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Electricity generated and available for distribution (Preliminary)

December 2023

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Electricity generated (produced) in South Africa: results for December 2023

Table A - Key growth rates in the volume of electricity generated

	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
Year-on-year % change, unadjusted	-3,4	-6,4	-1,0	1,6	-3,0	4,3
Month-on-month % change, seasonally adjusted	-1,8	1,0	-0,4	3,8	-2,3	1,1
3-month % change, seasonally adjusted ¹	-0,2	1,1	1,0	2,0	1,4	2,7

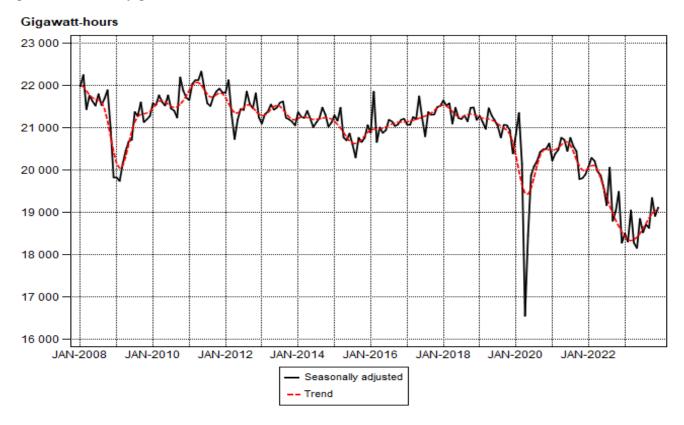
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity generation (production) increased by 4,3% year-on-year in December 2023.

Total electricity generation was 4,4% lower in 2023 compared with 2022. The 4,4% decrease in annual electricity generation followed a decrease of 3,8% in 2022 and an increase of 2,0% in 2021.

Seasonally adjusted electricity generation increased by 1,1% in December 2023 compared with November 2023. This followed month-on-month changes of -2,3% in November 2023 and 3,8% in October 2023. Seasonally adjusted electricity generation increased by 2,7% in the fourth quarter of 2023 compared with the third quarter of 2023.

Figure 1 - Electricity generated in South Africa



Electricity distributed (consumed) in South Africa: results for December 2023

Table B - Key growth rates in the volume of electricity distributed

	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
Year-on-year % change, unadjusted	-3,1	-6,4	-1,2	1,0	-2,3	4,6
Month-on-month % change, seasonally adjusted	-1,9	1,1	-1,5	3,9	-1,9	1,9
3-month % change, seasonally adjusted ¹	0,5	1,2	0,7	1,3	0,5	2,6

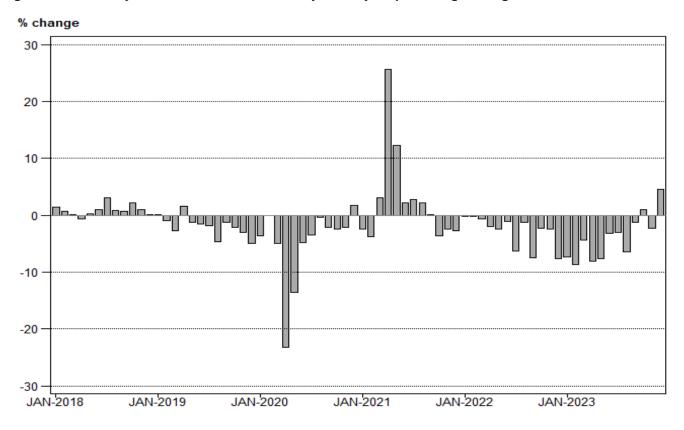
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity distribution (consumption) increased by 4,6% year-on-year in December 2023.

Total electricity distribution was 4,0% lower in 2023 compared with 2022. The 4,0% decrease in annual electricity distribution followed a decrease of 2,8% in 2022 and an increase of 2,3% in 2021.

