

# Generation and consumption of electricity

June 2004

**Embargoed until:  
5 August 2004  
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**Key figures as at the end of June 2004**

<b>Actual estimates</b>	<b>June 2004</b>	<b>% change between June 2004 and June 2003</b>	<b>% change between April to June 2004 and April to June 2003</b>	<b>% change between January to June 2004 and January to June 2003</b>
Electricity consumed (Gigawatt-hours)	19 099	+5,4	+4,4	+4,9
Electricity imported (Gigawatt-hours)	560	+8,1	+7,0	+15,4
Electricity exported (Gigawatt-hours)	1 057	+32,5	+32,9	+53,1
Index of the physical volume of electricity production (2000=100)	120,7	+6,6	+5,7	+6,5

<b>Seasonally adjusted estimates</b>	<b>June 2004</b>	<b>% change between June 2004 and May 2004</b>	<b>% change between April to June 2004 and January to March 2004</b>
Electricity consumed (Gigawatt-hours)	18 207	+1,0	-1,2
Index of the physical volume of electricity production (2000=100)	115,4	+1,5	-0,5

## Key findings as at the end of June 2004

### Consumption of electricity decreases

*The consumption of electricity for the second quarter of 2004, after seasonal adjustment, decreased by 1,2% (-685 Gigawatt-hours) compared with the preceding quarter. This decrease was reported by Eskom while "other producers" reported a slight increase during the above-mentioned period. However, the consumption of electricity for June 2004 increased by 5,4% (+983 Gigawatt-hours) compared with June 2003. The consumption of electricity in South Africa for the first six months of 2004 increased by 4,9% (+5 076 Gigawatt-hours) compared with the first six months of 2003.*

### Production of electricity decreases

*The production of electricity for the second quarter of 2004, after seasonal adjustment, decreased by 0,5% (-315 Gigawatt-hours) compared with the first quarter of 2004. However, the actual production of electricity for June 2004 increased by 6,6% (+1 314 Gigawatt-hours) compared with June 2003. Furthermore, the volume of electricity produced in the second quarter of 2004, was 5,7% (+3 288 Gigawatt-hours) higher compared with the corresponding quarter of 2003. The production of electricity in South Africa for the first six months of 2004 increased by 6,5% (+7 265 Gigawatt-hours) compared with the first six months of 2003.*

### Import of electricity increases

*The import of electricity for June 2004 increased by 8,1% (+42 Gigawatt-hours) compared with June 2003. Furthermore, the import of electricity in South Africa for the first six months of 2004 increased by 15,4% (+568 Gigawatt-hours) compared with the first six months of 2003.*

### Export of electricity increases

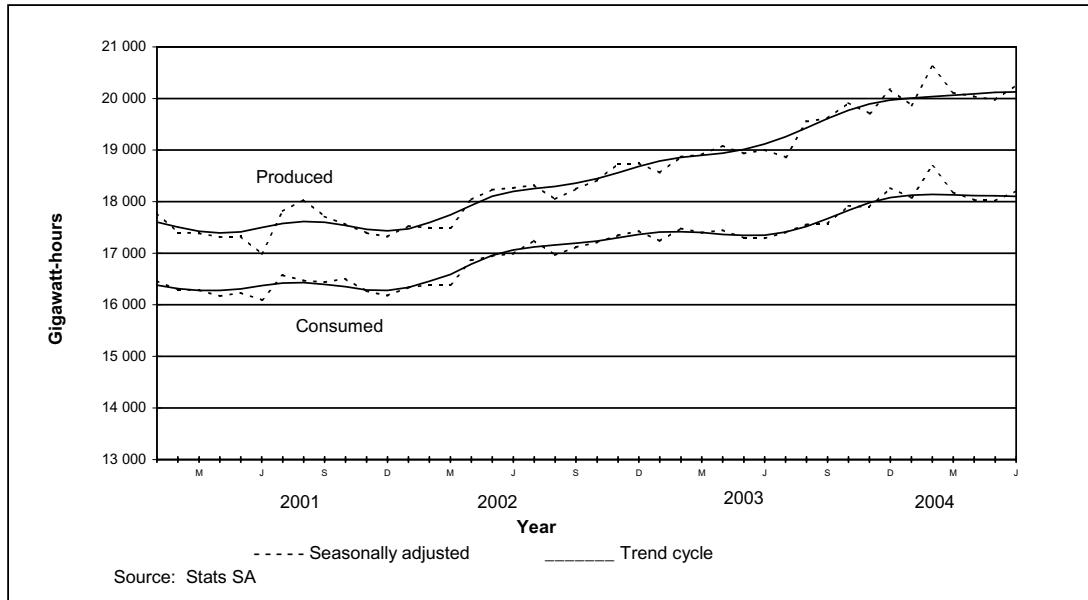
*The export of electricity for June 2004 increased by 32,5% (+259 Gigawatt-hours) compared with June 2003. Furthermore, the export of electricity for the first six months of 2004 increased by 53,1% (+2 078 Gigawatt-hours) compared with the first six months of 2003.*

