

## I. Comparison to international power companies

Company	Country	Generating capacity (MW)	Rank as per generating capacity	Sales (TWh)	Rank as per sales
RAO UES	Russia	156 600	1	636	1
EdF	France	125 400	2	502	2
TEPCO	Japan	62 825	3	287	6
Exelon/PSEG	USA	52 000	4	238	8
E.On	Germany	51 479	5	404	3
Korea Electric Power Company (KEPCO)	South Korea	50 432	6	294	5
Endesa	Spain	45 908	7	165	16
Enel	Italy	45 740	8	158	17
AES	USA	43 884	9	82	28
RWE	Germany	43 269	10	299	4
<b>Eskom</b>	<b>South Africa</b>	<b>42 011</b>	<b>11</b>	<b>256</b>	<b>7</b>
Kansai Electric	Japan	41 480	12	144	19
Duke	USA	41 000	13	85	27
Eletrobras	Brazil	40 854	14	178	13
Southern	USA	40 000	15	192	11
AEP	USA	36 000	16	218	9
Taiwan Power (TaiPower)	Taiwan	34 958	17	168	15
Hydro Quebec	Canada	34 571	18	185	12
TVA	USA	33 981	19	171	14
Vattenfall	Sweden	33 000	20	200	10
Chubu	Japan	32 733	21	123	20
FPL	USA	32 649	22	106	23
Entergy	USA	30 000	23	100	25
Electrabel	Belgium	28 193	24	145	18
Dominion	USA	28 100	25	122	21
Iberdrola	Spain	27 791	26	86	26
Progress Energy	Canada	24 500	27	104	24
Kyushu	Japan	19 500	28	80	29
Reliant Energy	USA	19 000	29	67	30
TXU	USA	18 300	30	110	22

Source: Datamonitor plc, a business information company specialising in industry analysis.  
Date: April 2006

