

# Generation and consumption of electricity

March 2003

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**Embargo: 13:00  
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Stats SA publishes approximately three hundred different releases each year. It is not economically viable to produce them in more than one of South Africa's eleven official languages. Since the releases are used extensively, not only locally, but also by international economic and social-scientific communities, Stats SA releases are published in English only.

This data in this statistical release adheres to the Special Data Dissemination Standard (SDDS) of the International Monetary Fund (IMF), which sets out standards on coverage, periodicity and timeliness of data; access by the public; integrity; and quality of the disseminated data.

**Key figures as at the end of March 2003****Actual estimates**

	<b>March 2003</b>	<b>% change between March 2002 and March 2003</b>	<b>% change between January 2002 to March 2002 and January 2003 to March 2003</b>
Electricity consumed (Gigawatt-hours)	17 389	+6,3	+5,9
Electricity imported (Gigawatt-hours)	706	-9,8	-2,3
Electricity exported (Gigawatt-hours)	607	+14,7	+8,2
Index of the physical volume of electricity production (2000=100)	106,6	+8,2	+7,1

**Seasonally adjusted  
estimates**

	<b>March 2003</b>	<b>% change between February 2003 and March 2003</b>	<b>% change between October 2002 to December 2002 and January 2003 to March 2003</b>
Electricity consumed (Gigawatt-hours)	17 378	-0,4	0,0
Electricity imported (Gigawatt-hours)	690	-1,3	+36,8
Electricity exported (Gigawatt-hours)	690	+9,0	+17,2
Index of the physical volume of electricity production (2000=100)	107,5	+0,2	+0,3

## **Key findings as at the end of March 2003**

### **Electricity consumption maintains the level of the last quarter of 2002**

*The consumption of electricity for the first quarter of 2003, after seasonal adjustment, is at the same level as that for the fourth quarter of 2002. The consumption of electricity for March 2003 increased by 6,3% (+1 036 Gigawatt-hours) compared with March 2002. Furthermore, the consumption of electricity in South Africa for the first quarter of 2003 increased by 5,9 % (+2 805 Gigawatt-hours) compared with the first quarter of 2002.*

### **Production of electricity continues to increase**

*The production of electricity for the first quarter 2003, after seasonal adjustment, increased by 0,3% (+160 Gigawatt-hours) compared with the fourth quarter 2002. The production of electricity for March 2003 increased by 8,2% (+1 430 Gigawatt-hours) compared with March 2002. Furthermore, the production of electricity in South Africa for the first quarter of 2003 increased by 7,1% (+3 554 Gigawatt-hours) compared with the first quarter of 2002.*

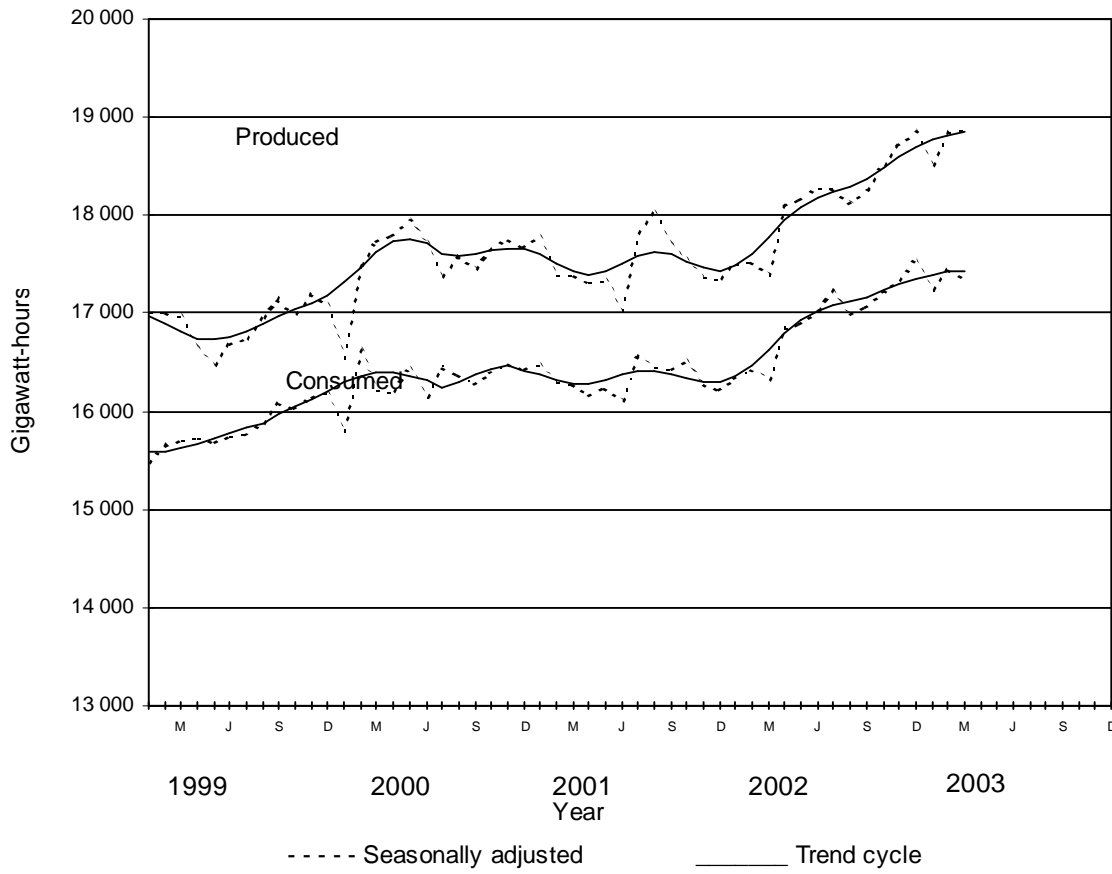
### **Import of electricity increases over the last quarter**

