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Electricity generated and available for distribution (Preliminary)

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

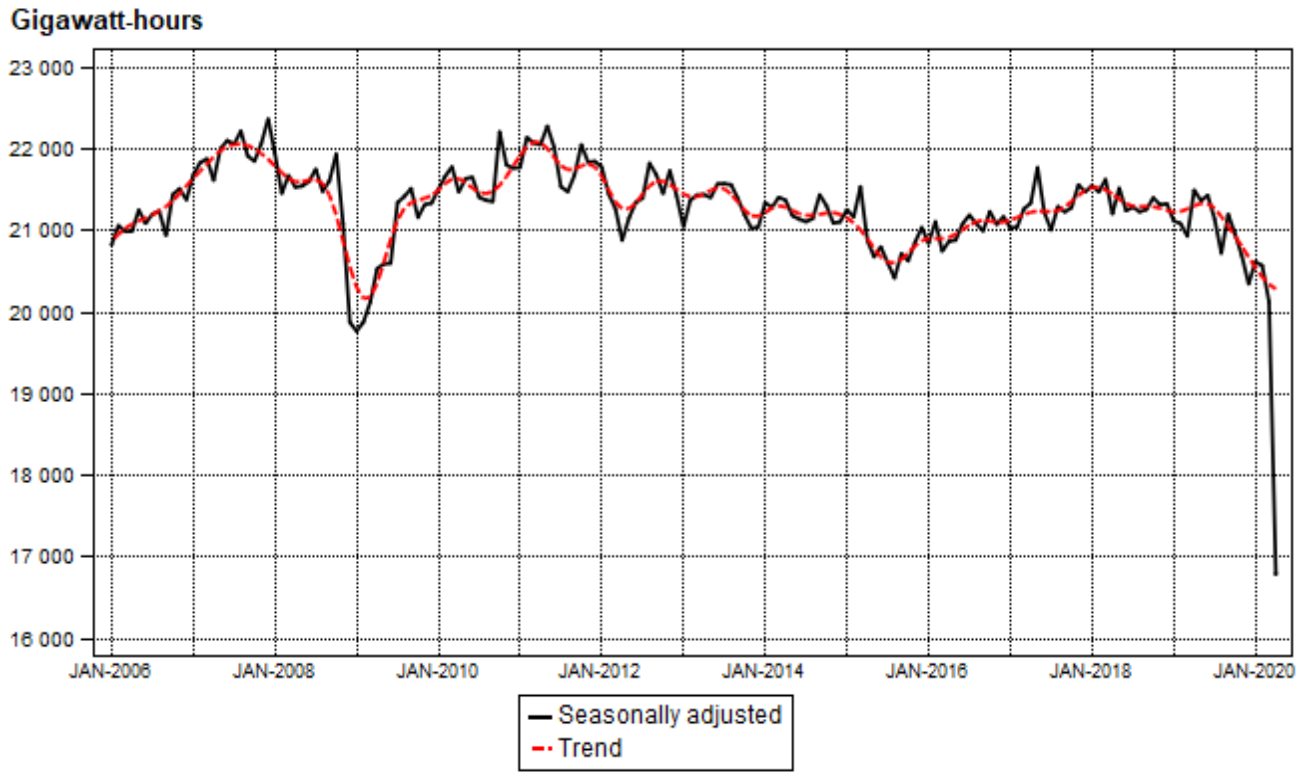
Table A – Key growth rates in the volume of electricity generated

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20
Year-on-year % change, unadjusted	-2,8	-4,0	-2,5	1,0	-4,0	-22,8
Month-on-month % change, seasonally adjusted	-1,3	-1,7	1,3	-0,2	-2,1	-16,6
3-month % change, seasonally adjusted [1]	-0,7	-1,7	-2,0	-2,1	-1,1	-6,7

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

Electricity generation (production) decreased by 22,8% year-on-year in April 2020. Seasonally adjusted electricity generation decreased by 16,6% in April 2020 compared with March 2020. This followed month-on-month changes of -2,1% in March 2020 and -0,2% in February 2020. Seasonally adjusted electricity generation decreased by 6,7% in the three months ended April 2020 compared with the previous three months.

