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Department:
Statistics South Africa
REPUBLIC OF SOUTH AFRICA

Private Bag X44, Pretoria, 0001, South Africa, ISibalo House, Koch Street, Salvokop, Pretoria, 0002
www.statssa.gov.za, info@statssa.gov.za, Tel +27 12 310 8911

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Electricity generated and available for distribution (Preliminary)

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Electricity generated (produced) in South Africa: results for December 2020

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

	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
Year-on-year % change, unadjusted	-4,5	-2,4	-3,1	-2,8	-2,4	1,1
Month-on-month % change, seasonally adjusted	1,2	1,5	-0,6	0,2	0,6	0,3
3-month % change, seasonally adjusted ¹	1,7	9,2	10,2	4,4	1,1	0,8

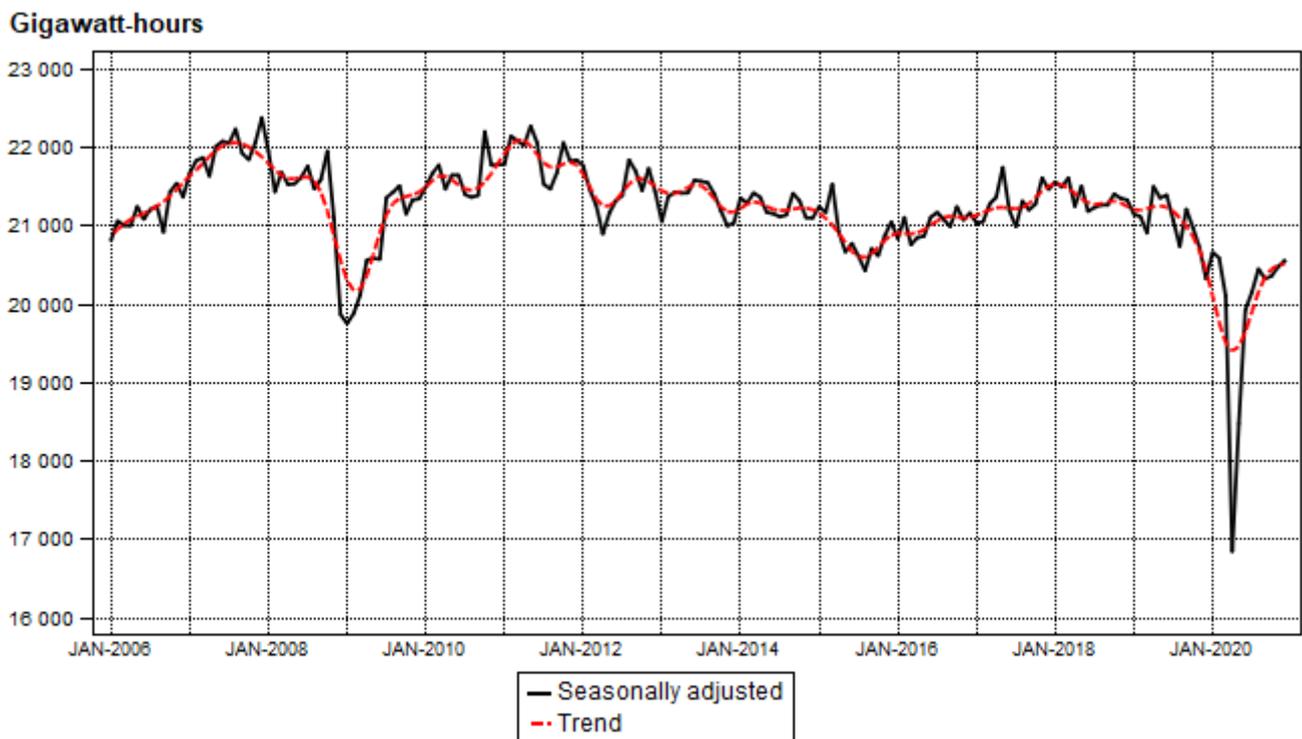
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity generation (production) increased by 1,1% year-on-year in December 2020.

Total electricity generation was 5,2% lower in 2020 compared with 2019. The 5,2% decrease in annual electricity production followed a decrease of 1,5% in 2019 and an increase of 0,4% in 2018.