*The seasonally adjusted import of electricity from neighbouring countries for the first quarter of 2003 increased by 36,8% (+551 Gigawatt-hours) compared with the fourth quarter of 2002. However, the import of electricity for March 2003 decreased by 9,8% (-77 Gigawatt-hours) compared with March 2002. The import of electricity in South Africa for the first quarter of 2003 decreased by 2,3% (-48 Gigawatt-hours) compared with the first quarter of 2002.*

### **Export of electricity continues to increase**

*The seasonally adjusted export of electricity for the first quarter of 2003 increased by 17,2% (+277 Gigawatt-hours) compared with the fourth quarter of 2002. The export of electricity for March 2003 increased by 14,7% (+78 Gigawatt-hours) compared with March 2002. Furthermore, the export of electricity for the first quarter of 2003 increased by 8,2% (+128 Gigawatt-hours) compared with the first quarter of 2002.*

**Figure 1 – Electricity consumed and produced in South Africa**



Source: Stats SA

# Contents

	<b>Page</b>
<b>Notes</b> .....	5
<b>Tables</b>	
Table 1 Total volume of electricity consumed in South Africa (SA): 1998 to 2003.....	6
Table 2 Seasonally adjusted total volume of electricity consumed in SA: 1998 to 2003.....	6
Table 3 Indices of the physical volume of electricity production: 1998 to 2003.....	7
Table 4 Seasonally adjusted indices of the physical volume of electricity production: 1998 to 2003.....	7
Table 5 Total volume of electricity imported: 1998 to 2003.....	8
Table 6 Total volume of electricity exported: 1998 to 2003.....	8
Table 7 Electricity produced and consumed in power stations, purchased and sold outside South Africa and consumed in South Africa.....	9
Table 8 Electricity distributed by Eskom according to province for the year 2003.....	10
<b>Additional information</b>	
Explanatory notes .....	11
Technical notes .....	13
Glossary .....	14
<b>For more information</b> .....	15

## Notes

<b>Forthcoming issues</b>	<b>Issue</b>	<b>Expected release date</b>
	April 2003	5 June 2003
	May 2003	3 July 2003
	June 2003	7 August 2003
	July 2003	4 September 2003
	August 2003	2 October 2003
	September 2003	6 November 2003
	October 2003	4 December 2003
	November 2003	8 January 2004
	December 2003	5 February 2004

### **Purpose of the survey**

The Generation and Consumption of Electricity Survey is a countrywide survey covering a sample of electricity undertakings and establishments conducting activities concerned with the generation or transmission and distribution of electricity in the South African economy. The information received is used to estimate key economic statistics and calculate production indices in order to compile estimates of the Gross Domestic Product (GDP) and its components, which are used to formulate and monitor government policy.

**Table 1 - Total volume of electricity consumed in South Africa (SA): 1998 to 2003**  
Gigawatt-hours

Month	1998	1999	2000	2001	2002	2003
January	15 403	15 153	15 512	16 064	15 968	16 837
February	14 459	14 360	15 224	14 871	15 005	15 905
March	15 714	15 791	16 225	16 320	16 353	17 389
April	14 923	15 063	15 399	15 515	16 172	
May	16 261	16 327	17 064	16 929	17 642	
June	16 280	16 393	16 818	16 788	17 763	
July	16 867	17 051	17 759	18 021	18 743	
August	16 417	16 708	17 214	17 300	17 842	
September	15 536	15 937	16 180	16 277	16 892	
October	15 957	16 322	16 709	16 794	17 523	
November	15 136	15 831	16 161	15 960	17 005	
December	14 563	15 184	15 395	15 224	16 440	
<b>Year</b>	<b>187 516</b>	<b>190 120</b>	<b>195 660</b>	<b>196 063</b>	<b>203 348</b>	

