



# Generation and consumption of electricity

April 2002

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**Key figures as at the end of April 2002****Actual estimates**

	<b>April 2002</b>	<b>% change between April 2001 and April 2002</b>	<b>% change between February 2001 to April 2001 and February 2002 to April 2002</b>	<b>% change between January 2001 to April 2001 and January 2002 to April 2002</b>
Electricity consumed (Gigawatt-hours)	16 164	+4,2%	+1,7%	+1,1%
Electricity imported (Gigawatt-hours)	733	-5,3%	+12,0%	+13,3%
Electricity exported (Gigawatt-hours)	525	+13,4%	+7,1%	+2,1%
Index of the physical volume of electricity production (2000=100)	97,7	+4,4%	+1,6%	+0,8%

**Seasonally adjusted estimates**

	<b>April 2002</b>	<b>% change between March 2002 and April 2002</b>	<b>% change between November 2001 to January 2002 and February 2002 to April 2002</b>
Electricity consumed (Gigawatt-hours)	16 908	+3,9%	+1,5%
Electricity imported (Gigawatt-hours)	724	-11,5%	+28,3%
Electricity exported (Gigawatt-hours)	716	+8,2%	+28,4%
Index of the physical volume of electricity production (2000=100)	103,1	+4,5%	+1,2%

## **Key findings as at the end of April 2002**

### **Consumption of electricity increases**

*The consumption of electricity for the three months ended April 2002, after seasonal adjustment, increased by 1,5% (+723 Gigawatt-hours) compared with the previous three months. Furthermore, the consumption of electricity for April 2002 increased by 4,2% (+649 Gigawatt-hours) compared with April 2001. The consumption of electricity in South Africa for the first four months of 2002 increased by 1,1% (+720 Gigawatt-hours) compared with the first four months of 2001.*

### **Production of electricity increases**

*The production of electricity for the three months ended April 2002, after seasonal adjustment, increased by 1,2% (+649 Gigawatt-hours) compared with the previous three months. Furthermore, the production of electricity for April 2002 increased by 4,4% (+719 Gigawatt-hours) compared with April 2001. The production of electricity in South Africa for the first four months of 2002 increased by 0,8% (+531 Gigawatt-hours) compared with the first four months of 2001.*

### **Import of electricity increases**

*The seasonally adjusted import of electricity from neighbouring countries for the three months ended April 2002 increased by 28,3% (+506 Gigawatt-hours) compared with the previous three months. However, the import of electricity for April 2002 decreased by 5,3% (-41 Gigawatt-hours) compared with April 2001. The import of electricity in South Africa for the first four months of 2002 increased by 13,3% (+333 Gigawatt-hours) compared with the first four months of 2001.*

### **Export of electricity increases**

*The seasonally adjusted export of electricity for the three months ended April 2002 increased by 28,4% (+444 Gigawatt-hours) compared with the previous three months. Furthermore, the export of electricity for April 2002 increased by 13,4% (+62 Gigawatt-hours) compared with April 2001. The export of electricity in South Africa for the first four months of 2002 increased by 2,1% (+43 Gigawatt-hours) compared with the first four months of 2001.*

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

## Contents

	<b>Page</b>
<b>Notes</b> .....	5
<b>Tables</b>	
Table 1 Electricity consumed in South Africa: 1997 to 2002 .....	6
Table 2 Indices of the physical volume of electricity production: 1997 to 2002 .....	6
Table 3 Electricity produced and consumed in power stations, purchased and sold outside South Africa and consumed in South Africa .....	7
<b>Additional information</b>	
Explanatory notes .....	8
Technical notes .....	10
Glossary .....	11
<b>For more information</b> .....	12

## Notes

<b>Forthcoming issues</b>	<b>Issue</b>	<b>Expected release date</b>
	May 2002	4 July 2002
	June 2002	1 August 2002
	July 2002	5 September 2002
	August 2002	3 October 2002
	September 2002	7 November 2002
	October 2002	5 December 2002
	November 2002	2 January 2003
	December 2002	6 February 2003

### **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 - Electricity consumed in South Africa: 1997 to 2001 Gigawatt-hours 1/

