

## Generation and consumption of electricity P4141

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## Key figures as at the end of April 2001

<b>Actual estimates</b>	<b>April 2001</b>	<b>% change between April 2000 and April 2001</b>	<b>% change between February 2000 to April 2000 and February 2001 to April 2001</b>	<b>% change between January 2000 to April 2000 and January 2001 to April 2001</b>
Electricity consumed (Gigawatt-hours)	15 515	+0,8%	-0,3%	+0,7%
Electricity imported (Gigawatt-hours)	774	- 1/	+244,7%	+101,0%
Electricity exported (Gigawatt-hours)	463	+198,7%	+175,2%	+185,5%
Index of the physical volume of electricity production (1995=100)	105,7	-2,3%	-2,0%	+0,1%

<b>Seasonally adjusted estimates</b>	<b>April 2001</b>	<b>% change between March 2001 and April 2001</b>	<b>% change between November 2000 to January 2001 and</b>
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			February 2001 to April 2001
Electricity consumed (Gigawatt-hours)	16 059	-0,6%	-1,7%
Electricity imported (Gigawatt-hours)	702	-2,9%	+11,0%
Electricity exported (Gigawatt-hours)	669	+2,1%	+9,2%
Index of the physical volume of electricity production (1995=100)	111,2	+0,5%	-2,6%

1/ The power lines from neighbouring countries were out of order during the period March 2000 to June 2000 after severe flooding. Hence there was an increase from 24 Gigawatt-hours for April 2000 to 774 Gigawatt-hours electricity imported for April 2001 (+3125,0%).

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

##### **Consumption of electricity decreases**

*The consumption of electricity for the three months ended April 2001, after seasonal adjustment decreased by 1,7% (-861 Gigawatt-hours), compared with the previous three months. However, the consumption of electricity for April 2001 increased by 0,8% (+116 Gigawatt-hours) compared with April 2000. Furthermore, the consumption of electricity for the first four months of 2001 increased by 0,7% (+410 Gigawatt-hours) compared with the first four months of 2000.*

##### **Production of electricity decreases**

*The production of electricity for the three months ended April 2001, after seasonal adjustment, decreased by 2,6% (-1 359 Gigawatt-hours) compared with the previous three months. Furthermore, the production of electricity for April 2001 decreased by 2,3% (-394 Gigawatt-hours) compared with April 2000. However, the production of electricity in South Africa for the first four months of 2001 increased by 0,1% (+56 Gigawatt-hours) compared with the first four months of 2000.*

### **Import of electricity increases**

*The seasonally adjusted import of electricity from neighbouring countries for the three months ended April 2001 increased by 11,0% (+201 Gigawatt-hours) compared with the previous three months. The import of electricity increased from 24 Gigawatt-hours for April 2000 to 774 Gigawatt-hours for April 2001. Furthermore, the import of electricity in South Africa for the first four months of 2001 increased by 101,0% (+1 254 Gigawatt-hours) compared with the first four months of 2000.*

### **Export of electricity increases**

*The seasonally adjusted export of electricity for the three months ended April 2001 increased by 9,2% (+164 Gigawatt-hours) compared with the previous three months. The export of electricity increased from 155 Gigawatt-hours for April 2000 to 463 Gigawatt-hours for April 2001. Furthermore, export of electricity in South Africa for the first four months of 2001 increased by 185,5% (+1 330 Gigawatt-hours) compared with the first four months of 2000. The increase for April 2001 in exports to neighbouring countries was mainly due to the aluminium smelter commissioned in Mozambique towards the end of the year 2000.*

## **Notes**

<b>Forthcoming issues</b>	<b>Issue</b>	<b>Expected release date</b>
	May 2001	5 July 2001
	June 2001	2 August 2001
	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
<b>Purpose of the survey</b>	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: 1996 to 2001 Gigawatt-hours 1/

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	
J	15 325	16 474	16 280	16 393	16 818	
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	14 461	15 284	15 707	15 426	15 807	16 276
F	15 029	15 400	15 795	15 675	16 623	16 176
M	14 310	15 078	15 658	15 718	16 157	16 158
A	14 757	16 006	15 618	15 718	16 104	16 059
M	14 794	15 807	15 619	15 717	16 411	
J	14 527	15 685	15 567	15 754	16 158	
J	15 429	15 788	15 558	15 813	16 497	
A	15 216	15 393	15 561	15 865	16 342	
S	14 907	15 723	15 682	16 089	16 316	
O	15 192	15 797	15 682	16 037	16 426	
N	15 188	15 633	15 496	16 168	16 510	
D	15 158	15 922	15 568	16 201	16 468	

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	
J	110,1	118,3	115,4	111,6	118,4	
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	111,9	109,1	106,4	113,4
F	107,8	110,8	112,0	109,4	112,0	110,6
M	103,7	109,5	110,5	109,1	113,4	110,7
A	106,1	115,6	111,2	106,9	113,7	111,2
M	106,4	113,6	111,0	106,3	115,2	
J	104,6	112,8	110,4	107,1	113,7	
J	110,7	113,7	110,1	108,1	112,0	
A	109,2	111,5	106,0	109,1	113,1	
S	106,6	113,7	109,7	110,1	112,5	
O	109,1	113,7	110,3	109,4	113,7	
N	109,7	112,5	108,5	110,7	114,3	
D	109,4	114,1	108,5	109,8	113,6	

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

Description	Gigawatt-hours					
	Year 2000	April	March	April	January - April	
		2001		2000	2001	2000
Total - All Producers						
Electricity produced						
Actual figures	210 670	16 437	17 296	16 831	66 856	66 800
Seasonally adjusted figures		17 288	17 238	17 697	-	-
Purchased outside South Africa (import)	4 719	774	665	24	2 496	1 242
Consumed in power stations and auxiliary systems	15 719	1 233	1 144	1 300	4 536	4 963
Sold outside South Africa (export)	4 007	463	498	155	2 047	717

Electricity consumed in South Africa 1/ Actual figures	195 660	15 515	16 320	15 399	62 770	62 360
Seasonally adjusted figures		16 059	16 158	16 104	-	-

ESKOM						
Electricity produced Actual figures	200 357	15 579	16 471	15 973	63 516	63 489
Seasonally adjusted figures		16 429	16 341	16 839	-	-
Purchased outside South Africa (import)	4 719	774	665	24	2 496	1 242
Consumed in power stations and auxiliary systems	14 581	1 141	1 046	1 209	4 158	4 623
Sold outside South Africa (export)	4 007	463	498	155	2 047	717
Electricity consumed in South Africa 1/ Actual figures	186 485	14 749	15 592	14 632	59 806	59 389
Seasonally adjusted figures		15 295	15 362	15 341	-	-

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 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>	7	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.
	8	The survey is conducted by mail each month collecting information from a sample of 23 electricity undertakings or establishments.
<b>Monthly production indices</b>	9	The calculation of the monthly production indices is based on the number of electricity units produced.
<b>Benchmarking</b>	10	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.

	11	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>	12	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>	13	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>	14	<p>Users may also wish to refer to the following publications which are available from Stats SA -</p> <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.

<b>Pre-release policy</b>	<b>17</b>	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:
	<b>18</b>	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.
	<b>19</b>	Stats SA pre-release policy may be inspected at its Website, <a href="http://www.statssa.gov.za">www.statssa.gov.za</a>

<b>Technical notes</b>	
<b>Response rates</b>	The response rate for April 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.

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