**Table 2 - Seasonally adjusted total volume of electricity consumed in SA:**  
1998 to 2003

Gigawatt-hours

Month	1998	1999	2000	2001	2002	2003
January	15 757	15 503	15 873	16 446	16 342	17 237
February	15 807	15 705	16 675	16 270	16 432	17 451
March	15 691	15 776	16 245	16 289	16 323	17 378
April	15 651	15 770	16 155	16 169	16 855	
May	15 607	15 692	16 380	16 236	16 899	
June	15 572	15 739	16 131	16 112	17 025	
July	15 528	15 733	16 364	16 569	17 222	
August	15 556	15 859	16 359	16 454	16 999	
September	15 661	16 060	16 295	16 427	17 059	
October	15 668	16 023	16 409	16 508	17 212	
November	15 490	16 166	16 491	16 278	17 337	
December	15 544	16 165	16 412	16 215	17 519	

**Table 3 - Indices of the physical volume of electricity production:  
1998 to 2003**

**Base: (2000=100)**

<b>Month</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
January	97,1	94,7	92,5	98,6	97,1	102,6
February	91,1	89,0	91,2	90,1	90,5	97,1
March	98,0	97,0	100,9	98,5	98,5	106,6
April	93,5	90,1	95,9	93,6	97,8	
May	102,2	98,0	106,3	103,0	108,1	
June	102,2	98,9	104,9	101,1	108,6	
July	106,2	104,0	107,8	111,1	114,2	
August	99,1	101,8	105,5	108,0	108,5	
September	96,6	96,9	99,1	100,5	103,5	
October	99,8	99,1	103,1	102,7	108,3	
November	94,1	96,0	99,1	97,4	104,9	
December	89,8	90,8	93,8	92,1	100,0	
<b>Year</b>	<b>97,5</b>	<b>96,4</b>	<b>100,0</b>	<b>99,7</b>	<b>103,3</b>	

**Table 4 - Seasonally adjusted indices of the physical volume of  
electricity production: 1998 to 2003**

**Base: (2000=100)**

<b>Month</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
January	99,2	96,8	94,7	101,1	99,7	105,5
February	99,4	97,2	100,0	99,0	99,8	107,3
March	98,7	97,7	101,7	99,2	99,3	107,5
April	98,6	95,0	101,0	98,6	103,0	
May	98,4	94,1	102,0	98,7	103,5	
June	97,8	94,8	100,5	96,9	104,0	
July	97,3	95,2	98,4	101,3	104,1	
August	93,7	96,4	100,1	102,7	103,2	
September	97,0	97,3	99,4	100,9	103,9	
October	97,6	96,6	100,4	99,9	105,4	
November	96,2	98,0	100,9	99,0	106,5	
December	96,2	97,4	100,7	98,9	107,3	



**Table 5 - Total volume of electricity imported: 1998 to 2003****Gigawatt-hours**

<b>Month</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
January	11	185	683	569	670	705
February	52	201	529	488	643	637
March	159	302	6	665	783	706
April	176	682	24	774	733	
May	133	719	20	629	658	
June	187	654	2	797	704	
July	141	515	599	479	702	
August	667	613	476	282	721	
September	203	679	495	507	637	
October	161	688	506	713	454	
November	273	644	601	636	477	
December	212	791	778	708	691	
<b>Year</b>	<b>2 375</b>	<b>6 673</b>	<b>4 719</b>	<b>7 247</b>	<b>7 873</b>	

**Table 6 - Total volume of electricity exported: 1998 to 2003****Gigawatt-hours**

<b>Month</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
January	330	346	197	616	558	578
February	360	267	169	470	478	508
March	325	248	196	498	529	607
April	367	217	155	463	525	
May	388	318	213	508	578	
June	429	347	193	496	601	
July	472	381	363	543	614	
August	350	465	389	569	605	
September	343	480	458	581	628	
October	400	440	540	630	626	
November	465	432	525	598	600	
December	303	325	609	547	608	
<b>Year</b>	<b>4 532</b>	<b>4 266</b>	<b>4 007</b>	<b>6 519</b>	<b>6 950</b>	

