

Dipalopalo tsa Aforika Borwa • Statistieke Suid-Afrika • Tistatistiki ta Afrika-Dzonga • Ukuqokelelwa kwamanani eNingizimu Afrika

Generation and consumption of electricity

December 2003

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Key figures as at the end of December 2003

Actual estimates	December 2003	% change between December 2002 and December 2003	% change between October 2002 to December 2002 and October 2003 to December 2003	% change between January 2002 to December 2002 and January 2003 to December 2003
Electricity consumed (Gigawatt-hours)	17 596	+7,0	+4,6	+3,8
Electricty imported (Gigawatt-hours)	720	+4,2	-2,9	-14,4
Electricty exported (Gigawatt-hours)	1 055	+73,5	+74,3	+45,8
Index of the physical volume of electricity production (2000=100)	109,9	+9,9	+7,8	+6,4

Seasonally adjusted estimates	December 2003	% change between November 2003 and December 2003	% change between July 2003 to September 2003 and October 2003 to December 2003
Electricity consumed (Gigawatt-hours)	18 721	+4,5	+3,9
Electricty imported (Gigawatt-hours)	590	+2,8	-0,3
Electricty exported (Gigawatt-hours)	996	+5,0	+5,0
Index of the physical volume of electricity production (2000=100)	117,8	+4,7	+3,9

Key findings as at the end of December 2003

Consumption of electricity higher than a year ago

The consumption of electricity in South Africa for the year 2003, increased by 3,8% (+7 675 Gigawatt-hours) compared with the year 2002. Furthermore, the consumption of electricity for December 2003 increased by 7,0% (+1 156 Gigawatt-hours) compared with December 2002. The consumption of electricity for the fourth quarter of 2003, after seasonal adjustment, increased by 3,9% (+2 025 Gigawatt-hours) compared with the third quarter of 2003.

Production of electricity higher than a year ago

The production of electricity in South Africa for the year 2003, increased by 6,4% (+13 864 Gigawatt-hours) compared with the year 2002. Furthermore, the production of electricity for December 2003 increased by 9,9% (+1 730 Gigawatt-hours) compared with December 2002. The production of electricity for the fourth quarter of 2003, after seasonal adjustment, increased by 3,9% (+2 259 Gigawatt-hours) compared with the third quarter of 2003.

Import of electricity lower than a year ago

The import of electricity for the year 2003 decreased by 14,4% (-1 134 Gigawatt-hours) compared with the year 2002. However, the import of electricity for December 2003 increased by 4,2% (+29 Gigawatt-hours) compared with December 2002. The seasonally adjusted import of electricity for the fourth quarter of 2003 decreased by 0,3% (-5 Gigawatt-hours) compared with the third quarter of 2003.

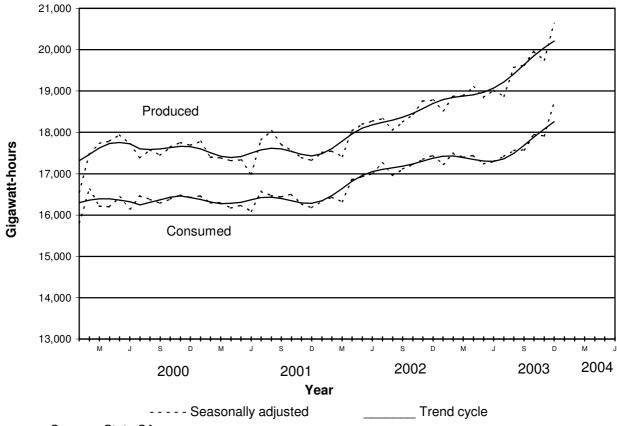
Export of electricity higher than a year ago

The export of electricity for the year 2003 increased by 45,8% (+3 186 Gigawatt-hours) compared with the year 2002. However, the export of electricity for December 2003 increased by 73,5% (+447 Gigawatt-hours) compared with December 2002. The seasonally adjusted export of electricity for the fourth quarter of 2003 increased by 5,0% (+137 Gigawatt-hours) compared with the third quarter of 2003.

Exports compared to imports

The export of electricity for the year 2003 exceeded the import of electricity by 50,4% (+3 397 Gigawatt-hours). In comparison, during the year 2002, 11,7% (923 Gigawatt-hours) less electricity was exported than imported.

