



Generation and consumption of electricity

February 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 February 2004

Actual estimates	February 2004	% change between February 2003 and February 2004	% change between December 2002 to February 2003 and December 2003 to February 2004	% change between January 2003 to February 2003 and January 2004 to February 2004
Electricity consumed (Gigawatt-hours)	17 080	+7,2	+6,3	+5,9
Electricity imported (Gigawatt-hours)	811	+27,3	+16,0	+22,1
Electricity exported (Gigawatt-hours)	977	+92,3	+81,2	+85,5
Index of the physical volume of electricity production (2000=100)	106,0	+9,2	+8,7	+8,0

Seasonally adjusted estimates	February 2004	% change between January 2004 and February 2004	% change between September 2003 to November 2003 and December 2003 to February 2004
Electricity consumed (Gigawatt-hours)	18 622	+2,7	+3,9
Electricity imported (Gigawatt-hours)	818	+7,5	+65,0
Electricity exported (Gigawatt-hours)	1 175	+9,9	+14,5
Index of the physical volume of electricity production (2000=100)	117,0	+3,1	+3,2

Key findings as at the end of February 2004

Consumption of electricity increases

The consumption of electricity for the three months ended February 2004, after seasonal adjustment, increased by 3,9% (+2 091 Gigawatt-hours) compared with the previous three months. The consumption of electricity for February 2004 increased by 7,2% (+1 140 Gigawatt-hours) compared with February 2003. Furthermore, the consumption of electricity in South Africa for the first two months of 2004 increased by 5,9% (+1 943 Gigawatt-hours) compared with the first two months of 2003.

Production of electricity increases

The production of electricity for the three months ended February 2004, after seasonal adjustment, increased by 3,2% (+1 809 Gigawatt-hours) compared with the previous three months. The production of electricity for February 2004 increased by 9,2% (+1 562 Gigawatt-hours) compared with February 2003. Furthermore, the production of electricity in South Africa for the first two months of 2004 increased by 8,0% (+2 809 Gigawatt-hours) compared with the first two months of 2003.

Import of electricity increases

The seasonally adjusted import of electricity from neighbouring countries for the three months ended February 2004 increased by 65,0% (+863 Gigawatt-hours) compared with the previous three months. The import of electricity for February 2004 increased by 27,3% (+174 Gigawatt-hours) compared with February 2003. The large increase of 27,3% in imports is due to the contractual high demand from Cahora Bassa since January 2004 as compared to February 2003. Furthermore, the import of electricity in South Africa for the first two months of 2004 increased by 22,1% (+297 Gigawatt-hours) compared with the first two months of 2003.

