748
157 914	148 110	2 550	7 255	—	1 925	2 724	157 115	3 540
155 704	71 833	28 293	55 578	—	3 083	3 762	155 025	3 972
147 730	6 936	63 672	77 116	6	6 224	7 519	146 435	17 008
57 802	1 436	33 413	22 953	—	19 782	22 578	55 006	8 100
47 710	47 710	—	—	—	—	—	47 710	3 101
60 338	37 482	22 774	—	82	759	506	60 591	1 060
322 133	245 582	6 005	70 543	3	16 422	15	338 540	5 860
3 079 085	2 159 427	288 231	612 565	18 862	30 812	8 540	3 101 357	12 281
57 150	22 850	34 300	—	—	0	0	57 150	2 893
78 882	55 372	19 120	4 390	—	3 600	2 300	80 182	3 356

STATISTICAL MEASURES

Generation capacity

- Net maximum capacity – MW

This is the maximum power which could be produced, transmitted or distributed continuously throughout a prolonged period of operation. All the equipment is assumed to be fully operational. The power is measured after deducting the power supplies for the power station auxiliaries and allowing for the losses in generator transformers.

- Nominal capacity – MW

This is the maximum capacity obtainable under continuous operation and is usually determined by the manufacturer's specification and often appears on the "nameplate" of the equipment. It need not relate to any operational reality.

Energy

kWh (kilowatt-hour) = unit
GWh (gigawatt-hour) = 1 000 000 units

Power

kW (kilowatt) = unit
MW (megawatt) = 1 000 units

PERFORMANCE INDICATORS

Power generation plant

- Availability – %

- *Generation plant availability* reflects the proportion of time a unit is capable of providing service and provides a measure of the potential utilisation of the unit.

Calculated as:

Energy capacity in available state expressed as a percentage of total installed energy capacity in active state

- *Unit capability factor (UCF)*

Calculated as:

Available energy generation expressed as a percentage of reference (maximum) energy generation

Available energy generation is the energy that could have been produced, considering only limitations within control of plant management.

A high UCF indicates effective plant management programmes and practices to minimise unplanned energy losses and to optimise planned outages, maximising available electrical generation.

This indicator will replace *generation plant availability* in future.

- Reliability

Plant reliability reflects the probability that a unit will perform as required for a given period of time and gives an indication of the frequency of unexpected failure.

- *Weighted mean time to trip (WMTTT)* – hours

This is a reliability index measuring weighted average hours between trips over the last three generating months (2 200 hours). Trips with less than two minutes warning time are incorporated.

Calculated as:

Equivalent full-load available hours divided by equivalent full-load trips

- *Unplanned automatic grid separations per 7 000 operating hours per unit* – number per hour

This tracks the average grid separation (trip) rate per 7 000 operating hours (approximately one year of operation), including only trips of internal origin. Trips caused by the physical condition of the grid are not included unless they were incorrectly controlled.

Calculated as:

Number of grid separations (trips) divided by 7 000 operating hours

This indicator will replace *WMTTT* in future.

Power system plant

- Reliability

- *Low-frequency incidents* - number

• A low-frequency incident is recorded whenever the frequency drops to below 49,7 hertz (Hz).

- *Supply loss index* – hours

This is a measure of the unavailability of supply.

Calculated as:

Energy not supplied (in MVA hours) divided by system supply capacity (in MVA)

- *System minutes* – minutes

A measurement of the transmission (bulk) system reliability. Loss of energy is expressed in MW minutes.

Calculated as:

Energy not supplied (in MW minutes) divided by system maximum demand (in MW)

- *ASIDI (average system interruption duration index)* – minutes

This is the duration of supply loss to customers.

Calculated as:

Energy not supplied (in MVA minutes) divided by connected load (in MVA)

This indicator will replace *supply loss index* in future.

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 (approximately)
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 approximately equals 200 therms or 21,12 GJ.

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

GENERAL

Symbols and abbreviations used

–	= not applicable/not available
kW	= kilowatt
MW	= megawatt
kWh	= kilowatt-hour (unit)
MWh	= megawatt-hour (1 000 units)
GWh	= gigawatt-hour (1 000 000 units)

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

SOUTH AFRICA: Municipal statistics

Sources: Municipalities, Eskom and National Electrification Forum

Not all municipalities have been prepared to supply their current statistics. This table is based on the most recent statistics at our disposal and consists only of municipalities that are distributors of electricity and have more than 500 customers.

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Eastern Cape						
Adelaide	1993	421	60	5	63	549
Aliwal North	1992	1 562	227	2	10	1 801
Beacon Bay	1992	2 745	59	10	–	2 814
Burgersdorp	1993	833	130	9	48	1 020
Craddock	1993	1 701	477	52	82	2 312
Despatch	1992	3 575	135	20	–	3 730
East London	1992	21 000	3 950	5	45	25 000
Fort Beaufort	1990	739	87	8	61	895
Gonubie	1993	2 221	108	–	6	2 335
Graaff-Reinet	1993	3 008	52	6	60	3 126
Grahamstown	1992	3 407	217	37	459	4 120
Humansdorp	1992	825	264	–	44	1 133
Jeffreys Bay	1992	2 593	285	1	6	2 885
King Williams Town	1992	4 123	483	75	–	4 681
Kirkwood	1992	650	130	–	190	970
Kokstad	1992	1 198	328	15	–	1 541
Kruisfontein	1991	528	–	–	–	528
Middelburg	1992	1 280	135	19	86	1 520
Plettenberg Bay	1992	2 938	313	–	–	3 251
Port Alfred	1992	1 923	429	3	–	2 355
Port Elizabeth	1993	75 803	6 284	707	65	82 859
Queenstown	1993	3 369	650	16	118	4 153
Somerset East	1992	1 088	8	–	645	1 741
St Francis Bay	1991	586	–	–	–	586
Stutterheim	1991	670	125	15	25	835
Uitenhage	1992	11 847	1 212	63	314	13 436

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
3 643	656	251	216	4 766	1993	1,31	56,8
13 198	8 760	2 065	8 315	32 338	1993	8,00	58,9
27 414	1 628	3 348	–	32 390	1993	7,57	59,9
5 562	1 991	1 131	1 230	9 914	1993	2,96	53,2
11 226	5 443	3 156	5 650	25 475	1993	5,58	62,7
27 489	1 658	3 840	2 298	35 285	1993	8,60	59,3
164 179	391 800	29 283	20 814	606 076	1993	117,35	62,2
5 653	2 148	776	6 788	15 365	1993	4,38	59,8
16 500	2 600	–	3 310	22 410	1993	5,30	62,1
16 243	5 554	3 888	4 598	30 283	1993	6,54	65,5
23 802	15 169	1 198	28 871	69 040	1993	14,75	82,8
5 408	8 064	–	3 932	17 404	1993	4,79	55,4
5 000	10 000	5 000	1 884	21 884	1993	7,16	56,1
32 919	10 631	30 656	–	74 206	1993	14,04	64,5
4 371	2 074	–	531	6 976	1993	2,22	52,5
19 400	9 676	4 666	–	33 742	1993	8,52	59,9
3 043	–	–	–	3 043	1991	–	–
6 189	3 337	5 525	2 777	17 828	1993	4,68	57,0
17 862	13 777	–	–	31 639	1993	10,76	54,5
10 030	4 875	651	–	15 556	1993	3,96	56,9
547 336	111 782	1 029 626	467 304	2 156 048	1993	429,80	66,8
29 007	40 394	10 754	11 645	91 800	1990	19,10	39,0
5 459	5 346	–	21 515	32 320	1993	7,31	62,9
–	–	–	3 853	3 853	1993	1,54	348,7
5 081	2 098	2 752	679	10 610	1993	2,42	58,0
74 860	40 198	283 602	2 860	401 520	1991	77,40	57,0

SOUTH AFRICA: Municipal statistics

Sources: Municipalities, Eskom and National Electrification Forum

Not all municipalities have been prepared to supply their current statistics. This table is based on the most recent statistics at our disposal and consists only of municipalities that are distributors of electricity and have more than 500 customers.

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Eastern Transvaal						
Balfour	1990	693	114	3	31	841
Barberton	1993	1 443	374	9	–	1 826
Belfast	1993	595	108	7	2	712
Bethal	1991	2 003	556	25	–	2 584
Carolina	1991	753	85	15	–	853
Delmas	1993	1 179	234	18	78	1 509
Embalenhle	1991	4 791	–	–	–	4 791
Emzinoni	1991	1 580	–	–	–	1 580
Ermelo	1991	3 397	407	5	164	3 973
Evander	1991	2 101	235	62	–	2 398
Groblersdal	1991	876	245	16	–	1 137
Hendrina	1993	629	–	3	2	634
Kinross	1991	1 306	162	6	–	1 474
Kriel	1993	2 785	316	79	13	3 193
KwaGuqa	1992	7 361	93	–	19	7 473
KwaZamokuhle	1991	538	8	–	6	552
Kwamhlanga	1990	740	25	9	1	775
Lydenburg	1992	1 932	61	107	–	2 100
Marble Hall	1991	636	187	16	28	867
Mhluzi	1991	3 408	36	2	65	3 511
Middelburg	1993	6 512	979	215	497	8 203
Nelspruit	1992	5 137	1 030	110	–	6 277
Phola	1992	1 835	15	–	1	1 851
Piet Retief	1992	1 592	375	–	62	2 029
Sabie	1989	1 000	200	10	–	1 210
Sakhile	1991	1 499	20	–	–	1 519
Secunda	1993	8 457	370	–	–	8 827
Siyabuswa	1990	617	43	6	4	670
Siyathuthuka	1991	489	20	–	14	523
Standerton	1993	3 814	520	13	261	4 608
Trichardt	1991	550	345	50	5	950
Tutuka	1991	1 500	388	–	–	1 888
Volksrust	1991	1 639	227	8	–	1 874
Vukuzakhe	1991	783	–	–	–	783
Waterval Boven	1991	450	60	1	–	511
Wesselton	1991	2 120	30	–	–	2 150
White River	1991	2 550	495	105	22	3 172
Witbank	1993	21 665	1 934	141	–	23 740

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
5 161	7 501	4 051	1 366	18 079	1993	5,22	64,6
28 474	11 008	4 883	–	44 365	1993	10,89	64,3
7 001	2 551	277	2 248	12 077	1993	3,17	57,2
3 290	1 410	1 175	–	5 876	1993	13,76	63,0
5 719	2 859	4 654	422	13 654	1993	3,54	55,7
12 719	4 189	10 293	3 994	31 195	1993	8,21	61,4
34 338	8 584	–	–	42 922	1993	15,84	48,9
2 160	240	–	–	2 400	1991	3,60	34,0
39 634	–	–	38 555	78 189	1993	16,30	63,4
22 513	5 822	10 480	–	38 815	1993	8,16	70,5
–	–	–	32 960	32 960	1993	5,55	64,6
11 111	–	326	543	11 980	1993	1,64	57,7
10 903	3 001	3 499	–	17 403	1993	5,80	50,6
31 015	4 762	3 933	1 814	41 524	1993	10,74	66,7
45 029	6 511	–	182	51 722	1993	9,76	41,8
4 091	36	–	4	4 131	1993	1,32	44,0
3 182	842	515	14	4 553	1990	1,00	38,1
12 525	2 486	22 949	–	37 960	1993	9,60	54,0
6 466	5 383	9 867	1 173	22 889	1993	5,59	54,3
2 534	26	21	50	2 631	1991	7,50	56,6
129 868	59 707	11 764	463	201 802	1993	51,09	65,0
48 940	26 821	64 933	–	140 694	1993	37,40	57,1
7 132	58	–	4	7 194	1993	5,40	44,1
15 283	–	–	27 272	42 555	1993	8,70	58,0
13 998	–	–	–	13 998	1993	6,95	60,0
2 880	720	–	–	3 600	1991	3,84	36,0
77 910	26 245	–	5 647	109 802	1993	25,92	64,9
9 407	878	1 881	125	12 291	1990	1,93	61,8
526	7	–	4	537	1991	1,50	57,7
444 880	23 317	65 228	23 372	556 797	1993	31,70	71,8
5 395	10 019	–	–	15 414	1993	4,24	55,4
4 684	8 699	–	–	13 383	1991	7,50	55,0
18 200	7 700	4 700	–	30 600	1993	8,10	64,0
3 760	–	–	–	3 760	1991	–	–
4 026	1 598	224	365	6 213	1993	1,40	61,0
–	–	–	20 401	20 401	1993	6,85	36,4
24 000	–	–	48 377	72 377	1993	15,06	69,3
193 165	57 521	76 140	–	326 826	1993	74,68	62,8

SOUTH AFRICA: Electrification statistics

Sources: Eskom Electrification and Economic Analysis Systems

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Eastern Cape							
Aberdeen	1 365	706	850	102	515	604	7 962
Adelaide	2 102	1 129	688	121	1 414	1 008	15 120
Albany	13 090	4 015	6 627	448	6 463	3 567	69 550
Albert	2 284	1 520	985	182	1 299	1 338	16 759
Alexandria	2 432	3 323	891	397	1 541	2 926	26 104
Aliwal North	4 974	1 277	2 009	161	2 965	1 116	28 046
Barkly East	1 298	1 914	367	203	931	1 711	12 797
Bathurst	4 975	2 785	2 304	310	2 671	2 475	32 694
Bedford	2 108	1 203	625	132	1 483	1 071	16 177
Bizana	470	30 336	90	293	380	30 043	212 901
Butterworth	10 275	14 697	4 721	67	5 554	14 630	106 967
Cathcart	1 507	1 852	466	205	1 041	1 647	14 465
Craddock	5 686	2 597	1 378	345	4 308	2 252	37 275
East London	46 728	16 149	34 229	2 903	12 499	13 246	247 341
Elliot	1 522	1 451	438	177	1 084	1 274	14 137
Elliotdale	189	14 537	36	69	153	14 468	72 986
Engcobo	1 163	32 341	328	309	835	32 032	184 664
Fort Beaufort	3 893	821	1 364	90	2 529	731	23 266
Glen Grey	7 446	29 413	4 303	282	3 143	29 131	214 979
Graaff-Reinet	6 287	1 417	4 356	198	1 931	1 219	34 576
Hankey	1 986	3 272	1 031	520	955	2 752	25 132
Herschel	411	24 292	85	231	326	24 061	133 335
Hewu	7 173	12 386	2 873	32	4 300	12 354	104 992
Hofmeyr	552	578	74	70	478	508	4 880
Humansdorp	6 619	4 398	4 950	714	1 669	3 684	45 834
Idutywa	1 235	21 336	288	97	947	21 239	100 641
Indwe	1 135	679	208	70	927	609	9 475
Jansenville	1 501	846	358	114	1 143	732	9 635
Joubertina	1 197	1 927	633	336	564	1 591	13 466
Keiskammahoek	635	8 749	456	28	179	8 721	49 484
Kentani	217	21 174	71	198	146	20 976	112 959
King William's Town	6 058	772	4 840	84	1 218	688	30 069
Kirkwood	2 564	4 298	786	608	1 778	3 690	31 187
Komgha	1 267	1 594	480	164	787	1 430	13 795
Kwabhaca	764	29 328	452	133	312	29 195	118 908
Lady Grey	843	824	218	89	625	735	7 548
Libode	315	23 204	74	222	241	22 982	123 284
Lusikisiki	557	42 785	222	406	335	42 379	249 745
Maclear	1 438	1 786	425	185	1 013	1 601	16 690
Maluti	330	26 069	195	247	135	25 822	168 427
Maxesibeni	921	17 750	238	81	683	17 669	87 704
Mdantsane	35 605	8 952	18 423	36	17 182	8 916	254 138
Middelburg	3 670	1 423	2 832	290	838	1 133	21 992
Middeldrift	117	11 405	69	40	48	11 365	64 128
Molteno	1 634	758	337	86	1 297	672	11 664
Mount Fletcher	559	30 429	103	138	456	30 291	142 816
Mqanduli	249	25 569	75	115	174	25 454	121 645
Ngqeleni	336	27 002	79	259	257	26 743	142 759
Nqamakwe	216	21 415	47	102	169	21 313	107 522
Pearston	782	414	478	54	304	360	4 926
Peddie	1 016	15 281	602	53	414	15 228	84 141
Port Elizabeth	161 978	5 445	82 532	973	79 446	4 472	696 377
Port St Johns	1 132	13 802	282	64	850	13 738	64 880
Queenstown	7 356	2 317	4 312	249	3 044	2 068	43 822
Qumbu	579	26 425	113	123	466	26 302	131 569
Seymour	148	3 119	87	8	61	3 111	19 244
Siphaqueni	426	22 804	132	215	294	22 589	122 377
Somerset East	4 233	2 430	1 402	310	2 831	2 120	30 063
St Marks	631	25 365	107	114	524	25 251	129 722
Sterkstroom	1 147	667	227	71	920	596	7 549
Steynsburg	1 758	709	352	101	1 406	608	10 576
Steytlerville	753	564	445	87	308	477	5 290
Stutterheim	4 166	4 275	2 656	773	1 510	3 502	40 219
Tabankulu	394	22 266	133	211	261	22 055	119 982
Tarka	1 087	1 156	353	130	734	1 026	9 466
Tsolo	839	21 638	343	202	496	21 436	124 600
Tsomo	494	17 763	86	82	408	17 681	76 425
Uitenhage	42 349	1 479	32 637	200	9 712	1 279	193 422
Umtata	20 888	32 303	9 898	148	10 990	32 155	237 491
Umzimkulu	1 051	33 750	407	155	644	33 595	153 534
Venterstad	890	462	282	55	608	407	5 718
Victoria East	2 406	11 532	1 216	37	1 190	11 495	77 108
Willowmore	1 234	1 079	626	154	608	925	10 802
Willowvale	336	26 339	78	120	258	26 219	126 707
Wodehouse	1 321	1 764	184	196	1 137	1 568	15 337
Xalanga	1 372	8 970	419	86	953	8 884	68 820
Zwelitsha	19 825	30 755	5 997	81	13 828	30 674	247 622

^a A magisterial district is not the same as the municipality whose name it bears. The area and population of the magisterial district may be smaller/larger. Municipalities that form part of a magisterial district are not listed separately.