Figure 1 – Electricity consumed and produced in South Africa



Source: Stats SA

pp P J Lehohla Statistician-General: Statistics South Africa

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Notes

Forthcoming issues	Issue	Expected release date		
	January 2004	4 March 2004		
	February 2004	April 2004		
	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				
Response rate	The response rate for the sur December 2003 was 90,9%.	vey on the generation and consumption of electricity for		

Table 1 - Total volume of electricity consumed in South Africa (SA): 1998 to 2003 Gigawatt-hours

Month	1998	1999	2000	2001	2002	2003
January	15 403	15 153	15 512	16 064	15 968	16 837
February	14 459	14 360	15 224	14 871	15 005	15 940
March	15 714	15 791	16 225	16 320	16 353	17 424
April	14 923	15 063	15 399	15 515	16 172	16 728
May	16 261	16 327	17 064	16 929	17 642	17 974
June	16 280	16 393	16 818	16 788	17 763	18 116
July	16 867	17 051	17 759	18 021	18 743	18 939
August	16 417	16 708	17 214	17 300	17 842	18 462
September	15 536	15 937	16 180	16 277	16 892	17 279
October	15 957	16 322	16 709	16 794	17 523	18 213
November	15 136	15 831	16 161	15 960	17 005	17 515
December	14 563	15 184	15 395	15 224	16 440	17 596
Year	187 516	190 120	195 660	196 063	203 348	211 023

Table 2 - Seasonally adjusted total volume of electricity consumed in SA: 1998 to 2003 Gigawatt-hours

			9-50::: 0::: 1::: 0:::			
Month	1998	1999	2000	2001	2002	2003
January	15 751	15 494	15 865	16 439	16 354	17 224
February	15 798	15 693	16 657	16 254	16 430	17 491
March	15 705	15 783	16 231	16 267	16 297	17 400
April	15 657	15 782	16 171	16 176	16 860	17 444
May	15 590	15 673	16 369	16 234	16 925	17 233
June	15 577	15 743	16 136	16 107	17 009	17 300
July	15 536	15 747	16 394	16 599	17 248	17 416
August	15 547	15 846	16 336	16 413	16 957	17 562
September	15 663	16 063	16 315	16 451	17 100	17 576
October	15 672	16 030	16 419	16 496	17 182	17 946
November	15 489	16 163	16 499	16 266	17 323	17 912
December	15 551	16 173	16 422	16 243	17 547	18 721

Table 3 - Indices of the physical volume of electricity production: 1998 to 2003 Base: 2000=100

Month	1998	1999	2000	2001	2002	2003
January	97,1	94,7	92,5	98,6	97,1	102,7
February	91,1	89,0	91,2	90,1	90,5	97,1
March	98,0	97,0	100,9	98,5	98,5	106,6
April	93,5	90,1	95,9	93,6	97,8	103,6
May	102,2	98,0	106,3	103,0	108,1	111,9
June	102,2	98,9	104,9	101,1	108,6	113,2
July	106,2	104,0	107,8	111,1	114,2	117,7
August	99,1	101,8	105,5	108,0	108,5	117,5
September	96,6	96,9	99,1	100,5	103,5	111,3
October	99,8	99,1	103,1	102,7	108,3	117,2
November	94,1	96,0	99,1	97,4	104,9	110,4
December	89,8	90,8	93,8	92,1	100,0	109,9
Year	97,5	96,4	100,0	99,7	103,3	109,9

Table 4 -Seasonally adjusted indices of the physical volume of electricity production: 1998 to 2003 Base: 2000=100

Month	1998	1999	2000	2001	2002	2003
January	99,3	96,8	94,7	101,1	99,9	105,7
February	99,4	97,3	100,0	99,1	99,9	107,5
March	98,3	97,3	101,2	98,9	99,1	107,3
April	98,7	95,0	101,1	98,4	102,7	108,7
May	98,4	94,1	102,1	98,8	103,7	107,3
June	97,9	94,8	100,6	96,9	104,0	108,4
July	97,5	95,5	99,0	102,1	104,9	108,0
August	93,6	96,3	99,8	102,1	102,5	111,0
September	97,1	97,3	99,4	100,8	103,9	111,8
October	97,6	96,6	100,3	99,7	105,0	113,6
November	96,2	98,0	101,0	99,1	106,8	112,5
December	96.2	97.4	100.8	98.8	107.1	117.8