Seasonally adjusted electricity distribution increased by 1,9% month-on-month in December 2023, following month-on-month changes of -1,9% in November 2023 and 3,9% in October 2023. Seasonally adjusted electricity distribution increased by 2,6% in the fourth quarter of 2023 compared with the third quarter of 2023.

Figure 2 - Electricity distributed in South Africa: year-on-year percentage change



Risenga Maluleke Statistician-General

Tables

Table 1 - Index of the volume of electricity generated (Base: 2019=100)

Month	2017	2018	2019	2020	2021	2022	2023 ¹
Jan	99,2	101,5	99,5	97,1	93,9	93,0	85,7
Feb	91,4	93,1	91,3	92,2	88,2	87,9	79,4
Mar	101,3	102,5	99,5	95,5	97,2	96,2	90,8
Apr	97,3	96,8	98,5	76,1	95,5	91,9	84,1
May	106,4	105,5	104,9	91,1	102,2	97,9	89,4
Jun	103,9	104,2	104,3	98,3	101,4	97,3	93,7
Jul	105,6	107,9	107,1	102,3	105,7	97,6	94,3
Aug	105,0	104,6	102,1	99,7	101,7	99,5	93,1
Sep	100,0	99,2	98,7	95,7	95,7	87,9	87,0
Oct	103,7	104,5	102,5	99,7	96,2	92,5	94,0
Nov	101,0	100,9	98,2	95,7	92,2	90,5	87,8
Dec	98,8	97,1	93,3	94,3	90,8	83,3	86,9
Total	101,1	101,5	100,0	94,8	96,7	93,0	88,9

¹ Latest month is preliminary.

Table 2 - Year-on-year percentage change in the volume of electricity generated

Month	2018	2019	2020	2021	2022	2023	2023 year-to-date
Jan	2,3	-2,0	-2,4	-3,3	-1,0	-7,8	-7,8
Feb	1,9	-1,9	1,0	-4,3	-0,3	-9,7	-8,7
Mar	1,2	-2,9	-4,0	1,8	-1,0	-5,6	-7,7
Apr	-0,5	1,8	-22,7	25,5	-3,8	-8,5	-7,9
May	-0,8	-0,6	-13,2	12,2	-4,2	-8,7	-8,0
Jun	0,3	0,1	-5,8	3,2	-4,0	-3,7	-7,3
Jul	2,2	-0,7	-4,5	3,3	-7,7	-3,4	-6,7
Aug	-0,4	-2,4	-2,4	2,0	-2,2	-6,4	-6,7
Sep	-0,8	-0,5	-3,0	0,0	-8,2	-1,0	-6,1
Oct	0,8	-1,9	-2,7	-3,5	-3,8	1,6	-5,3
Nov	-0,1	-2,7	-2,5	-3,7	-1,8	-3,0	-5,1
Dec	-1,7	-3,9	1,1	-3,7	-8,3	4,3	-4,4
Total	0,4	-1,5	-5,2	2,0	-3,8	-4,4	

Table 3 – Seasonally adjusted index of the volume of electricity generated

Manth		Base: 2	019=100		Month-on-month % change				
Month	2020	2021	2022	2023	2020	2021	2022	2023	
Jan	99,0	96,1	95,4	87,9	2,2	-1,9	1,0	1,3	
Feb	101,4	96,9	96,4	87,0	2,4	0,8	1,0	-1,0	
Mar	95,7	97,3	96,1	90,5	-5,6	0,4	-0,3	4,0	
Apr	78,6	98,7	94,9	86,8	-17,9	1,4	-1,2	-4,1	
May	87,7	98,4	94,4	86,3	11,6	-0,3	-0,5	-0,6	
Jun	94,4	97,2	93,1	89,6	7,6	-1,2	-1,4	3,8	
Jul	95,5	98,6	91,1	88,0	1,2	1,4	-2,1	-1,8	
Aug	96,1	97,7	95,3	88,9	0,6	-0,9	4,6	1,0	
Sep	97,1	97,1	89,3	88,5	1,0	-0,6	-6,3	-0,4	
Oct	97,3	94,0	90,4	91,9	0,2	-3,2	1,2	3,8	
Nov	97,4	94,1	92,6	89,8	0,1	0,1	2,4	-2,3	
Dec	98,0	94,5	86,8	90,8	0,6	0,4	-6,3	1,1	