TABLES CONTINUED

2. Eskom statistical overview

	2006	2005 <sup>1</sup> (15 months)	2004	2003
<b>Sales</b>				
Total sold, GWh <sup>2</sup>	<b>208 316</b>	256 959	206 799	196 980 <sup>3</sup>
Growth in GWh sales, % <sup>3</sup>	<b>18,9<sup>4</sup></b>	30,5	5,0	4,8
<b>Electricity output</b>				
Total electricity for Eskom system (Eskom stations and purchased), GWh <sup>6</sup>	<b>232 295</b>	285 601	229 970	218 412
Total produced by Eskom stations, GWh (net)	<b>221 216</b>	273 404	220 152	210 218
Coal-fired stations, GWh (net)	<b>205 837</b>	251 914	202 171	194 046
Hydroelectric stations, GWh (net)	<b>1 141</b>	903	720	777
Pumped storage stations, GWh (net)	<b>2 867</b>	3 675	2 981	2 732
Gas turbine stations, GWh (net)	<b>78</b>	–	–	–
Nuclear power station, GWh (net)	<b>11 293</b>	16 912	14 280	12 663
Total purchased for Eskom system, GWh	<b>10 310</b>	12 197	9 818	8 194
Total consumed by Eskom, GWh <sup>7</sup>	<b>3 814</b>	5 043	4 040	3 664
Total available for distribution, GWh <sup>2</sup>	<b>228 480</b>	280 557	225 929	214 748
<b>Plant performance indicators</b>				
Total power station nominal capacity, MW	<b>42 011</b>	42 011	42 011	42 011
Total power station net maximum capacity, MW <sup>8</sup>	<b>39 810</b>	39 810	39 810	39 810
Peak demand on integrated Eskom system, MW	<b>33 461</b>	34 195	34 195	31 928
Average energy availability – EAF (UCF), % <sup>9,10</sup>	<b>87,4 (88,7)</b>	89,5 (89,9) <sup>11</sup>	89,5 (90,0)	87,5 (88,7)
Generation load factor, % <sup>10,12</sup>	<b>69,7</b>	69,0	69,2	66,3
Integrated Eskom system load factor, %	<b>79,8</b>	78,0	77,4	76,8
<b>Environmental indicators</b>				
Relative particulate emissions, kg/MWh sent out	<b>0,21</b>	0,26 <sup>11</sup>	0,27	0,28
Specific water consumption, l/kWh sent out <sup>13</sup>	<b>1,32</b>	1,27 <sup>11</sup>	1,26	1,29
Reported legal contraventions counted in the operational sustainability index, number <sup>14</sup>	<b>1</b>	3 <sup>11</sup>	2	2
Customer satisfaction (PreCare/MaxiCare), ratio	<b>–</b>	8,29 <sup>11</sup>	8,31	8,47
Customer satisfaction (Enhanced PreCare/MaxiCare), ratio <sup>15</sup>	<b>101,06</b>	93,10	–	–
Net raw water consumption, Ml	<b>291 516</b>	347 135	277 557	271 940
Coal burnt, kt	<b>112 096</b>	136 437	109 508	104 370
Average calorific value, MJ/kg	<b>19,58</b>	19,36	19,42	19,41
Average ash content, %	<b>29,1</b>	29,6	29,6	28,9
Average sulphur content, %	<b>0,88</b>	0,87	0,87	0,92
Overall thermal efficiency, %	<b>33,8</b>	34,0	34,0	34,2
Line losses, %	<b>8,2</b>	8,2 <sup>11</sup>	7,8	8,3
Nitrous oxide (N <sub>2</sub> O), t <sup>16</sup>	<b>3 134</b>	3 552	2 924	2 580
Carbon dioxide (CO <sub>2</sub> ), Mt <sup>16</sup>	<b>203,7</b>	247,0	197,7	190,1
Sulphur dioxide (SO <sub>2</sub> ), kt <sup>16</sup>	<b>1 763</b>	2 236	1 779	1 728
Nitrogen oxide (NO <sub>x</sub> ) as NO <sub>2</sub> , kt <sup>16</sup>	<b>877</b>	994	797	760
Particulate emissions, kt	<b>45,76</b>	72,83	59,17	58,65
Ash produced, Mt	<b>33,4</b>	40,8	33,1	29,8
Ash sold, Mt	<b>1,789</b>	1,957	1,590	1,197
Radiation release, mSv <sup>17</sup>	<b>–</b>	–	–	–
Radiation release, mSv <sup>18</sup>	<b>0,0049</b>	0,0079 <sup>11</sup>	0,0087	0,0123
Low-level waste – steel drums, cubic metres	<b>91,3</b>	282,5	258,8	86,9
Intermediate-level waste – concrete drums, cubic metres	<b>52,4</b>	114,5	97,5	37,4
Low-level nuclear waste – fuel racks, cubic metres <sup>19</sup>	<b>–</b>	697	697	–
Spent nuclear fuel, number of elements (cumulative figure) <sup>20</sup>	<b>52 (1 505)</b>	104 (1 453)	56 (1 405)	104 (1 349)
<b>Employees</b>				
Total number at year end <sup>22</sup>	<b>29 697</b>	29 845	28 396	28 938
GWh sold per employee	<b>7,015</b>	8,854	7,283	6,807
<b>Sales to countries in southern Africa, GWh</b>	<b>13 122</b>	16 008	12 954	10 173
Botswana	<b>1 727</b>	2 111	1 699	1 390
Mozambique	<b>8 167</b>	10 108	8 076	5 875
Namibia	<b>1 709</b>	1 821	1 515	1 114
Zimbabwe	<b>549</b>	598	532	793
Lesotho <sup>23</sup>	<b>23</b>	13	12	38
Swaziland	<b>760</b>	872	697	796
Zambia <sup>24</sup>	<b>187</b>	465	403	151
Short-term energy market <sup>25</sup>	<b>–</b>	20	20	16