Table 5 - Total volume of electricity imported: 1998 to 2003 Gigawatt-hours

Month	1998	1999	2000	2001	2002	2003
January	11	185	683	569	670	705
February	52	201	529	488	643	637
March	159	302	6	665	783	706
April	176	682	24	774	733	547
May	133	719	20	629	658	569
June	187	654	2	797	704	518
July	141	515	599	479	702	792
August	667	613	476	282	721	424
September	203	679	495	507	637	266
October	161	688	506	713	454	272
November	273	644	601	636	477	583
December	212	791	778	708	691	720
Year to date	2 375	6 673	4 719	7 247	7 873	6 739

Table 6 - Total volume of electricity exported: 1998 to 2003 Gigawatt-hours

Month	1998	1999	2000	2001	2002	2003
January	330	346	197	616	558	578
February	360	267	169	470	478	508
March	325	248	196	498	529	607
April	367	217	155	463	525	619
May	388	318	213	508	578	805
June	429	347	193	496	601	798
July	472	381	363	543	614	944
August	350	465	389	569	605	1 030
September	343	480	458	581	628	1 051
October	400	440	540	630	626	1 116
November	465	432	525	598	600	1 025
December	303	325	609	547	608	1 055
Year to date	4 532	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

		Jigawatt-not	11.0			
Description	December 2002	November 2003	December 2003	January 2002 to December 2002	January 2003 to December 2003	Percentage change between January 2002 to December 2002 and January 2003 to December 2003
Total - All Producers						
Electricity produced	17 555	19 375	19 299	217 712	231 590	+ 6,4
Purchased outside South Africa (import)	691	583	720	7 873	6 739	- 14,4
Consumed in power stations and auxilliary systems	1 197	1 418	1 368	15 289	17 170	+ 12,3
Sold outside South Africa (export)	608	1 025	1 055	6 950	10 136	+ 45,8
Electricity consumed in South Africa 1/	16 440	17 515	17 596	203 348	211 023	+ 3,8
Eskom						
Electricity produced	16 922	18 701	18 248	209 402	222 678	+ 6,3
Purchased outside South Africa (import)	691	583	720	7 873	6 739	- 14,4
Consumed in power stations and	1 128	1 344	1 303	14 269	16 244	+ 13,8
auxilliary systems						
Sold outside South Africa (export)	0 608	1 025	1 055	6 950	10 136	+ 45,8
Electricity consumed in South Africa 1/	15 876	16 916	16 609	196 058	203 037	+ 3,6

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

Table 8 - Electricity distributed by Eskom according to province for the year 2003 1/

Gigawatt-hours

Month	Western Cape	Eastern Cape	Northern Cape	Free State	North West
January	1 673	545	379	792	2 356
February	1 622	520	355	742	2 169
March	1 763	590	372	814	2 318
April	1 655	534	330	766	2 241
May	1 670	582	334	828	2 248
June	1 746	635	339	854	2 391
July	1 821	661	358	883	2 424
August	1 791	545	361	857	2 359
September	1 697	617	364	767	2 302
October	1 746	632	401	807	2 465
November	1 639	591	364	759	2 395
December	1 714	561	394	779	2 330
Year to date	20 537	7 013	4 351	9 648	27 998

Month	KwaZulu-Natal	Mpumalanga	Gauteng	Limpopo	Total SA
January	3 204	2 090	4 058	740	15 838
February	2 970	1 938	3 802	699	14 818
March	3 216	2 217	4 201	786	16 279
April	3 155	2 070	4 095	752	15 599
May	3 604	2 183	4 507	785	16 741
June	3 211	2 061	4 808	789	16 836
July	3 387	2 166	5 116	832	17 648
August	3 334	2 120	4 854	828	17 173
September	3 226	2 032	4 356	794	16 155
October	3 413	2 140	4 518	825	16 947
November	3 346	2 112	4 216	802	16 225
December	3 364	2 148	3 999	809	16 099
Year to date	39 430	25 277	52 530	9 441	196 358

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

Explanatory notes

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Introduction

- 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.
- 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: *Generation and Consumption of Electricity* on 6 December 2001
- 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

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

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

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

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

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9 The calculation of the monthly production indices is based on the number of electricity units produced.

Benchmarking

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.

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

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

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

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

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

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 *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-hour (gWh) of

electricity is equal to one million kilowatt-hours.

General information

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