Table 4 – Volume of electricity distributed in South Africa (gigawatt-hours)

Month	2018	2019	2020	2021	2022	2023 ¹
Jan	19 106	19 132	18 444	18 002	17 974	16 664
Feb	17 667	17 493	17 491	16 825	16 815	15 362
Mar	19 470	18 930	17 976	18 522	18 408	17 592
Apr	18 421	18 711	14 379	18 078	17 709	16 271
May	20 207	19 943	17 254	19 371	18 897	17 433
Jun	19 926	19 609	18 664	19 049	18 838	18 232
Jul	20 626	20 224	19 533	20 082	18 814	18 239
Aug	20 053	19 105	19 038	19 459	19 220	17 981
Sep	18 839	18 605	18 216	18 230	16 857	16 648
Oct	19 785	19 367	18 883	18 203	17 784	17 970
Nov	19 123	18 539	18 153	17 713	17 281	16 886
Dec	18 582	17 678	17 979	17 496	16 173	16 916
Total	231 805	227 336	216 010	221 030	214 770	206 194

¹ Latest month is preliminary.

Table 5 - Year-on-year percentage change in electricity distributed in South Africa

Month	2019	2020	2021	2022	2023	2023 year-to-date
Jan	0,1	-3,6	-2,4	-0,2	-7,3	-7,3
Feb	-1,0	0,0	-3,8	-0,1	-8,6	-7,9
Mar	-2,8	-5,0	3,0	-0,6	-4,4	-6,7
Apr	1,6	-23,2	25,7	-2,0	-8,1	-7,1
May	-1,3	-13,5	12,3	-2,4	-7,7	-7,2
Jun	-1,6	-4,8	2,1	-1,1	-3,2	-6,5
Jul	-1,9	-3,4	2,8	-6,3	-3,1	-6,0
Aug	-4,7	-0,4	2,2	-1,2	-6,4	-6,1
Sep	-1,2	-2,1	0,1	-7,5	-1,2	-5,6
Oct	-2,1	-2,5	-3,6	-2,3	1,0	-4,9
Nov	-3,1	-2,1	-2,4	-2,4	-2,3	-4,7
Dec	-4,9	1,7	-2,7	-7,6	4,6	-4,0
Total	-1,9	-5,0	2,3	-2,8	-4,0	

Table 6 - Seasonally adjusted volume of electricity distributed in South Africa

Manth		Gigawa	tt-hours		Month-on-month % change				
Month	2020	2021	2022	2023	2020	2021	2022	2023	
Jan	18 805	18 403	18 423	17 088	2,3	-1,7	1,1	1,4	
Feb	19 158	18 392	18 361	16 708	1,9	-0,1	-0,3	-2,2	
Mar	17 971	18 508	18 369	17 525	-6,2	0,6	0,0	4,9	
Apr	14 803	18 635	18 229	16 746	-17,6	0,7	-0,8	-4,4	
May	16 560	18 598	18 187	16 797	11,9	-0,2	-0,2	0,3	
Jun	17 905	18 197	17 982	17 392	8,1	-2,2	-1,1	3,5	
Jul	18 229	18 730	17 571	17 059	1,8	2,9	-2,3	-1,9	
Aug	18 403	18 750	18 467	17 247	1,0	0,1	5,1	1,1	
Sep	18 514	18 551	17 175	16 990	0,6	-1,1	-7,0	-1,5	
Oct	18 547	17 878	17 484	17 657	0,2	-3,6	1,8	3,9	
Nov	18 521	18 123	17 728	17 329	-0,1	1,4	1,4	-1,9	
Dec	18 712	18 220	16 856	17 657	1,0	0,5	-4,9	1,9	

Table 7 – Volume of electricity by category (gigawatt-hours)