Seasonally adjusted electricity generation increased by 0,3% in December 2020 compared with November 2020. This followed month-on-month changes of 0,6% in November 2020 and 0,2% in October 2020. Seasonally adjusted electricity generation increased by 0,8% in the fourth quarter of 2020 compared with the third quarter of 2020.

Figure 1 – Electricity generated in South Africa



Electricity distributed (consumed) in South Africa: results for December 2020

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

	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
Year-on-year % change, unadjusted	-3,4	-0,4	-2,1	-2,5	-2,1	1,7
Month-on-month % change, seasonally adjusted	2,1	1,7	-1,0	0,1	0,4	0,8
3-month % change, seasonally adjusted ¹	2,7	10,6	11,6	5,1	1,0	0,5

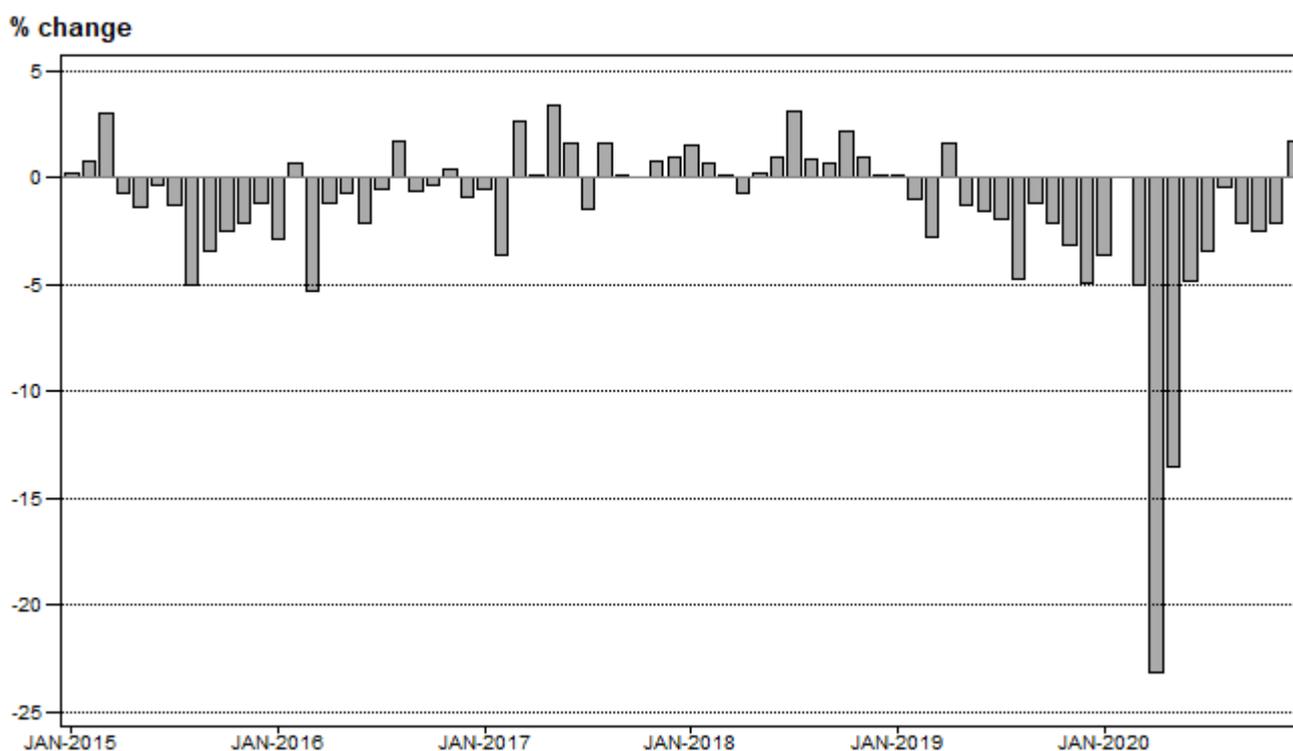
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity distribution (consumption) increased by 1,7% year-on-year in December 2020.

Total electricity distribution was 5,0% lower in 2020 compared with 2019. The 5,0% decrease in annual electricity distribution followed a decrease of 1,9% in 2019 and an increase of 0,9% in 2018.