Month	1997	1998	1999	2000	2001	2002
Actual figures						
J	15 009	15 403	15 153	15 512	16 064	15 968
F	14 088	14 459	14 360	15 224	14 871	15 005
M	15 155	15 714	15 791	16 225	16 320	16 353
A	15 247	14 923	15 063	15 399	15 515	16 164
M	16 423	16 261	16 327	17 064	16 929	
J	16 474	16 280	16 393	16 818	16 788	
J	17 187	16 867	17 051	17 759	18 021	
A	16 303	16 417	16 708	17 214	17 300	
S	15 503	15 536	15 937	16 180	16 277	
O	16 005	15 957	16 322	16 709	16 794	
N	15 235	15 136	15 831	16 161	15 960	
D	14 878	14 563	15 184	15 395	15 224	
YEAR	187 507	187 516	190 120	195 660	196 063	
Seasonally adjusted figures						
J	15 334	15 745	15 484	15 826	16 386	16 276
F	15 426	15 811	15 698	16 631	16 195	16 337
M	15 108	15 700	15 791	16 230	16 251	16 271
A	16 027	15 663	15 814	16 218	16 211	16 908
M	15 793	15 618	15 708	16 434	16 282	
J	15 684	15 563	15 726	16 143	16 122	
J	15 774	15 535	15 765	16 448	16 691	
A	15 382	15 553	15 834	16 313	16 382	
S	15 694	15 664	16 060	16 296	16 413	
O	15 779	15 660	16 005	16 386	16 483	
N	15 611	15 473	16 138	16 466	16 264	
D	15 895	15 536	16 157	16 423	16 253	

1/ As indicated by electricity available for distribution

Table 2 - Indices of the physical volume of electricity production: 1997 to 2001 Base : 2000=100

Month	1997	1998	1999	2000	2001	2002
Actual indices						
J	95,9	97,1	94,7	92,5	98,6	97,1
F	89,9	91,1	89,0	91,2	90,1	90,5
M	97,0	98,0	97,0	100,9	98,5	98,5
A	97,1	93,5	90,1	95,9	93,6	97,7
M	104,4	102,2	98,0	106,3	103,0	
J	104,8	102,2	98,9	104,9	101,1	
J	109,9	106,2	104,0	107,8	111,1	
A	104,5	99,1	101,8	105,5	108,0	
S	100,0	96,6	96,9	99,1	100,5	
O	102,6	99,8	99,1	103,1	102,7	
N	97,4	94,1	96,0	99,1	97,4	
D	94,6	89,8	90,8	93,8	92,1	
YEAR	99,8	97,5	96,4	100,0	99,7	
Seasonally adjusted indices						
J	98,0	99,2	96,7	94,3	100,4	98,9
F	98,1	99,3	97,1	99,6	98,5	99,0
M	97,3	98,2	97,3	101,0	98,7	98,7
A	102,4	98,6	95,1	101,2	98,7	103,1
M	100,7	98,4	94,2	102,3	99,2	
J	100,0	97,9	94,9	100,9	97,3	
J	100,6	97,3	95,3	98,8	101,8	
A	98,6	93,7	96,3	99,8	102,1	
S	100,7	97,1	97,3	99,4	100,8	
O	100,7	97,6	96,7	100,5	100,1	
N	99,5	96,1	98,0	101,0	99,2	
D	101,0	96,1	97,3	100,7	99,0	

Table 3 - Electricity produced and consumed in power stations, purchased and sold outside South Africa and consumed in South Africa

Gigawatt-hours

Description	Year 2001	April	March	April	January -	April
		2002	2001	2002	2001	
<b>Total - All Producers</b>						
Electricity produced						
Actual figures	210 100	17 156	17 287	16 437	67 387	66 856
Seasonally adjusted figures		18 118	17 329	17 333	-	-
Purchased outside South Africa (import)	7 247	733	783	774	2 829	2 496
Consumed in power stations and auxiliary systems	14 767	1 200	1 188	1 233	4 637	4 536
Sold outside South Africa (export)	6 519	525	529	463	2 090	2 047
Electricity consumed in South Africa 1/						
Actual figures	196 063	16 164	16 353	15 515	63 490	62 770
Seasonally adjusted figures		16 908	16 271	16 211	-	-
<b>ESKOM</b>						
Electricity produced						
Actual figures	200 758	16 519	16 717	15 579	64 965	63 516
Seasonally adjusted figures		17 492	16 716	16 489	-	-
Purchased outside South Africa (import)	7 247	733	783	774	2 829	2 496
Consumed in power stations and auxiliary systems	13 622	1 123	1 108	1 141	4 321	4 158
Sold outside South Africa (export)	6 519	525	529	463	2 090	2 047
Electricity consumed in South Africa 1/						
Actual figures	187 863	15 605	15 863	14 749	61 385	59 806
Seasonally adjusted figures		16 364	15 741	15 464	-	-

1/ As indicated by electricity available for distribution

\* Revised



## 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 and the number of units purchased and sold outside South Africa 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 in the October 1997 Statistical release P4141 - Generation and Consumption of Electricity on 4 December 1997.
	<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 6).
<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 21 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 April 2002 is 95,5%.

## 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-hours (gWh) of electricity is equal to one million kilowatt-hours.

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