

Generation and consumption of electricity

March 2004

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.

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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 March 2004

Actual estimates

	March 2004	% change between March 2003 and March 2004	% change between January 2003 to March 2003 and January 2004 to March 2004
Electricity consumed (Gigawatt-hours)	18 237	+4,7	+5,5
Electricity imported (Gigawatt-hours)	863	+22,2	+22,2
Electricity exported (Gigawatt-hours)	1 027	+69,2	+79,6
Index of the physical volume of electricity production (2000=100)	113,3	+6,3	+7,4

**Seasonally adjusted
estimates**

	March 2004	% change between February 2004 and March 2004	% change between October 2003 to December 2003 and January 2004 to March 2004
Electricity consumed (Gigawatt-hours)	18 322	-1,5	+0,9
Electricity imported (Gigawatt-hours)	777	-3,7	+43,8
Electricity exported (Gigawatt-hours)	1 158	-1,7	+16,7
Index of the physical volume of electricity production (2000=100)	115,0	-1,5	+0,5

Key findings as at the end of March 2004

Consumption of electricity increases

The consumption of electricity for the first quarter of 2004, after seasonal adjustment, increased by 0,9% (+471 Gigawatt-hours) compared with the last quarter of 2003. Furthermore, the consumption of electricity for March 2004 increased by 4,7% (+813 Gigawatt-hours) compared with March 2003. The consumption of electricity in South Africa for the first quarter of 2004 increased by 5,5% (+2 757 Gigawatt-hours) compared with the first quarter of 2003.

Production of electricity increases

The production of electricity for the first quarter of 2004, after seasonal adjustment, increased by 0,5% (+377 Gigawatt-hours) compared with the previous quarter. Furthermore, the production of electricity for March 2004 increased by 6,3% (+1 168 Gigawatt-hours) compared with March 2003. The production of electricity in South Africa for the first quarter of 2004 increased by 7,4% (+3 977 Gigawatt-hours) compared with the first quarter of 2003.

Import of electricity increases

The seasonally adjusted import of electricity from neighbouring countries for the first quarter of 2004 increased by 43,8% (+715 Gigawatt-hours) compared with the previous quarter. The import of electricity for March 2004 increased by 22,2% (+454 Gigawatt-hours) compared with March 2003. The large increase of 22,2% in imports is due to the high demand from Cahora Bassa since January 2004. Furthermore, the import of electricity in South Africa for the first quarter of 2004 increased by 22,2% (+157 Gigawatt-hours) compared with the first quarter of 2003.