	2002	2001	2000	1999	1998	1997	1996
	187 957 <sup>2</sup>	181 511 <sup>3</sup>	178 193 <sup>3</sup>	173 412 <sup>3</sup>	171 457 <sup>3</sup>	172 550 <sup>3</sup>	165 370 <sup>3</sup>
	3,5	1,8	2,8	1,1	(0,6)	4,3	7,7
	207 233	198 790	194 601	188 475	185 583	187 850	178 884
	197 737	189 590	189 307	181 818	183 093	187 811	178 855
	181 651	175 223	172 362	165 665	165 473	170 464	163 541
	2 357	2 061	1 343	726	1 596	2 092	1 319
	1 738	1 587	2 591	2 590	2 420	2 608	2 220
	–	–	1	–	3	–	–
	11 991	10 719	13 010	12 837	13 601	12 647	11 775
	9 496	9 200	5 294	6 657	2 490	39	29
	2 354	2 177	3 478	3 507	3 299	3 511	3 130
	204 879	196 613	191 123	184 968	182 284	184 339	175 754
	42 011	42 011	41 298	40 585	39 872	39 154	38 497
	39 810	39 810	39 186	38 517	37 848	37 175	36 563
	31 621	30 599	29 188	27 813	27 803	28 329	27 967
	89,3(91,7)	92,0(92,5)	92,1(92,8)	91,0(92,5)	91,6(92,7)	90,4(91,5)	89,6(90,6)
	62,3	59,8	60,6	61,2	61,6	65,0	63,9
	74,0	73,4	74,7	75,9	74,8	74,3	71,5
	0,29	0,31	0,35	0,37	0,36	0,44	0,63
	1,27	1,26	1,21	1,25	1,23	1,20	1,21
	3	2	3	9	9	15	11
	8,57	8,43	8,82	8,78	8,90	9,10	8,72
	–	–	–	–	–	–	–
	251 611	239 233	228 759	227 288	225 280	225 699	216 131
	96 460	94 136	92 454	88 470	87 225	90 169	85 401
	19,54	19,42	19,50	19,53	19,84	19,68	19,83
	28,4	28,8	28,6	28,5	29,1	28,4	27,8
	0,92	0,93	0,90	0,96	0,93	0,94	0,97
	34,1	34,1	34,4	34,4	34,2	34,5	34,5
	8,2	7,2	7,4	6,2	5,9	6,4	5,9
	2 246	2 154	2 093	2 010	2 031	2 085	2 004
	175,2	169,3	161,2	159,4	163,2	169,0	158,6
	1 494	1 500	1 505	1 506	1 583	1 383	1 295
	702	684	674	673	669	688	647
	57,53	59,64	66,08	67,08	65,21	83,43	112,11
	26,2	26,5	24,6	24,3	24,7	23,7	22,2
	1,257	1,161	1,126	1,116	1,180	1,118	0,995
	0,0005	0,0007	0,0005	0,0005	0,0007	0,0008	0,0008
	0,0060	0,0192	0,0059	0,0112	0,0088	0,0122	0,0156
	89,04	117,25	72,80	70,77	61,18	89,95	109,06
	30,21	45,65	22,10	37,11	22,77	26,26	35,35
	–	–	–	–	–	–	–
	48 (1 245) <sup>21</sup>	104 (1 197)	52 (1 093)	104 (1 041)	52 (937)	104 (885)	104 (781)
	29 359	29 969	32 832	34 027	37 311	39 241	39 857
	6,402	6,054	5,427	5,096	4,595	4,397	4,149
	6 956	6 710	3 872	3 884	4 093	6 439	5 554
	1 124	1 183	986	934	689	748	685
	3 907	3 899	1 331	68	385	680	596
	598	578	640	562	602	1 295	1 100
	298	371	788	1 564	1 521	2 790	2 267
	16	40	12	55	209	318	335
	799	639	115	701	687	608	571
	103	–	–	–	–	–	–
	111	–	–	–	–	–	–

