

Generation and consumption of electricity
Statistical release
P4141

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Key figures as at the end of October 2000

Actual estimates	October 2000	% change between October 1999 and	% change between August 1999 to	% change between January 1999 to
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		October 2000	October 1999 and August 2000 to October 2000	October 1999 and January 2000 to October 2000
Electricity consumed (Gigawatt-hours)	16 706	+2,4%	+2,3%	+3,1%
Electricity imported (Gigawatt-hours)	506	-26,5%	-25,4%	-36,2%
Electricity exported (Gigawatt-hours)	540	+22,7 %	+0,1%	-18,1%
Index of the physical volume of electricity production (1995=100)	116,4	+4,0%	+3,3%	+3,9%

Seasonally adjusted estimates	October 2000	% change between September 2000 and October 2000	% change between May 2000 to July 2000 and August 2000 to October 2000
Electricity consumed (Gigawatt-hours)	16 371	+0,7%	0,0%
Electricity imported (Gigawatt-hours)	495	+8,8%	+123,3%

Electricity exported (Gigawatt-hours)	428	+11,2%	+58,2%
Index of the physical volume of electricity production (1995=100)	113,3	+1,0%	-0,8%

Key findings as at the end of October 2000

Consumption of electricity remains unchanged

The consumption of electricity for the three months ended October 2000, after seasonal adjustment, remained unchanged compared with the previous three months. The consumption of electricity for October 2000 increased by 2,4% (+384 Gigawatt-hours) compared with October 1999. Furthermore, the consumption of electricity in South Africa for the first ten months of 2000 increased by 3,1% (+4 996 Gigawatt-hours) compared with the first ten months of 1999.

Production of electricity decreases

The production of electricity in South Africa for the three months ended October 2000, after seasonal adjustment, decreased by 0,8% (-416 Gigawatt-hours) compared with the previous three months due to more electricity imported from neighbouring countries. However, the production of electricity for October 2000 increased by 4,0% (+698 Gigawatt-hours) compared with October 1999. Furthermore, the production of electricity for the first ten months of 2000 increased by 3,9% (+6 582 Gigawatt-hours) compared with the first ten months of 1999.

Import of electricity increases

The seasonally adjusted import of electricity from neighbouring countries for the three months ended October 2000 increased from 613 Gigawatt-hours to 1 369 Gigawatt-hours compared with the previous three months. As from July 2000 powerlines are in operation which were out of order for the period March to June 2000 after severe flooding.

Export of electricity increases

The seasonally adjusted export of electricity to neighbouring countries for the three months ended October 2000 increased by 58,2% (+424 Gigawatt-hours) compared with the previous three months.

Notes

Forthcoming issues Issue Expected release date

November 2000 4 January 2001

December 2000 1 February 2001

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

Introduction 1 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.

2 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.

3 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.

Scope of the survey 4 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.

Classification 5 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.

Statistical unit 6 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).

Survey methodology and 7 All statistical units are stratified by type of economic activity according to the

design 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.

Monthly production 9 The calculation of the monthly production indices is based on the number of electri-

indices city units produced.

Benchmarking 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.

Seasonal adjustment 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.

Trend cycle 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.

Related publications 14 Users may also wish to refer to the following publications which are available from Stats SA -

- Bulletin of Statistics.
- SA Statistics.

Unpublished statistics 15 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.

Rounding-off of figures 16 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

Technical notes

Response rates The response rate for October 2000 is 100%.

Glossary

Electricity undertaking 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.

Establishment (branch) An establishment (branch) is defined as the smallest economic unit which operates as a separate entity for which comprehensive financial records are kept.

Index of physical volume The index of physical volume of electricity production or a production index is a statis-

of electricity production tical 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.

Industry 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.

Unit of electricity 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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Table 1 - Electricity consumed in South Africa: 1995 to 2000 (Gigawatt-hours) 1/