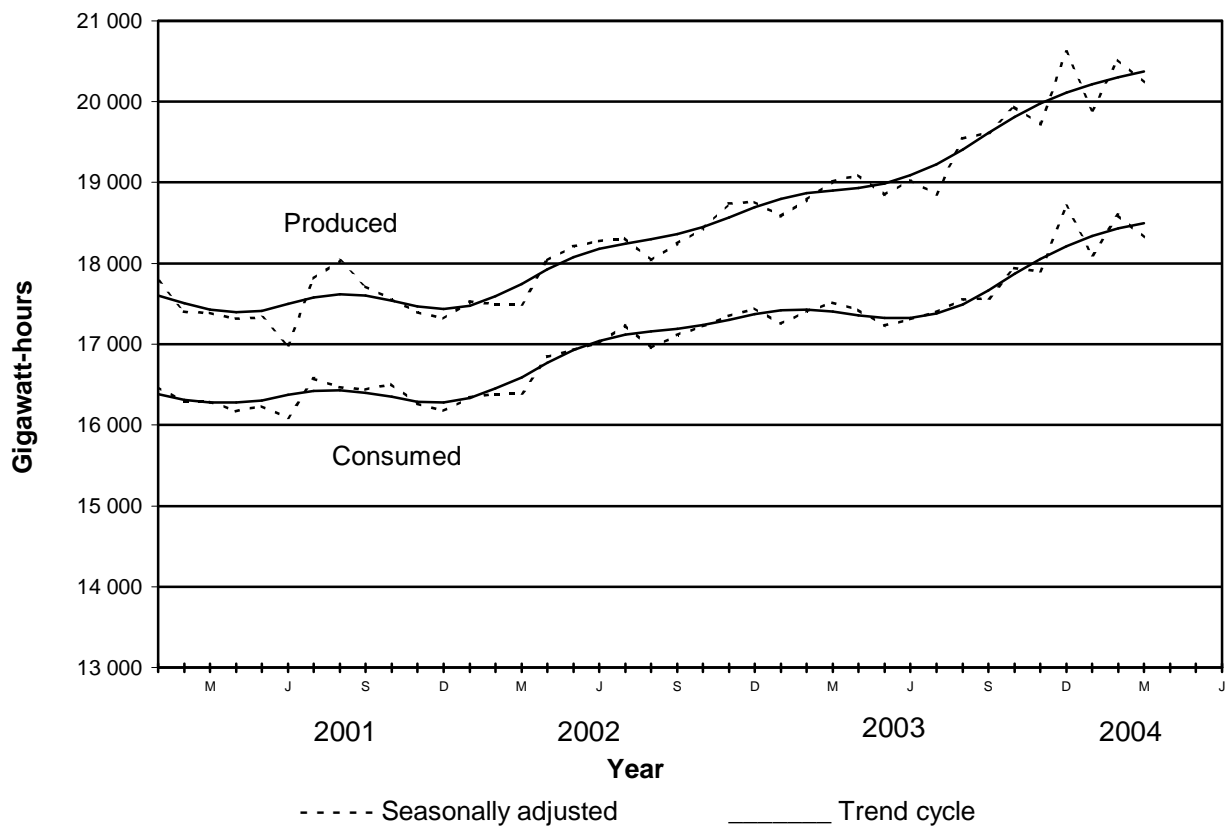
Export of electricity increases

The seasonally adjusted export of electricity for the first quarter of 2004 increased by 16,7% (+487 Gigawatt-hours) compared with the previous quarter. The export of electricity for March 2004 increased by 69,2% (+420 Gigawatt-hours) compared with March 2003. Furthermore, the export of electricity for the first quarter of 2004 increased by 79,6% (+1 348 Gigawatt-hours) compared with the first quarter of 2003. The large increase on exports was due to the introduction of the Mossel Port line-2 in Mozambique that came into effect during the second half of 2003, a new project that came into effect in Namibia from January 2004, and one generator inoperative at the Nampower powerstation.

Exports compared to imports

The export of electricity for the first quarter of 2004 exceeded the import of electricity by 21,5% (+539 Gigawatt-hours). In comparison, during the first quarter 2003, 17,3% (355 Gigawatt-hours) less electricity was exported than imported.

Figure 1 – Electricity consumed and produced in South Africa from 2001 to 2004



Source: Stats SA

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Statistician-General

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Notes

Forthcoming issues	Issue	Expected release date
	April 2004	3 June 2004
	May 2004	1 July 2004
	June 2004	5 August 2004
	July 2004	2 September 2004
	August 2004	7 October 2004
	September 2004	4 November 2004
	October 2004	2 December 2004
	November 2004	6 January 2005
	December 2004	3 February 2005
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.	
Response rate	The response rate for the survey on the generation and consumption of electricity for March 2004 was 100%.	

Table 1 - Total volume of electricity consumed in South Africa: 1999 to 2004

Gigawatt-hours						
Month	1999	2000	2001	2002	2003	2004
January	15 153	15 512	16 064	15 968	16 837	17 640
February	14 360	15 224	14 871	15 005	15 940	17 080
March	15 791	16 225	16 320	16 353	17 424	18 237
April	15 063	15 399	15 515	16 172	16 728	
May	16 327	17 064	16 929	17 642	17 974	
June	16 393	16 818	16 788	17 763	18 116	
July	17 051	17 759	18 021	18 743	18 939	
August	16 708	17 214	17 300	17 842	18 462	
September	15 937	16 180	16 277	16 892	17 279	
October	16 322	16 709	16 794	17 523	18 213	
November	15 831	16 161	15 960	17 005	17 515	
December	15 184	15 395	15 224	16 440	17 599	
Year	190 120	195 660	196 063	203 348	211 026	