Seasonally adjusted electricity distribution increased by 0,8% month-on-month in December 2020, following month-on-month changes of 0,4% in November 2020 and 0,1% in October 2020. Seasonally adjusted electricity distribution increased by 0,5% in the fourth quarter of 2020 compared with the third quarter of 2020.

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: 2015=100)

Month	2014	2015	2016	2017	2018	2019	2020 ¹
Jan	101,3	101,2	99,2	100,1	102,4	100,4	97,9
Feb	93,6	93,0	95,9	92,2	93,9	92,1	93,0
Mar	102,5	103,6	99,6	102,2	103,4	100,4	96,4
Apr	99,6	96,5	97,4	98,1	97,6	99,4	76,7
May	103,8	101,4	102,7	107,4	106,5	105,9	91,9
Jun	103,5	102,7	103,2	104,8	105,1	105,2	99,1
Jul	107,9	105,4	108,4	106,5	108,8	108,1	103,2
Aug	105,9	101,2	105,1	106,0	105,5	103,0	100,5
Sep	102,1	98,6	99,8	100,8	100,0	99,6	96,5
Oct	104,1	101,0	103,2	104,6	105,4	103,4	100,5
Nov	99,2	98,1	100,3	101,9	101,8	99,0	96,6
Dec	97,4	97,3	98,2	99,6	98,0	94,1	95,1
Total	101,7	100,0	101,1	102,0	102,4	100,9	95,6

¹ Latest month is preliminary.

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

Month	2015	2016	2017	2018	2019	2020	2020 year-to-date
Jan	-0,1	-2,0	0,9	2,3	-2,0	-2,5	-2,5
Feb	-0,6	3,1	-3,9	1,8	-1,9	1,0	-0,8
Mar	1,1	-3,9	2,6	1,2	-2,9	-4,0	-1,9
Apr	-3,1	0,9	0,7	-0,5	1,8	-22,8	-7,2
May	-2,3	1,3	4,6	-0,8	-0,6	-13,2	-8,5
Jun	-0,8	0,5	1,6	0,3	0,1	-5,8	-8,0
Jul	-2,3	2,8	-1,8	2,2	-0,6	-4,5	-7,5
Aug	-4,4	3,9	0,9	-0,5	-2,4	-2,4	-6,9
Sep	-3,4	1,2	1,0	-0,8	-0,4	-3,1	-6,4
Oct	-3,0	2,2	1,4	0,8	-1,9	-2,8	-6,1
Nov	-1,1	2,2	1,6	-0,1	-2,8	-2,4	-5,8
Dec	-0,1	0,9	1,4	-1,6	-4,0	1,1	-5,2
Total	-1,7	1,1	0,9	0,4	-1,5	-5,2	

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

Month	Base: 2015=100				Month-on-month % change			
	2017	2018	2019	2020	2017	2018	2019	2020
Jan	100,7	103,2	101,3	98,9	-0,6	0,4	-0,8	1,6
Feb	100,8	102,9	101,1	98,6	0,1	-0,3	-0,2	-0,3
Mar	101,9	103,5	100,1	96,3	1,1	0,6	-1,0	-2,3
Apr	102,3	101,7	103,0	80,7	0,4	-1,7	2,9	-16,2
May	104,1	103,0	102,3	88,5	1,8	1,3	-0,7	9,7
Jun	101,5	101,4	102,4	95,4	-2,5	-1,6	0,1	7,8
Jul	100,5	101,7	100,9	96,5	-1,0	0,3	-1,5	1,2
Aug	102,1	101,8	99,3	97,9	1,6	0,1	-1,6	1,5
Sep	101,5	101,8	101,6	97,3	-0,6	0,0	2,3	-0,6
Oct	101,9	102,5	100,5	97,5	0,4	0,7	-1,1	0,2
Nov	103,5	102,2	99,2	98,1	1,6	-0,3	-1,3	0,6
Dec	102,8	102,1	97,3	98,4	-0,7	-0,1	-1,9	0,3

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

Month	2015	2016	2017	2018	2019	2020 ¹
Jan	19 491	18 924	18 820	19 106	19 132	18 444
Feb	18 060	18 190	17 539	17 667	17 493	17 491
Mar	19 998	18 935	19 441	19 470	18 930	17 976
Apr	18 769	18 535	18 550	18 421	18 711	14 379
May	19 636	19 502	20 161	20 207	19 943	17 254
Jun	19 824	19 405	19 720	19 926	19 609	18 664
Jul	20 391	20 297	19 997	20 626	20 224	19 533
Aug	19 236	19 570	19 880	20 053	19 105	19 038
Sep	18 788	18 679	18 707	18 839	18 605	18 216
Oct	19 415	19 349	19 352	19 785	19 367	18 883
Nov	18 720	18 790	18 940	19 123	18 539	18 153
Dec	18 529	18 370	18 562	18 582	17 678	17 979
Total	230 857	228 546	229 669	231 805	227 336	216 010

¹ Latest month is preliminary.