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Eastern Transvaal							
Amersfoort	1 015	5 182	311	522	704	4 660	34 538
Balfour	3 487	4 396	1 474	1 503	2 013	2 893	37 771
Barberton	4 503	13 362	2 928	5 575	1 575	7 787	72 281
Belfast	2 915	3 136	1 587	1 188	1 328	1 948	28 642
Bethal	8 441	7 018	4 940	2 871	3 501	4 147	77 488
Carolina	1 916	4 275	848	1 486	1 068	2 789	30 090
Delmas	6 035	4 008	2 717	1 616	3 318	2 392	48 809
Eerstehoek	3 736	42 053	1 369	661	2 367	41 392	236 118
Ermelo	15 063	8 957	7 391	2 853	7 672	6 104	111 851
Groblersdal	1 774	10 303	1 707	3 965	67	6 338	59 253
Highveld Ridge	28 407	3 592	14 417	1 843	13 990	1 749	160 863
Lydenburg	2 967	5 197	2 107	2 010	860	3 187	36 346
Mbibana	2 365	11 868	336	393	2 029	11 475	78 262
Mdutjana	5 687	18 063	1 594	412	4 093	17 651	136 084
Middelburg	16 737	13 574	10 631	6 536	6 106	7 038	143 174
Mkobola	6 355	43 349	5 055	728	1 300	42 621	270 971
Moutse	1 005	18 711	881	4 444	124	14 267	101 455
Nelspruit	6 998	10 805	6 516	4 672	482	6 133	62 813
Nkomazi	3 259	53 828	1 234	683	2 025	53 145	330 982
Nsikazi	11 721	54 058	4 506	729	7 215	53 329	355 005
Piet Retief	4 193	8 380	2 089	3 442	2 104	4 938	64 297
Pilgrim's Rest	1 705	5 798	1 520	3 086	185	2 712	28 483
Standerton	9 933	7 890	5 564	2 490	4 369	5 400	87 198
Volksrust	4 188	2 088	2 285	759	1 903	1 329	29 971
Wakkerstroom	758	4 934	674	1 543	84	3 391	33 502
Waterval Boven	1 199	930	438	376	761	554	9 062
White River	2 151	6 022	1 819	3 240	332	2 782	30 120
Witbank	30 031	7 709	19 310	4 096	10 721	3 613	177 390

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Kwazulu/Natal							
Alfred	742	1 063	628	455	114	608	8 793
Babanango	–	488	–	181	–	307	2 881
Bergville	233	4 071	214	1 158	19	2 913	22 842
Camperdown	2 351	5 496	2 073	2 250	278	3 246	36 809
Chatsworth	39 781	–	38 750	–	1 031	–	176 192
Dannhauser	973	1 545	622	668	351	877	13 872
Dundee	4 191	1 867	2 909	520	1 282	1 347	31 211
Durban	143 359	–	133 708	–	9 651	–	468 751
Emnambithi	13 947	24 078	2 528	424	11 419	23 654	216 326
Empumalange	28 650	54 543	8 291	1 211	20 359	53 332	350 266
Emzumbi	–	41 288	–	743	–	40 545	224 682
Enseleni	4 878	38 017	1 958	770	2 920	37 247	253 382
Eshowe	1 494	1 307	1 329	665	165	642	13 415
Estcourt	3 490	6 557	3 291	1 876	199	4 681	49 439
Ezingolweni	2 469	39 102	0	723	2 469	38 379	220 975
Glencoe	2 352	1 047	1 903	345	449	702	16 894
Hlabisa	1 799	32 841	1 238	2 246	561	30 595	200 210
Hlanganani	48	37 706	37	668	11	37 038	201 094
Impendle	–	639	–	229	–	410	2 649
Inanda	67 600	5 205	64 542	2 169	3 058	3 036	340 817
Ingwavuma	127	26 009	44	520	83	25 489	153 064
Inkanyezi	4 175	27 139	2 801	567	1 374	26 572	178 003
Ixopo	542	3 811	372	1 176	170	2 635	22 022
Kliprivier	9 478	4 309	8 072	1 057	1 406	3 252	64 915
Kranskop	103	1 405	86	452	17	953	7 530
Lions River	3 368	6 505	1 781	2 300	1 587	4 205	43 338
Lower Tugela	8 516	14 357	7 433	5 955	1 083	8 402	96 296
Lower Umfolozi	11 006	4 199	10 389	2 024	617	2 175	58 845
Madadeni	30 695	23 581	7 328	478	23 367	23 103	338 570
Mapumulo	–	42 850	–	836	–	42 014	245 709
Mhalabatini	3 093	18 931	1 215	494	1 878	18 437	149 830
Mooi River	1 612	3 254	763	955	849	2 299	25 332
Mount Currie	4 206	5 942	2 302	1 595	1 904	4 347	41 403
Msinga	71	30 938	5	665	66	30 273	161 748
Mtonjaneni	586	1 627	198	678	388	949	10 555
Mtunzini	1 769	2 709	1 683	1 291	86	1 418	18 335
Ndwedwe	–	81 378	–	1 383	–	79 995	352 112
New Hanover	1 739	5 784	1 073	2 107	666	3 677	37 925
Newcastle	10 626	2 768	10 328	975	298	1 793	53 666
Ngotshe	332	3 414	154	1 107	178	2 307	25 606
Nkandla	614	23 234	274	555	340	22 679	140 245
Nongoma	351	25 975	131	718	220	25 257	176 819
Nqutu	5 597	34 491	570	745	5 027	33 746	231 307
Ntuzuma	112 241	24 483	40 827	868	71 414	23 615	506 268
Okhahlamba	3 429	33 302	1 203	627	2 226	32 675	214 695
Ongoye	7 109	24 594	6 189	886	920	23 708	191 076
Paulpietersburg	1 106	2 421	414	693	692	1 728	21 102
Pietermaritzburg	55 853	3 403	48 006	1 264	7 847	2 139	235 981
Pinetown	45 781	2 827	37 029	685	8 752	2 142	190 204
Polela	123	815	104	360	19	455	4 292
Port Shepstone	14 995	4 172	13 717	1 986	1 278	2 186	70 145
Richmond	739	4 108	608	1 570	131	2 538	23 646
Simdlangentsha	2 021	18 391	936	381	1 085	18 010	132 612
Ubombo	68	19 875	42	712	26	19 163	123 496
Umbumbulu	4 220	58 443	1 505	964	2 715	57 479	288 594
Umlazi	69 085	–	40 991	–	28 094	–	316 465
Umvoti	3 628	4 991	2 335	1 647	1 293	3 344	40 923
Umzinto	8 086	3 891	7 627	1 695	459	2 196	47 007
Underberg	328	2 041	193	762	135	1 279	9 519
Utrecht	611	3 774	575	1 064	36	2 710	27 079
Vryheid	5 416	8 607	4 050	2 773	1 366	5 834	85 226
Vulamehlo	–	23 407	–	487	–	22 920	128 158
Vulindlela	18 221	23 718	3 052	396	15 169	23 322	229 115
Weenen	662	1 238	511	324	151	914	12 476

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
North West							
Bafokeng	9 932	10 947	4 030	1 024	5 902	9 923	147 589
Bloemhof	2 132	1 094	740	275	1 392	819	15 405
Brits	10 559	16 732	6 347	6 517	4 212	10 215	117 521
Christiana	1 959	1 148	1 121	307	838	841	13 668
Coligny	1 234	2 998	378	757	856	2 241	22 187
Delareyville	1 602	5 654	1 030	1 329	572	4 325	35 501
Ditsobotla	6 746	28 404	2 634	576	4 112	27 828	179 455
Ganyesa	–	13 542	–	191	–	13 351	62 711
Klerksdorp	55 829	11 773	23 136	4 515	32 693	7 258	334 395
Koster	1 603	4 736	533	1 259	1 070	3 477	29 348
Kudumane	937	26 177	541	437	396	25 740	136 009
Lehurutshe	911	15 420	612	636	299	14 784	85 181
Lichtenburg	5 732	10 614	4 136	2 505	1 596	8 109	79 096
Madikwe	800	14 214	52	333	748	13 881	75 228
Mankwe	2 105	21 884	1 867	1 041	238	20 843	117 059
Marico	2 371	6 309	1 163	1 822	1 208	4 487	38 878
Molopo	7 637	35 693	6 477	2 839	1 160	32 854	196 121
Moretele	5 544	63 377	3 097	2 260	2 447	61 117	370 445
Odi	26 014	75 953	17 967	4 259	8 047	71 694	554 999
Potchefstroom	32 585	11 872	20 092	4 414	12 493	7 458	194 194
Rustenburg	12 786	14 652	12 243	5 757	543	8 895	130 532
Schweizer-Reneke	3 010	5 515	536	1 225	2 474	4 290	47 459
Swartruggens	526	2 297	433	714	93	1 583	12 447
Taung	5 251	33 504	1 820	1 279	3 431	32 225	185 615
Ventersdorp	1 737	5 441	658	1 316	1 079	4 125	36 280
Vryburg	7 235	15 325	2 950	3 479	4 285	11 846	99 301
Wolmaransstad	5 512	6 878	1 711	1 529	3 801	5 349	61 888

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Northern Cape							
Barkly West	3 643	3 869	1 155	1 054	2 488	2 815	35 407
Britstown	926	675	439	191	487	484	6 532
Calvinia	2 971	1 993	2 197	636	774	1 357	18 317
Carnarvon	1 544	1 024	668	300	876	724	9 649
Colesberg	2 429	1 019	1 061	264	1 368	755	15 411
De Aar	5 516	496	3 189	146	2 327	350	26 139
Fraserburg	590	608	564	189	26	419	4 315
Gordonia	12 747	13 721	10 563	3 957	2 184	9 764	122 726
Hanover	639	400	147	103	492	297	4 326
Hartswater	2 732	4 472	1 740	1 116	992	3 356	29 334
Hay	1 064	1 453	671	447	393	1 006	11 038
Herbert	2 001	3 632	747	894	1 254	2 738	27 233
Hopetown	1 328	1 164	1 013	330	315	834	11 034
Kenhardt	1 721	1 243	733	384	988	859	11 300
Kimberley	35 615	2 032	21 430	593	14 185	1 439	169 440
Kuruman	2 626	2 970	2 251	1 108	375	1 862	24 524
Namakwaland	4 386	10 145	2 321	4 738	2 065	5 407	62 410
Noupoort	1 606	269	802	76	804	193	8 326
Philipstown	1 426	827	731	234	695	593	8 820
Postmasburg	8 386	3 887	5 019	1 626	3 367	2 261	55 555
Prieska	2 617	1 759	868	548	1 749	1 211	18 879
Richmond	842	711	345	201	497	510	6 249
Sutherland	500	555	211	187	289	368	3 529
Victoria West	1 752	1 095	1 291	315	461	780	11 989
Warrenton	3 097	2 018	1 223	569	1 874	1 449	22 371
Williston	735	616	347	197	388	419	4 082

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Northern Transvaal							
Bochum	–	30 909	–	494	–	30 415	162 032
Bolobedu	1 535	39 672	913	412	622	39 260	213 455
Dzanani	139	24 464	31	397	108	24 067	135 428
Ellisras	2 697	3 465	2 651	1 441	46	2 024	26 607
Giyani	3 655	41 870	1 998	393	1 657	41 477	240 425
Hlanganani	990	24 915	831	280	159	24 635	140 072
Letaba	2 689	12 462	2 141	5 014	548	7 448	59 491
Lulekani	1 209	11 435	667	196	542	11 239	53 922
Malamulele	1 040	36 105	580	411	460	35 694	195 099
Mapulaneng	2 129	46 129	303	857	1 826	45 272	232 231
Messina	2 459	3 364	1 578	1 098	881	2 266	23 084
Mhala	2 913	55 474	1 421	764	1 492	54 710	289 825
Mokerong	5 893	82 545	2 397	1 626	3 496	80 919	489 005
Mutale	70	10 678	31	118	39	10 560	60 692
Namagale	6 963	5 539	4 391	206	2 572	5 333	59 854
Naphuno	1 748	34 981	1 263	568	485	34 413	188 823
Nebo	3 875	65 533	714	1 852	3 161	63 681	353 612
Phalaborwa	3 661	5 309	3 400	2 864	261	2 445	30 218
Pietersburg	11 638	5 901	11 154	2 657	484	3 244	65 263
Potgietersrus	5 152	11 394	4 224	3 740	928	7 654	67 620
Retavi	3 062	30 848	1 636	1 479	1 426	29 369	158 437
Sekgosese	296	26 307	169	633	127	25 674	135 666
Sekhukhuleni	1 913	87 360	421	2 173	1 492	85 187	426 865
Seshego	10 314	51 452	2 712	1 037	7 602	50 415	321 356
Soutpansberg	2 489	6 826	2 225	2 782	264	4 044	35 050
Thabamopo	7 275	67 251	2 723	1 932	4 552	65 319	385 039
Thabazimbi	2 032	7 693	1 887	3 827	145	3 866	49 035
Thohoyandou	4 318	45 593	1 833	1 021	2 485	44 572	268 887
Vuwami	751	26 292	331	283	420	26 009	149 812
Warmbaths	4 112	5 007	1 672	1 772	2 440	3 235	41 891
Waterberg	3 448	6 618	2 631	2 268	817	4 350	49 135

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Orange Free State							
Bethlehem	11 771	6 109	5 896	1 917	5 875	4 192	81 395
Bethulie	1 606	596	506	199	1 100	397	9 220
Bloemfontein	78 782	5 322	52 289	1 797	26 493	3 525	309 768
Boshof	2 192	4 583	1 095	1 396	1 097	3 187	31 685
Bothaville	5 932	5 549	1 341	1 567	4 591	3 982	55 186
Botshabelo	43 894	–	1 684	–	42 210	–	226 715
Brandfort	2 852	2 606	1 014	774	1 838	1 832	22 995
Bultfontein	2 746	3 072	578	873	2 168	2 199	28 589
Clocolan	1 978	2 197	434	602	1 544	1 595	18 342
Dewetsdorp	1 219	1 879	310	532	909	1 347	13 419
Edenburg	1 009	652	321	220	688	432	6 822
Excelsior	1 687	2 214	426	625	1 261	1 589	17 687
Fauresmith	1 057	1 229	336	438	721	791	8 859
Ficksburg	4 533	3 614	1 226	1 028	3 307	2 586	37 361
Fouriesburg	955	2 414	203	684	752	1 730	16 829
Frankfort	5 153	4 398	1 853	1 225	3 300	3 173	44 773
Harrismith	6 666	6 037	3 344	1 748	3 322	4 289	62 537
Heilbron	4 376	4 481	1 495	1 330	2 881	3 151	41 139
Hennenman	2 940	2 093	1 220	865	1 720	1 228	25 850
Hoopstad	1 411	3 964	368	1 095	1 043	2 869	27 905
Jacobsdal	637	1 656	107	621	530	1 035	9 912
Jagersfontein	1 299	292	315	98	984	194	6 354
Koffiefontein	1 719	820	820	331	899	489	10 851
Koppies	1 397	2 956	369	896	1 028	2 060	19 484
Kroonstad	20 239	5 979	15 583	1 766	4 656	4 213	111 880
Ladybrand	3 081	3 977	1 663	1 148	1 418	2 829	30 292
Lindley	5 003	3 116	1 490	899	3 513	2 217	37 673
Marquard	1 198	2 353	217	629	981	1 724	17 026
Odendaalsrus	17 753	3 945	3 915	2 230	13 838	1 715	106 266
Parys	11 780	1 641	4 267	490	7 513	1 151	51 396
Petrusburg	921	1 617	336	498	585	1 119	11 032
Philippolis	707	1 097	196	465	511	632	7 030
Reddersburg	654	724	267	217	387	507	6 000
Reitz	2 754	3 668	1 073	1 067	1 681	2 601	30 575
Rouxville	822	1 709	216	557	606	1 152	11 830
Sasolburg	22 502	4 660	16 893	2 040	5 609	2 620	91 997
Senekal	3 849	4 684	1 826	1 289	2 023	3 395	40 914
Smithfield	741	1 027	354	302	387	725	7 873
Thaba Nchu	2 152	12 228	1 196	781	956	11 447	66 213
Theunissen	4 067	2 447	437	947	3 630	1 500	39 932
Trompsburg	656	579	301	190	355	389	5 066
Ventersburg	1 928	1 237	350	353	1 578	884	14 505
Viljoenskroon	3 081	7 017	702	2 982	2 379	4 035	60 094
Virginia	9 127	4 845	5 123	3 049	4 004	1 796	82 684
Vrede	2 876	4 441	895	1 224	1 981	3 217	36 905
Vredefort	1 394	1 643	430	484	964	1 159	13 345
Welkom	40 467	9 865	25 890	6 434	14 577	3 431	261 473
Wepener	1 806	1 411	445	404	1 361	1 007	12 919
Wesselsbron	3 664	2 214	516	632	3 148	1 582	26 600
Winburg	2 108	1 754	484	524	1 624	1 230	17 556
Witsieshoek	6 664	72 812	4 453	2 212	2 211	70 600	391 994
Zastron	1 421	1 817	436	508	985	1 309	14 039

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
PWV							
Alberton	100 524	–	45 422	–	55 102	–	391 703
Benoni	67 713	508	40 202	188	27 511	320	303 647
Boksburg	50 098	–	45 630	–	4 468	–	204 176
Brakpan	32 285	–	15 986	–	16 299	–	138 349
Bronkhorstspuit	2 748	5 977	1 909	2 458	839	3 519	39 517
Cullinan	1 307	5 554	1 004	3 340	303	2 214	32 170
Germiston	49 851	–	48 062	–	1 789	–	173 856
Heidelberg	10 041	9 413	5 742	1 925	4 299	7 488	83 250
Johannesburg	388 694	855	303 645	478	85 049	377	1 587 132
Kempton Park	97 543	460	63 063	201	34 480	259	372 915
Krugersdorp	39 094	8 443	25 229	4 330	13 865	4 113	201 974
Nigel	18 305	2 705	8 176	1 136	10 129	1 569	95 871
Oberholzer	34 501	655	17 772	318	16 729	337	188 064
Pretoria	203 320	4 310	188 642	2 637	14 678	1 673	690 645
Randburg	92 744	1 011	73 049	443	19 695	568	363 924
Randfontein	20 462	5 833	14 281	2 094	6 181	3 739	120 851
Roodepoort	58 943	696	51 751	374	7 192	322	228 988
Soshanguve	31 055	–	17 823	–	13 232	–	146 319
Springs	36 936	394	31 105	155	5 831	239	158 861
Vanderbijlpark	94 614	4 383	46 920	2 119	47 694	2 264	456 605
Vereeniging	47 800	16 097	37 013	3 360	10 787	12 737	265 025
Westonaria	31 151	2 086	14 452	1 031	16 699	1 055	188 039
Wonderboom	49 508	8 834	34 095	5 205	15 413	3 629	275 952

