

# Generation and consumption of electricity

June 2001

Co-operation between Statistics South Africa (Stats SA), the citizens of the country, the private sector and government institutions is essential for a successful statistical system. Without continued co-operation and goodwill, the timely release of relevant and reliable official statistics will not be possible.

**Embargo: 13:00**  
**Date: 2 August 2001**

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 June 2001****Actual estimates**

	<b>June 2001</b>	<b>% change between June 2000 and June 2001</b>	<b>% change between April 2000 to June 2000 and April 2001 to June 2001</b>	<b>% change between January 2000 to June 2000 and January 2001 to June 2001</b>
Electricity consumed (Gigawatt-hours)	16 788	-0,2%	-0,1%	+0,3%
Electricity imported (Gigawatt-hours)	797	- <u>1</u> /	- <u>2</u> /	+210,3%
Electricity exported (Gigawatt-hours)	496	+157,0%	+161,5%	+171,7%
Index of the physical volume of electricity production (1995=100)	114,1	-3,6%	-3,0%	-1,1%

**Seasonally adjusted estimates**

	<b>June 2001</b>	<b>% change between May 2001 and June 2001</b>	<b>% change between January 2001 to March 2001 and April 2001 to June 2001</b>
Electricity consumed (Gigawatt-hours)	16 169	-0,4%	-0,2%
Electricity imported (Gigawatt-hours)	789	+5,5%	+17,9%
Electricity exported (Gigawatt-hours)	582	-10,8%	-14,8%
Index of the physical volume of electricity production (1995=100)	110,0	-0,9%	-0,8%

1/ The power lines from neighbouring countries were out of order during the period March 2000 to June 2000 after severe flooding. Therefore, there was an increase from 2 Gigawatt-hours electricity imported for June 2000 to 797 Gigawatt-hours electricity imported for June 2001 (+39 750,0%).

2/ Due to the above-mentioned severe flooding (cf. 1/), electricity imported increased from 46 Gigawatt-hours for the second quarter of 2000 to 2 200 Gigawatt-hours for the second quarter of 2001 (+4 682,6%).

## **Key findings as at the end of June 2001**

### **Consumption of electricity decreases**

*The consumption of electricity for the second quarter of 2001, after seasonal adjustment, decreased by 0,2% (-90 Gigawatt-hours), compared with the first quarter of 2001. Furthermore, the consumption of electricity for June 2001 decreased by 0,2% (-30 Gigawatt-hours) compared with June 2000. However, the consumption of electricity in South Africa for the first six months of 2001 increased by 0,3% (+245 Gigawatt-hours) compared with the first six months of 2000.*

### **Production of electricity decreases**

*The production of electricity for the second quarter of 2001, after seasonal adjustment, decreased by 0,8% (-449 Gigawatt-hours) compared with the first quarter of 2001. The production of electricity for June 2001 decreased by 3,6% (-655 Gigawatt-hours) compared with June 2000. Furthermore, the production of electricity in South Africa for the first six months of 2001 decreased by 1,1% (-1 165 Gigawatt-hours) compared with the first six months of 2000.*

### **Import of electricity increases**

*The seasonally adjusted import of electricity from neighbouring countries for the second quarter of 2001 increased by 17,9% (+340 Gigawatt-hours) compared with the first quarter of 2001. The import of electricity for June 2001 increased from 2 Gigawatt-hours for June 2000 to 797 Gigawatt-hours for June 2001. Furthermore, the import of electricity in South Africa for the first six months of 2001 increased by 210,3% (+2 658 Gigawatt-hours) compared with the first six months of 2000. This increase was due to severe flooding in neighbouring countries during the period March 2000 to June 2000.*