- Information represents a 15-month period, unless indicated otherwise.
- Difference between electricity available for distribution and electricity sold (includes internal usage) is due to transmission and other losses.
- Includes sales in respect of Department of Water Affairs and Forestry (DWAF) not stated in previous years.
- Actual sales growth was 0,8% when compared to the 12-month period 1 April 2004 to 31 March 2005.
- Own usage is not included in the calculation.
- Includes Eskom electricity produced and delivered to neighbouring countries.
- In respect of pumped storage facilities and synchronous condenser mode of operation. Refer to table 2, note 8, since 1993 energy consumption for water pumped for DWAF has been excluded from this total.
- Includes reserve stored and Transkei generators.
- Capacity hours available times 100 divided by total capacity hours in year.
- After excess capacity.
- Represents the 12-month moving average for 1 April 2004 to 31 March 2005.
- kWh produced times 100 divided by average net maximum capacity times hours in year.
- Volume of water consumed per unit of generated power sent out, excluding rain water used.
- 2000 to 2002 are in terms of the revised definition of the operational sustainability index. Since 1998, other environment-related contraventions are also included. Prior to 1998, only water-related incidents were reported.
- The Enhanced MaxiCare replaced the PreCare/MaxiCare from January 2005. Reflects the environmental element of Enhanced MaxiCare.
- Calculated annual figures based on coal characteristics and power station design parameters.
- These indicators are provided for reference purposes. They are the radiation releases previously reported, based on the methodology stipulated by the National Nuclear Regulator prior to 2003.
- To ensure meaningful comparisons between years, indicators have been restated based on the new more conservative methodology approved by the National Nuclear Regulator for use from 1 January 2003. The limit set by the National Nuclear Regulator is  $\leq 0,25\text{mSv}$ .
- Waste as a result of re-racking of spent fuel elements at Koeberg power station.
- Spent fuel means nuclear fuel that has been irradiated in, and permanently removed from, the reactor core.
- Correction made to the 2002 figure – one element was under reported.
- Excludes employees of subsidiary companies.
- Lesotho started its own generation in 1999.
- Zambia included as from 2002.
- The short-term energy market consists of all the utilities in the southern African countries that form part of the Southern African Power Pool. Energy is traded on a daily, weekly and monthly basis as there is no long-term bilateral contract.

TABLES CONTINUED

3. Power stations in commission

At 31 March 2006

Name of station	Location	Number and capacity of generator sets MW	Total nominal capacity MW <sup>1</sup>	Total net maximum capacity MW <sup>1</sup>	Generators in reserve storage Number	Total rating MW	Other generation Total rating MW <sup>2</sup>
<b>Coal-fired stations (13)</b>			37 678	32 256	22	3 351	–
Arnot <sup>3</sup>	Middelburg, Mpumalanga	6 × 350	2 100	1 980	–	–	–
Camden <sup>4</sup>	Ermelo	8 × 200	1 600	190	7	1 330	–
Duvha <sup>3</sup>	Witbank	6 × 600	3 600	3 450	–	–	–
Grootvlei <sup>4</sup>	Balfour	6 × 200	1 200	–	6	1 130	–
Hendrina <sup>3</sup>	Hendrina	10 × 200	2 000	1 895 <sup>1</sup>	–	–	–
Kendal <sup>3,5</sup>	Witbank	6 × 686	4 116	3 840	–	–	–
Komati <sup>4</sup>	Middelburg, Mpumalanga	5 × 100; 4 × 125	1 000	–	9	891	–
Kriel <sup>3</sup>	Bethal	6 × 500	3 000	2 850	–	–	–
Lethabo <sup>3</sup>	Sasolburg	6 × 618	3 708	3 558	–	–	–
Majuba	Volksrust	3 × 657; 3 × 713	4 110	3 843	–	–	–
Matimba <sup>3,5</sup>	Lephalale	6 × 665	3 990	3 690	–	–	–
Matla <sup>3</sup>	Bethal	6 × 600	3 600	3 450	–	–	–
Tutuka <sup>3</sup>	Standerton	6 × 609	3 654	3 510	–	–	–
<b>Gas turbine stations<sup>6</sup> (2)</b>			342	342	–	–	–
Acacia	Cape Town	3 × 57	171	171	–	–	–
Port Rex	East London	3 × 57	171	171	–	–	–
<b>Hydroelectric stations (6)</b>			661	600	–	–	61
Colley Wobbles	Mbashe River	3 × 14	42	–	–	–	42
First Falls	Umtata River	2 × 3	6	–	–	–	6
Gariiep <sup>7</sup>	Norvalspont	4 × 90	360	360	–	–	–
Ncora	Ncora River	2 × 0,4; 1 × 1,3	2	–	–	–	2
Second Falls	Umtata River	2 × 5,5	11	–	–	–	11
Vanderkloof <sup>7</sup>	Petrusville	2 × 120	240	240	–	–	–
<b>Pumped storage schemes<sup>8</sup> (2)</b>			1 400	1 400	–	–	–
Drakensberg	Bergville	4 × 250	1 000	1 000	–	–	–
Palmiet	Grabouw	2 × 200	400	400	–	–	–
<b>Nuclear power station (1)</b>							
Koeberg <sup>3</sup>	Cape Town	2 × 965	1 930	1 800 <sup>1</sup>	–	–	–
<b>Total stations in commission (24)</b>			42 011	36 398	22	3 351	61

