

# Generation and consumption of electricity

May 2002

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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 May 2002****Actual estimates**

	<b>May 2002</b>	<b>% change between May 2001 and May 2002</b>	<b>% change between March 2001 to May 2001 and March 2002 to May 2002</b>	<b>% change between January 2001 to May 2001 and January 2002 to May 2002</b>
Electricity consumed (Gigawatt-hours)	17 630	+4,1%	+2,8%	+1,8%
Electricity imported (Gigawatt-hours)	658	+4,6%	+5,1%	+11,6%
Electricity exported (Gigawatt-hours)	578	+13,8%	+11,1%	+4,4%
Index of the physical volume of electricity production (2000=100)	108,0	+4,9%	+3,1%	+1,7%

**Seasonally adjusted  
estimates**

	<b>May 2002</b>	<b>% change between April 2002 and May 2002</b>	<b>% change between December 2001 to February 2002 and March 2002 to May 2002</b>
Electricity consumed (Gigawatt-hours)	16 899	+0,4%	+2,2%
Electricity imported (Gigawatt-hours)	765	+9,4%	+16,3%
Electricity exported (Gigawatt-hours)	683	-4,7%	+19,5%
Index of the physical volume of electricity production (2000=100)	103,6	+0,6%	+2,7%

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

### **Consumption of electricity increases**

*The consumption of electricity for the three months ended May 2002, after seasonal adjustment, increased by 2,2% (+1 081 Gigawatt-hours) compared with the previous three months. Furthermore, the consumption of electricity for May 2002 increased by 4,1% (+701 Gigawatt-hours) compared with May 2001. The consumption of electricity in South Africa for the first five months of 2002 increased by 1,8% (+1 419 Gigawatt-hours) compared with the first five months of 2001.*

### **Production of electricity increases**

*The production of electricity for the three months ended May 2002, after seasonal adjustment, increased by 2,7% (+1 325 Gigawatt-hours) compared with the previous three months. Furthermore, the production of electricity for May 2002 increased by 4,9% (+871 Gigawatt-hours) compared with May 2001. The production of electricity in South Africa for the first five months of 2002 increased by 1,7% (+1 409 Gigawatt-hours) compared with the first five months of 2001.*

### **Import of electricity increases**

*The seasonally adjusted import of electricity from neighbouring countries for the three months ended May 2002 increased by 16,3% (+319 Gigawatt-hours) compared with the previous three months. Furthermore, the import of electricity for May 2002 increased by 4,6% (+29 Gigawatt-hours) compared with May 2001. The import of electricity in South Africa for the first five months of 2002 increased by 11,6% (+362 Gigawatt-hours) compared with the first five months of 2001.*

### **Export of electricity increases**

*The seasonally adjusted export of electricity for the three months ended May 2002 increased by 19,5% (+335 Gigawatt-hours) compared with the previous three months. Furthermore, the export of electricity for May 2002 increased by 13,8% (+70 Gigawatt-hours) compared with May 2001. The export of electricity in South Africa for the first five months of 2002 increased by 4,4% (+113 Gigawatt-hours) compared with the first five months of 2001.*

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

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## Notes

<b>Forthcoming issues</b>	<b>Issue</b>	<b>Expected release date</b>
	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	*16 162
M	16 423	16 261	16 327	17 064	16 929	17 630
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	15 309	15 728	15 467	15 828	16 374	16 270
F	15 422	15 807	15 702	16 652	16 233	16 378
M	15 107	15 697	15 782	16 219	16 242	16 257
A	16 019	15 648	15 780	16 172	16 152	16 835
M	15 797	15 624	15 720	16 406	16 239	16 899
J	15 688	15 566	15 729	16 148	16 130	
J	15 778	15 540	15 770	16 457	16 702	
A	15 384	15 557	15 845	16 332	16 406	
S	15 701	15 669	16 065	16 303	16 424	
O	15 785	15 666	16 009	16 392	16 489	
N	15 618	15 482	16 146	16 477	16 273	
D	15 899	15 543	16 166	16 435	16 262	

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	*97,8
M	104,4	102,2	98,0	106,3	103,0	108,0
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	100,6	99,0
F	98,1	99,3	97,2	99,7	98,7	99,3
M	97,2	98,1	97,1	100,9	98,5	98,6
A	102,4	98,6	95,0	101,1	98,5	103,0
M	100,7	98,4	94,2	102,1	98,8	103,6
J	100,0	97,9	94,9	100,9	97,3	
J	100,7	97,4	95,4	99,0	102,0	
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	99,6	96,1	98,0	101,0	99,2	
D	101,0	96,1	97,4	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	May	April	May	January -	May
		2002	2001	2002	2001	
Total - All Producers						
Electricity produced						
Actual figures	210 100	18 961	*17 163	18 090	86 355	84 946
Seasonally adjusted figures		18 168	18 094	17 337	-	-
Purchased outside South Africa (import)	7 247	658	733	629	3 487	3 125
Consumed in power stations and auxiliary systems	14 767	1 412	*1 210	1 283	6 059	5 819
Sold outside South Africa (export)	6 519	578	525	508	2 668	2 555
Electricity consumed in South Africa 1/						
Actual figures	196 063	17 630	*16 162	16 929	81 118	79 699
Seasonally adjusted figures		16 899	16 835	16 239	-	-
ESKOM						
Electricity produced						
Actual figures	200 758	18 283	16 519	17 264	83 248	80 780
Seasonally adjusted figures		17 520	17 461	16 548	-	-
Purchased outside South Africa (import)	7 247	658	733	629	3 487	3 125
Consumed in power stations and auxiliary systems	13 622	1 320	1 123	1 183	5 641	5 341
Sold outside South Africa (export)	6 519	578	525	508	2 668	2 555
Electricity consumed in South Africa 1/						
Actual figures	187 863	17 044	15 605	16 202	78 429	76 008
Seasonally adjusted figures		16 339	16 292	15 544	-	-

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 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 April 2002 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-hours (gWh) of electricity is equal to one million kilowatt-hours.

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