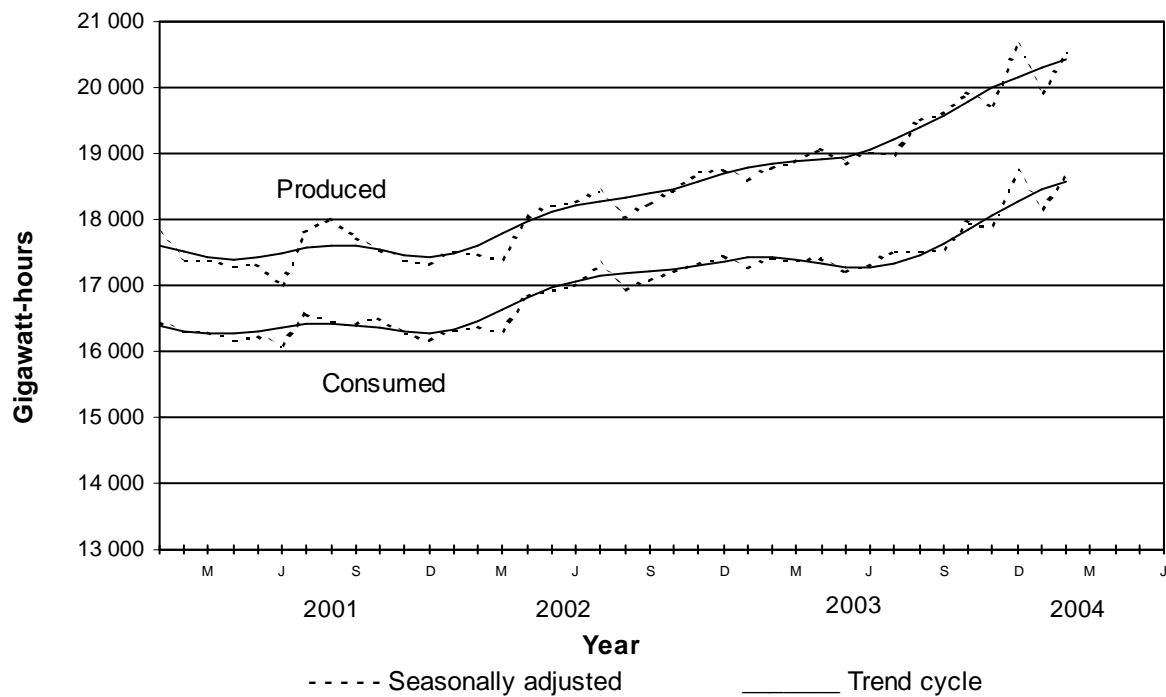
Export of electricity increases

The seasonally adjusted export of electricity for the three months ended February 2004 increased by 14,5% (+413 Gigawatt-hours) compared with the previous three months. The export of electricity for February 2004 increased by 92,3% (+469 Gigawatt-hours) compared with February 2003. Furthermore, the export of electricity for the first two months of 2004 increased by 85,5% (+928 Gigawatt-hours) compared with the first two months 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 three months ended February 2004 exceeded the import of electricity by 30,1% (+710 Gigawatt-hours). In comparison, during the three months ended February 2003, 16,7% (339 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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P J Lehohla
 Statistician-General

Contents

	Page
Notes	5
Tables	
Table 1 Total volume of electricity consumed in South Africa: 1999 to 2004.....	6
Table 2 Seasonally adjusted total volume of electricity consumed in South Africa: 1999 to 2004.....	6
Table 3 Indices of the physical volume of electricity production: 1999 to 2004.....	7
Table 4 Seasonally adjusted indices of the physical volume of electricity production: 1999 to 2004.....	7
Table 5 Total volume of electricity imported: 1999 to 2004.....	8
Table 6 Total volume of electricity exported: 1999 to 2004.....	8
Table 7 Electricity produced and consumed in power stations, purchased and sold outside South Africa and consumed in South Africa.....	9
Table 8 Electricity distributed by Eskom according to province for the year 2004.....	10
Explanatory notes	11
Glossary	13
General information	14

Notes

Forthcoming issues	Issue	Expected release date
	March 2004	6 May 2004
	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 February 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	
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	15 487	15 858	16 441	16 351	17 277	18 137
February	15 689	16 649	16 246	16 386	17 420	18 622
March	15 791	16 242	16 276	16 310	17 385	
April	15 770	16 156	16 152	16 842	17 427	
May	15 685	16 379	16 235	16 926	17 226	
June	15 738	16 128	16 099	17 007	17 305	
July	15 772	16 438	16 667	17 340	17 510	
August	15 836	16 318	16 396	16 933	17 526	
September	16 064	16 311	16 454	17 102	17 561	
October	16 033	16 424	16 514	17 208	17 930	
November	16 159	16 495	16 277	17 344	17 902	
December	16 166	16 407	16 181	17 454	18 725	

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	
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	94,7	101,2	99,9	106,0	113,5
February	97,3	100,0	99,1	99,7	107,1	117,0
March	97,3	101,3	98,9	99,1	107,3	
April	95,0	101,1	98,4	102,7	108,7	
May	94,1	102,1	98,8	103,8	107,4	
June	94,8	100,6	96,9	104,1	108,4	
July	95,5	99,0	102,1	105,0	108,1	
August	96,3	99,7	102,1	102,5	110,9	
September	97,3	99,4	100,9	103,9	111,7	
October	96,6	100,3	99,7	105,0	113,5	
November	98,0	101,0	99,1	106,8	112,5	
December	97,4	100,7	98,8	107,2	117,9	

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	
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	
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	February 2003	January 2004	February 2004	January 2003 to February 2003	January 2004 to February 2004	Percentage change between January 2003 to February 2003 and January 2004 to February 2004
Total - All Producers						
Electricity produced	17 055	19 270	18 617	35 078	37 887	+ 8,0
Purchased outside South Africa (import)	637	828	811	1 342	1 639	+ 22,1
Consumed in power stations and auxilliary systems	1 244	1 422	1 371	2 556	2 793	+ 9,3
Sold outside South Africa (export)	508	1 037	977	1 086	2 014	+ 85,5
Electricity consumed in South Africa ^{1/}	15 940	17 640	17 080	32 777	34 720	+ 5,9
Eskom						
Electricity produced	16 437	18 640	18 007	33 927	36 647	+ 8,0
Purchased outside South Africa (import)	637	828	811	1 342	1 639	+ 22,1
Consumed in power stations and auxilliary systems	1 172	1 357	1 300	2 424	2 657	+ 9,6
Sold outside South Africa (export)	508	1 037	977	1 086	2 014	+ 85,5
Electricity consumed in South Africa ^{1/}	15 393	17 075	16 542	31 758	33 617	+ 5,9

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

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 ^	-	-	-	-	-
March					
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 ^	-	-	-	-	-
March					
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

^ Not available

* 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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Enquiries

Telephone number: (012) 310 8600/8390/8351/8496/4892/8095 (user information services)
(012) 310 8228/8984 (technical enquiries)
(012) 310 8161 (orders)
(012) 310 8490 (library)

Fax number: (012) 321 7381 (technical enquiries)

Email: Thabelom@statssa.gov.za
Glourinat@statssa.gov.za

Postal address: Private Bag X44, Pretoria, 0001

Produced by Stats SA