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

2. Operational but not included for capacity management purposes.

3. Base-load station.

4. In long-term reserve storage (mothballed).

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

6. Stations used for peaking or emergency supplies.

7. Use restricted to peaking, emergencies and availability of water in Gariiep and Vanderkloof dams.

8. Pumped storage facilities are net users of electricity. Water is pumped during off-peak periods so that electricity can be generated during peak periods.

## 4. Environmental implications of using or saving one kilowatt-hour of electricity<sup>1</sup>

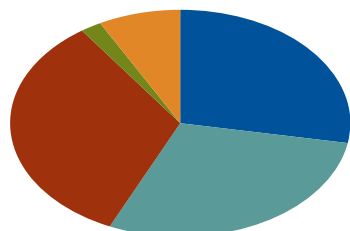
	Factor <sup>2</sup>	If electricity consumption is measured in:			
		kWh	MWh	GWh	TWh
Coal use	<b>0,54</b>	kilogram	ton	thousand tons (kt)	million tons
Water use <sup>3,4</sup>	<b>1,40</b>	litre	kilolitre	megalitre	thousand megalitre
Ash produced	<b>160</b>	gram	kilogram	ton	thousand tons (kt)
Particulate emissions <sup>4</sup>	<b>0,22</b>	gram	kilogram	ton	thousand tons (kt)
CO <sub>2</sub> emissions <sup>5</sup>	<b>0,978<sup>6</sup></b>	kilogram	ton	thousand tons (kt)	million tons
SO <sub>x</sub> emissions <sup>5</sup>	<b>8,463</b>	gram	kilogram	ton	thousand tons (kt)
NO <sub>x</sub> emissions <sup>5</sup>	<b>4,210</b>	gram	kilogram	ton	thousand tons (kt)

Use of table: multiply electricity consumption or saving by the relevant factor to determine the environmental implication.

Example 1: Used 90 kWh of electricity.  
Water consumption:  $90 \times 1,40 = 126$ .  
Therefore 126 litres of water used.

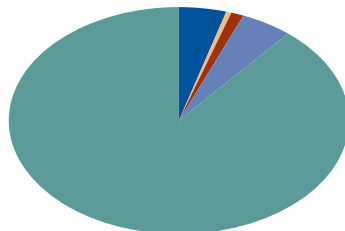
Example 2: Used 90 GWh of electricity.  
CO<sub>2</sub> emissions  $90 \times 0,978 = 88,02$ .  
Therefore 88,02 thousand tons emitted.