### Export compared to import

*The export of electricity for the first six months of 2004, exceeded the import of electricity by 41,0% (+1 743 Gigawatt-hours). In comparison, during the first six months of 2003, only 6,3% (+233 Gigawatt-hours) more electricity was exported than imported.*

Figure 1 below shows the seasonally adjusted and trend patterns for electricity consumed and produced in South Africa between January 2001 and June 2004. There was a gradual upward movement in the trend cycle until the end of 2003 and since January 2004 the trend levelled out.

**Figure 1 – Electricity consumed and produced in South Africa from 2001 to 2004**



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**Notes**

<b>Forthcoming issues</b>	<b>Issue</b>	<b>Expected release date</b>
	July 2004	2 September 2004
<b>Purpose of the survey</b>	The results of the monthly Generation and Consumption of Electricity survey are used to compile estimates of the Gross Domestic Product (GDP) and its components, which are used in monitoring the state of the economy and formulation of economic policy.	
<b>Response rate</b>	The response rate for the survey on the generation and consumption of electricity for June 2004 was 100%.	

**Table 1 - Total volume of electricity consumed in South Africa: 1999 to 2004**

<b>Gigawatt-hours</b>						
<b>Month</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
January	15 153	15 512	16 064	15 968	16 837	17 640
February	14 360	15 224	14 871	15 005	15 940	17 080
March	15 791	16 225	16 320	16 353	17 424	18 237
April	15 063	15 399	15 515	16 172	16 728	17 324
May	16 327	17 064	16 929	17 642	17 974	18 715
June	16 393	16 818	16 788	17 763	18 116	19 099
July	17 051	17 759	18 021	18 743	18 939	
August	16 708	17 214	17 300	17 842	18 462	
September	15 937	16 180	16 277	16 892	17 279	
October	16 322	16 709	16 794	17 523	18 213	
November	15 831	16 161	15 960	17 005	17 515	
December	15 184	15 395	15 224	16 440	17 211	
<b>Year</b>	<b>190 120</b>	<b>195 660</b>	<b>196 063</b>	<b>203 348</b>	<b>210 638</b>	

**Table 2 - Seasonally adjusted total volume of electricity consumed in South Africa: 1999 to 2004**

<b>Gigawatt-hours</b>						
<b>Month</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
January	15 485	15 857	16 422	16 329	17 235	18 074
February	15 695	16 656	16 259	16 422	17 480	18 686
March	15 807	16 262	16 305	16 318	17 397	18 182
April	15 772	16 163	16 179	16 858	17 448	18 032
May	15 690	16 388	16 273	16 970	17 294	18 018
June	15 738	16 133	16 111	16 993	17 285	18 207
July	15 741	16 384	16 586	17 249	17 407	
August	15 841	16 326	16 408	16 965	17 561	
September	16 065	16 316	16 459	17 118	17 573	
October	16 034	16 421	16 510	17 208	17 920	
November	16 160	16 493	16 279	17 347	17 894	
December	16 166	16 396	16 169	17 431	18 267	