SOUTH AFRICA: Electrification statistics – continued

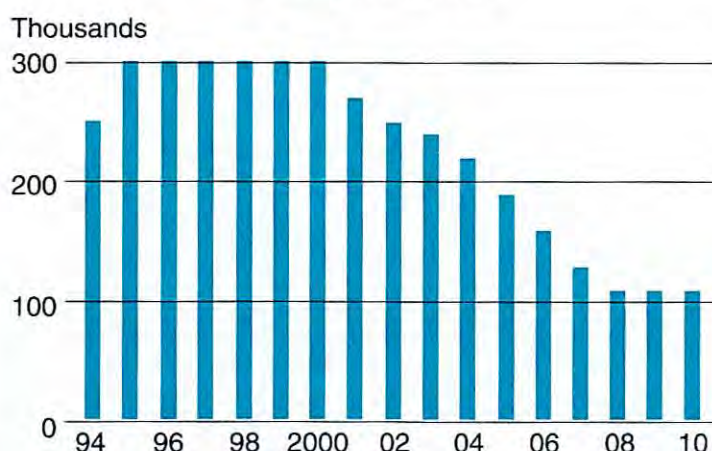
Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Western Cape							
Beaufort West	6 130	1 463	4 055	702	2 075	761	32 281
Bellville	68 708	5 766	59 641	2 712	9 067	3 054	282 072
Bredasdorp	3 905	2 303	2 774	1 149	1 131	1 154	23 806
Caledon	8 295	10 561	5 647	4 791	2 648	5 770	83 128
Calitzdorp	763	816	552	381	211	435	6 813
Cape	63 522	154	60 611	55	2 911	99	176 255
Ceres	4 094	6 266	3 074	2 771	1 020	3 495	49 178
Clanwilliam	2 831	4 077	2 284	1 203	547	2 874	28 581
George	18 802	4 550	13 906	2 320	4 896	2 230	102 193
Goodwood	61 355	–	58 498	–	2 857	–	264 658
Heidelberg	1 503	1 312	913	587	590	725	11 674
Hermanus	5 817	741	4 579	406	1 238	335	22 751
Hopefield	1 438	1 001	1 311	645	127	356	9 005
Knysna	9 546	4 165	6 298	1 987	3 248	2 178	52 681
Kuils River	33 831	1 409	29 635	692	4 196	717	158 591
Ladismith	1 127	2 061	618	789	509	1 272	12 898
Laingsburg	730	792	323	380	407	412	5 709
Malmesbury	18 039	8 548	16 370	3 939	1 669	4 609	124 747
Montagu	3 398	1 713	1 931	801	1 467	912	22 269
Moorreesburg	1 626	1 258	1 570	625	56	633	11 160
Mossel Bay	12 913	2 499	9 766	1 435	3 147	1 064	63 057
Murraysburg	859	569	801	224	58	345	5 997
Oudtshoorn	13 223	2 799	8 468	1 292	4 755	1 507	69 785
Paarl	21 329	10 277	16 820	4 637	4 509	5 640	140 702
Piquetberg	4 500	3 866	3 760	1 925	740	1 941	34 765
Prince Albert	1 156	931	916	453	240	478	8 516
Riversdale	3 772	2 598	3 089	1 301	683	1 297	25 365
Robertson	3 936	4 150	3 231	1 846	705	2 304	32 995
Simon's Town	16 471	1 535	15 129	717	1 342	818	61 174
Somerset West	14 409	2 120	11 955	1 117	2 454	1 003	63 179
Stellenbosch	15 306	5 319	13 614	2 638	1 692	2 681	75 495
Strand	12 245	346	10 916	181	1 329	165	41 587
Swellendam	4 026	3 961	3 192	1 812	834	2 149	32 979
Tulbagh	2 072	3 917	1 637	1 771	435	2 146	25 727
Uniondale	602	1 462	515	635	87	827	9 318
Vanrhynsdorp	1 955	1 266	1 394	389	561	877	12 936
Vredenburg	9 651	111	8 653	54	998	57	41 496
Vredendal	2 734	4 777	2 450	1 457	284	3 320	30 082
Wellington	6 151	2 684	5 552	1 205	599	1 479	39 019
Worcester	17 358	11 584	14 635	5 013	2 723	6 571	120 445
Wynberg	278 317	5 179	202 966	1 995	75 351	3 184	1 188 375

ESKOM ELECTRIFICATION PROGRESS

Number	January 1991 up to December 1992	1993	Inception to date
Direct domestic connections	176 557	208 801	385 358
Farm worker connections	12 698	16 074	28 772
Incentive indirect connections	22 622	69 756	92 378
Total connections	211 877	294 631	506 508
Total capital expenditure (Rm)	472	584	1 056

ESKOM ELECTRIFICATION PROGRAMME

Annual connections



SOUTH AFRICA: Electrification statistics

Sources: Eskom Electrification and Economic Analysis Systems

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Eastern Cape							
Aberdeen	1 365	706	850	102	515	604	7 962
Adelaide	2 102	1 129	688	121	1 414	1 008	15 120
Albany	13 090	4 015	6 627	448	6 463	3 567	69 550
Albert	2 284	1 520	985	182	1 299	1 338	16 759
Alexandria	2 432	3 323	891	397	1 541	2 926	26 104
Aliwal North	4 974	1 277	2 009	161	2 965	1 116	28 046
Barkly East	1 298	1 914	367	203	931	1 711	12 797
Bathurst	4 975	2 785	2 304	310	2 671	2 475	32 694
Bedford	2 108	1 203	625	132	1 483	1 071	16 177
Bizana	470	30 336	90	293	380	30 043	212 901
Butterworth	10 275	14 697	4 721	67	5 554	14 630	106 967
Cathcart	1 507	1 852	466	205	1 041	1 647	14 465
Cradock	5 686	2 597	1 378	345	4 308	2 252	37 275
East London	46 728	16 149	34 229	2 903	12 499	13 246	247 341
Elliot	1 522	1 451	438	177	1 084	1 274	14 137
Elliotdale	189	14 537	36	69	153	14 468	72 986
Engcobo	1 163	32 341	328	309	835	32 032	184 664
Fort Beaufort	3 893	821	1 364	90	2 529	731	23 266
Glen Grey	7 446	29 413	4 303	282	3 143	29 131	214 979
Graaff-Reinet	6 287	1 417	4 356	198	1 931	1 219	34 576
Hankey	1 986	3 272	1 031	520	955	2 752	25 132
Herschel	411	24 292	85	231	326	24 061	133 335
Hewu	7 173	12 386	2 873	32	4 300	12 354	104 992
Hofmeyr	552	578	74	70	478	508	4 880
Humansdorp	6 619	4 398	4 950	714	1 669	3 684	45 834
Idutywa	1 235	21 336	288	97	947	21 239	100 641
Indwe	1 135	679	208	70	927	609	9 475
Jansenville	1 501	846	358	114	1 143	732	9 635
Joubertina	1 197	1 927	633	336	564	1 591	13 466
Keiskammahoek	635	8 749	456	28	179	8 721	49 484
Kentani	217	21 174	71	198	146	20 976	112 959
King William's Town	6 058	772	4 840	84	1 218	688	30 069
Kirkwood	2 564	4 298	786	608	1 778	3 690	31 187
Komgha	1 267	1 594	480	164	787	1 430	13 795
Kwabhaca	764	29 328	452	133	312	29 195	118 908
Lady Grey	843	824	218	89	625	735	7 548
Libode	315	23 204	74	222	241	22 982	123 284
Lusikisiki	557	42 785	222	406	335	42 379	249 745
Maclear	1 438	1 786	425	185	1 013	1 601	16 690
Maluti	330	26 069	195	247	135	25 822	168 427
Maxesibeni	921	17 750	238	81	683	17 669	87 704
Mdantsane	35 605	8 952	18 423	36	17 182	8 916	254 138
Middelburg	3 670	1 423	2 832	290	838	1 133	21 992
Middeldrift	117	11 405	69	40	48	11 365	64 128
Molteno	1 634	758	337	86	1 297	672	11 664
Mount Fletcher	559	30 429	103	138	456	30 291	142 816
Mqanduli	249	25 569	75	115	174	25 454	121 645
Ngqeleni	336	27 002	79	259	257	26 743	142 759
Nqamakwe	216	21 415	47	102	169	21 313	107 522
Pearston	782	414	478	54	304	360	4 926
Peddie	1 016	15 281	602	53	414	15 228	84 141
Port Elizabeth	161 978	5 445	82 532	973	79 446	4 472	696 377
Port St Johns	1 132	13 802	282	64	850	13 738	64 880
Queenstown	7 356	2 317	4 312	249	3 044	2 068	43 822
Qumbu	579	26 425	113	123	466	26 302	131 569
Seymour	148	3 119	87	8	61	3 111	19 244
Siphaqueni	426	22 804	132	215	294	22 589	122 377
Somerset East	4 233	2 430	1 402	310	2 831	2 120	30 063
St Marks	631	25 365	107	114	524	25 251	129 722
Sterkstroom	1 147	667	227	71	920	596	7 549
Steynsburg	1 758	709	352	101	1 406	608	10 576
Steytlerville	753	564	445	87	308	477	5 290
Stutterheim	4 166	4 275	2 656	773	1 510	3 502	40 219
Tabankulu	394	22 266	133	211	261	22 055	119 982
Tarka	1 087	1 156	353	130	734	1 026	9 466
Tsolo	839	21 638	343	202	496	21 436	124 600
Tsomo	494	17 763	86	82	408	17 681	76 425
Uitenhage	42 349	1 479	32 637	200	9 712	1 279	193 422
Umtata	20 888	32 303	9 898	148	10 990	32 155	237 491
Umzimkulu	1 051	33 750	407	155	644	33 595	153 534
Venterstad	890	462	282	55	608	407	5 718
Victoria East	2 406	11 532	1 216	37	1 190	11 495	77 108
Willowmore	1 234	1 079	626	154	608	925	10 802
Willowvale	336	26 339	78	120	258	26 219	126 707
Wodehouse	1 321	1 764	184	196	1 137	1 568	15 337
Xalanga	1 372	8 970	419	86	953	8 884	68 820
Zwelitsha	19 825	30 755	5 997	81	13 828	30 674	247 622

^a A magisterial district is not the same as the municipality whose name it bears. The area and population of the magisterial district may be smaller/larger. Municipalities that form part of a magisterial district are not listed separately.

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Eastern Transvaal							
Amersfoort	1 015	5 182	311	522	704	4 660	34 538
Balfour	3 487	4 396	1 474	1 503	2 013	2 893	37 771
Barberton	4 503	13 362	2 928	5 575	1 575	7 787	72 281
Belfast	2 915	3 136	1 587	1 188	1 328	1 948	28 642
Bethal	8 441	7 018	4 940	2 871	3 501	4 147	77 488
Carolina	1 916	4 275	848	1 486	1 068	2 789	30 090
Delmas	6 035	4 008	2 717	1 616	3 318	2 392	48 809
Eerstehoek	3 736	42 053	1 369	661	2 367	41 392	236 118
Ermelo	15 063	8 957	7 391	2 853	7 672	6 104	111 851
Groblersdal	1 774	10 303	1 707	3 965	67	6 338	59 253
Highveld Ridge	28 407	3 592	14 417	1 843	13 990	1 749	160 863
Lydenburg	2 967	5 197	2 107	2 010	860	3 187	36 346
Mbibana	2 365	11 868	336	393	2 029	11 475	78 262
Mdutjana	5 687	18 063	1 594	412	4 093	17 651	136 084
Middelburg	16 737	13 574	10 631	6 536	6 106	7 038	143 174
Mkobola	6 355	43 349	5 055	728	1 300	42 621	270 971
Moutse	1 005	18 711	881	4 444	124	14 267	101 455
Nelspruit	6 998	10 805	6 516	4 672	482	6 133	62 813
Nkomazi	3 259	53 828	1 234	683	2 025	53 145	330 982
Nsikazi	11 721	54 058	4 506	729	7 215	53 329	355 005
Piet Retief	4 193	8 380	2 089	3 442	2 104	4 938	64 297
Pilgrim's Rest	1 705	5 798	1 520	3 086	185	2 712	28 483
Standerton	9 933	7 890	5 564	2 490	4 369	5 400	87 198
Volksrust	4 188	2 088	2 285	759	1 903	1 329	29 971
Wakkerstroom	758	4 934	674	1 543	84	3 391	33 502
Waterval Boven	1 199	930	438	376	761	554	9 062
White River	2 151	6 022	1 819	3 240	332	2 782	30 120
Witbank	30 031	7 709	19 310	4 096	10 721	3 613	177 390

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Kwazulu/Natal							
Alfred	742	1 063	628	455	114	608	8 793
Babanango	–	488	–	181	–	307	2 881
Bergville	233	4 071	214	1 158	19	2 913	22 842
Camperdown	2 351	5 496	2 073	2 250	278	3 246	36 809
Chatsworth	39 781	–	38 750	–	1 031	–	176 192
Dannhauser	973	1 545	622	668	351	877	13 872
Dundee	4 191	1 867	2 909	520	1 282	1 347	31 211
Durban	143 359	–	133 708	–	9 651	–	468 751
Emnambithi	13 947	24 078	2 528	424	11 419	23 654	216 326
Empumalange	28 650	54 543	8 291	1 211	20 359	53 332	350 266
Emzumbi	–	41 288	–	743	–	40 545	224 682
Enseleni	4 878	38 017	1 958	770	2 920	37 247	253 382
Eshowe	1 494	1 307	1 329	665	165	642	13 415
Estcourt	3 490	6 557	3 291	1 876	199	4 681	49 439
Ezingolweni	2 469	39 102	0	723	2 469	38 379	220 975
Glencoe	2 352	1 047	1 903	345	449	702	16 894
Hlabisa	1 799	32 841	1 238	2 246	561	30 595	200 210
Hlanganani	48	37 706	37	668	11	37 038	201 094
Impendle	–	639	–	229	–	410	2 649
Inanda	67 600	5 205	64 542	2 169	3 058	3 036	340 817
Ingwavuma	127	26 009	44	520	83	25 489	153 064
Inkanyezi	4 175	27 139	2 801	567	1 374	26 572	178 003
Ixopo	542	3 811	372	1 176	170	2 635	22 022
Kliprivier	9 478	4 309	8 072	1 057	1 406	3 252	64 915
Kranskop	103	1 405	86	452	17	953	7 530
Lions River	3 368	6 505	1 781	2 300	1 587	4 205	43 338
Lower Tugela	8 516	14 357	7 433	5 955	1 083	8 402	96 296
Lower Umfolozi	11 006	4 199	10 389	2 024	617	2 175	58 845
Madadeni	30 695	23 581	7 328	478	23 367	23 103	338 570
Mapumulo	–	42 850	–	836	–	42 014	245 709
Mhalabatini	3 093	18 931	1 215	494	1 878	18 437	149 830
Mooi River	1 612	3 254	763	955	849	2 299	25 332
Mount Currie	4 206	5 942	2 302	1 595	1 904	4 347	41 403
Msinga	71	30 938	5	665	66	30 273	161 748
Mtonjaneni	586	1 627	198	678	388	949	10 555
Mtunzini	1 769	2 709	1 683	1 291	86	1 418	18 335
Ndwedwe	–	81 378	–	1 383	–	79 995	352 112
New Hanover	1 739	5 784	1 073	2 107	666	3 677	37 925
Newcastle	10 626	2 768	10 328	975	298	1 793	53 666
Ngotshe	332	3 414	154	1 107	178	2 307	25 606
Nkandla	614	23 234	274	555	340	22 679	140 245
Nongoma	351	25 975	131	718	220	25 257	176 819
Nqutu	5 597	34 491	570	745	5 027	33 746	231 307
Ntuzuma	112 241	24 483	40 827	868	71 414	23 615	506 268
Okhahlamba	3 429	33 302	1 203	627	2 226	32 675	214 695
Ongoye	7 109	24 594	6 189	886	920	23 708	191 076
Paulpietersburg	1 106	2 421	414	693	692	1 728	21 102
Pietermaritzburg	55 853	3 403	48 006	1 264	7 847	2 139	235 981
Pinetown	45 781	2 827	37 029	685	8 752	2 142	190 204
Polela	123	815	104	360	19	455	4 292
Port Shepstone	14 995	4 172	13 717	1 986	1 278	2 186	70 145
Richmond	739	4 108	608	1 570	131	2 538	23 646
Simdlangentsha	2 021	18 391	936	381	1 085	18 010	132 612
Ubombo	68	19 875	42	712	26	19 163	123 496
Umbumbulu	4 220	58 443	1 505	964	2 715	57 479	288 594
Umlazi	69 085	–	40 991	–	28 094	–	316 465
Umvoti	3 628	4 991	2 335	1 647	1 293	3 344	40 923
Umzinto	8 086	3 891	7 627	1 695	459	2 196	47 007
Underberg	328	2 041	193	762	135	1 279	9 519
Utrecht	611	3 774	575	1 064	36	2 710	27 079
Vryheid	5 416	8 607	4 050	2 773	1 366	5 834	85 226
Vulamehlo	–	23 407	–	487	–	22 920	128 158
Vulindlela	18 221	23 718	3 052	396	15 169	23 322	229 115
Weenen	662	1 238	511	324	151	914	12 476

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Northern Cape							
Barkly West	3 643	3 869	1 155	1 054	2 488	2 815	35 407
Britstown	926	675	439	191	487	484	6 532
Calvinia	2 971	1 993	2 197	636	774	1 357	18 317
Carnarvon	1 544	1 024	668	300	876	724	9 649
Colesberg	2 429	1 019	1 061	264	1 368	755	15 411
De Aar	5 516	496	3 189	146	2 327	350	26 139
Fraserburg	590	608	564	189	26	419	4 315
Gordonia	12 747	13 721	10 563	3 957	2 184	9 764	122 726
Hanover	639	400	147	103	492	297	4 326
Hartswater	2 732	4 472	1 740	1 116	992	3 356	29 334
Hay	1 064	1 453	671	447	393	1 006	11 038
Herbert	2 001	3 632	747	894	1 254	2 738	27 233
Hopetown	1 328	1 164	1 013	330	315	834	11 034
Kenhardt	1 721	1 243	733	384	988	859	11 300
Kimberley	35 615	2 032	21 430	593	14 185	1 439	169 440
Kuruman	2 626	2 970	2 251	1 108	375	1 862	24 524
Namakwaland	4 386	10 145	2 321	4 738	2 065	5 407	62 410
Noupoort	1 606	269	802	76	804	193	8 326
Philipstown	1 426	827	731	234	695	593	8 820
Postmasburg	8 386	3 887	5 019	1 626	3 367	2 261	55 555
Prieska	2 617	1 759	868	548	1 749	1 211	18 879
Richmond	842	711	345	201	497	510	6 249
Sutherland	500	555	211	187	289	368	3 529
Victoria West	1 752	1 095	1 291	315	461	780	11 989
Warrenton	3 097	2 018	1 223	569	1 874	1 449	22 371
Williston	735	616	347	197	388	419	4 082