South African energy demand



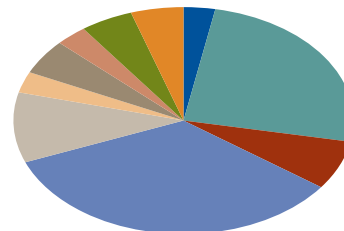
- Electricity
- Coal
- Liquid fuels
- Gas
- Renewables

Eskom electricity generation mix



- Imports
- Hydro
- Pumped storage
- Nuclear
- Coal

Eskom research categories expressed as a percentage of total research cost



- Primary energy diversification
- Electricity supply and delivery expansion
- New markets and future demand
- Plant optimisation and management
- Sustainable development
- Renewables
- Integrated systems and solutions
- Strategic research and innovation
- Research management

Source: Department of Minerals and Energy 2003 Energy balances report

1. Figures are calculated based on total energy sold by Eskom. Further information can be obtained through the Eskom environmental helpline. Contact details appear on the inside back cover.
2. Figures represent the 12-month period from 1 April 2005 to 31 March 2006.
3. Volume of water consumed per unit of generated power sent out, excluding rain and mine water used.
4. Represents a 12-month moving average.
5. Calculated annual figures based on coal characteristics and power station design parameters.
6. Represents the Eskom average CO<sub>2</sub> figure. The approved methodology should be followed to calculate the CDM emission factor.

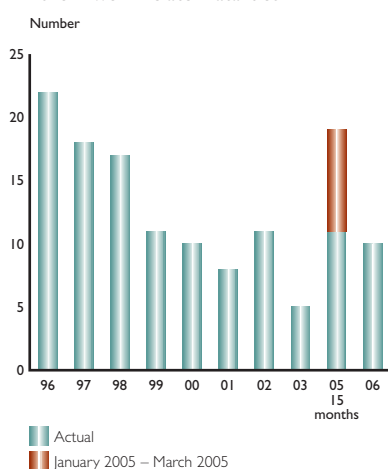
TABLES CONTINUED

5. Transmission and distribution equipment in service

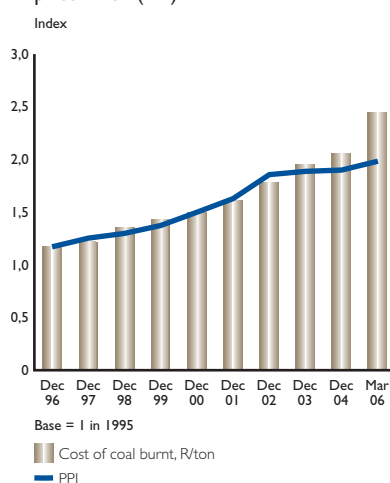
At 31 March 2006

	2006	2005	Change
<b>Power lines</b>			
<b>Transmission power lines, km<sup>1</sup></b>	<b>27 406</b>	27 169	237
765 kV	1 153	1 153	–
533 kV DC (monopolar)	1 035	1 035	–
400 kV	15 691	15 318	373
275 kV	7 245	7 383	(138)
220 kV	1 336	1 336	–
132 kV	946	944	2
<b>Distribution power lines, km</b>	<b>43 330</b>	42 988	342
165 – 132 kV	22 142	21 801	341
88 – 33 kV	21 188	21 187	1
<b>Reticulation power lines, km</b>			
22 kV and lower	282 361	277 047	5 314
<b>Total all power lines, km</b>	<b>353 097</b>	347 204	5 893
<b>Cables, km</b>	<b>8 031</b>	7 743	288
165 – 132 kV	156	137	19
22 kV and lower	7 875	7 606	269
<b>Total transformer capacity, MVA</b>	<b>205 662</b>	202 706	2 956
Transmission, MVA <sup>2</sup>	118 445	117 355	1 090
Distribution and reticulation, MVA	87 217	85 351	1 866
<b>Total transformers, number</b>	<b>305 776</b>	293 049	12 727
Transmission, number	374	371	3
Distribution and reticulation, number	305 402	292 678	12 724