**Table 3 - Indices of the physical volume of electricity production: 1999 to 2004**

**Base: 2000=100**

Month	1999	2000	2001	2002	2003	2004
January	94,7	92,5	98,6	97,1	102,7	109,8
February	89,0	91,2	90,1	90,5	97,1	106,0
March	97,0	100,9	98,5	98,5	106,6	113,3
April	90,1	95,9	93,6	97,8	103,6	108,9
May	98,0	106,3	103,0	108,1	111,9	117,9
June	98,9	104,9	101,1	108,6	113,2	120,7
July	104,0	107,8	111,1	114,2	117,7	
August	101,8	105,5	108,0	108,5	117,5	
September	96,9	99,1	100,5	103,5	111,3	
October	99,1	103,1	102,7	108,3	117,2	
November	96,0	99,1	97,4	104,9	110,4	
December	90,8	93,8	92,1	100,0	107,8	
<b>Year</b>	<b>96,4</b>	<b>100,0</b>	<b>99,7</b>	<b>103,3</b>	<b>109,8</b>	

**Table 4 - Seasonally adjusted indices of the physical volume of electricity production: 1999 to 2004**

**Base: 2000=100**

Month	1999	2000	2001	2002	2003	2004
January	96,8	94,7	101,2	99,9	105,9	113,4
February	97,3	100,0	99,1	99,8	107,4	117,3
March	97,4	101,3	99,0	99,1	107,5	114,3
April	95,0	101,1	98,5	102,8	108,7	114,2
May	94,2	102,2	99,1	104,1	107,8	113,7
June	94,9	100,7	97,0	104,0	108,2	115,4
July	95,4	98,8	101,8	104,7	107,8	
August	96,3	99,8	102,2	102,6	111,1	
September	97,3	99,4	100,8	103,9	111,8	
October	96,6	100,3	99,6	104,9	113,4	
November	98,0	100,9	99,0	106,7	112,3	
December	97,4	100,6	98,6	106,8	115,0	



**Table 5 - Total volume of electricity imported: 1999 to 2004**

<b>Gigawatt-hours</b>						
<b>Month</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
January	185	683	569	670	705	828
February	201	529	488	643	637	811
March	302	6	665	783	706	863
April	682	24	774	733	547	641
May	719	20	629	658	569	547
June	654	2	797	704	518	560
July	515	599	479	702	792	
August	613	476	282	721	424	
September	679	495	507	637	266	
October	688	506	713	454	272	
November	644	601	636	477	583	
December	791	778	708	691	720	
<b>Year</b>	<b>6 673</b>	<b>4 719</b>	<b>7 247</b>	<b>7 873</b>	<b>6 739</b>	

**Table 6 - Total volume of electricity exported: 1999 to 2004**

<b>Gigawatt-hours</b>						
<b>Month</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
January	346	197	616	558	578	1 037
February	267	169	470	478	508	977
March	248	196	498	529	607	1 027
April	217	155	463	525	619	951
May	318	213	508	578	805	944
June	347	193	496	601	798	1 057
July	381	363	543	614	944	
August	465	389	569	605	1 030	
September	480	458	581	628	1 051	
October	440	540	630	626	1 116	
November	432	525	598	600	1 025	
December	325	609	547	608	1 055	
<b>Year</b>	<b>4 266</b>	<b>4 007</b>	<b>6 519</b>	<b>6 950</b>	<b>10 136</b>	

**Table 7 - Electricity produced and consumed in power stations, purchased and sold outside South Africa and available for distribution in South Africa**

Gigawatt-hours						
Description	June 2003	May 2004	June 2004	January to June 2003	January to June 2004	% change between January to June 2004 and January to June 2003
<b>Total - All producers</b>						
Electricity produced	19 867	20 700	21 181	111 501	118 766	+ 6,5
Purchased outside South Africa (import)	518	547	560	3 682	4 250	+ 15,4
Consumed in power stations and auxilliary systems	1 471	1 588	1 584	8 248	8 928	+ 8,2
Sold outside South Africa (export)	798	944	1 057	3 915	5 993	+ 53,1
Electricity available for distribution in South Africa	18 116	18 715	19 099	103 019	108 095	+ 4,9
<b>Eskom</b>						
Electricity produced	19 057	19 960	20 376	107 482	114 690	+ 6,7
Purchased outside South Africa (import)	518	547	560	3 682	4 250	+ 15,4
Consumed in power stations and auxilliary systems	1 380	1 512	1 500	7 816	8 506	+ 8,8
Sold outside South Africa (export)	798	944	1 057	3 915	5 993	+ 53,1
Electricity available for distribution in South Africa	17 397	18 051	18 379	99 433	104 443	+ 5,0