### **Export of electricity decreases**

*The seasonally adjusted export of electricity for the second quarter of 2001 decreased by 14,8% (-300 Gigawatt-hours) compared with the first quarter of 2001. The export of electricity for June 2000 increased by 157,0% (+303 Gigawatt-hours) compared with June 2001. Furthermore, export of electricity for the first six months of 2001 increased by 171,7% (+1 928 Gigawatt-hours) compared with the first six months of 2000. The increase of 171,7% in export to neighbouring countries was mainly due to the aluminium smelter commissioned in Mozambique towards the end of 2000.*

# Contents

	<b>Page</b>
<b>Notes</b> .....	5
<b>Tables</b>	
Table 1 Electricity consumed in South Africa: 1996 to 2001 .....	6
Table 2 Indices of the physical volume of electricity production: 1996 to 2001 .....	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>
	July 2001	6 September 2001
	August 2001	4 October 2001
	September 2001	1 November 2001
	October 2001	6 December 2001
	November 2001	3 January 2002
	December 2001	7 February 2002

**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.

## 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 1995=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 23 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 June 2001 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 1995. 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.

## For more information

Stats SA publishes approximately 300 different statistical 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.

Stats SA has copyright on this publication. Users may apply the information as they wish, provided that they acknowledge Stats SA as the source of the basic data wherever they process, apply, utilise, publish or distribute the data; and also that they specify that the relevant application and analysis (where applicable) result from their own processing of the data.

### Advanced release calendar

An advanced release calendar is disseminated on <http://www.statssa.gov.za>

### Stats SA products

A complete set of Stats SA publications is available at the Stats SA Library and the following libraries:

National Library of South Africa, Pretoria Division  
 National Library of South Africa, Cape Town Division  
 Natal Society Library, Pietermaritzburg  
 Library of Parliament, Cape Town  
 Bloemfontein Public Library  
 Johannesburg Public Library  
 Eastern Cape Library Services, King William's Town  
 Central Regional Library, Pietersburg  
 Central Reference Library, Nelspruit  
 Central Reference Collection, Kimberley  
 Central Reference Library, Mmabatho

Stats SA also provides a subscription service.

### Electronic services

A large range of data are available via on-line services, diskette, CD and computer printouts. For more details about our electronic data services, contact (012) 310 8095/8390/8351/8600.

You can visit us on the Internet at: <http://www.statssa.gov.za>

### Enquiries

Telephone number: (012) 310 8600/8095/8390/8351 (user enquiries)  
 (012) 310 8228/8984 (technical enquiries)  
 (012) 310 8161 (publications)  
 (012) 310 8490 (library)

Fax number: (012) 310 8332

e-mail: [Corrieb@statssa.pwv.gov.za](mailto:Corrieb@statssa.pwv.gov.za)  
[Mosesmn@statssa.pwv.gov.za](mailto:Mosesmn@statssa.pwv.gov.za)

Postal address: Private Bag X44, Pretoria, 0001

Table 1 - Electricity consumed in South Africa: 1996 to 2001 1/ Gigawatt-hours

Month	1996	1997	1998	1999	2000	2001
Actual figures						
J	14 155	15 009	15 403	15 153	15 512	16 064
F	13 710	14 088	14 459	14 360	15 224	14 871
M	14 361	15 155	15 714	15 791	16 225	16 320
A	14 006	15 247	14 923	15 063	15 399	15 515
M	15 315	16 423	16 261	16 327	17 064	16 929
J	15 325	16 474	16 280	16 393	16 818	16 788
J	16 862	17 187	16 867	17 051	17 759	
A	16 151	16 303	16 417	16 708	17 214	
S	14 698	15 503	15 536	15 937	16 180	
O	15 356	16 005	15 957	16 322	16 709	
N	14 792	15 235	15 136	15 831	16 161	
D	14 207	14 878	14 563	15 184	15 395	
YEAR	178 938	187 507	187 516	190 120	195 660	
Seasonally adjusted figures						
J	14 462	15 282	15 702	15 423	15 801	16 269
F	15 028	15 399	15 787	15 669	16 615	16 167
M	14 312	15 083	15 663	15 731	16 169	16 177
A	14 759	16 016	15 634	15 742	16 136	16 119
M	14 792	15 803	15 624	15 694	16 381	16 235
J	14 530	15 687	15 584	15 750	16 174	16 169
J	15 430	15 792	15 564	15 826	16 514	
A	15 218	15 398	15 565	15 877	16 355	
S	14 906	15 723	15 681	16 091	16 320	
O	15 193	15 796	15 675	16 035	16 422	
N	15 182	15 624	15 483	16 156	16 495	
D	15 154	15 912	15 554	16 181	16 445	