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Northern Transvaal							
Bochum	–	30 909	–	494	–	30 415	162 032
Bolobedu	1 535	39 672	913	412	622	39 260	213 455
Dzanani	139	24 464	31	397	108	24 067	135 428
Ellisras	2 697	3 465	2 651	1 441	46	2 024	26 607
Giyani	3 655	41 870	1 998	393	1 657	41 477	240 425
Hlanganani	990	24 915	831	280	159	24 635	140 072
Letaba	2 689	12 462	2 141	5 014	548	7 448	59 491
Lulekani	1 209	11 435	667	196	542	11 239	53 922
Malamulele	1 040	36 105	580	411	460	35 694	195 099
Mapulaneng	2 129	46 129	303	857	1 826	45 272	232 231
Messina	2 459	3 364	1 578	1 098	881	2 266	23 084
Mhala	2 913	55 474	1 421	764	1 492	54 710	289 825
Mokerong	5 893	82 545	2 397	1 626	3 496	80 919	489 005
Mutale	70	10 678	31	118	39	10 560	60 692
Namakgale	6 963	5 539	4 391	206	2 572	5 333	59 854
Naphuno	1 748	34 981	1 263	568	485	34 413	188 823
Nebo	3 875	65 533	714	1 852	3 161	63 681	353 612
Phalaborwa	3 661	5 309	3 400	2 864	261	2 445	30 218
Pietersburg	11 638	5 901	11 154	2 657	484	3 244	65 263
Potgietersrus	5 152	11 394	4 224	3 740	928	7 654	67 620
Retavi	3 062	30 848	1 636	1 479	1 426	29 369	158 437
Sekgosese	296	26 307	169	633	127	25 674	135 666
Sekhukhuneland	1 913	87 360	421	2 173	1 492	85 187	426 865
Seshego	10 314	51 452	2 712	1 037	7 602	50 415	321 356
Soutpansberg	2 489	6 826	2 225	2 782	264	4 044	35 050
Thabamopo	7 275	67 251	2 723	1 932	4 552	65 319	385 039
Thabazimbi	2 032	7 693	1 887	3 827	145	3 866	49 035
Thohoyandou	4 318	45 593	1 833	1 021	2 485	44 572	268 887
Vuwami	751	26 292	331	283	420	26 009	149 812
Warmbaths	4 112	5 007	1 672	1 772	2 440	3 235	41 891
Waterberg	3 448	6 618	2 631	2 268	817	4 350	49 135

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
North West							
Bafokeng	9 932	10 947	4 030	1 024	5 902	9 923	147 589
Bloemhof	2 132	1 094	740	275	1 392	819	15 405
Brits	10 559	16 732	6 347	6 517	4 212	10 215	117 521
Christiana	1 959	1 148	1 121	307	838	841	13 668
Coligny	1 234	2 998	378	757	856	2 241	22 187
Delareyville	1 602	5 654	1 030	1 329	572	4 325	35 501
Ditsobotla	6 746	28 404	2 634	576	4 112	27 828	179 455
Ganyesa	–	13 542	–	191	–	13 351	62 711
Klerksdorp	55 829	11 773	23 136	4 515	32 693	7 258	334 395
Koster	1 603	4 736	533	1 259	1 070	3 477	29 348
Kudumane	937	26 177	541	437	396	25 740	136 009
Lehurutshe	911	15 420	612	636	299	14 784	85 181
Lichtenburg	5 732	10 614	4 136	2 505	1 596	8 109	79 096
Madikwe	800	14 214	52	333	748	13 881	75 228
Mankwe	2 105	21 884	1 867	1 041	238	20 843	117 059
Marico	2 371	6 309	1 163	1 822	1 208	4 487	38 878
Molopo	7 637	35 693	6 477	2 839	1 160	32 854	196 121
Moretele	5 544	63 377	3 097	2 260	2 447	61 117	370 445
Odi	26 014	75 953	17 967	4 259	8 047	71 694	554 999
Potchefstroom	32 585	11 872	20 092	4 414	12 493	7 458	194 194
Rustenburg	12 786	14 652	12 243	5 757	543	8 895	130 532
Schweizer-Reneke	3 010	5 515	536	1 225	2 474	4 290	47 459
Swartruggens	526	2 297	433	714	93	1 583	12 447
Taung	5 251	33 504	1 820	1 279	3 431	32 225	185 615
Ventersdorp	1 737	5 441	658	1 316	1 079	4 125	36 280
Vryburg	7 235	15 325	2 950	3 479	4 285	11 846	99 301
Wolmaransstad	5 512	6 878	1 711	1 529	3 801	5 349	61 888

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Orange Free State							
Bethlehem	11 771	6 109	5 896	1 917	5 875	4 192	81 395
Bethulie	1 606	596	506	199	1 100	397	9 220
Bloemfontein	78 782	5 322	52 289	1 797	26 493	3 525	309 768
Boshof	2 192	4 583	1 095	1 396	1 097	3 187	31 685
Bothaville	5 932	5 549	1 341	1 567	4 591	3 982	55 186
Botshabelo	43 894	–	1 684	–	42 210	–	226 715
Brandfort	2 852	2 606	1 014	774	1 838	1 832	22 995
Bultfontein	2 746	3 072	578	873	2 168	2 199	28 589
Clocolan	1 978	2 197	434	602	1 544	1 595	18 342
Dewetsdorp	1 219	1 879	310	532	909	1 347	13 419
Edenburg	1 009	652	321	220	688	432	6 822
Excelsior	1 687	2 214	426	625	1 261	1 589	17 687
Fauresmith	1 057	1 229	336	438	721	791	8 859
Ficksburg	4 533	3 614	1 226	1 028	3 307	2 586	37 361
Fouriesburg	955	2 414	203	684	752	1 730	16 829
Frankfort	5 153	4 398	1 853	1 225	3 300	3 173	44 773
Harrismith	6 666	6 037	3 344	1 748	3 322	4 289	62 537
Heilbron	4 376	4 481	1 495	1 330	2 881	3 151	41 139
Hennenman	2 940	2 093	1 220	865	1 720	1 228	25 850
Hoopstad	1 411	3 964	368	1 095	1 043	2 869	27 905
Jacobsdal	637	1 656	107	621	530	1 035	9 912
Jagersfontein	1 299	292	315	98	984	194	6 354
Koffiefontein	1 719	820	820	331	899	489	10 851
Koppies	1 397	2 956	369	896	1 028	2 060	19 484
Kroonstad	20 239	5 979	15 583	1 766	4 656	4 213	111 880
Ladybrand	3 081	3 977	1 663	1 148	1 418	2 829	30 292
Lindley	5 003	3 116	1 490	899	3 513	2 217	37 673
Marquard	1 198	2 353	217	629	981	1 724	17 026
Odendaalsrus	17 753	3 945	3 915	2 230	13 838	1 715	106 266
Parys	11 780	1 641	4 267	490	7 513	1 151	51 396
Petrusburg	921	1 617	336	498	585	1 119	11 032
Philippolis	707	1 097	196	465	511	632	7 030
Reddersburg	654	724	267	217	387	507	6 000
Reitz	2 754	3 668	1 073	1 067	1 681	2 601	30 575
Rouxville	822	1 709	216	557	606	1 152	11 830
Sasolburg	22 502	4 660	16 893	2 040	5 609	2 620	91 997
Senekal	3 849	4 684	1 826	1 289	2 023	3 395	40 914
Smithfield	741	1 027	354	302	387	725	7 873
Thaba Nchu	2 152	12 228	1 196	781	956	11 447	66 213
Theunissen	4 067	2 447	437	947	3 630	1 500	39 932
Trompsburg	656	579	301	190	355	389	5 066
Ventersburg	1 928	1 237	350	353	1 578	884	14 505
Viljoenskroon	3 081	7 017	702	2 982	2 379	4 035	60 094
Virginia	9 127	4 845	5 123	3 049	4 004	1 796	82 684
Vrede	2 876	4 441	895	1 224	1 981	3 217	36 905
Vredefort	1 394	1 643	430	484	964	1 159	13 345
Welkom	40 467	9 865	25 890	6 434	14 577	3 431	261 473
Wepener	1 806	1 411	445	404	1 361	1 007	12 919
Wesselsbron	3 664	2 214	516	632	3 148	1 582	26 600
Winburg	2 108	1 754	484	524	1 624	1 230	17 556
Witsieshoek	6 664	72 812	4 453	2 212	2 211	70 600	391 994
Zastron	1 421	1 817	436	508	985	1 309	14 039

SOUTH AFRICA: Electrification statistics – continued

Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
PWV							
Alberton	100 524	–	45 422	–	55 102	–	391 703
Benoni	67 713	508	40 202	188	27 511	320	303 647
Boksburg	50 098	–	45 630	–	4 468	–	204 176
Brakpan	32 285	–	15 986	–	16 299	–	138 349
Bronkhorstspuit	2 748	5 977	1 909	2 458	839	3 519	39 517
Cullinan	1 307	5 554	1 004	3 340	303	2 214	32 170
Germiston	49 851	–	48 062	–	1 789	–	173 856
Heidelberg	10 041	9 413	5 742	1 925	4 299	7 488	83 250
Johannesburg	388 694	855	303 645	478	85 049	377	1 587 132
Kempton Park	97 543	460	63 063	201	34 480	259	372 915
Krugersdorp	39 094	8 443	25 229	4 330	13 865	4 113	201 974
Nigel	18 305	2 705	8 176	1 136	10 129	1 569	95 871
Oberholzer	34 501	655	17 772	318	16 729	337	188 064
Pretoria	203 320	4 310	188 642	2 637	14 678	1 673	690 645
Randburg	92 744	1 011	73 049	443	19 695	568	363 924
Randfontein	20 462	5 833	14 281	2 094	6 181	3 739	120 851
Roodepoort	58 943	696	51 751	374	7 192	322	228 988
Soshanguve	31 055	–	17 823	–	13 232	–	146 319
Springs	36 936	394	31 105	155	5 831	239	158 861
Vanderbijlpark	94 614	4 383	46 920	2 119	47 694	2 264	456 605
Vereeniging	47 800	16 097	37 013	3 360	10 787	12 737	265 025
Westonaria	31 151	2 086	14 452	1 031	16 699	1 055	188 039
Wonderboom	49 508	8 834	34 095	5 205	15 413	3 629	275 952

SOUTH AFRICA: Electrification statistics – continued

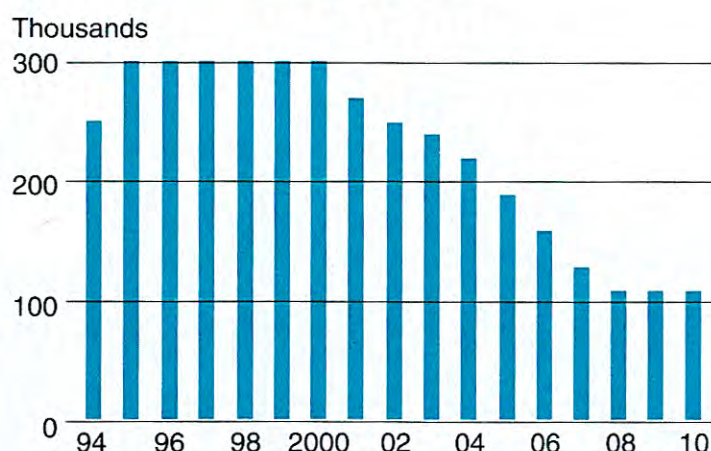
Magisterial district ^a	Number of houses in district		Houses electrified		Houses not electrified		Population
	Urban	Rural	Urban	Rural	Urban	Rural	
Western Cape							
Beaufort West	6 130	1 463	4 055	702	2 075	761	32 281
Bellville	68 708	5 766	59 641	2 712	9 067	3 054	282 072
Bredasdorp	3 905	2 303	2 774	1 149	1 131	1 154	23 806
Caledon	8 295	10 561	5 647	4 791	2 648	5 770	83 128
Calitzdorp	763	816	552	381	211	435	6 813
Cape	63 522	154	60 611	55	2 911	99	176 255
Ceres	4 094	6 266	3 074	2 771	1 020	3 495	49 178
Clanwilliam	2 831	4 077	2 284	1 203	547	2 874	28 581
George	18 802	4 550	13 906	2 320	4 896	2 230	102 193
Goodwood	61 355	–	58 498	–	2 857	–	264 658
Heidelberg	1 503	1 312	913	587	590	725	11 674
Hermanus	5 817	741	4 579	406	1 238	335	22 751
Hopefield	1 438	1 001	1 311	645	127	356	9 005
Knysna	9 546	4 165	6 298	1 987	3 248	2 178	52 681
Kuils River	33 831	1 409	29 635	692	4 196	717	158 591
Ladismith	1 127	2 061	618	789	509	1 272	12 898
Laingsburg	730	792	323	380	407	412	5 709
Malmesbury	18 039	8 548	16 370	3 939	1 669	4 609	124 747
Montagu	3 398	1 713	1 931	801	1 467	912	22 269
Moorreesburg	1 626	1 258	1 570	625	56	633	11 160
Mossel Bay	12 913	2 499	9 766	1 435	3 147	1 064	63 057
Murraysburg	859	569	801	224	58	345	5 997
Oudtshoorn	13 223	2 799	8 468	1 292	4 755	1 507	69 785
Paarl	21 329	10 277	16 820	4 637	4 509	5 640	140 702
Piquetberg	4 500	3 866	3 760	1 925	740	1 941	34 765
Prince Albert	1 156	931	916	453	240	478	8 516
Riversdale	3 772	2 598	3 089	1 301	683	1 297	25 365
Robertson	3 936	4 150	3 231	1 846	705	2 304	32 995
Simon's Town	16 471	1 535	15 129	717	1 342	818	61 174
Somerset West	14 409	2 120	11 955	1 117	2 454	1 003	63 179
Stellenbosch	15 306	5 319	13 614	2 638	1 692	2 681	75 495
Strand	12 245	346	10 916	181	1 329	165	41 587
Swellendam	4 026	3 961	3 192	1 812	834	2 149	32 979
Tulbagh	2 072	3 917	1 637	1 771	435	2 146	25 727
Uniondale	602	1 462	515	635	87	827	9 318
Vanrhynsdorp	1 955	1 266	1 394	389	561	877	12 936
Vredenburg	9 651	111	8 653	54	998	57	41 496
Vredendal	2 734	4 777	2 450	1 457	284	3 320	30 082
Wellington	6 151	2 684	5 552	1 205	599	1 479	39 019
Worcester	17 358	11 584	14 635	5 013	2 723	6 571	120 445
Wynberg	278 317	5 179	202 966	1 995	75 351	3 184	1 188 375

ESKOM ELECTRIFICATION PROGRESS

Number	January 1991 up to December 1992	1993	Inception to date
Direct domestic connections	176 557	208 801	385 358
Farm worker connections	12 698	16 074	28 772
Incentive indirect connections	22 622	69 756	92 378
Total connections	211 877	294 631	506 508
Total capital expenditure (Rm)	472	584	1 056

ESKOM ELECTRIFICATION PROGRAMME

Annual connections



SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Kwazulu/Natal						
Ballito	1992	4 200	273	13	440	4 926
Bergville	1991	144	73	12	433	662
Colenso	1990	494	56	4	–	554
Danhauser	1991	517	–	–	–	517
Dundee	1993	2 154	872	–	1	3 027
Durban	1992	295 887	31 169	595	–	327 651
Empangeni	1990	3 586	876	11	7	4 480
Eshowe	1992	1 552	244	43	–	1 839
Esikhaweni	1990	4 205	–	–	–	4 205
Estcourt	1992	2 466	547	32	50	3 095
Ezakheni	1990	1 422	–	–	–	1 422
Gamalakhe	1990	848	–	–	–	848
Glencoe	1990	965	76	17	303	1 361
Greytown	1991	1 386	353	8	54	1 801
Harding	1990	423	119	11	–	553
Howick	1991	1 463	227	2	3	1 695
Ladysmith	1992	6 617	1 020	75	–	7 712
Madadeni	1991	7 300	44	1	–	7 345
Mandini	1993	814	24	2	–	840
Mondlo	1990	1 000	–	–	–	1 000
Mooi River	1991	627	153	37	27	844
Motherwell	1989	1 390	6	–	4	1 400
Mpumalanga	1990	3 737	–	–	–	3 737
Newcastle	1992	9 534	1 158	192	1	10 885
Ngwelezana	1990	679	–	–	–	679
Pietermaritzburg	1992	42 887	–	5 995	–	48 882
Port Shepstone	1992	1 805	1 015	10	2	2 832
Richards Bay	1992	5 410	301	45	3	5 759
Scottburgh	1990	970	135	–	–	1 105
Stanger	1992	5 495	708	118	–	6 321
Tongaat	1992	5 591	556	46	–	6 193
Ulundi	1990	3 461	–	–	–	3 461
Utrecht	1990	680	56	2	1	739
Vryheid	1993	3 453	819	–	67	4 339
Wembezi	1990	986	–	–	–	986

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
28 700	9 953	1 612	9 290	49 555	1993	13,06	59,7
1 403	3 122	100 601	13 660	118 785	1991	–	–
4 287	793	189	–	5 268	1993	1,57	53,0
–	–	–	166	166	1991	0,04	44,8
18 076	8 159	–	19 179	45 414	1993	15,62	60,9
2 299 568	1 297 360	4 162 951	–	7 759 879	1993	1 328,34	73,5
35 084	15 737	41 240	3 423	95 484	1993	26,30	60,4
9 560	4 145	9 295	–	23 000	1993	5,19	56,4
35 547	–	–	–	35 547	1990	8,59	47,3
22 746	9 912	131 800	6 403	170 861	1993	30,81	72,2
20 548	–	–	–	20 548	1990	–	50,3
7 282	–	–	–	7 282	1990	1,80	46,2
7 612	–	–	9 782	17 394	1993	4,56	54,4
16 382	10 600	240	1 678	28 900	1993	9,34	59,8
2 190	2 298	3 716	–	8 204	1993	2,48	53,9
12 050	3 479	10 336	2 463	28 327	1993	8,44	56,7
62 871	20 919	134 419	–	218 209	1993	46,98	66,2
8 075	18	5	–	8 098	1991	2,20	44,4
6 000	3 570	960	–	10 530	1993	2,82	54,0
3 351	–	–	–	3 351	1990	0,72	53,5
4 503	3 444	31 587	1 824	41 359	1993	8,61	62,7
680	81	–	–	761	1989	–	–
25 888	–	–	–	25 888	1990	6,69	44,2
96 695	27 526	170 177	1 353	295 751	1993	99,40	71,5
11 538	–	–	–	11 538	1990	2,38	55,3
364 410	–	688 908	–	1 053 318	1993	230,40	66,9
28 514	16 034	158	32	44 738	1993	12,43	57,5
56 370	180 524	149 136	133 925	519 955	1993	112,51	74,3
7 625	3 898	–	–	11 523	1990	–	–
56 049	19 246	133 104	–	208 399	1993	34,22	74,8
53 020	8 631	92 904	–	154 555	1993	30,86	70,1
44 082	–	–	–	44 082	1990	8,92	56,4
10 199	1 104	13	444	11 760	1993	2,24	42,6
36 632	36 067	–	3 210	75 909	1993	18,02	61,7
7 192	–	–	–	7 192	1990	2,08	39,6

SOUTH AFRICA: Municipal statistics

Sources: Municipalities, Eskom and National Electrification Forum

Not all municipalities have been prepared to supply their current statistics. This table is based on the most recent statistics at our disposal and consists only of municipalities that are distributors of electricity and have more than 500 customers.

