

# Generation and consumption of electricity

January 2003

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

	<b>January 2003</b>	<b>% change between January 2002 and January 2003</b>	<b>% change between November 2001 to January 2002 and November 2002 to January 2003</b>
Electricity consumed (Gigawatt-hours)	16 837	+5,4	+6,6
Electricity imported (Gigawatt-hours)	705	+5,2	-7,0
Electricity exported (Gigawatt-hours)	578	+3,6	+4,9
Index of the physical volume of electricity production (2000=100)	102,6	+5,7	+7,3

**Seasonally adjusted  
estimates**

	<b>January 2003</b>	<b>% change between December 2002 and January 2003</b>	<b>% change between August 2002 to October 2002 and November 2002 to January 2003</b>
Electricity consumed (Gigawatt-hours)	17 269	-1,5	+1,7
Electricity imported (Gigawatt-hours)	637	+19,7	-8,6
Electricity exported (Gigawatt-hours)	555	+0,0	+1,4
Index of the physical volume of electricity production (2000=100)	105,6	-1,7	+2,2

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

### **Consumption of electricity increases**

*The consumption of electricity for the three months ended January 2003, after seasonal adjustments, increased by 1,7 (+864 Gigawatt-hours) compared with the previous three months. The consumption of electricity for January 2003 increased by 5,4% (+869 Gigawatt-hours) compared with January 2002.*

### **Production of electricity increases**

*The production of electricity for the three months ended January 2003, after seasonal adjustments, increased by 2,2% (+1 240 Gigawatt-hours) compared with the previous three months. The production of electricity for January 2003 increased by 5,7% (+970 Gigawatt-hours) compared with January 2002.*