	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23 ¹	Dec-23 year-on- year % change
Total - all producers						
Generated	19 588	18 308	19 792	18 474	18 300	4,4
Inflow into South Africa	954	808	786	878	965	-2,3
Consumed in power stations and auxiliary systems	1 633	1 495	1 575	1 421	1 390	0,9
Outflow from South Africa	927	973	1 033	1 045	959	-0,6
Distributed in South Africa	17 981	16 648	17 970	16 886	16 916	4,6
Eskom						
Generated	16 862	15 804	17 250	16 060	15 792	5,7
Inflow into South Africa	954	808	786	878	965	-2,3
Consumed in power stations and auxiliary systems	1 513	1 400	1 481	1 330	1 311	2,3
Outflow from South Africa	927	973	1 033	1 045	959	-0,6
Distributed in South Africa	15 376	14 239	15 522	14 563	14 487	5,9

¹ Preliminary.

Table 8 – Year-to-date volume of electricity by category: year-on-year percentage change and difference

	Jan – Dec 2022 (GWh)	Jan – Dec 2023 (GWh)	% change between Jan – Dec 2022 and Jan – Dec 2023	Difference between Jan – Dec 2022 and Jan – Dec 2023 (GWh)
Total - all producers				
Generated	234 789	224 393	-4,4	-10 396
Inflow into South Africa	10 761	10 709	-0,5	-52
Consumed in power stations and auxiliary systems	18 507	17 649	-4,6	-858
Outflow from South Africa	12 270	11 256	-8,3	-1 014
Distributed in South Africa	214 770	206 194	-4,0	-8 576
Eskom				
Generated	208 587	194 657	-6,7	-13 930
Inflow into South Africa	10 761	10 709	-0,5	-52
Consumed in power stations and auxiliary systems	17 444	16 481	-5,5	-963
Outflow from South Africa	12 270	11 256	-8,3	-1 014
Distributed in South Africa	189 631	177 628	-6,3	-12 003

Table 9 – Volume of electricity delivered to provinces (gigawatt-hours)

Province	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23 ¹	Dec-23 year-on-year % change
Western Cape	1 612	1 500	1 566	1 486	1 541	8,9
Eastern Cape	774	707	760	676	660	7,7
Northern Cape	506	473	505	576	598	24,6
Free State	894	783	863	829	834	3,6
KwaZulu-Natal	3 309	3 103	3 234	3 080	3 140	3,0
North West	1 549	1 674	1 832	1 750	1 681	-3,7
Gauteng	4 834	4 122	4 459	4 129	3 894	4,1
Mpumalanga	2 497	2 341	2 630	2 512	2 568	4,9
Limpopo	1 730	1 686	1 848	1 684	1 766	10,5
Total	17 706	16 390	17 698	16 722	16 682	5,0

¹ Preliminary.

Survey information

Introduction

- Statistics South Africa (Stats SA) conducts a monthly survey covering electricity undertakings and establishments (branches) in the electricity industry. This statistical release contains monthly information regarding the volume of electricity units:
 - generated and distributed in South Africa;
 - flowing into and out from South Africa as measured by the metering systems at the South African borders; and
 - delivered to provinces.

Both unadjusted and seasonally adjusted figures are published.

- In accordance with international practice, the indices are usually re-based every five years to a new base year. The current base period of the index is 2019.
- 3 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.

Purpose of the survey

The results of the monthly electricity survey are used to compile estimates of the gross domestic product (GDP) and its components, which are used in monitoring the state of the economy and formulation of economic policy.

Scope of the survey

This survey covers electricity undertakings and establishments conducting activities concerned with the generation and/or distribution of electricity (excluding the distribution of purchased electric energy). It includes 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.

Collection rate

7 The collection rate for the survey on electricity generated and available for distribution for December 2023 was 92%. The improved collection rate for November 2023 was 92%.

Statistical unit

The 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 (see point 5).

Revised figures

- **9** Normally revised figures are due to:
 - late submission of data to Stats SA; and
 - revisions or corrections by respondents to previously reported data.