Month	1995	1996	1997	1998	1999	2000
Actual figures						
J	13 782	14 155	15 009	15 403	15 153	15 512
F	12 858	13 710	14 088	14 459	14 360	15 224
M	14 145	14 361	15 155	15 714	15 791	16 225
A	13 350	14 006	15 247	14 923	15 063	15 399
M	14 687	15 315	16 423	16 261	16 327	17 064
J	14 998	15 325	16 474	16 280	16 393	16 818
J	15 440	16 862	17 187	16 867	17 051	17 759
A	14 994	16 151	16 303	16 417	16 708	17 214
S	13 939	14 698	15 503	15 536	15 937	16 180
O	14 306	15 356	16 005	15 957	16 322	16 706
N	14 070	14 792	15 235	15 136	15 831	
D	13 534	14 207	14 878	14 563	15 184	
YEAR	170 103	178 938	187 507	187 516	190 120	
Seasonally adjusted figures						
J	14 091	14 462	15 289	15 731	15 487	15 894
F	14 147	15 045	15 410	15 760	15 621	16 539
M	14 132	14 305	15 078	15 658	15 741	16 187
A	14 113	14 777	16 053	15 691	15 827	16 233
M	14 283	14 805	15 822	15 641	15 718	16 412
J	14 173	14 524	15 682	15 559	15 729	16 130
J	14 092	15 413	15 755	15 503	15 733	16 412
A	14 068	15 205	15 380	15 533	15 824	16 300
S	14 116	14 889	15 698	15 641	16 030	16 260
O	14 154	15 187	15 789	15 647	15 989	16 371
N	14 427	15 189	15 640	15 533	16 233	
D	14 395	15 163	15 930	15 611	16 244	

1/ As indicated by electricity available for distribution

Table 2 - Indices of the physical volume of electricity production: 1995 to 2000 (Base : 1995=100)

Month	1995	1996	1997	1998	1999	2000
Actual indices						
J	97,5	100,6	108,3	109,6	106,9	104,4
F	90,7	98,5	101,5	102,8	100,5	102,9
M	99,8	103,6	109,5	110,6	109,4	113,9

A	93,9	100,5	109,6	105,5	101,7	108,2
M	102,6	109,9	117,8	115,4	110,6	119,9
J	105,2	110,1	118,3	115,4	111,6	118,4
J	108,7	121,1	124,1	119,9	117,4	121,6
A	105,6	115,8	118,0	111,9	114,9	119,0
S	98,5	105,7	112,9	109,1	109,4	111,8
O	101,4	110,7	115,8	112,6	111,9	116,4
N	99,9	107,3	110,0	106,2	108,4	
D	96,2	102,7	106,7	101,3	102,4	
YEAR	100,0	107,2	112,7	110,0	108,8	
Seasonally adjusted indices						
J	99,8	102,9	110,7	112,0	109,3	106,8
F	99,6	107,8	110,8	111,9	109,3	111,8
M	100,0	103,8	109,8	110,8	109,6	114,0
A	99,2	106,2	115,6	111,2	107,1	114,0
M	99,7	106,4	113,6	111,0	106,3	115,2
J	99,5	104,6	112,9	110,4	107,0	113,6
J	99,3	110,7	113,7	110,1	108,0	112,0
A	99,1	109,0	111,3	105,7	108,7	112,7
S	99,5	106,6	113,7	109,5	109,8	112,2
O	100,1	109,0	113,6	110,0	109,0	113,3
N	102,1	109,7	112,5	108,8	111,2	
D	102,1	109,3	113,9	108,5	109,7	

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

Gigawatt-hours

Description	Year 1999	October	September	October	January - October	
		2000		1999	2000	1999
Total - all producers						
Electricity produced						
Actual figures	203 012	18 104	17 395	17 406	176 802	170 220
Seasonally adjusted figures		17 624	17 464	16 955	-	-
Purchased outside South Africa (import)	6 673	506	495	688	3 340	5 238
Consumed in power stations and auxiliary systems	15 299	1 363	1 253	1 332	13 164	12 844
Sold outside South Africa (export)	4 266	540	458	440	2 873	3 509
Electricity consumed in South Africa 1/						
Actual figures	190 120	16 706	16 180	16 322	164 101	159 105
Seasonally adjusted figures		16 371	16 260	15 989	-	-

Eskom						
Electricity produced						
Actual figures	192 391	17 200	16 569	16 549	168 171	161 372
Seasonally adjusted figures		16 750	16 640	16 124	-	-
Purchased outside South Africa (import)	6 673	506	495	688	3 340	5 238
Consumed in power stations and auxiliary systems	14 144	1 257	1 158	1 230	12 218	11 880
Sold outside South Africa (export)	4 266	540	458	440	2 873	3 509
Electricity consumed in South Africa 1/						
Actual figures	180 654	15 908	15 448	15 567	156 416	151 221
Seasonally adjusted figures		15 593	15 527	15 249	-	-

1/ As indicated by electricity available for distribution

* Revised

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