

Generation and consumption of electricity

September 2002

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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 September 2002

Actual estimates

	September 2002	% change between September 2001 and September 2002	% change between July 2001 to September 2001 and July 2002 to September 2002	% change between January 2001 to September 2001 and January 2002 to September 2002
Electricity consumed (Gigawatt-hours)	16 892	+3,8	+3,6	+2,9
Electricity imported (Gigawatt-hours)	637	+25,6	+62,5	+20,4
Electricity exported (Gigawatt-hours)	628	+8,1	+9,1	+7,8
Index of the physical volume of electricity production (2000=100)	103,5	+3,0	+2,1	+2,5

Seasonally adjusted estimates

	September 2002	% change between August 2002 and September 2002	% change between April 2002 to June 2002 and July 2002 to September 2002
Electricity consumed (Gigawatt-hours)	17 051	+0,2	+1,0
Electricity imported (Gigawatt-hours)	661	-6,0	+1,6
Electricity exported (Gigawatt-hours)	534	-2,4	-17,1
Index of the physical volume of electricity production (2000=100)	103,7	+0,5	+0,0

Key findings as at the end of September 2002

Consumption of electricity increases

The consumption of electricity for the third quarter of 2002, after seasonal adjustment, increased by 1,0% (+521 Gigawatt-hours) compared with the second quarter of 2002. The consumption of electricity for September 2002 increased by 3,8% (+615 Gigawatt-hours) compared with September 2001. Furthermore, the consumption of electricity in South Africa for the first nine months of 2002 increased by 2,9% (+4 295 Gigawatt-hours) compared with the first nine months of 2001.

Production of electricity remains the same

The production of electricity for the third quarter of 2002, after seasonal adjustment, is at the same level as that for the second quarter of 2002. The production of electricity for September 2002 increased by 3,1% (+538 Gigawatt-hours) compared with September 2001. Furthermore, the production of electricity in South Africa for the first nine months of 2002 increased by 2,5% (+3 922 Gigawatt-hours) compared with the first nine months of 2001.

Import of electricity increases

The seasonally adjusted import of electricity from neighbouring countries for the third quarter of 2002 increased by 1,6% (+34 Gigawatt-hours) compared with the second quarter 2002. The import of electricity for September 2002 increased by 25,6% (+130 Gigawatt-hours) compared with September 2001. Furthermore, the import of electricity in South Africa for the first nine months of 2002 increased by 20,4% (+1 061 Gigawatt-hours) compared with the first nine months of 2001.

Export of electricity decreases

The seasonally adjusted export of electricity for the third quarter of 2002 decreased by 17,1% (-343 Gigawatt-hours) compared with the second quarter of 2001. However, the export of electricity for September 2002 increased by 8,1% (+47 Gigawatt-hours) compared with September 2001. The export of electricity for the first nine months of 2002 increased by 7,8% (+372 Gigawatt-hours) compared with the first nine months of 2001.

Figure 1 – Electricity consumed and produced in South Africa

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Notes

Forthcoming issues	Issue	Expected release date
	October 2002	5 December 2002
	November 2002	2 January 2003
	December 2002	6 February 2003

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.

Table 1 - Total volume of electricity consumed in South Africa (SA): 1997 to 2002
Gigawatt-hours

Month	1997	1998	1999	2000	2001	2002
January	15,009	15,403	15,153	15,512	16,064	15,968
February	14,088	14,459	14,360	15,224	14,871	15,005
March	15,155	15,714	15,791	16,225	16,320	16,353
April	15,247	14,923	15,063	15,399	15,515	16,172
May	16,423	16,261	16,327	17,064	16,929	17,642
June	16,474	16,280	16,393	16,818	16,788	17,763
July	17,187	16,867	17,051	17,759	18,021	18,743
August	16,303	16,417	16,708	17,214	17,300	17,842
September	15,503	15,536	15,937	16,180	16,277	16,892
October	16,005	15,957	16,322	16,709	16,794	
November	15,235	15,136	15,831	16,161	15,960	
December	14,878	14,563	15,184	15,395	15,224	
Year	187,507	187,516	190,120	195,660	196,063	

Table 2 - Seasonally adjusted total volume of electricity consumed in SA: 1997 to 2002
Gigawatt-hours

Month	1997	1998	1999	2000	2001	2002
January	15,312	15,734	15,480	15,844	16,415	16,308
February	15,422	15,809	15,709	16,670	16,271	16,415
March	15,175	15,762	15,825	16,254	16,265	16,266
April	16,018	15,641	15,767	16,164	16,153	16,841
May	15,800	15,623	15,719	16,423	16,270	16,939
June	15,686	15,561	15,730	16,125	16,098	17,018
July	15,776	15,531	15,746	16,380	16,583	17,250
August	15,347	15,529	15,850	16,354	16,459	17,018
September	15,672	15,644	16,058	16,284	16,411	17,051
October	15,783	15,661	15,995	16,382	16,476	
November	15,620	15,484	16,145	16,486	16,282	
December	15,900	15,548	16,171	16,456	16,283	

Table 3 - Indices of the physical volume of electricity production: 1997 to 2002**Base: (2000=100)**