**Table 8 - Electricity distributed by Eskom according to province for the year 2004 <sup>1/</sup>**

<b>Gigawatt-hours</b>					
<b>Month</b>	<b>Western Cape</b>	<b>Eastern Cape</b>	<b>Northern Cape</b>	<b>Free State</b>	<b>North West</b>
January	1 782	516	384	839	2 389
February	1 741	599	369	772	2 230
March	1 826	643	385	791	2 443
April	1 693	567	317	740	2 218
May	1 792	656	354	822	2 418
June	1 734	648	353	837	2 303
July					
August					
September					
October					
November					
December					
<b>Year to date</b>	<b>8 786</b>	<b>3 629</b>	<b>2 162</b>	<b>4 801</b>	<b>11 612</b>

<b>Month</b>	<b>KwaZulu-Natal</b>	<b>Mpumalanga</b>	<b>Gauteng</b>	<b>Limpopo</b>	<b>Total South Africa</b>
January	3 416	2 087	4 335	788	16 537
February	3 373	2 097	4 144	727	16 052
March	3 496	2 161	4 454	798	16 997
April	3 293	2 065	4 296	761	15 950
May	3 570	2 308	4 749	839	17 508
June	3 971	2 104	4 940	816	17 706
July					
August					
September					
October					
November					
December					
<b>Year to date</b>	<b>21 119</b>	<b>12 822</b>	<b>26 918</b>	<b>4 729</b>	<b>100 750</b>

1/ Wholesale energy as delivered by Eskom to the various provinces

## Explanatory notes

- |                                      |           |   |
|--------------------------------------|-----------|---|
| <b>Introduction</b>                  | <b>1</b>  | Statistics South Africa (Stats SA) conducts a monthly sample survey of the electricity industry covering electricity undertakings and establishments (branches). This statistical release contains information regarding the number of electricity units produced and consumed in South Africa, the number of units purchased and sold outside South Africa and the number of units distributed by Eskom according to province on a monthly basis. Both actual and seasonally adjusted figures are published.   |
|                                      | <b>2</b>  | This statistical release reflects indices of the physical volume of electricity production on the basis of 2000=100. In accordance with international practice, the indices have to be rebased every six years to a new base year.  |
|                                      | <b>3</b>  | In order to improve timeliness of the publication, some information for the current month June have been estimated due to late submission by respondents. These estimates will be revised in the next statistical release(s) as soon as actual information is available.  |
| <b>Scope of the survey</b>           | <b>4</b>  | This survey covers electricity undertakings and establishments conducting activities concerned with the generation or transmission and distribution of electricity, including electrical power installations, which, as subsidiary divisions of undertakings, produce electricity for regular use by these undertakings.  |
| <b>Classification</b>                | <b>5</b>  | The 1993 edition of the <i>Standard Industrial Classification of all Economic Activities (SIC)</i> , Fifth Edition, Report No. 09-90-02, was used to classify the statistical units in the survey. The SIC is based on the 1990 <i>International Standard Industrial Classification of all Economic Activities (ISIC)</i> with suitable adaptations for local conditions. Each statistical unit is classified to an industry, which reflects the predominant activity of the electricity undertaking or establishment.  |
| <b>Statistical unit</b>              | <b>6</b>  | The basic statistical unit for the collection of information is the electricity undertaking or establishment. The electricity undertaking or establishment is the smallest economic unit that functions as a separate entity. Each statistical unit is classified to an industry (see paragraph 5).   |
| <b>Survey methodology and design</b> | <b>7</b>  | All statistical units are stratified by type of economic activity according to the <i>Standard Industrial Classification of all Economic Activities (SIC)</i> and measure of size, where measure of size is the volume of electricity generated by the electricity undertaking or establishment. All large undertakings or establishments (size category one cases) are completely enumerated. A sample is drawn from medium and small size undertakings and establishments by systematically selecting undertakings or establishments within each size category. An electricity undertaking or establishment with a total generating capacity of less than 500 kilowatt is excluded from the sample.   |
|                                      | <b>8</b>  | The survey is conducted by mail each month collecting information from a sample of 22 electricity undertakings or establishments.   |
| <b>Monthly production indices</b>    | <b>9</b>  | The calculation of the monthly production indices is based on the number of electricity units produced.   |
| <b>Benchmarking</b>                  | <b>10</b> | The index of physical volume of electricity production should provide an accurate reflection of the trend of activities of the relevant industry. The level of activities as measured by the monthly Generation and Consumption of Electricity sample survey is based on information received from a sample of electricity undertakings and establishments, which are weighted according to the original sample, designed in order to represent the population of electricity undertakings and establishments. It is necessary to adjust the level of activities as measured by the monthly sample survey to the level of activities as measured periodically by the Census of Electricity, Gas and Steam. This procedure, whereby the latest results of an economic census are used to compile more accurate level estimates for a certain year, is known as benchmarking. |