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Eastern Cape						
Adelaide	1993	421	60	5	63	549
Aliwal North	1992	1 562	227	2	10	1 801
Beacon Bay	1992	2 745	59	10	–	2 814
Burgersdorp	1993	833	130	9	48	1 020
Craddock	1993	1 701	477	52	82	2 312
Despatch	1992	3 575	135	20	–	3 730
East London	1992	21 000	3 950	5	45	25 000
Fort Beaufort	1990	739	87	8	61	895
Gonubie	1993	2 221	108	–	6	2 335
Graaff-Reinet	1993	3 008	52	6	60	3 126
Grahamstown	1992	3 407	217	37	459	4 120
Humansdorp	1992	825	264	–	44	1 133
Jeffreys Bay	1992	2 593	285	1	6	2 885
King Williams Town	1992	4 123	483	75	–	4 681
Kirkwood	1992	650	130	–	190	970
Kokstad	1992	1 198	328	15	–	1 541
Kruisfontein	1991	528	–	–	–	528
Middelburg	1992	1 280	135	19	86	1 520
Plettenberg Bay	1992	2 938	313	–	–	3 251
Port Alfred	1992	1 923	429	3	–	2 355
Port Elizabeth	1993	75 803	6 284	707	65	82 859
Queenstown	1993	3 369	650	16	118	4 153
Somerset East	1992	1 088	8	–	645	1 741
St Francis Bay	1991	586	–	–	–	586
Stutterheim	1991	670	125	15	25	835
Uitenhage	1992	11 847	1 212	63	314	13 436

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
3 643	656	251	216	4 766	1993	1,31	56,8
13 198	8 760	2 065	8 315	32 338	1993	8,00	58,9
27 414	1 628	3 348	–	32 390	1993	7,57	59,9
5 562	1 991	1 131	1 230	9 914	1993	2,96	53,2
11 226	5 443	3 156	5 650	25 475	1993	5,58	62,7
27 489	1 658	3 840	2 298	35 285	1993	8,60	59,3
164 179	391 800	29 283	20 814	606 076	1993	117,35	62,2
5 653	2 148	776	6 788	15 365	1993	4,38	59,8
16 500	2 600	–	3 310	22 410	1993	5,30	62,1
16 243	5 554	3 888	4 598	30 283	1993	6,54	65,5
23 802	15 169	1 198	28 871	69 040	1993	14,75	82,8
5 408	8 064	–	3 932	17 404	1993	4,79	55,4
5 000	10 000	5 000	1 884	21 884	1993	7,16	56,1
32 919	10 631	30 656	–	74 206	1993	14,04	64,5
4 371	2 074	–	531	6 976	1993	2,22	52,5
19 400	9 676	4 666	–	33 742	1993	8,52	59,9
3 043	–	–	–	3 043	1991	–	–
6 189	3 337	5 525	2 777	17 828	1993	4,68	57,0
17 862	13 777	–	–	31 639	1993	10,76	54,5
10 030	4 875	651	–	15 556	1993	3,96	56,9
547 336	111 782	1 029 626	467 304	2 156 048	1993	429,80	66,8
29 007	40 394	10 754	11 645	91 800	1990	19,10	39,0
5 459	5 346	–	21 515	32 320	1993	7,31	62,9
–	–	–	3 853	3 853	1993	1,54	348,7
5 081	2 098	2 752	679	10 610	1993	2,42	58,0
74 860	40 198	283 602	2 860	401 520	1991	77,40	57,0

SOUTH AFRICA: Municipal statistics

Sources: Municipalities, Eskom and National Electrification Forum

Not all municipalities have been prepared to supply their current statistics. This table is based on the most recent statistics at our disposal and consists only of municipalities that are distributors of electricity and have more than 500 customers.

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Eastern Transvaal						
Balfour	1990	693	114	3	31	841
Barberton	1993	1 443	374	9	–	1 826
Belfast	1993	595	108	7	2	712
Bethal	1991	2 003	556	25	–	2 584
Carolina	1991	753	85	15	–	853
Delmas	1993	1 179	234	18	78	1 509
Embalenhle	1991	4 791	–	–	–	4 791
Emzinoni	1991	1 580	–	–	–	1 580
Ermelo	1991	3 397	407	5	164	3 973
Evander	1991	2 101	235	62	–	2 398
Groblersdal	1991	876	245	16	–	1 137
Hendrina	1993	629	–	3	2	634
Kinross	1991	1 306	162	6	–	1 474
Kriel	1993	2 785	316	79	13	3 193
KwaGuqa	1992	7 361	93	–	19	7 473
KwaZamokuhle	1991	538	8	–	6	552
Kwamhlanga	1990	740	25	9	1	775
Lydenburg	1992	1 932	61	107	–	2 100
Marble Hall	1991	636	187	16	28	867
Mhluzi	1991	3 408	36	2	65	3 511
Middelburg	1993	6 512	979	215	497	8 203
Nelspruit	1992	5 137	1 030	110	–	6 277
Phola	1992	1 835	15	–	1	1 851
Piet Retief	1992	1 592	375	–	62	2 029
Sabie	1989	1 000	200	10	–	1 210
Sakhile	1991	1 499	20	–	–	1 519
Secunda	1993	8 457	370	–	–	8 827
Siyabuswa	1990	617	43	6	4	670
Siyathuthuka	1991	489	20	–	14	523
Standerton	1993	3 814	520	13	261	4 608
Trichardt	1991	550	345	50	5	950
Tutuka	1991	1 500	388	–	–	1 888
Volksrust	1991	1 639	227	8	–	1 874
Vukuzakhe	1991	783	–	–	–	783
Waterval Boven	1991	450	60	1	–	511
Wesselton	1991	2 120	30	–	–	2 150
White River	1991	2 550	495	105	22	3 172
Witbank	1993	21 665	1 934	141	–	23 740

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
5 161	7 501	4 051	1 366	18 079	1993	5,22	64,6
28 474	11 008	4 883	–	44 365	1993	10,89	64,3
7 001	2 551	277	2 248	12 077	1993	3,17	57,2
3 290	1 410	1 175	–	5 876	1993	13,76	63,0
5 719	2 859	4 654	422	13 654	1993	3,54	55,7
12 719	4 189	10 293	3 994	31 195	1993	8,21	61,4
34 338	8 584	–	–	42 922	1993	15,84	48,9
2 160	240	–	–	2 400	1991	3,60	34,0
39 634	–	–	38 555	78 189	1993	16,30	63,4
22 513	5 822	10 480	–	38 815	1993	8,16	70,5
–	–	–	32 960	32 960	1993	5,55	64,6
11 111	–	326	543	11 980	1993	1,64	57,7
10 903	3 001	3 499	–	17 403	1993	5,80	50,6
31 015	4 762	3 933	1 814	41 524	1993	10,74	66,7
45 029	6 511	–	182	51 722	1993	9,76	41,8
4 091	36	–	4	4 131	1993	1,32	44,0
3 182	842	515	14	4 553	1990	1,00	38,1
12 525	2 486	22 949	–	37 960	1993	9,60	54,0
6 466	5 383	9 867	1 173	22 889	1993	5,59	54,3
2 534	26	21	50	2 631	1991	7,50	56,6
129 868	59 707	11 764	463	201 802	1993	51,09	65,0
48 940	26 821	64 933	–	140 694	1993	37,40	57,1
7 132	58	–	4	7 194	1993	5,40	44,1
15 283	–	–	27 272	42 555	1993	8,70	58,0
13 998	–	–	–	13 998	1993	6,95	60,0
2 880	720	–	–	3 600	1991	3,84	36,0
77 910	26 245	–	5 647	109 802	1993	25,92	64,9
9 407	878	1 881	125	12 291	1990	1,93	61,8
526	7	–	4	537	1991	1,50	57,7
444 880	23 317	65 228	23 372	556 797	1993	31,70	71,8
5 395	10 019	–	–	15 414	1993	4,24	55,4
4 684	8 699	–	–	13 383	1991	7,50	55,0
18 200	7 700	4 700	–	30 600	1993	8,10	64,0
3 760	–	–	–	3 760	1991	–	–
4 026	1 598	224	365	6 213	1993	1,40	61,0
–	–	–	20 401	20 401	1993	6,85	36,4
24 000	–	–	48 377	72 377	1993	15,06	69,3
193 165	57 521	76 140	–	326 826	1993	74,68	62,8

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Kwazulu/Natal						
Ballito	1992	4 200	273	13	440	4 926
Bergville	1991	144	73	12	433	662
Colenso	1990	494	56	4	–	554
Danhauser	1991	517	–	–	–	517
Dundee	1993	2 154	872	–	1	3 027
Durban	1992	295 887	31 169	595	–	327 651
Empangeni	1990	3 586	876	11	7	4 480
Eshowe	1992	1 552	244	43	–	1 839
Esikhaweni	1990	4 205	–	–	–	4 205
Estcourt	1992	2 466	547	32	50	3 095
Ezakheni	1990	1 422	–	–	–	1 422
Gamalakhe	1990	848	–	–	–	848
Glencoe	1990	965	76	17	303	1 361
Greytown	1991	1 386	353	8	54	1 801
Harding	1990	423	119	11	–	553
Howick	1991	1 463	227	2	3	1 695
Ladysmith	1992	6 617	1 020	75	–	7 712
Madadeni	1991	7 300	44	1	–	7 345
Mandini	1993	814	24	2	–	840
Mondlo	1990	1 000	–	–	–	1 000
Mooi River	1991	627	153	37	27	844
Motherwell	1989	1 390	6	–	4	1 400
Mpumalanga	1990	3 737	–	–	–	3 737
Newcastle	1992	9 534	1 158	192	1	10 885
Ngwelezana	1990	679	–	–	–	679
Pietermaritzburg	1992	42 887	–	5 995	–	48 882
Port Shepstone	1992	1 805	1 015	10	2	2 832
Richards Bay	1992	5 410	301	45	3	5 759
Scottburgh	1990	970	135	–	–	1 105
Stanger	1992	5 495	708	118	–	6 321
Tongaat	1992	5 591	556	46	–	6 193
Ulundi	1990	3 461	–	–	–	3 461
Utrecht	1990	680	56	2	1	739
Vryheid	1993	3 453	819	–	67	4 339
Wembezi	1990	986	–	–	–	986

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
28 700	9 953	1 612	9 290	49 555	1993	13,06	59,7
1 403	3 122	100 601	13 660	118 785	1991	–	–
4 287	793	189	–	5 268	1993	1,57	53,0
–	–	–	166	166	1991	0,04	44,8
18 076	8 159	–	19 179	45 414	1993	15,62	60,9
2 299 568	1 297 360	4 162 951	–	7 759 879	1993	1 328,34	73,5
35 084	15 737	41 240	3 423	95 484	1993	26,30	60,4
9 560	4 145	9 295	–	23 000	1993	5,19	56,4
35 547	–	–	–	35 547	1990	8,59	47,3
22 746	9 912	131 800	6 403	170 861	1993	30,81	72,2
20 548	–	–	–	20 548	1990	–	50,3
7 282	–	–	–	7 282	1990	1,80	46,2
7 612	–	–	9 782	17 394	1993	4,56	54,4
16 382	10 600	240	1 678	28 900	1993	9,34	59,8
2 190	2 298	3 716	–	8 204	1993	2,48	53,9
12 050	3 479	10 336	2 463	28 327	1993	8,44	56,7
62 871	20 919	134 419	–	218 209	1993	46,98	66,2
8 075	18	5	–	8 098	1991	2,20	44,4
6 000	3 570	960	–	10 530	1993	2,82	54,0
3 351	–	–	–	3 351	1990	0,72	53,5
4 503	3 444	31 587	1 824	41 359	1993	8,61	62,7
680	81	–	–	761	1989	–	–
25 888	–	–	–	25 888	1990	6,69	44,2
96 695	27 526	170 177	1 353	295 751	1993	99,40	71,5
11 538	–	–	–	11 538	1990	2,38	55,3
364 410	–	688 908	–	1 053 318	1993	230,40	66,9
28 514	16 034	158	32	44 738	1993	12,43	57,5
56 370	180 524	149 136	133 925	519 955	1993	112,51	74,3
7 625	3 898	–	–	11 523	1990	–	–
56 049	19 246	133 104	–	208 399	1993	34,22	74,8
53 020	8 631	92 904	–	154 555	1993	30,86	70,1
44 082	–	–	–	44 082	1990	8,92	56,4
10 199	1 104	13	444	11 760	1993	2,24	42,6
36 632	36 067	–	3 210	75 909	1993	18,02	61,7
7 192	–	–	–	7 192	1990	2,08	39,6

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
North West						
Bloemhof	1992	508	119	11	1	639
Brits	1992	2 847	527	98	211	3 683
Carletonville	1992	6 274	817	47	–	7 138
Christiana	1992	799	124	14	18	955
Coligny	1992	558	53	7	8	626
Delareyville	1990	503	138	12	67	720
Fochville	1992	2 263	243	–	1	2 507
Hartbeesfontein	1991	458	83	10	–	551
Jouberton	1991	2 942	–	–	–	2 942
Kanana	1991	818	–	–	–	818
Klerksdorp	1993	13 793	1 323	95	49	15 260
Koster	1990	674	27	7	–	708
Leeudoringstad	1990	529	42	16	–	587
Lichtenburg	1990	3 302	330	131	140	3 903
Orkney	1993	3 289	372	–	51	3 712
Potchefstroom	1992	6 025	4 017	121	–	10 163
Rustenburg	1992	10 583	–	1 420	1 300	13 303
Schweizer-Reneke	1992	741	196	–	19	956
Stilfontein	1992	3 830	204	3	6	4 043
Ventersdorp	1990	1 001	40	51	–	1 092
Vryburg	1992	2 338	511	18	355	3 222
Wolmaransstad	1992	561	134	–	103	798
Zeerust	1992	1 154	640	6	–	1 800

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
5 079	2 031	8 126	699	15 935	1993	3,80	63,0
29 299	23 447	113 513	14 609	180 868	1993	23,16	49,9
68 763	41 533	5 478	–	115 774	1993	41,84	55,5
7 191	1 861	4 000	2 066	15 118	1993	4,52	52,8
4 520	840	98	68	5 526	1993	1,96	62,3
3 320	2 300	1 100	1 480	8 200	1993	2,93	56,0
23 087	7 407	–	5 357	35 851	1993	9,27	66,2
2 836	1 960	1 137	579	6 512	1993	1,67	53,2
3 797	–	–	–	3 797	1991	–	–
11 421	–	–	–	11 421	1991	–	–
134 160	42 155	90 832	17 726	284 873	1993	65,51	68,2
3 174	3 828	–	–	7 002	1993	2,55	56,7
–	–	–	7 547	7 547	1993	2,03	56,4
25 460	5 520	20 810	6 222	58 012	1993	14,73	59,9
30 399	11 774	–	5 625	47 798	1993	11,86	63,2
74 791	49 860	147 095	–	271 746	1993	63,77	66,2
110 356	–	1 032 098	85 348	1 227 802	1993	175,55	87,4
5 971	7 416	–	804	14 191	1993	4,24	50,0
38 489	12 333	444	263	51 529	1993	12,88	63,9
5 067	867	4 255	6 588	16 777	1993	4,60	60,8
22 589	15 580	6 626	5 799	50 594	1993	13,14	56,7
9 744	2 506	–	1 114	13 364	1993	4,02	53,4
11 187	13 756	750	–	25 693	1993	7,62	62,8

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Northern Cape						
Barkly West	1992	465	112	1	–	578
Calvinia	1993	740	139	3	–	882
Colesberg	1992	570	120	6	1	697
De Aar	1993	2 147	379	23	69	2 618
Douglas	1992	466	58	4	–	528
Fraserburg	1992	579	18	–	–	597
Galeshewe	1991	7 340	15	1	–	7 356
Hartswater	1992	651	213	16	1	881
Jan Kempdorp	1992	689	248	12	3	952
Kakamas	1991	658	81	19	8	766
Kathu and Dingleton	1991	1 697	79	10	125	1 911
Keimoes	1990	617	82	13	72	784
Kimberley	1992	24 320	866	243	7 883	33 312
Kuisebmond ^a	1987	934	14	14	–	962
Kuruman	1992	1 793	339	24	60	2 216
Noupoort	1992	482	50	3	52	587
Port Nolloth	1990	750	45	4	5	804
Postmasburg	1992	1 069	47	144	1	1 261
Prieska	1992	663	156	8	55	882
Reivilo	1991	702	18	1	19	740
Sishen/Kathu	1988	1 900	39	8	–	1 947
Springbok	1991	2 347	663	103	227	3 340
Upington	1992	6 427	302	105	174	7 008
Victoria West	1992	445	68	–	2	515
Walvis Bay ^a	1991	2 536	218	62	11	2 827
Warrenton	1993	1 388	145	–	1	1 534

^a In Walvis Bay enclave which has been incorporated in Namibia.