Table 2 - Seasonally adjusted total volume of electricity consumed in South Africa: 1999 to 2004

Gigawatt-hours						
Month	1999	2000	2001	2002	2003	2004
January	15 485	15 856	16 430	16 335	17 251	18 101
February	15 689	16 649	16 239	16 376	17 404	18 599
March	15 818	16 285	16 361	16 392	17 516	18 322
April	15 771	16 156	16 149	16 842	17 425	
May	15 689	16 382	16 235	16 929	17 227	
June	15 740	16 131	16 101	17 014	17 311	
July	15 735	16 377	16 584	17 237	17 393	
August	15 841	16 328	16 411	16 956	17 551	
September	16 065	16 314	16 462	17 113	17 569	
October	16 034	16 427	16 521	17 220	17 942	
November	16 159	16 495	16 279	17 345	17 901	
December	16 164	16 402	16 176	17 444	18 708	

Table 3 - Indices of the physical volume of electricity production: 1999 to 2004

Base: 2000=100

Month	1999	2000	2001	2002	2003	2004
January	94,7	92,5	98,6	97,1	102,7	109,8
February	89,0	91,2	90,1	90,5	97,1	106,0
March	97,0	100,9	98,5	98,5	106,6	113,3
April	90,1	95,9	93,6	97,8	103,6	
May	98,0	106,3	103,0	108,1	111,9	
June	98,9	104,9	101,1	108,6	113,2	
July	104,0	107,8	111,1	114,2	117,7	
August	101,8	105,5	108,0	108,5	117,5	
September	96,9	99,1	100,5	103,5	111,3	
October	99,1	103,1	102,7	108,3	117,2	
November	96,0	99,1	97,4	104,9	110,4	
December	90,8	93,8	92,1	100,0	110,0	
Year	96,4	100,0	99,7	103,3	109,9	

Table 4 -Seasonally adjusted indices of the physical volume of electricity production: 1999 to 2004

Base: 2000=100

Month	1999	2000	2001	2002	2003	2004
January	96,8	94,6	101,2	99,9	106,0	113,5
February	97,3	99,9	99,0	99,6	106,9	116,8
March	97,5	101,5	99,3	99,5	108,0	115,0
April	95,0	101,0	98,4	102,7	108,7	
May	94,1	102,1	98,8	103,8	107,3	
June	94,8	100,6	96,9	104,0	108,4	
July	95,5	99,0	102,0	104,9	108,0	
August	96,2	99,7	102,0	102,4	110,9	
September	97,3	99,4	100,8	103,8	111,7	
October	96,6	100,3	99,7	104,9	113,4	
November	97,9	101,0	99,1	106,7	112,4	
December	97,4	100,7	98,7	107,1	117,8	

Table 5 - Total volume of electricity imported: 1999 to 2004

Gigawatt-hours						
Month	1999	2000	2001	2002	2003	2004
January	185	683	569	670	705	828
February	201	529	488	643	637	811
March	302	6	665	783	706	863
April	682	24	774	733	547	
May	719	20	629	658	569	
June	654	2	797	704	518	
July	515	599	479	702	792	
August	613	476	282	721	424	
September	679	495	507	637	266	
October	688	506	713	454	272	
November	644	601	636	477	583	
December	791	778	708	691	720	
Year	6 673	4 719	7 247	7 873	6 739	

Table 6 - Total volume of electricity exported: 1999 to 2004

Gigawatt-hours						
Month	1999	2000	2001	2002	2003	2004
January	346	197	616	558	578	1 037
February	267	169	470	478	508	977
March	248	196	498	529	607	1 027
April	217	155	463	525	619	
May	318	213	508	578	805	
June	347	193	496	601	798	
July	381	363	543	614	944	
August	465	389	569	605	1 030	
September	480	458	581	628	1 051	
October	440	540	630	626	1 116	
November	432	525	598	600	1 025	
December	325	609	547	608	1 055	
Year	4 266	4 007	6 519	6 950	10 136	