- 11** The results of the 1995 Census of Electricity, Gas and Steam served as benchmarks to verify or adjust the level of the monthly physical volume of electricity production indices collected through the monthly sample survey. The level adjustments were done on the volume indices for July of the relevant census year (the 1995 census year covered the period 1 January 1995 to 31 December 1995 and, therefore, the benchmarking was done using the index of July 1995 as reference point).
- Seasonal adjustment** **12** Seasonally adjusted estimates of all items are generated each month, using the X-11 Seasonal Adjustment Program developed by US Bureau of the Census Economic Research and Analyses Division, 1968. Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove irregular or non-seasonal influences, which may be present in any particular month. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variations. This means the month-to-month movements of seasonally adjusted estimates may not be reliable indicators of trend behavior.
- Trend cycle** **13** The trend is the long-term pattern or movement of a time series. The X-11 Seasonal Adjustment Program is used for smoothing seasonally adjusted estimates.
- Related publications** **14** Users may also wish to refer to the following publications which are available from Stats SA -
- *Bulletin of Statistics.*
  - *SA Statistics.*
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- Pre-release policy** **17** Stats SA pre-release policy may be inspected at its Website, [www.statssa.gov.za](http://www.statssa.gov.za).
- Symbols and abbreviations** **18**
- |          |   |
|----------|---|
| GDP      | Gross Domestic Product  |
| ISIC     | International Standard Industrial Classification              |
| SIC      | Standard Industrial Classification of all Economic Activities |
| Stats SA | Statistics South Africa                                       |
| *        | Revised figures   |

## Glossary

<b>Electricity undertaking</b>	An electricity undertaking is an undertaking concerned with the generation or transmission and distribution of electricity, including electrical power installations, which as subsidiary divisions of undertakings produce electricity for regular use by these undertakings.
<b>Establishment (branch)</b>	An establishment (branch) is defined as the smallest economic unit, which operates as a separate entity for which comprehensive financial records are kept.
<b>Index of physical volume of electricity production</b>	The index of physical volume of electricity production or a production index is a statistical measure of the change in the volume of production. The production index of electricity is the ratio between the volume of production of electricity in a given period and the volume of production of electricity in the base period. The base period is 2000. The production in the base period is set at 100.
<b>Industry</b>	An industry consists of a group of undertakings or establishments engaged in the same or similar kinds of economic activity. Industries are defined in the 1993 System of National Accounts (1993 SNA) in the same way as in the <i>Standard Industrial Classification of all Economic Activities (SIC)</i> , Fifth Edition, Report No. 09-90-02.
<b>Unit of electricity</b>	One unit of electricity is equal to 1 kilowatt-hour (kWh). One gigawatt-hour (gWh) of electricity is equal to one million kilowatt-hours.

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