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
4 201	1 549	744	–	6 494	1993	2,01	77,1
3 416	2 710	432	–	6 558	1993	1,92	52,1
3 078	2 266	1 080	670	7 094	1993	2,13	70,0
13 839	4 292	4 740	6 157	29 028	1993	7,36	64,9
8 216	846	247	–	9 309	1993	2,76	50,4
1 700	109	–	150	1 959	1993	0,54	57,1
28 268	210	24	–	28 502	1991	11,97	46,1
4 945	4 602	6 018	697	16 262	1993	4,68	47,2
7 295	3 774	626	17	11 712	1993	3,32	59,9
7 750	2 701	951	47	11 449	1993	3,46	53,1
17 311	8 214	1 311	4 825	31 661	1993	7,04	57,1
2 457	5 146	680	248	8 531	1993	2,58	52,1
156 350	100 542	12 798	53 001	322 691	1993	76,04	66,0
2 961	251	342	–	3 553	1987	–	32,2
15 674	5 885	4 277	–	25 836	1993	8,04	55,4
2 915	553	114	1 590	5 172	1993	1,66	55,2
1 562	416	1 666	104	3 748	1993	0,34	37,3
6 914	6 245	1 115	1 341	15 615	1993	4,56	52,5
2 746	2 758	1 637	8 484	15 625	1993	5,28	51,4
2 486	343	1 936	434	5 199	1993	1,35	50,7
24 800	13 200	1 392	–	39 392	1988	7,92	36,0
4 691	3 996	1 769	4 461	14 917	1993	4,48	51,0
34 368	9 214	34 023	14 642	92 247	1993	20,99	60,5
2 639	881	–	320	3 840	1993	1,19	54,6
15 995	5 085	34 159	19 209	74 448	1993	20,59	67,7
7 564	1 246	–	1 099	9 909	1993	2,39	59,6

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Northern Transvaal						
Ellisras	1990	3 313	370	–	100	3 783
Louis Trichardt	1991	2 435	416	114	375	3 340
Messina	1989	660	156	12	–	828
Moganyaka	1990	789	42	–	8	839
Naboomspruit	1991	1 025	168	2	–	1 195
Nylstroom	1990	1 242	159	71	59	1 531
Phalaborwa	1993	2 802	288	54	225	3 369
Pietersburg	1992	9 438	1 250	405	217	11 310
Potgietersrus	1990	3 344	538	50	253	4 185
Thabazimbi	1990	1 203	160	10	98	1 471
Tzaneen	1991	1 898	516	106	102	2 622
Warmbaths	1990	1 940	198	49	456	2 643

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
22 395	14 791	2 979	2 135	42 300	1993	9,80	60,4
19 573	11 940	22 136	58 993	112 642	1993	22,54	60,8
5 632	5 398	703	–	11 733	1993	7,28	56,9
729	101	–	8	838	1990	0,20	43,7
7 167	18 133	534	–	25 834	1993	5,46	64,5
11 356	12 838	–	2 681	26 875	1993	7,08	50,4
31 954	7 536	907	25 169	65 566	1993	14,25	67,0
108 158	95 261	66 641	36 991	307 051	1993	63,29	62,3
38 170	12 823	44 334	20 612	115 940	1993	21,16	65,3
10 506	4 701	408	6 164	21 779	1993	5,74	67,4
22 008	318 156	51 651	4 066	395 881	1993	59,56	58,0
12 262	18 419	673	2 387	33 741	1993	8,55	60,5

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Orange Free State						
42nd Hill	1990	993	45	–	–	1 038
Allanridge	1989	711	711	–	10	1 432
Bethlehem	1992	3 647	777	53	132	4 609
Bethulie	1991	484	42	1	34	561
Bloemfontein	1992	44 674	3 620	21	2 408	50 723
Bohlokong	1990	1 581	61	–	1	1 643
Bothaville	1992	1 110	195	12	–	1 317
Brandfort	1992	622	42	3	19	686
Bultfontein	1992	555	155	2	–	712
Clocolan	1993	456	71	5	20	552
Deneysville	1993	476	35	–	2	513
Ficksburg	1993	1 188	304	31	3	1 526
Frankfort	1993	752	121	–	21	894
Harrismith	1993	1 904	444	–	61	2 409
Heilbron	1993	1 193	165	6	–	1 364
Hennenman	1990	1 301	191	10	55	1 557
Hoopstad	1992	407	95	9	–	511
Kgotsoong	1991	497	34	–	–	531
Koffiefontein	1993	795	55	4	–	854
Koppies	1992	240	105	–	177	522
Kroonstad	1992	5 514	–	998	–	6 512
Kutlwanong	1991	600	–	–	–	600
Ladybrand	1993	919	149	–	19	1 087
Maokeng	1993	4 100	100	–	1	4 201
Odendaalsrus	1992	2 550	393	28	7	2 978
Parys	1992	2 781	329	4	356	3 470
Reitz	1992	857	357	–	34	1 248
Sasolburg	1992	8 543	1 037	–	–	9 580
Senekal	1992	767	251	6	41	1 065
Thabong	1991	4 725	–	–	–	4 725
Theunissen	1993	658	139	9	126	932
Tumahole	1992	719	41	–	74	834
Viljoenskroon	1993	614	182	33	12	841
Virginia	1992	5 142	547	134	–	5 823
Vrede	1993	738	183	–	15	936
Welkom	1993	19 548	1 825	210	2	21 585
Wesselsbron	1993	391	98	–	16	505
Zamdela	1989	2 853	–	–	–	2 853
Zastron	1992	480	56	4	6	546

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
1 361	315	–	–	1 675	1990	–	–
–	–	–	10 456	10 456	1993	2,46	63,2
32 260	15 225	53 604	10 914	112 003	1993	23,18	68,4
2 468	590	44	1 227	4 329	1993	1,16	52,8
380 254	121 767	20 617	381 184	903 822	1993	208,71	64,5
11 276	460	–	11 523	23 259	1993	2,26	–
10 636	6 174	5 169	–	21 979	1993	6,35	53,2
5 083	1 170	340	239	6 832	1993	1,88	58,5
4 049	3 141	1 925	–	9 115	1993	2,94	54,9
3 090	2 193	144	490	5 917	1993	2,14	50,8
2 818	887	–	3 234	6 939	1993	1,63	66,6
13 921	8 568	1 723	502	24 714	1993	7,09	58,6
6 492	8 978	–	5 149	20 619	1993	5,00	58,9
21 746	28 837	–	4 243	54 826	1993	13,66	57,5
11 435	8 323	1 567	–	21 325	1993	4,75	61,6
9 567	3 824	12 953	721	27 066	1993	5,59	67,2
2 032	3 258	590	–	5 880	1993	1,84	57,0
1 184	287	–	814	2 286	1993	1,31	48,6
5 844	1 257	1 904	–	9 005	1993	2,54	53,1
2 837	3 317	–	2 132	8 286	1993	2,32	55,7
55 534	–	100 000	–	155 534	1993	38,31	65,8
13 319	–	–	–	13 319	1993	0,02	36,5
7 940	10 742	–	1 929	20 611	1993	5,88	58,9
17 222	1 978	–	547	19 747	1990	–	–
22 516	6 357	454	702	30 029	1993	8,92	64,7
20 348	5 214	10 497	11 342	47 401	1993	10,22	71,6
8 180	5 308	–	2 196	15 684	1993	3,99	55,7
80 791	25 001	–	–	105 792	1993	27,18	66,6
7 501	10 149	1 618	1 333	20 601	1993	4,84	62,1
69 610	–	–	–	69 610	1991	16,19	49,10
4 481	2 911	–	2 275	9 667	1993	2,40	55,2
1 739	2 265	–	36	4 040	1992	–	–
5 116	3 218	2 794	3 372	14 500	1993	3,80	59,3
53 564	10 613	1 863	–	66 040	1993	20,68	65,2
6 910	2 453	–	491	9 854	1993	2,66	51,8
162 894	37 535	92 396	9 239	302 064	1993	78,02	60,6
3 419	7 491	–	706	11 616	1993	3,56	59,5
31 715	–	–	–	31 715	1989	–	–
3 630	1 541	110	538	5 819	1993	2,04	57,1

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
PWV						
Akasia	1992	3 652	28	256	1 421	5 357
Alberton	1993	17 000	646	396	7 758	25 800
Alexandra	1990	18 787	–	–	–	18 787
Atteridgeville	1992	11 753	46	1	–	11 800
Bedfordview	1992	2 829	176	–	17	3 022
Bekkersdal	1991	975	–	–	–	975
Benoni	1992	24 913	2 012	420	–	27 345
Boipatong	1991	2 004	–	–	–	2 004
Boksburg	1992	23 826	–	1 641	203	25 670
Brakpan	1992	12 811	1 096	346	301	14 554
Bronkhorstspuit	1993	3 150	250	100	–	3 500
Daveyton	1991	14 020	–	–	–	14 020
Duduza	1991	3 100	720	–	–	3 820
Edenvale	1992	8 133	621	309	279	9 342
Eersterust	1990	4 371	70	–	–	4 441
Ekangala	1991	3 600	20	–	–	3 620
Ennerdale	1991	2 300	–	–	–	2 300
Evaton	1991	2 249	–	–	–	2 249
Germiston	1992	23 600	754	4 030	900	29 284
Hartbeespoort	1988	1 672	–	–	–	1 672
Heidelberg	1993	3 287	325	98	61	3 771
Johannesburg	1992	124 732	8 015	4 035	–	136 782
Kagiso	1991	1 548	–	–	–	1 548
Katlehong	1991	16 568	–	–	–	16 568
Kempton Park	1992	22 220	1 988	872	–	25 080
Krugersdorp	1989	15 115	1 354	619	823	17 911
KwaThema	1991	10 245	375	–	–	10 620
Laudium/Claudius	1990	3 422	58	–	–	3 480
Lenasia	1991	1 540	–	–	–	1 540
Mamelodi	1990	18 542	310	–	–	18 852
Meyerton	1992	2 971	187	71	255	3 484
Midrand	1993	3 887	98	103	249	4 337
Modderfontein	1990	550	11	3	3	567
Mohlakeng	1991	4 146	–	–	–	4 146
Nigel	1992	6 002	504	183	389	7 078
Pretoria	1993	135 229	–	4 597	3 506	143 332
Randburg	1992	21 777	326	843	1	22 947
Randfontein	1993	10 537	854	263	2 337	13 991
Ratanda	1991	1 703	–	–	–	1 703
Residensia	1989	1 150	–	–	–	1 150
Roodepoort	1993	35 071	895	930	–	36 896
Sandton	1992	8 500	100	50	–	8 650
Sebokeng	1989	10 817	–	–	–	10 817
Sharpeville	1991	6 766	–	–	–	6 766
Soweto	1989	124 850	150	–	–	125 000
Springs	1992	15 030	1 337	319	222	16 908
Tembisa	1991	15 801	199	–	–	16 000
Tsakane	1991	3 262	–	–	–	3 262
Vanderbijlpark	1989	17 603	1 170	156	43	18 972
Vereeniging	1993	17 471	1 159	202	1 595	20 427
Verwoerdburg	1992	17 714	316	98	721	18 849
Vosloorus	1991	14 790	60	5	45	14 900
Wattville	1989	2 553	45	–	6	2 604
Westonaria	1992	4 822	328	52	1	5 203
Zithobeni	1991	528	4	–	11	543

Town	Financial year	MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
		Domestic	Business	Industry	Not defined and other	Total			
Akasia	1992	43 659	1 239	343 533	25 139	413 570	1990	8,50	57,3
Alberton	1993	235 430	19 120	425 000	55 450	735 000	1993	165,92	64,3
Alexandra	1990	48 105	–	–	–	48 105	1993	23,01	41,0
Atteridgeville	1992	73 017	4 172	6 258	22 022	105 469	1990	33,00	45,0
Bedfordview	1992	96 100	3 923	–	92 323	192 346	1993	42,20	70,5
Bekkersdal	1991	3 166	–	–	7 895	11 061	1993	5,52	39,3
Benoni	1992	262 118	71 444	524 291	–	857 853	1993	211,20	56,0
Boipatong	1991	11 174	–	–	–	11 174	1993	3,65	45,2
Boksburg	1992	301 874	–	68 762	530 797	901 433	1993	198,43	63,8
Brakpan	1992	114 807	21 926	142 753	180 119	459 605	1993	87,62	73,4
Bronkhorstspuit	1993	30 240	19 520	30 553	47 099	127 412	1993	29,04	60,4
Daveyton	1991	7 037	–	–	–	7 037	1991	–	89,0
Duduza	1991	5 593	2 038	–	–	7 631	1993	1,99	57,7
Edenvale	1992	123 200	12 400	83 300	6 500	225 400	1993	51,66	64,3
Eersterust	1990	33 156	2 522	–	–	35 678	1990	11,09	36,7
Ekangala	1991	15 400	474	–	–	15 874	1991	–	–
Ennerdale	1991	4 972	–	–	–	4 972	1993	0,17	71,4
Evaton	1991	910	–	–	–	910	1993	6,27	45,5
Germiston	1992	305 107	934 165	86 911	36 121	1 362 304	1993	285,70	65,3
Hartbeespoort	1988	23 744	–	–	–	23 744	1988	7,05	48,0
Heidelberg	1993	32 136	14 772	50 876	7 970	105 754	1993	24,08	62,0
Johannesburg	1992	2 070 994	211 578	3 686 079	–	5 968 651	1993	1 222,54	58,3
Kagiso	1991	12 561	–	–	38 618	51 179	1993	34,24	44,4
Katlehong	1991	129 154	–	–	38 821	167 975	1993	72,82	41,9
Kempton Park	1992	285 080	471	804 931	27 478	1 117 960	1993	206,30	72,8
Krugersdorp	1989	152 255	48 321	218 849	44 725	464 150	1993	108,52	59,5
KwaThema	1991	61 470	–	–	23 738	85 208	1993	39,12	43,1
Laudium/Claudius	1990	53 047	4 837	–	–	57 884	1990	–	–
Lenasia	1991	105 518	–	–	–	105 518	1993	28,25	62,0
Mamelodi	1990	200 000	4 000	–	–	204 000	1990	53,00	35,5
Meyerton	1992	34 154	6 774	65 633	7 124	113 685	1993	22,64	72,1
Midrand	1993	41 878	11 152	266 763	9 204	328 997	1993	36,44	59,8
Modderfontein	1990	3 715	249	520 719	928	525 611	1993	65,70	85,5
Mohlakeng	1991	20 379	–	–	7 472	27 851	1993	10,93	45,1
Nigel	1992	54 467	23 780	90 505	5 358	174 110	1993	30,98	59,1
Pretoria	1993	1 387 647	–	3 272 273	852 448	5 512 368	1993	922,27	64,9
Randburg	1992	329 832	13 077	217 378	42 291	602 578	1993	160,91	59,8
Randfontein	1993	86 622	27 304	123 504	19 136	256 566	1993	52,29	68,7
Ratanda	1991	13 097	–	–	–	13 097	1993	4,70	37,9
Residensia	1989	37 770	–	–	–	37 770	1989	–	–
Roodepoort	1993	456 180	139 350	195 534	18 058	809 122	1993	184,36	66,1
Sandton	1992	139 595	3 761	53 417	–	196 773	1993	5,15	53,7
Sebokeng	1989	85 988	–	–	–	85 988	1989	–	–
Sharpeville	1991	16 571	–	–	–	16 571	1991	4,81	39,3
Soweto	1989	917 115	30 957	–	–	948 072	1989	330,37	33,0
Springs	1992	164 834	69 793	396 588	20 931	652 146	1993	83,53	72,7
Tembisa	1991	119 592	–	–	–	119 592	1993	74,14	42,9
Tsakane	1991	16 262	–	–	15 680	31 942	1993	0,00	0,0
Vanderbijlpark	1989	167 415	27 947	529 799	6	725 167	1993	124,03	73,4
Vereeniging	1993	217 819	30 640	643 756	64 851	957 066	1993	170,32	72,5
Verwoerdburg	1992	204 875	38 484	189 102	38 158	470 619	1993	109,20	67,9
Vosloorus	1991	99 541	6 924	2 398	6 261	115 125	1993	78,81	30,6
Wattville	1989	14 138	–	–	–	14 138	1989	–	–
Westonaria	1992	51 850	7 320	1 830	6 608	67 608	1993	9,46	63,1
Zithobeni	1991	1 666	–	–	–	1 666	1993	0,80	45,3

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Western Cape						
Agulhas/Struisbaai	1988	852	11	–	9	872
Albertinia	1992	781	42	5	–	828
Ashton	1993	666	61	12	2	741
Atlantis	1992	8 394	–	321	–	8 715
Beaufort West	1990	2 312	354	–	195	2 861
Belhar	1992	1 632	–	6	–	1 638
Bellville	1993	20 266	1 763	207	29	22 265
Blue Downs	1990	3 584	117	–	–	3 701
Bonnievale	1990	689	65	89	9	852
Brackenfell	1993	4 939	472	32	2	5 445
Bredasdorp	1993	1 755	178	14	1	1 948
Caledon	1993	1 463	147	16	1	1 627
Calitzdorp	1991	488	23	3	26	540
Cape Town	1992	229 897	14 589	555	2 633	247 674
Ceres	1992	2 368	219	45	319	2 951
Clanwilliam	1990	576	134	19	–	729
Darling	1990	547	38	22	4	611
Durbanville	1993	5 945	262	18	79	6 304
Franschhoek	1993	648	75	12	84	819
Gansbaai	1992	490	65	–	–	555
George	1992	11 337	1 307	173	49	12 866
Goodwood	1992	11 777	988	79	2	12 846
Gordons Bay	1993	1 956	89	–	103	2 148
Grabouw	1991	1 147	–	–	–	1 147
Great Brak River	1992	1 739	50	3	–	1 792
Greyton	1991	1 271	–	–	–	1 271
Hartenbos	1992	1 056	57	20	–	1 133
Heidelberg	1991	963	–	–	–	963
Hermanus	1992	3 603	350	21	–	3 974
Khyelitsha	1988	673	46	–	23	742
Kleinmond	1991	1 300	27	6	20	1 353
Knysna	1992	4 608	599	52	125	5 384
Kraaifontein	1993	8 282	198	19	75	8 574
Kuils River	1993	6 678	401	37	13	7 129
Ladismith	1992	863	58	9	–	930
Lambert's Bay	1993	769	69	2	–	840
Langebaan	1991	730	34	–	–	764
Lingeletu West	1989	3 278	71	–	29	3 378
Malmesbury	1992	2 633	349	44	132	3 158
Melkbos/Bloubergstrand	1992	1 999	–	100	–	2 099
Milnerton	1991	12 085	443	65	31	12 624
Montagu	1990	1 149	275	15	1	1 440
Moorreesburg	1992	1 632	157	26	5	1 820
Mossel Bay	1993	6 391	616	224	142	7 373
Oudtshoorn	1992	5 894	86	50	131	6 161
Paarl	1993	14 933	857	99	944	16 833
Pacaltsdorp	1992	1 790	21	1	–	1 812
Parow	1993	15 000	1 200	800	8	17 008
Piketberg	1990	1 083	78	10	31	1 202
Porterville	1993	752	6	–	–	758
Riversdale	1992	1 880	210	–	6	2 096
Robertson	1992	3 174	256	448	912	4 790
Sandbaai	1988	527	2	–	–	529
Sedgefield	1990	932	89	2	–	1 023
Somerset West	1992	8 827	823	–	–	9 650
Stellenbosch	1992	8 220	718	–	–	8 938
Stilbaai	1990	1 104	34	3	–	1 141
Strand	1992	9 349	976	7	92	10 424
Swellendam	1992	1 368	225	–	2	1 595
Touws River	1991	978	57	–	–	1 035
Tulbagh	1991	591	–	–	–	591
Van Dyks Bay	1988	643	2	1	1	647
Vanrhynsdorp	1992	709	–	–	52	761
Velddrif	1990	867	59	7	44	977
Villiersdorp	1990	533	72	1	39	645
Vredenburg/Saldanha	1992	4 437	400	47	35	4 919
Vredendal	1993	1 623	250	–	170	2 043
Wellington	1992	5 865	410	35	–	6 310
Wilderness	1990	766	33	–	–	799
Wolseley	1990	476	47	3	–	526
Worcester	1993	8 728	1 187	102	1	10 018