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

**Gigawatt-hours**

<b>Description</b>	<b>March 2002</b>	<b>February 2003</b>	<b>March 2003</b>	<b>January 2002 to March 2002</b>	<b>January 2003 to March 2003</b>	<b>Percentage change between January 2002 to March 2002 and January 2003 to March 2003</b>
<b>Total - All Producers</b>						
Electricity produced	17 287	17 050	18 717	50 231	53 785	+ 7,1
Purchased outside South Africa (import)	783	637	706	2 096	2 048	- 2,3
Consumed in power stations and auxilliary systems	1 188	1 274	1 427	3 437	4 009	+ 16,6
Sold outside South Africa (export)	529	508	607	1 565	1 693	+ 8,2
Electricity consumed in South Africa <sup>1/</sup>	16 353	15 905	17 389	47 326	50 131	+ 5,9
<b>Eskom</b>						
Electricity produced	16 717	16 432	18 050	48 446	51 967	+ 7,3
Purchased outside South Africa (import)	783	637	706	2 096	2 048	- 2,3
Consumed in power stations and auxilliary systems	1 108	1 168	1 315	3 198	3 730	+ 16,6
Sold outside South Africa (export)	529	508	607	1 565	1 693	+ 8,2
Electricity consumed in South Africa <sup>1/</sup>	15 863	15 393	16 834	45 780	48 592	+ 6,1

<sup>1/</sup> As indicated by electricity available for distribution

**Table 8 - Electricity distributed by Eskom according to province for the year 2003**  
**Gigawatt-hours**

<b>Month</b>	<b>Western Cape</b>	<b>Eastern Cape</b>	<b>Northern Cape</b>	<b>Free State</b>	<b>North West</b>
January	1 673	545	379	792	2 356
February	1 622	520	355	742	2 169
March	1 763	590	372	814	2 318
April					
May					
June					
July					
August					
September					
October					
November					
December					
<b>Year</b>	<b>5 058</b>	<b>1 655</b>	<b>1 106</b>	<b>2 348</b>	<b>6 843</b>

<b>Month</b>	<b>KwaZulu-Natal</b>	<b>Mpumalanga</b>	<b>Gauteng</b>	<b>Limpopo</b>	<b>Total RSA</b>
January	3 204	2 090	4 058	740	<b>15 837</b>
February	2 970	1 938	3 802	699	<b>14 817</b>
March	3 216	2 217	4 201	786	<b>16 279</b>
April					
May					
June					
July					
August					
September					
October					
November					
December					
<b>Year</b>	<b>9 390</b>	<b>6 245</b>	<b>12 061</b>	<b>2 225</b>	<b>46 933</b>

## Additional information

### 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. In accordance with international practice, the indices have to be rebased every five years to a new base year. The indices in this statistical release have been calculated on the basis of 2000=100. Rebased indices were published since the October 2001 Statistical release P4141 - Generation and Consumption of Electricity on 6 December 2001.  |
|                                      | <b>3</b> | In order to improve timeliness of the publication, some information for the current month may 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 Standard Industrial Classification of all Economic Activities (SIC), Fifth Edition, Report No. 09-90-02, was used to classify the statistical units in the survey. The SIC is based on the 1990 International Standard Industrial Classification of all Economic Activities (ISIC) 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 (cf. paragraph 5).  |
| <b>Survey methodology and design</b> | <b>7</b> | All statistical units are stratified by type of economic activity according to the Standard Industrial Classification of all Economic Activities (SIC) 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 is weighted according to the original sample design 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.
	<b>11</b>	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). The results, due to benchmarking, were published in the October 1997 statistical release P4141 - Generation and Consumption of Electricity on 4 December 1997.
<b>Seasonal adjustment</b>	<b>12</b>	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 behaviour.
<b>Trend cycle</b>	<b>13</b>	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.
<b>Related publications</b>	<b>14</b>	Users may also wish to refer to the following publications which are available from Stats SA - <ul style="list-style-type: none"> <li>• Bulletin of Statistics.</li> <li>• SA Statistics.</li> </ul>
<b>Unpublished statistics</b>	<b>15</b>	In some cases Stats SA can also make available statistics which are not published. The statistics can be made available as computer printouts, on diskette or CD. Generally a charge is made for providing unpublished statistics.
<b>Rounding-off of figures</b>	<b>16</b>	The figures in the tables have, where necessary, been rounded off to the nearest digit shown. There may, therefore, be slight discrepancies between the sums of the constituent items and the totals shown.

- Pre-release policy**
- 17** Stats SA has adopted the confidential pre-release policy in respect of selected economic indicators and specific government departments. The policy accords with practice among leading statistical agencies. The statistical integrity of the indices and strict observance of the release time has been assured by the following procedure:
- 18** In respect of this statistical release, an official representative from the Office of the President, the Department of Trade and Industry, the Department of Finance and the South African Reserve Bank will receive a copy of the release on a strictly confidential basis two hours in advance of the public issue.
- 19** Stats SA pre-release policy may be inspected at its Website, [www.statssa.gov.za](http://www.statssa.gov.za)

### **Technical notes**

- Response rates** The response rate for the survey on the generation and consumption of electricity for March 2003 is 100%.

## 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 Standard Industrial Classification of all Economic Activities (SIC), 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.

## For more information

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