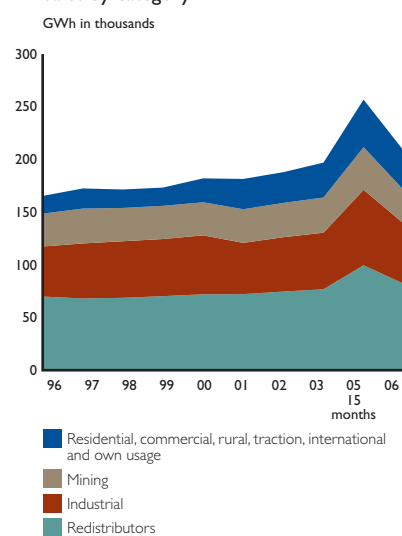
Eskom work related fatalities



Cost of coal burnt versus production price index (PPI)



Sales by category



The sharp peak in 2005 is a result of the 15-month reporting period.

1. Transmission line lengths as per Geographic Information System (GIS) distances.  
2. Base of definition: transformers rated > 30 MVA and primary voltage > 132 kV.

## 6. Sales of electricity to categories of customers

Category	Number of customers <sup>1</sup>		Change %	GWh sold		Change %
	<b>2006</b>	2005		<b>2006</b> (12 months)	2005 (15 months)	
Redistributors	<b>751</b>	741	1,3	<b>82 108</b>	99 661	(17,6)
Residential	<b>3 628 622</b>	3 475 330	4,4	<b>8 904</b>	10 146	(12,2)
Commercial	<b>43 572</b>	42 620	2,2	<b>7 334</b>	8 929	(17,9)
Industrial	<b>3 043</b>	3 019	0,8	<b>57 068</b>	71 629	(20,3)
Mining	<b>1 097</b>	1 124	(2,4)	<b>31 825</b>	40 557	(21,5)
Agricultural	<b>80 900</b>	80 131	1,0	<b>4 410</b>	5 605	(21,3)
Traction	<b>511</b>	511	–	<b>3 150</b>	3 918	(19,6)
International	<b>10</b>	10	–	<b>13 122</b>	16 008	(18,0)
Internal	<b>425</b>	457	(7,0)	<b>395</b>	506	(21,9)
	<b>3 758 931</b>	3 603 943	4,3	<b>208 316</b>	256 959	(18,9) <sup>2</sup>

## 7. Net revenue per category of customer

Category	Net revenue		Change %	Average net price c/kWh sold		Change %
	<b>2006</b> (12 months) Rm	2005 (15 months) Rm		<b>2006</b>	2005	
Redistributors	<b>13 248</b>	15 139	(12,5)	<b>16,13</b>	15,19	6,2
Residential <sup>3</sup>	<b>3 569</b>	3 927	(9,1)	<b>40,08</b>	38,70	3,6
Commercial	<b>1 664</b>	1 954	(14,8)	<b>22,69</b>	21,88	3,7
Industrial	<b>8 416</b>	10 008	(15,9)	<b>14,75</b>	13,97	5,6
Mining	<b>5 151</b>	6 231	(17,3)	<b>16,19</b>	15,36	5,4
Agricultural	<b>1 449</b>	1 728	(16,1)	<b>32,86</b>	30,83	6,6
Traction	<b>638</b>	759	(15,9)	<b>20,25</b>	19,37	4,5
International	<b>1 290</b>	1 381	(6,6)	<b>9,83</b>	8,63	13,9
Internal	<b>88</b>	96	(8,3)	<b>22,28</b>	18,97	17,4
Total net revenue	<b>35 513</b>	41 223	(13,9)	<b>17,05</b>	16,04	6,3 <sup>2</sup>

1. Customer numbers have been revised to take into account the removal of disconnected customers and homes that no longer exist as a result of floods and other reasons.

2. General price increase approved by Nersa for the period 1 January 2005 to 31 March 2006 equalled 4,1%.

3. Prepayments included under residential.