Town	Financial year	MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
		Domestic	Business	Industry	Not defined and other	Total			
Agulhas/Struisbaai	1988	12 870	3 910	–	5 610	22 390	1988	10,00	25,6
Albertinia	1992	2 855	864	40	–	3 759	1993	0,98	59,4
Ashton	1993	2 395	3 499	8 753	2 232	16 879	1993	5,02	55,6
Atlantis	1992	53 589	–	215 315	1 962	270 866	1993	54,00	64,7
Beaufort West	1990	12 413	10 597	–	5 212	28 222	1993	6,52	58,8
Belhar	1992	9 112	–	111	–	9 223	1993	4,16	42,5
Bellville	1993	164 802	40 039	445 860	16 106	666 807	1993	129,94	66,9
Blue Downs	1990	14 491	1 244	–	–	15 735	1990	11,00	23,5
Bonnievale	1990	1 750	854	15 057	450	18 111	1993	5,52	62,1
Brackenfell	1993	33 795	32 733	14 918	375	81 821	1993	22,06	62,7
Bredasdorp	1993	12 175	4 058	868	1 228	18 329	1993	4,52	61,9
Caledon	1993	7 429	4 334	4 004	378	16 145	1993	3,89	57,3
Calitzdorp	1991	2 147	192	385	321	3 045	1993	0,98	51,1
Cape Town	1992	1 826 389	596 025	1 338 283	185 844	3 946 541	1993	733,80	78,2
Ceres	1992	16 633	4 025	35 399	9 143	65 200	1993	19,76	66,6
Clanwilliam	1990	3 218	1 325	189	287	5 019	1993	1,92	53,5
Darling	1990	1 537	404	338	5 605	7 884	1993	2,22	53,5
Durbanville	1993	64 400	5 958	10 393	4 377	85 128	1993	23,74	59,8
Franschhoek	1993	3 837	3 425	1 723	782	9 767	1993	2,50	54,2
Gansbaai	1992	3 387	2 080	–	–	5 467	1993	2,56	44,6
George	1992	76 203	25 930	79 468	18 835	200 436	1993	44,26	63,8
Goodwood	1992	85 512	18 361	99 453	2 640	205 966	1993	38,19	66,0
Gordons Bay	1993	16 072	731	–	846	17 649	1993	4,44	57,8
Grabouw	1991	1 079	–	–	–	1 079	1991	0,28	43,4
Great Brak River	1992	6 265	1 331	2 715	–	10 311	1993	2,91	51,0
Greyton	1991	1 630	–	–	–	1 630	1993	0,69	44,9
Hartenbos	1992	5 031	896	1 910	–	7 837	1992	1,60	28,3
Heidelberg	1991	6 129	–	–	–	6 129	1993	1,60	50,8
Hermanus	1992	18 617	5 764	4 836	1 200	30 417	1993	8,48	56,9
Khyelitsha	1988	1 462	1 462	–	2 925	5 849	1993	10,50	51,1
Kleinmond	1991	5 713	568	263	276	6 820	1993	2,74	47,1
Knysna	1992	24 962	10 923	14 102	1 603	51 590	1993	11,76	61,8
Kraaifontein	1993	64 016	5 566	4 799	4 373	78 754	1993	26,17	52,1
Kuils River	1993	47 824	10 215	40 518	2 546	101 103	1993	19,85	72,9
Ladismith	1992	5 002	334	3 690	–	9 026	1993	2,36	60,6
Lambert's Bay	1993	3 875	1 035	356	–	5 266	1993	1,87	49,7
Langebaan	1991	5 019	–	–	2 052	7 071	1993	1,46	55,7
Lingeletu West	1989	862	400	–	277	1 539	1989	–	56,0
Malmesbury	1992	17 561	4 941	23 749	454	46 705	1993	12,66	62,1
Melkbos/Bloubergstrand	1992	16 599	–	6 225	–	22 824	1990	6,00	44,0
Milnerton	1991	3 084	–	–	–	3 084	1991	0,85	41,26
Montagu	1990	4 719	1 005	7 884	1 901	15 509	1993	3,94	63,1
Moorreesburg	1992	7 258	4 896	814	121	13 089	1993	3,84	53,0
Mossel Bay	1993	37 416	9 961	34 324	15 706	97 407	1993	20,51	69,5
Oudtshoorn	1992	40 959	11 383	24 957	1 352	78 651	1993	19,61	63,5
Paarl	1993	102 025	51 593	170 089	81 415	405 122	1993	83,38	64,6
Pacaltsdorp	1992	9 362	670	2 500	–	12 532	1989	1,60	50,0
Parow	1993	111 600	50 400	143 772	–	305 772	1993	76,57	60,7
Piketberg	1990	4 119	2 106	2 727	796	9 748	1993	2,80	58,7
Porterville	1993	6 165	49	–	–	6 214	1993	1,50	54,3
Riversdale	1992	9 848	4 387	–	1 842	16 077	1993	3,78	59,9
Robertson	1992	10 474	5 529	27 524	39 398	82 925	1993	21,36	70,9
Sandbaai	1988	1 181	–	–	–	1 181	1993	0,96	40,4
Sedgefield	1990	3 313	2 269	175	–	5 757	1993	2,77	52,1
Somerset West	1992	78 861	39 778	–	–	118 639	1993	29,20	62,0
Stellenbosch	1992	65 486	134 425	–	–	199 911	1993	44,88	64,0
Stilbaai	1990	–	–	–	4 284	4 284	1993	2,96	48,0
Strand	1992	58 374	18 955	4 444	4 538	86 311	1993	18,40	68,1
Swellendam	1992	6 930	6 804	–	1 085	14 819	1993	3,96	56,4
Touws River	1991	6 700	3 800	–	–	10 500	1993	1,92	53,5
Tulbagh	1991	6 554	–	–	–	6 554	1993	1,88	52,9
Van Dyks Bay	1988	–	–	–	2 881	2 881	1988	1,00	32,9
Vanrhynsdorp	1992	1 984	–	–	1 686	3 670	1993	1,22	56,1
Velddrif	1990	7 100	250	4 080	1 013	12 443	1993	4,10	54,1
Villiersdorp	1990	2 880	1 613	366	376	5 235	1993	1,69	55,5
Vredenburg/Saldanha	1992	30 927	6 353	39 349	1 151	77 780	1993	20,40	58,8
Vredendal	1993	8 434	8 000	–	2 776	19 210	1993	5,32	52,0
Wellington	1992	31 832	6 561	18 594	–	56 987	1993	13,61	59,2
Wilderness	1990	3 976	4 657	–	–	8 633	1990	2,16	57,8
Wolseley	1990	1 210	2 942	1 671	–	5 823	1990	1,92	63,7
Worcester	1993	54 335	12 654	81 631	4 668	153 288	1993	35,41	64,5

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Northern Cape						
Barkly West	1992	465	112	1	–	578
Calvinia	1993	740	139	3	–	882
Colesberg	1992	570	120	6	1	697
De Aar	1993	2 147	379	23	69	2 618
Douglas	1992	466	58	4	–	528
Fraserburg	1992	579	18	–	–	597
Galeshewe	1991	7 340	15	1	–	7 356
Hartswater	1992	651	213	16	1	881
Jan Kempdorp	1992	689	248	12	3	952
Kakamas	1991	658	81	19	8	766
Kathu and Dingleton	1991	1 697	79	10	125	1 911
Keimoes	1990	617	82	13	72	784
Kimberley	1992	24 320	866	243	7 883	33 312
Kuisebmond ^a	1987	934	14	14	–	962
Kuruman	1992	1 793	339	24	60	2 216
Noupoort	1992	482	50	3	52	587
Port Nolloth	1990	750	45	4	5	804
Postmasburg	1992	1 069	47	144	1	1 261
Prieska	1992	663	156	8	55	882
Reivilo	1991	702	18	1	19	740
Sishen/Kathu	1988	1 900	39	8	–	1 947
Springbok	1991	2 347	663	103	227	3 340
Upington	1992	6 427	302	105	174	7 008
Victoria West	1992	445	68	–	2	515
Walvis Bay ^a	1991	2 536	218	62	11	2 827
Warrenton	1993	1 388	145	–	1	1 534

^a In Walvis Bay enclave which has been incorporated in Namibia.

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
4 201	1 549	744	–	6 494	1993	2,01	77,1
3 416	2 710	432	–	6 558	1993	1,92	52,1
3 078	2 266	1 080	670	7 094	1993	2,13	70,0
13 839	4 292	4 740	6 157	29 028	1993	7,36	64,9
8 216	846	247	–	9 309	1993	2,76	50,4
1 700	109	–	150	1 959	1993	0,54	57,1
28 268	210	24	–	28 502	1991	11,97	46,1
4 945	4 602	6 018	697	16 262	1993	4,68	47,2
7 295	3 774	626	17	11 712	1993	3,32	59,9
7 750	2 701	951	47	11 449	1993	3,46	53,1
17 311	8 214	1 311	4 825	31 661	1993	7,04	57,1
2 457	5 146	680	248	8 531	1993	2,58	52,1
156 350	100 542	12 798	53 001	322 691	1993	76,04	66,0
2 961	251	342	–	3 553	1987	–	32,2
15 674	5 885	4 277	–	25 836	1993	8,04	55,4
2 915	553	114	1 590	5 172	1993	1,66	55,2
1 562	416	1 666	104	3 748	1993	0,34	37,3
6 914	6 245	1 115	1 341	15 615	1993	4,56	52,5
2 746	2 758	1 637	8 484	15 625	1993	5,28	51,4
2 486	343	1 936	434	5 199	1993	1,35	50,7
24 800	13 200	1 392	–	39 392	1988	7,92	36,0
4 691	3 996	1 769	4 461	14 917	1993	4,48	51,0
34 368	9 214	34 023	14 642	92 247	1993	20,99	60,5
2 639	881	–	320	3 840	1993	1,19	54,6
15 995	5 085	34 159	19 209	74 448	1993	20,59	67,7
7 564	1 246	–	1 099	9 909	1993	2,39	59,6

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Northern Transvaal						
Ellisras	1990	3 313	370	–	100	3 783
Louis Trichardt	1991	2 435	416	114	375	3 340
Messina	1989	660	156	12	–	828
Moganyaka	1990	789	42	–	8	839
Naboomspruit	1991	1 025	168	2	–	1 195
Nylstroom	1990	1 242	159	71	59	1 531
Phalaborwa	1993	2 802	288	54	225	3 369
Pietersburg	1992	9 438	1 250	405	217	11 310
Potgietersrus	1990	3 344	538	50	253	4 185
Thabazimbi	1990	1 203	160	10	98	1 471
Tzaneen	1991	1 898	516	106	102	2 622
Warmbaths	1990	1 940	198	49	456	2 643

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
22 395	14 791	2 979	2 135	42 300	1993	9,80	60,4
19 573	11 940	22 136	58 993	112 642	1993	22,54	60,8
5 632	5 398	703	–	11 733	1993	7,28	56,9
729	101	–	8	838	1990	0,20	43,7
7 167	18 133	534	–	25 834	1993	5,46	64,5
11 356	12 838	–	2 681	26 875	1993	7,08	50,4
31 954	7 536	907	25 169	65 566	1993	14,25	67,0
108 158	95 261	66 641	36 991	307 051	1993	63,29	62,3
38 170	12 823	44 334	20 612	115 940	1993	21,16	65,3
10 506	4 701	408	6 164	21 779	1993	5,74	67,4
22 008	318 156	51 651	4 066	395 881	1993	59,56	58,0
12 262	18 419	673	2 387	33 741	1993	8,55	60,5

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
North West						
Bloemhof	1992	508	119	11	1	639
Brits	1992	2 847	527	98	211	3 683
Carletonville	1992	6 274	817	47	–	7 138
Christiana	1992	799	124	14	18	955
Coligny	1992	558	53	7	8	626
Delareyville	1990	503	138	12	67	720
Fochville	1992	2 263	243	–	1	2 507
Hartbeesfontein	1991	458	83	10	–	551
Jouberton	1991	2 942	–	–	–	2 942
Kanana	1991	818	–	–	–	818
Klerksdorp	1993	13 793	1 323	95	49	15 260
Koster	1990	674	27	7	–	708
Leeudoringstad	1990	529	42	16	–	587
Lichtenburg	1990	3 302	330	131	140	3 903
Orkney	1993	3 289	372	–	51	3 712
Potchefstroom	1992	6 025	4 017	121	–	10 163
Rustenburg	1992	10 583	–	1 420	1 300	13 303
Schweizer-Reneke	1992	741	196	–	19	956
Stilfontein	1992	3 830	204	3	6	4 043
Ventersdorp	1990	1 001	40	51	–	1 092
Vryburg	1992	2 338	511	18	355	3 222
Wolmaransstad	1992	561	134	–	103	798
Zeerust	1992	1 154	640	6	–	1 800

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
5 079	2 031	8 126	699	15 935	1993	3,80	63,0
29 299	23 447	113 513	14 609	180 868	1993	23,16	49,9
68 763	41 533	5 478	–	115 774	1993	41,84	55,5
7 191	1 861	4 000	2 066	15 118	1993	4,52	52,8
4 520	840	98	68	5 526	1993	1,96	62,3
3 320	2 300	1 100	1 480	8 200	1993	2,93	56,0
23 087	7 407	–	5 357	35 851	1993	9,27	66,2
2 836	1 960	1 137	579	6 512	1993	1,67	53,2
3 797	–	–	–	3 797	1991	–	–
11 421	–	–	–	11 421	1991	–	–
134 160	42 155	90 832	17 726	284 873	1993	65,51	68,2
3 174	3 828	–	–	7 002	1993	2,55	56,7
–	–	–	7 547	7 547	1993	2,03	56,4
25 460	5 520	20 810	6 222	58 012	1993	14,73	59,9
30 399	11 774	–	5 625	47 798	1993	11,86	63,2
74 791	49 860	147 095	–	271 746	1993	63,77	66,2
110 356	–	1 032 098	85 348	1 227 802	1993	175,55	87,4
5 971	7 416	–	804	14 191	1993	4,24	50,0
38 489	12 333	444	263	51 529	1993	12,88	63,9
5 067	867	4 255	6 588	16 777	1993	4,60	60,8
22 589	15 580	6 626	5 799	50 594	1993	13,14	56,7
9 744	2 506	–	1 114	13 364	1993	4,02	53,4
11 187	13 756	750	–	25 693	1993	7,62	62,8

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Orange Free State						
42nd Hill	1990	993	45	–	–	1 038
Allanridge	1989	711	711	–	10	1 432
Bethlehem	1992	3 647	777	53	132	4 609
Bethulie	1991	484	42	1	34	561
Bloemfontein	1992	44 674	3 620	21	2 408	50 723
Bohlokong	1990	1 581	61	–	1	1 643
Bothaville	1992	1 110	195	12	–	1 317
Brandfort	1992	622	42	3	19	686
Bultfontein	1992	555	155	2	–	712
Clocolan	1993	456	71	5	20	552
Deneysville	1993	476	35	–	2	513
Ficksburg	1993	1 188	304	31	3	1 526
Frankfort	1993	752	121	–	21	894
Harrismith	1993	1 904	444	–	61	2 409
Heilbron	1993	1 193	165	6	–	1 364
Hennenman	1990	1 301	191	10	55	1 557
Hoopstad	1992	407	95	9	–	511
Kgotsoong	1991	497	34	–	–	531
Koffiefontein	1993	795	55	4	–	854
Koppies	1992	240	105	–	177	522
Kroonstad	1992	5 514	–	998	–	6 512
Kutlwanong	1991	600	–	–	–	600
Ladybrand	1993	919	149	–	19	1 087
Maokeng	1993	4 100	100	–	1	4 201
Odendaalsrus	1992	2 550	393	28	7	2 978
Parys	1992	2 781	329	4	356	3 470
Reitz	1992	857	357	–	34	1 248
Sasolburg	1992	8 543	1 037	–	–	9 580
Senekal	1992	767	251	6	41	1 065
Thabong	1991	4 725	–	–	–	4 725
Theunissen	1993	658	139	9	126	932
Tumahole	1992	719	41	–	74	834
Viljoenskroon	1993	614	182	33	12	841
Virginia	1992	5 142	547	134	–	5 823
Vrede	1993	738	183	–	15	936
Welkom	1993	19 548	1 825	210	2	21 585
Wesselsbron	1993	391	98	–	16	505
Zamdela	1989	2 853	–	–	–	2 853
Zastron	1992	480	56	4	6	546

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
1 361	315	–	–	1 675	1990	–	–
–	–	–	10 456	10 456	1993	2,46	63,2
32 260	15 225	53 604	10 914	112 003	1993	23,18	68,4
2 468	590	44	1 227	4 329	1993	1,16	52,8
380 254	121 767	20 617	381 184	903 822	1993	208,71	64,5
11 276	460	–	11 523	23 259	1993	2,26	–
10 636	6 174	5 169	–	21 979	1993	6,35	53,2
5 083	1 170	340	239	6 832	1993	1,88	58,5
4 049	3 141	1 925	–	9 115	1993	2,94	54,9
3 090	2 193	144	490	5 917	1993	2,14	50,8
2 818	887	–	3 234	6 939	1993	1,63	66,6
13 921	8 568	1 723	502	24 714	1993	7,09	58,6
6 492	8 978	–	5 149	20 619	1993	5,00	58,9
21 746	28 837	–	4 243	54 826	1993	13,66	57,5
11 435	8 323	1 567	–	21 325	1993	4,75	61,6
9 567	3 824	12 953	721	27 066	1993	5,59	67,2
2 032	3 258	590	–	5 880	1993	1,84	57,0
1 184	287	–	814	2 286	1993	1,31	48,6
5 844	1 257	1 904	–	9 005	1993	2,54	53,1
2 837	3 317	–	2 132	8 286	1993	2,32	55,7
55 534	–	100 000	–	155 534	1993	38,31	65,8
13 319	–	–	–	13 319	1993	0,02	36,5
7 940	10 742	–	1 929	20 611	1993	5,88	58,9
17 222	1 978	–	547	19 747	1990	–	–
22 516	6 357	454	702	30 029	1993	8,92	64,7
20 348	5 214	10 497	11 342	47 401	1993	10,22	71,6
8 180	5 308	–	2 196	15 684	1993	3,99	55,7
80 791	25 001	–	–	105 792	1993	27,18	66,6
7 501	10 149	1 618	1 333	20 601	1993	4,84	62,1
69 610	–	–	–	69 610	1991	16,19	49,10
4 481	2 911	–	2 275	9 667	1993	2,40	55,2
1 739	2 265	–	36	4 040	1992	–	–
5 116	3 218	2 794	3 372	14 500	1993	3,80	59,3
53 564	10 613	1 863	–	66 040	1993	20,68	65,2
6 910	2 453	–	491	9 854	1993	2,66	51,8
162 894	37 535	92 396	9 239	302 064	1993	78,02	60,6
3 419	7 491	–	706	11 616	1993	3,56	59,5
31 715	–	–	–	31 715	1989	–	–
3 630	1 541	110	538	5 819	1993	2,04	57,1