Table 7 - Electricity produced and consumed in power stations, purchased and sold outside South Africa and consumed in South Africa

Gigawatt-hours

Description	March 2003	February 2004	March 2004	January 2003 to March 2003	January 2004 to March 2004	Percentage change between January 2003 to March 2003 and January 2004 to March 2004
Total - All Producers						
Electricity produced	18 719	18 617	19 887	53 797	57 774	+ 7,4
Purchased outside South Africa (import)	706	811	863	2 048	2 502	+ 22,2
Consumed in power stations and auxilliary systems	1 393	1 371	1 486	3 949	4 279	+ 8,4
Sold outside South Africa (export)	607	977	1 027	1 693	3 041	+ 79,6
Electricity consumed in South Africa ^{1/}	17 424	17 080	18 237	50 201	52 957	+ 5,5
Eskom						
Electricity produced	18 051	18 007	19 219	51 978	55 866	+ 7,5
Purchased outside South Africa (import)	706	811	863	2 048	2 502	+ 22,2
Consumed in power stations and auxilliary systems	1 316	1 300	1 416	3 740	4 073	+ 8,9
Sold outside South Africa (export)	607	977	1 027	1 693	3 041	+ 79,6
Electricity consumed in South Africa ^{1/}	16 834	16 542	17 638	48 592	51 255	+ 5,5

^{1/} As indicated by electricity available for distribution

* Revised

Table 8 - Electricity distributed by Eskom according to province for 2004 1/

Gigawatt-hours

Month	Western Cape	Eastern Cape	Northern Cape	Free State	North West
January	1 389	516	1 183	839	1 782
February *	1 741	599	369	772	2 229
March	1 825	642	385	790	2 443
April					
May					
June					
July					
August					
September					
October					
November					
December					
Year to date	1 389	516	1 183	839	1 782

Month	KwaZulu-Natal	Mpumalanga	Gauteng	Limpopo	Total RSA
January	4 335	1 088	3 415	1 987	16 537
February *	3 373	2 096	4 144	727	16 052
March	3 496	2 161	4 454	798	16 997
April					
May					
June					
July					
August					
September					
October					
November					
December					
Year to date	4 335	1 088	3 415	1 987	16 537

1/ Wholesale energy as delivered by Eskom to the various provinces

* Revised

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, the number of units purchased and sold outside South Africa and the number of units distributed by Eskom according to province 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 2000=100. Rebased indices were published since the October 2001 Statistical Release P4141: <i>Generation and Consumption of Electricity</i> on 6 December 2001. |
| | 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 <i>Standard Industrial Classification of all Economic Activities (SIC)</i> , Fifth Edition, Report No. 09-90-02, was used to classify the statistical units in the survey. The SIC is based on the 1990 <i>International Standard Industrial Classification of all Economic Activities (ISIC)</i> 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 5). |
| Survey methodology and design | 7 | All statistical units are stratified by type of economic activity according to the <i>Standard Industrial Classification of all Economic Activities (SIC)</i> 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 22 electricity undertakings or establishments. |

Monthly production indices	9	The calculation of the monthly production indices is based on the number of electricity 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 are 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: <i>Generation and Consumption of Electricity</i> 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 behavior.
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 - <ul style="list-style-type: none"> • <i>Bulletin of Statistics.</i> • <i>SA Statistics.</i>
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 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 pre-release policy may be inspected at its Website, www.statssa.gov.za .

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 of electricity production	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.
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 <i>Standard Industrial Classification of all Economic Activities (SIC)</i> , Fifth Edition, Report No. 09-90-02.
Unit of electricity	One unit of electricity is equal to 1 kilowatt-hour (kWh). One gigawatt-hour (gWh) of electricity is equal to one million kilowatt-hours.

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