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

Month	2016	2017	2018	2019	2020	2020 year-to-date
Jan	-2,9	-0,5	1,5	0,1	-3,6	-3,6
Feb	0,7	-3,6	0,7	-1,0	0,0	-1,9
Mar	-5,3	2,7	0,1	-2,8	-5,0	-3,0
Apr	-1,2	0,1	-0,7	1,6	-23,2	-8,0
May	-0,7	3,4	0,2	-1,3	-13,5	-9,2
Jun	-2,1	1,6	1,0	-1,6	-4,8	-8,4
Jul	-0,5	-1,5	3,1	-1,9	-3,4	-7,7
Aug	1,7	1,6	0,9	-4,7	-0,4	-6,8
Sep	-0,6	0,1	0,7	-1,2	-2,1	-6,3
Oct	-0,3	0,0	2,2	-2,1	-2,5	-5,9
Nov	0,4	0,8	1,0	-3,1	-2,1	-5,5
Dec	-0,9	1,0	0,1	-4,9	1,7	-5,0
Total	-1,0	0,5	0,9	-1,9	-5,0	

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

Month	Gigawatt-hours				Month-on-month % change			
	2017	2018	2019	2020	2017	2018	2019	2020
Jan	18 950	19 268	19 308	18 638	-0,4	0,2	-0,7	1,7
Feb	19 070	19 274	19 094	18 416	0,6	0,0	-1,1	-1,2
Mar	19 377	19 450	18 863	17 931	1,6	0,9	-1,2	-2,6
Apr	19 300	19 159	19 356	15 073	-0,4	-1,5	2,6	-15,9
May	19 532	19 524	19 227	16 586	1,2	1,9	-0,7	10,0
Jun	19 026	19 179	19 056	17 921	-2,6	-1,8	-0,9	8,0
Jul	18 904	19 302	18 902	18 297	-0,6	0,6	-0,8	2,1
Aug	19 189	19 409	18 448	18 613	1,5	0,6	-2,4	1,7
Sep	18 923	19 270	19 051	18 429	-1,4	-0,7	3,3	-1,0
Oct	19 006	19 402	18 960	18 442	0,4	0,7	-0,5	0,1
Nov	19 274	19 239	18 646	18 509	1,4	-0,8	-1,7	0,4
Dec	19 232	19 435	18 331	18 651	-0,2	1,0	-1,7	0,8

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

	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20 ¹	Dec-20 year-on- year % change
Total - all producers						
Generated	20 977	20 143	20 977	20 150	19 839	1,0
Inflow into South Africa	832	731	767	698	776	-18,6
Consumed in power stations and auxiliary systems	1 725	1 615	1 684	1 529	1 537	-3,2
Outflow from South Africa	1 047	1 043	1 177	1 166	1 100	-17,2
Distributed in South Africa	19 038	18 216	18 883	18 153	17 979	1,7
Eskom						
Generated	18 821	18 078	18 789	17 822	17 483	-0,5
Inflow into South Africa	832	731	767	698	776	-18,6
Consumed in power stations and auxiliary systems	1 628	1 532	1 611	1 461	1 462	-3,9
Outflow from South Africa	1 047	1 043	1 177	1 166	1 100	-17,2
Distributed in South Africa	16 978	16 234	16 768	15 893	15 698	0,2

¹ Preliminary.**Table 8 – Year-to-date volume of electricity by category: year-on-year percentage change and difference**