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
PWV						
Akasia	1992	3 652	28	256	1 421	5 357
Alberton	1993	17 000	646	396	7 758	25 800
Alexandra	1990	18 787	–	–	–	18 787
Atteridgeville	1992	11 753	46	1	–	11 800
Bedfordview	1992	2 829	176	–	17	3 022
Bekkersdal	1991	975	–	–	–	975
Benoni	1992	24 913	2 012	420	–	27 345
Boipatong	1991	2 004	–	–	–	2 004
Boksburg	1992	23 826	–	1 641	203	25 670
Brakpan	1992	12 811	1 096	346	301	14 554
Bronkhorstspuit	1993	3 150	250	100	–	3 500
Daveyton	1991	14 020	–	–	–	14 020
Duduza	1991	3 100	720	–	–	3 820
Edenvale	1992	8 133	621	309	279	9 342
Eersterust	1990	4 371	70	–	–	4 441
Ekgangala	1991	3 600	20	–	–	3 620
Ennerdale	1991	2 300	–	–	–	2 300
Evaton	1991	2 249	–	–	–	2 249
Germiston	1992	23 600	754	4 030	900	29 284
Hartbeespoort	1988	1 672	–	–	–	1 672
Heidelberg	1993	3 287	325	98	61	3 771
Johannesburg	1992	124 732	8 015	4 035	–	136 782
Kagiso	1991	1 548	–	–	–	1 548
Katlehong	1991	16 568	–	–	–	16 568
Kempton Park	1992	22 220	1 988	872	–	25 080
Krugersdorp	1989	15 115	1 354	619	823	17 911
KwaThema	1991	10 245	375	–	–	10 620
Laudium/Claudius	1990	3 422	58	–	–	3 480
Lenasia	1991	1 540	–	–	–	1 540
Mamelodi	1990	18 542	310	–	–	18 852
Meyerton	1992	2 971	187	71	255	3 484
Midrand	1993	3 887	98	103	249	4 337
Modderfontein	1990	550	11	3	3	567
Mohlakeng	1991	4 146	–	–	–	4 146
Nigel	1992	6 002	504	183	389	7 078
Pretoria	1993	135 229	–	4 597	3 506	143 332
Randburg	1992	21 777	326	843	1	22 947
Randfontein	1993	10 537	854	263	2 337	13 991
Ratanda	1991	1 703	–	–	–	1 703
Residensia	1989	1 150	–	–	–	1 150
Roodepoort	1993	35 071	895	930	–	36 896
Sandton	1992	8 500	100	50	–	8 650
Sebokeng	1989	10 817	–	–	–	10 817
Sharpeville	1991	6 766	–	–	–	6 766
Soweto	1989	124 850	150	–	–	125 000
Springs	1992	15 030	1 337	319	222	16 908
Tembisa	1991	15 801	199	–	–	16 000
Tsakane	1991	3 262	–	–	–	3 262
Vanderbijlpark	1989	17 603	1 170	156	43	18 972
Vereeniging	1993	17 471	1 159	202	1 595	20 427
Verwoerdburg	1992	17 714	316	98	721	18 849
Vosloorus	1991	14 790	60	5	45	14 900
Wattville	1989	2 553	45	–	6	2 604
Westonaria	1992	4 822	328	52	1	5 203
Zithobeni	1991	528	4	–	11	543

Town	Financial year	MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
		Domestic	Business	Industry	Not defined and other	Total			
Akasia	1992	43 659	1 239	343 533	25 139	413 570	1990	8,50	57,3
Alberton	1993	235 430	19 120	425 000	55 450	735 000	1993	165,92	64,3
Alexandra	1990	48 105	–	–	–	48 105	1993	23,01	41,0
Atteridgeville	1992	73 017	4 172	6 258	22 022	105 469	1990	33,00	45,0
Bedfordview	1992	96 100	3 923	–	92 323	192 346	1993	42,20	70,5
Bekkersdal	1991	3 166	–	–	7 895	11 061	1993	5,52	39,3
Benoni	1992	262 118	71 444	524 291	–	857 853	1993	211,20	56,0
Boipatong	1991	11 174	–	–	–	11 174	1993	3,65	45,2
Boksburg	1992	301 874	–	68 762	530 797	901 433	1993	198,43	63,8
Brakpan	1992	114 807	21 926	142 753	180 119	459 605	1993	87,62	73,4
Bronkhorstspuit	1993	30 240	19 520	30 553	47 099	127 412	1993	29,04	60,4
Daveyton	1991	7 037	–	–	–	7 037	1991	–	89,0
Duduza	1991	5 593	2 038	–	–	7 631	1993	1,99	57,7
Edenvale	1992	123 200	12 400	83 300	6 500	225 400	1993	51,66	64,3
Eersterust	1990	33 156	2 522	–	–	35 678	1990	11,09	36,7
Ekgangala	1991	15 400	474	–	–	15 874	1991	–	–
Ennerdale	1991	4 972	–	–	–	4 972	1993	0,17	71,4
Evaton	1991	910	–	–	–	910	1993	6,27	45,5
Germiston	1992	305 107	934 165	86 911	36 121	1 362 304	1993	285,70	65,3
Hartbeespoort	1988	23 744	–	–	–	23 744	1988	7,05	48,0
Heidelberg	1993	32 136	14 772	50 876	7 970	105 754	1993	24,08	62,0
Johannesburg	1992	2 070 994	211 578	3 686 079	–	5 968 651	1993	1 222,54	58,3
Kagiso	1991	12 561	–	–	38 618	51 179	1993	34,24	44,4
Katlehong	1991	129 154	–	–	38 821	167 975	1993	72,82	41,9
Kempton Park	1992	285 080	471	804 931	27 478	1 117 960	1993	206,30	72,8
Krugersdorp	1989	152 255	48 321	218 849	44 725	464 150	1993	108,52	59,5
KwaThema	1991	61 470	–	–	23 738	85 208	1993	39,12	43,1
Laudium/Claudius	1990	53 047	4 837	–	–	57 884	1990	–	–
Lenasia	1991	105 518	–	–	–	105 518	1993	28,25	62,0
Mamelodi	1990	200 000	4 000	–	–	204 000	1990	53,00	35,5
Meyerton	1992	34 154	6 774	65 633	7 124	113 685	1993	22,64	72,1
Midrand	1993	41 878	11 152	266 763	9 204	328 997	1993	36,44	59,8
Modderfontein	1990	3 715	249	520 719	928	525 611	1993	65,70	85,5
Mohlakeng	1991	20 379	–	–	7 472	27 851	1993	10,93	45,1
Nigel	1992	54 467	23 780	90 505	5 358	174 110	1993	30,98	59,1
Pretoria	1993	1 387 647	–	3 272 273	852 448	5 512 368	1993	922,27	64,9
Randburg	1992	329 832	13 077	217 378	42 291	602 578	1993	160,91	59,8
Randfontein	1993	86 622	27 304	123 504	19 136	256 566	1993	52,29	68,7
Ratanda	1991	13 097	–	–	–	13 097	1993	4,70	37,9
Residensia	1989	37 770	–	–	–	37 770	1989	–	–
Roodepoort	1993	456 180	139 350	195 534	18 058	809 122	1993	184,36	66,1
Sandton	1992	139 595	3 761	53 417	–	196 773	1993	5,15	53,7
Sebokeng	1989	85 988	–	–	–	85 988	1989	–	–
Sharpeville	1991	16 571	–	–	–	16 571	1991	4,81	39,3
Soweto	1989	917 115	30 957	–	–	948 072	1989	330,37	33,0
Springs	1992	164 834	69 793	396 588	20 931	652 146	1993	83,53	72,7
Tembisa	1991	119 592	–	–	–	119 592	1993	74,14	42,9
Tsakane	1991	16 262	–	–	15 680	31 942	1993	0,00	0,0
Vanderbijlpark	1989	167 415	27 947	529 799	6	725 167	1993	124,03	73,4
Vereeniging	1993	217 819	30 640	643 756	64 851	957 066	1993	170,32	72,5
Verwoerdburg	1992	204 875	38 484	189 102	38 158	470 619	1993	109,20	67,9
Vosloorus	1991	99 541	6 924	2 398	6 261	115 125	1993	78,81	30,6
Wattville	1989	14 138	–	–	–	14 138	1989	–	–
Westonaria	1992	51 850	7 320	1 830	6 608	67 608	1993	9,46	63,1
Zithobeni	1991	1 666	–	–	–	1 666	1993	0,80	45,3

SOUTH AFRICA: Municipal statistics – continued

Town	Financial year	Number of customers				
		Domestic	Business	Industry	Not defined and other	Total
Western Cape						
Agulhas/Struisbaai	1988	852	11	–	9	872
Albertinia	1992	781	42	5	–	828
Ashton	1993	666	61	12	2	741
Atlantis	1992	8 394	–	321	–	8 715
Beaufort West	1990	2 312	354	–	195	2 861
Belhar	1992	1 632	–	6	–	1 638
Bellville	1993	20 266	1 763	207	29	22 265
Blue Downs	1990	3 584	117	–	–	3 701
Bonnievale	1990	689	65	89	9	852
Brackenfell	1993	4 939	472	32	2	5 445
Bredasdorp	1993	1 755	178	14	1	1 948
Caledon	1993	1 463	147	16	1	1 627
Calitzdorp	1991	488	23	3	26	540
Cape Town	1992	229 897	14 589	555	2 633	247 674
Ceres	1992	2 368	219	45	319	2 951
Clanwilliam	1990	576	134	19	–	729
Darling	1990	547	38	22	4	611
Durbanville	1993	5 945	262	18	79	6 304
Franschhoek	1993	648	75	12	84	819
Gansbaai	1992	490	65	–	–	555
George	1992	11 337	1 307	173	49	12 866
Goodwood	1992	11 777	988	79	2	12 846
Gordons Bay	1993	1 956	89	–	103	2 148
Grabouw	1991	1 147	–	–	–	1 147
Great Brak River	1992	1 739	50	3	–	1 792
Greyton	1991	1 271	–	–	–	1 271
Hartenbos	1992	1 056	57	20	–	1 133
Heidelberg	1991	963	–	–	–	963
Hermanus	1992	3 603	350	21	–	3 974
Khyelitsha	1988	673	46	–	23	742
Kleinmond	1991	1 300	27	6	20	1 353
Knysna	1992	4 608	599	52	125	5 384
Kraaifontein	1993	8 282	198	19	75	8 574
Kuils River	1993	6 678	401	37	13	7 129
Ladismith	1992	863	58	9	–	930
Lambert's Bay	1993	769	69	2	–	840
Langebaan	1991	730	34	–	–	764
Lingeletu West	1989	3 278	71	–	29	3 378
Malmesbury	1992	2 633	349	44	132	3 158
Melkbos/Bloubergstrand	1992	1 999	–	100	–	2 099
Milnerton	1991	12 085	443	65	31	12 624
Montagu	1990	1 149	275	15	1	1 440
Moorreesburg	1992	1 632	157	26	5	1 820
Mossel Bay	1993	6 391	616	224	142	7 373
Oudtshoorn	1992	5 894	86	50	131	6 161
Paarl	1993	14 933	857	99	944	16 833
Pacaltsdorp	1992	1 790	21	1	–	1 812
Parow	1993	15 000	1 200	800	8	17 008
Piketberg	1990	1 083	78	10	31	1 202
Porterville	1993	752	6	–	–	758
Riversdale	1992	1 880	210	–	6	2 096
Robertson	1992	3 174	256	448	912	4 790
Sandbaai	1988	527	2	–	–	529
Sedgefield	1990	932	89	2	–	1 023
Somers West	1992	8 827	823	–	–	9 650
Stellenbosch	1992	8 220	718	–	–	8 938
Stilbaai	1990	1 104	34	3	–	1 141
Strand	1992	9 349	976	7	92	10 424
Swellendam	1992	1 368	225	–	2	1 595
Touws River	1991	978	57	–	–	1 035
Tulbagh	1991	591	–	–	–	591
Van Dyks Bay	1988	643	2	1	1	647
Vanrhynsdorp	1992	709	–	–	52	761
Veldrif	1990	867	59	7	44	977
Villiersdorp	1990	533	72	1	39	645
Vredenburg/Saldanha	1992	4 437	400	47	35	4 919
Vredendal	1993	1 623	250	–	170	2 043
Wellington	1992	5 865	410	35	–	6 310
Wilderness	1990	766	33	–	–	799
Wolseley	1990	476	47	3	–	526
Worcester	1993	8 728	1 187	102	1	10 018

MWh sold					Year ended	Maximum demand MW/MVA	Average monthly load factor
Domestic	Business	Industry	Not defined and other	Total			
12 870	3 910	–	5 610	22 390	1988	10,00	25,6
2 855	864	40	–	3 759	1993	0,98	59,4
2 395	3 499	8 753	2 232	16 879	1993	5,02	55,6
53 589	–	215 315	1 962	270 866	1993	54,00	64,7
12 413	10 597	–	5 212	28 222	1993	6,52	58,8
9 112	–	111	–	9 223	1993	4,16	42,5
164 802	40 039	445 860	16 106	666 807	1993	129,94	66,9
14 491	1 244	–	–	15 735	1990	11,00	23,5
1 750	854	15 057	450	18 111	1993	5,52	62,1
33 795	32 733	14 918	375	81 821	1993	22,06	62,7
12 175	4 058	868	1 228	18 329	1993	4,52	61,9
7 429	4 334	4 004	378	16 145	1993	3,89	57,3
2 147	192	385	321	3 045	1993	0,98	51,1
1 826 389	596 025	1 338 283	185 844	3 946 541	1993	733,80	78,2
16 633	4 025	35 399	9 143	65 200	1993	19,76	66,6
3 218	1 325	189	287	5 019	1993	1,92	53,5
1 537	404	338	5 605	7 884	1993	2,22	53,5
64 400	5 958	10 393	4 377	85 128	1993	23,74	59,8
3 837	3 425	1 723	782	9 767	1993	2,50	54,2
3 387	2 080	–	–	5 467	1993	2,56	44,6
76 203	25 930	79 468	18 835	200 436	1993	44,26	63,8
85 512	18 361	99 453	2 640	205 966	1993	38,19	66,0
16 072	731	–	846	17 649	1993	4,44	57,8
1 079	–	–	–	1 079	1991	0,28	43,4
6 265	1 331	2 715	–	10 311	1993	2,91	51,0
1 630	–	–	–	1 630	1993	0,69	44,9
5 031	896	1 910	–	7 837	1992	1,60	28,3
6 129	–	–	–	6 129	1993	1,60	50,8
18 617	5 764	4 836	1 200	30 417	1993	8,48	56,9
1 462	1 462	–	2 925	5 849	1993	10,50	51,1
5 713	568	263	276	6 820	1993	2,74	47,1
24 962	10 923	14 102	1 603	51 590	1993	11,76	61,8
64 016	5 566	4 799	4 373	78 754	1993	26,17	52,1
47 824	10 215	40 518	2 546	101 103	1993	19,85	72,9
5 002	334	3 690	–	9 026	1993	2,36	60,6
3 875	1 035	356	–	5 266	1993	1,87	49,7
5 019	–	–	2 052	7 071	1993	1,46	55,7
862	400	–	277	1 539	1989	–	56,0
17 561	4 941	23 749	454	46 705	1993	12,66	62,1
16 599	–	6 225	–	22 824	1990	6,00	44,0
3 084	–	–	–	3 084	1991	0,85	41,26
4 719	1 005	7 884	1 901	15 509	1993	3,94	63,1
7 258	4 896	814	121	13 089	1993	3,84	53,0
37 416	9 961	34 324	15 706	97 407	1993	20,51	69,5
40 959	11 383	24 957	1 352	78 651	1993	19,61	63,5
102 025	51 593	170 089	81 415	405 122	1993	83,38	64,6
9 362	670	2 500	–	12 532	1989	1,60	50,0
111 600	50 400	143 772	–	305 772	1993	76,57	60,7
4 119	2 106	2 727	796	9 748	1993	2,80	58,7
6 165	49	–	–	6 214	1993	1,50	54,3
9 848	4 387	–	1 842	16 077	1993	3,78	59,9
10 474	5 529	27 524	39 398	82 925	1993	21,36	70,9
1 181	–	–	–	1 181	1993	0,96	40,4
3 313	2 269	175	–	5 757	1993	2,77	52,1
78 861	39 778	–	–	118 639	1993	29,20	62,0
65 486	134 425	–	–	199 911	1993	44,88	64,0
–	–	–	4 284	4 284	1993	2,96	48,0
58 374	18 955	4 444	4 538	86 311	1993	18,40	68,1
6 930	6 804	–	1 085	14 819	1993	3,96	56,4
6 700	3 800	–	–	10 500	1993	1,92	53,5
6 554	–	–	–	6 554	1993	1,88	52,9
–	–	–	2 881	2 881	1988	1,00	32,9
1 984	–	–	1 686	3 670	1993	1,22	56,1
7 100	250	4 080	1 013	12 443	1993	4,10	54,1
2 880	1 613	366	376	5 235	1993	1,69	55,5
30 927	6 353	39 349	1 151	77 780	1993	20,40	58,8
8 434	8 000	–	2 776	19 210	1993	5,32	52,0
31 832	6 561	18 594	–	56 987	1993	13,61	59,2
3 976	4 657	–	–	8 633	1990	2,16	57,8
1 210	2 942	1 671	–	5 823	1990	1,92	63,7
54 335	12 654	81 631	4 668	153 288	1993	35,41	64,5