Month	1997	1998	1999	2000	2001	2002
January	95.9	97.1	94.7	92.5	98.6	97.1
February	89.9	91.1	89.0	91.2	90.1	90.5
March	97.0	98.0	97.0	100.9	98.5	98.5
April	97.1	93.5	90.1	95.9	93.6	97.8
May	104.4	102.2	98.0	106.3	103.0	108.1
June	104.8	102.2	98.9	104.9	101.1	108.6
July	109.9	106.2	104.0	107.8	111.1	114.2
August	104.5	99.1	101.8	105.5	108.0	108.5
September	100.0	96.6	96.9	99.1	100.5	103.5
October	102.6	99.8	99.1	103.1	102.7	
November	97.4	94.1	96.0	99.1	97.4	
December	94.6	89.8	90.8	93.8	92.1	
Year	99.8	97.5	96.4	100.0	99.7	

Table 4 - Seasonally adjusted indices of the physical volume of electricity production: 1997 to 2002**Base: (2000=100)**

Month	1997	1998	1999	2000	2001	2002
January	98.1	99.3	96.8	94.5	100.8	99.3
February	98.2	99.4	97.3	99.9	99.0	99.6
March	97.3	98.2	97.2	101.0	98.6	98.6
April	102.5	98.7	95.1	101.2	98.8	103.2
May	100.8	98.4	94.2	102.2	98.9	103.7
June	100.0	97.9	94.9	100.7	97.0	104.2
July	100.7	97.3	95.3	98.5	101.4	104.2
August	98.6	93.7	96.5	100.1	102.6	103.2
September	100.7	97.1	97.3	99.3	100.6	103.7
October	100.7	97.6	96.6	100.5	100.1	
November	99.6	96.2	98.0	101.1	99.3	
December	101.1	96.2	97.5	101.0	99.3	

Table 5 - Total volume of electricity imported: 1998 to 2002

Gigawatt-hours

Month	1998	1999	2000	2001	2002
January	11	185	683	569	670
February	52	201	529	488	643
March	159	302	6	665	783
April	176	682	24	774	733
May	133	719	20	629	658
June	187	654	2	797	704
July	141	515	599	479	702
August	667	613	476	282	721
September	203	679	495	507	637
October	161	688	506	713	
November	273	644	601	636	
December	212	791	778	708	
Year	2,375	6,673	4,719	7,247	

Table 6 - Total volume of electricity exported: 1998 to 2002

Gigawatt-hours

Month	1998	1999	2000	2001	2002
January	330	346	197	616	558
February	360	267	169	470	478
March	325	248	196	498	529
April	367	217	155	463	525
May	388	318	213	508	578
June	429	347	193	496	601
July	472	381	363	543	614
August	350	465	389	569	605
September	343	480	458	581	628
October	400	440	540	630	
November	465	432	525	598	
December	303	325	609	547	
Year	4,532	4,266	4,007	6,519	

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

Description	September 2001	August 2002	September 2002	January 2001 to September 2001	January 2002 to September 2002	Percentage change between January 2001 to September 2001 and January 2002 to September 2002
Total - All Producers						
Electricity produced	17,637	19,051	18,175	158,802	162,724	+ 2.5
Purchased outside South Africa (import)	507	721	637	5,190	6,251	+ 20.4
Consumed in power stations and auxilliary systems	1,286	1,325	1,293	11,165	11,482	+ 2.8
Sold outside South Africa (export)	581	605	628	4,744	5,116	+ 7.8
Electricity consumed in South Africa ^{1/}	16,277	17,842	16,892	148,085	152,380	+ 2.9
Eskom						
Electricity produced	16,922	18,264	17,442	151,404	156,402	+ 3.3
Purchased outside South Africa (import)	507	721	637	5,190	6,251	+ 20.4
Consumed in power stations and auxilliary systems	1,196	1,231	1,212	10,279	10,687	+ 4.0
Sold outside South Africa (export)	581	605	628	4,744	5,116	+ 7.8
Electricity consumed in South Africa ^{1/}	15,652	17,149	16,240	141,570	146,854	+ 3.7

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

Table 8 - Electricity distributed by Eskom according to province for the year 2002
Gigawatt-hours

Month	Western Cape	Eastern Cape	Northern Cape	Free State	North West
January	1,565	576	373	749	2,105
February	1,539	579	355	707	1,933
March	1,665	613	365	769	2,136
April	1,522	566	310	741	2,137
May	1,597	618	316	821	2,306
June	1,656	615	318	811	2,254
July	1,760	635	347	853	2,331
August	1,763	592	355	813	2,323
September	1,632	552	359	784	2,199
October					
November					
December					
Year	14,699	5,346	3,098	7,048	19,724

Month	KwaZulu-Natal	Mpumalanga	Gauteng	Limpopo	Total RSA
January	3,054	2,083	4,012	675	15,192
February	2,844	1,898	3,795	618	14,268
March	3,119	2,125	4,195	703	15,690
April	3,027	2,068	4,005	651	15,027
May	3,241	2,250	4,591	730	16,470
June	3,140	2,130	4,841	689	16,454
July	3,262	2,220	5,267	747	17,422
August	3,234	2,191	4,621	759	16,651
September	3,111	2,132	4,250	744	15,763
October					
November					
December					
Year	28,032	19,097	39,577	6,316	142,937

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 2000=100. Rebased indices were published in the October 2001 Statistical release P4141 - Generation and Consumption of Electricity 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 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 5). |
| Survey methodology and design | 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 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 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 - <ul style="list-style-type: none"> • 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 the survey on the generation and consumption of electricity for September 2002 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 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 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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