1/ As indicated by electricity available for distribution

Table 2 - Indices of the physical volume of electricity production: 1996 to 2001 (Base : 1995=100)

Month	1996	1997	1998	1999	2000	2001
Actual indices						
J	100,6	108,3	109,6	106,9	104,4	111,3
F	98,5	101,5	102,8	100,5	102,9	101,6
M	103,6	109,5	110,6	109,4	113,9	111,2
A	100,5	109,6	105,5	101,7	108,2	105,7
M	109,9	117,8	115,4	110,6	119,9	116,3
J	110,1	118,3	115,4	111,6	118,4	114,1
J	121,1	124,1	119,9	117,4	121,6	
A	115,8	118,0	111,9	114,9	119,0	
S	105,7	112,9	109,1	109,4	111,8	
O	110,7	115,8	112,6	111,9	116,4	
N	107,3	110,0	106,2	108,4	111,9	
D	102,7	106,7	101,3	102,4	105,8	
YEAR	107,2	112,7	110,0	108,8	112,9	
Seasonally adjusted indices						
J	102,9	110,7	112,0	109,1	106,4	113,4
F	107,8	110,8	112,1	109,5	112,1	110,7
M	103,7	109,6	110,5	109,2	113,5	110,8
A	106,1	115,6	111,2	107,1	113,9	111,3
M	106,3	113,4	110,7	105,7	114,5	111,0
J	104,6	112,9	110,6	107,2	114,0	110,0
J	110,7	113,7	110,1	108,1	112,1	
A	109,2	111,6	106,1	109,2	113,2	
S	106,6	113,7	109,7	110,1	112,5	
O	109,1	113,7	110,2	109,4	113,7	
N	109,7	112,5	108,5	110,7	114,2	
D	109,3	114,0	108,5	109,8	113,5	

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

Gigawatt-hours						
Description	Year 2000	June	May	June	January - June	
		2001		2000	2001	2000
<b>Total - All Producers</b>						
Electricity produced						
Actual figures	210 670	17 755	18 090	18 410	102 701	103 866
Seasonally adjusted figures		17 112	17 287	17 721	-	-
Purchased outside South Africa (import)	4 719	797	629	2	3 922	1 264
Consumed in power stations and auxiliary systems	15 719	1 268	1 283	1 401	7 087	7 763
Sold outside South Africa (export)	4 007	496	508	193	3 051	1 123
Electricity consumed in South Africa 1/						
Actual figures	195 660	16 788	16 929	16 818	96 487	96 242
Seasonally adjusted figures		16 169	16 235	16 174	-	-
<b>ESKOM</b>						
Electricity produced						
Actual figures	200 357	16 911	17 264	17 522	97 691	98 768
Seasonally adjusted figures		16 298	16 482	16 870	-	-
Purchased outside South Africa (import)	4 719	797	629	2	3 922	1 264
Consumed in power stations and auxiliary systems	14 581	1 162	1 183	1 297	6 503	7 214
Sold outside South Africa (export)	4 007	496	508	193	3 051	1 123
Electricity consumed in South Africa 1/						
Actual figures	186 485	16 050	16 202	16 034	92 058	91 693
Seasonally adjusted figures		15 455	15 524	15 422	-	-

1/ As indicated by electricity available for distribution

\* Revised