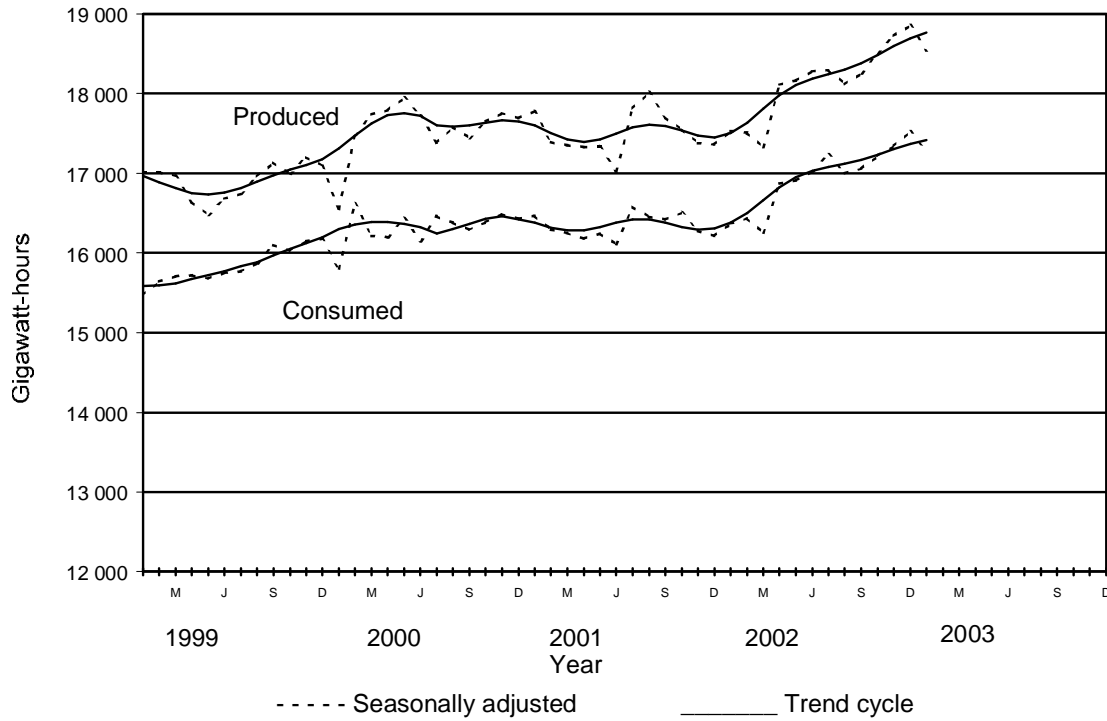
### **Import of electricity decreases**

*The seasonally adjusted import of electricity from neighbouring countries for the three months ended January 2003 decreased by 8,6% (-154 Gigawatt-hours) compared with the previous three months. The import of electricity for January 2003 increased by 5,2% (+35 Gigawatt-hours) compared with January 2002.*

### **Export of electricity increases**

*The seasonally adjusted export of electricity for the three months ended January 2003 increased by 1,4% (+23 Gigawatt-hours) compared with the previous three months. The export of electricity for January 2003 increased by 3,6% (+20 Gigawatt-hours) compared with January 2002.*

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



Source: Stats SA

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## Notes

<b>Forthcoming issues</b>	<b>Issue</b>	<b>Expected release date</b>
	February 2003	3 April 2003
	March 2003	8 May 2003
	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	
March	15 714	15 791	16 225	16 320	16 353	
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	15 762	15 510	15 885	16 466	16 367	17 269
February	15 811	15 714	16 675	16 291	16 435	
March	15 689	15 769	16 206	16 247	16 254	
April	15 651	15 772	16 164	16 178	16 869	
May	15 608	15 694	16 390	16 243	16 910	
June	15 569	15 735	16 131	16 107	17 022	
July	15 532	15 739	16 375	16 577	17 236	
August	15 555	15 858	16 358	16 450	17 001	
September	15 659	16 059	16 290	16 420	17 057	
October	15 667	16 024	16 406	16 507	17 215	
November	15 489	16 166	16 488	16 278	17 342	
December	15 538	16 160	16 406	16 214	17 526	

**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	
March	98,0	97,0	100,9	98,5	98,5	
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	99,3	96,9	94,8	101,2	99,8	105,6
February	99,4	97,3	99,9	99,1	99,7	
March	98,2	97,1	100,9	98,6	98,6	
April	98,7	95,0	101,1	98,7	103,1	
May	98,4	94,2	102,0	98,8	103,6	
June	97,9	94,8	100,6	96,9	104,1	
July	97,4	95,3	98,6	101,5	104,2	
August	93,7	96,5	100,2	102,7	103,3	
September	97,1	97,3	99,4	100,9	104,0	
October	97,6	96,7	100,4	100,0	105,5	
November	96,2	98,0	100,9	99,0	106,6	
December	96,3	97,5	100,8	98,9	107,4	



**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	
March	159	302	6	665	783	
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	
March	325	248	196	498	529	
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**

Description	Gigawatt-hours			Percentage change between January 2002 and January 2003
	January 2002	December 2002	January 2003	
<b>Total - All Producers</b>				
Electricity produced	17 048	17 555	18 018	+ 5,7
Purchased outside South Africa (import)	670	691	705	+ 5,2
Consumed in power stations and auxilliary systems	1 192	1 197	1 308	+ 9,7
Sold outside South Africa (export)	558	608	578	+ 3,6
Electricity consumed in South Africa <sup>1/</sup>	15 968	16 440	16 837	+ 5,4
<b>Eskom</b>				
Electricity produced	16 414	16 922	17 485	+ 6,5
Purchased outside South Africa (import)	670	691	705	+ 5,2
Consumed in power stations and auxilliary systems	1 109	1 128	1 247	+ 12,4
Sold outside South Africa (export)	558	608	578	+ 3,6
Electricity consumed in South Africa <sup>1/</sup>	15 417	15 876	16 365	+ 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					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
<b>Year</b>	<b>1 673</b>	<b>545</b>	<b>379</b>	<b>792</b>	<b>2 356</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					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
<b>Year</b>	<b>3 204</b>	<b>2 090</b>	<b>4 058</b>	<b>740</b>	<b>15 837</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 January 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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