	Jan – Dec 2019 (GWh)	Jan – Dec 2020 (GWh)	% change between Jan – Dec 2019 and Jan – Dec 2020	Difference between Jan – Dec 2019 and Jan – Dec 2020 (GWh)
Total - all producers				
Generated	252 578	239 459	-5,2	-13 119
Inflow into South Africa	9 804	9 829	0,3	25
Consumed in power stations and auxiliary systems	20 067	19 631	-2,2	-436
Outflow from South Africa	14 977	13 647	-8,9	-1 330
Distributed in South Africa	227 336	216 010	-5,0	-11 326
Eskom				
Generated	228 480	215 192	-5,8	-13 288
Inflow into South Africa	9 804	9 829	0,3	25
Consumed in power stations and auxiliary systems	19 154	18 783	-1,9	-371
Outflow from South Africa	14 977	13 647	-8,9	-1 330
Distributed in South Africa	204 153	192 593	-5,7	-11 560

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

Province	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20 ¹	Dec-20 year-on- year % change
Western Cape	1 761	1 636	1 679	1 626	1 662	-3,3
Eastern Cape	781	733	766	713	686	-0,1
Northern Cape	517	497	527	501	534	3,5
Free State	1 018	944	943	928	911	-1,1
KwaZulu-Natal	3 487	3 324	3 379	3 277	3 325	3,5
North West	1 393	1 678	1 842	1 778	1 757	7,5
Gauteng	5 373	4 714	4 811	4 568	4 350	0,2
Mpumalanga	2 638	2 614	2 744	2 639	2 666	1,6
Limpopo	1 677	1 690	1 785	1 701	1 745	1,6
Total	18 644	17 831	18 476	17 731	17 636	1,5

¹ Preliminary.

Survey information

Introduction	<p>1 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:</p> <ul style="list-style-type: none"> • 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. <p>Both unadjusted and seasonally adjusted figures are published.</p> <p>2 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 2015.</p> <p>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.</p>
Purpose of the survey	<p>4 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.</p>
Scope of the survey	<p>5 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.</p>
Classification	<p>6 The 1993 edition of the <i>Standard Industrial Classification of all Economic Activities</i> (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 <i>International Standard Industrial Classification of all Economic Activities</i> (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.</p>
Collection rate	<p>7 The collection rate for the survey on electricity generated and available for distribution for December 2020 was 92%. The collection rate for November 2020 was 96%.</p>
Statistical unit	<p>8 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).</p>
Revised figures	<p>9 Normally revised figures are due to:</p> <ul style="list-style-type: none"> • late submission of data to Stats SA; and • revisions or corrections by respondents to previous reported data. <p>Data are edited at enterprise level.</p>
Rounding-off of figures	<p>10 Where figures have been rounded off, discrepancies may occur between sums of the component items and the totals.</p>
Historical data	<p>11 Historical electricity data are available on the Stats SA webpage. Click on the following link (Time series data) to access the data electronically.</p>
Past publications	<p>12 Past electricity releases are available on the Stats SA webpage. Click on the following link (Past publications) to access the releases electronically.</p>

Technical notes

- | | | |
|---|---|---|
| Survey methodology and design | 1 | All statistical units are stratified by type of economic activity according to the <i>Standard Industrial Classification of all Economic Activities</i> (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. |
| | 2 | The survey is conducted by electronic filing, email, fax 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 | 3 | The calculation of the monthly index of electricity generated is based on the volume of electricity units produced. |
| Benchmarking | 4 | <p>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.</p> <p>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).</p> |
| Seasonal adjustment | 5 | <p>Seasonally adjusted estimates of all items are generated each month, using the X-12-ARIMA 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 recognized. 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:</p> <p>Click to download Electricity seasonal adjustment September 2017</p> <p>Note: Owing to the impact of the COVID-19 lockdown, a transitory change adjustment was applied to April 2020. Transitory (temporary) change describes a temporary effect on the level of a series after a certain point in time. The methodology will be reviewed as more data points are added to the time series.</p> |
| Trend cycle | 6 | 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 8 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 2015. 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
ISIC	International Standard Industrial Classification
SIC	Standard Industrial Classification of all Economic Activities
SA	South Africa
Stats SA	Statistics South Africa
*	Revised figures

Technical enquiries

Tsholofelo Ditinti Telephone number: 072 917 6444
Email: tsholofelod@statssa.gov.za

Nicolai Claassen Telephone number: 076 759 0200
Email: nicolaic@statssa.gov.za

General information

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 eleven 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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Postal address	Private Bag X44, Pretoria, 0001

Produced by Stats SA