Data are edited at enterprise level.

Rounding-off of figures

Where figures have been rounded off, discrepancies may occur between sums of the component items and the totals.

Historical data

Historical electricity data are available on the Stats SA webpage. Click on the following link (Time series data) to access the data electronically.

Past publications

Past electricity releases are available on the Stats SA webpage. Click on the following link (Past publications) to access the releases electronically.

Technical notes

Survey methodology and design

1

- 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 group one) 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 kilowatts is excluded from the sample.
- The survey is conducted by email and telephone. Information is collected from a sample of 24 electricity undertakings or establishments. As from September 2013, Eskom supplied additional data for independent power producers (IPPs) that were not in the original sample of 24 establishments.

Monthly index of electricity generated

The calculation of the monthly index of electricity generated is based on the volume of electricity units produced.

Benchmarking

The index of the volume of electricity generated should provide an accurate reflection of the trend of activities of the relevant industry. The level of activities, as measured by the monthly electricity survey, is based on information received from a sample of electricity undertakings and establishments. These levels are weighted according to the original sample and designed to represent the population of electricity undertakings and establishments.

The results of the 1995 Census of electricity, gas and steam served as a benchmark to verify or adjust the level of the monthly index of the volume of electricity generated collected through the monthly survey. The level adjustments were done on the volume index for July of the relevant census year (the 1995 census year covered the period 1 January to 31 December 1995 and therefore, the benchmarking was done using the index of July 1995 as reference point).

Seasonal adjustment

Seasonally adjusted estimates are generated each month using the X-12 Seasonal Adjustment Program developed by the United States Census Bureau. 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. The X12-ARIMA procedure for electricity generated and available for distribution is described in more detail on the Stats SA website:

Click to download Electricity seasonal adjustment February 2022.

Trend cycle

The trend is the long-term pattern or movement of a time series. The X-12-ARIMA Seasonal Adjustment Program is used for smoothing seasonally adjusted estimates to estimate the underlying trend cycle.

Month-on-month percentage change

7 The month-on-month percentage change in a variable for any given month is the change between that month and the previous month, expressed as a percentage of the latter.

Year-on-year percentage change

The year-on-year percentage change in a variable for any given period is the change between that period and the corresponding period of the previous year, expressed as a percentage of the latter.

Glossary

Electricity undertaking

An undertaking concerned with the generation and distribution of electricity, including electrical power installations, which, as subsidiary divisions of undertakings, produce electricity for regular use by these undertakings.

Index of the volume of electricity generated

A statistical measure of the change in the volume of electricity generated in a given period and the volume of electricity generated in the base period. The base period is 2019. The production in the base period is set at 100.

Industry

An industry is made up of enterprises engaged in the same or similar kinds of economic activity. Industries are defined in the System of National Accounts (SNA) in the same way as in the *Standard Industrial Classification of All Economic Activities* (SIC), Fifth Edition, Report No. 09-90-02 of January 1993.

Inflow into SA

Electricity flowing into South Africa as measured by the metering systems at the South African borders.

Outflow from SA

Electricity flowing from South Africa as measured by the metering systems at the South African borders.

Unit of electricity

One gigawatt-hour of electricity is equal to one million kilowatt-hours. A kilowatt-hour is the basic unit of electrical energy equal to one kilowatt of power supplied to or taken from an electric circuit steadily for one hour. One kilowatt-hour equals one thousand watt-hours.

Symbols and abbreviations

GDP Gross domestic product

GWh Gigawatt-hour

IPPs Independent Power Producers

ISIC International Standard Industrial Classification

SIC Standard Industrial Classification of All Economic Activities

SA South Africa

Stats SA Statistics South Africa
* Revised figures

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Stats SA publishes approximately 300 different statistical releases each year. It is not economically viable to produce them in more than one of South Africa's 12 official languages. Since the releases are used extensively, not only locally but also by international economic and social-scientific communities, Stats SA releases are published in English only.

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