Figure 1 – Electricity generated in South Africa



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

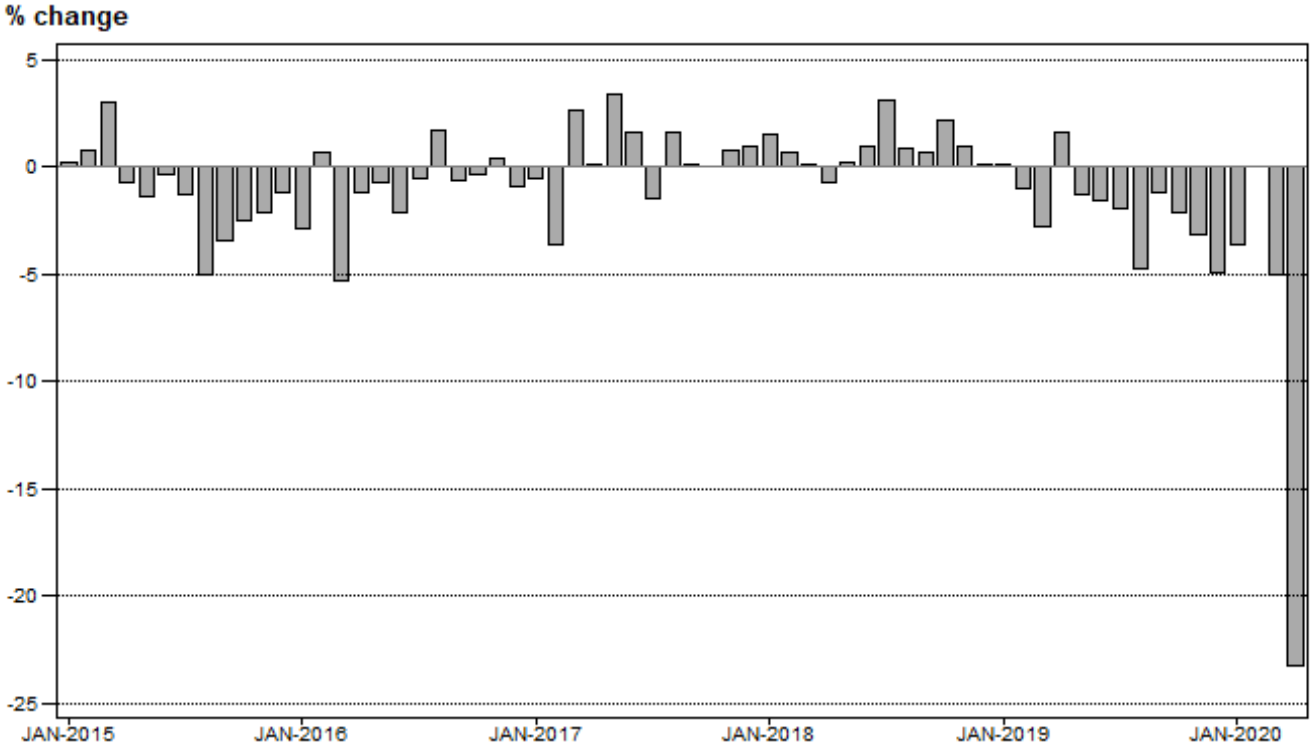
Table B – Key growth rates in the volume of electricity distributed

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20
Year-on-year % change, unadjusted	-3,1	-4,9	-3,6	0,0	-5,0	-23,3
Month-on-month % change, seasonally adjusted	-1,8	-1,4	1,3	-1,1	-2,3	-16,6
3-month % change, seasonally adjusted [1]	0,1	-1,1	-1,7	-2,3	-1,8	-7,6

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

Electricity distribution (consumption) decreased by 23,3% year-on-year in April 2020. Seasonally adjusted electricity distribution decreased by 16,6% month-on-month in April 2020, following month-on-month changes of -2,3% in March 2020 and -1,1% in February 2020. Seasonally adjusted electricity distribution decreased by 7,6% in the three months ended April 2020 compared with the previous three months.

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	
Jun	103,5	102,7	103,2	104,8	105,1	105,2	
Jul	107,9	105,4	108,4	106,5	108,8	108,1	
Aug	105,9	101,2	105,1	106,0	105,5	103,0	
Sep	102,1	98,6	99,8	100,8	100,0	99,6	
Oct	104,1	101,0	103,2	104,6	105,4	103,4	
Nov	99,2	98,1	100,3	101,9	101,8	99,0	
Dec	97,4	97,3	98,2	99,6	98,0	94,1	
Total	**101,7**	**100,0**	**101,1**	**102,0**	**102,4**	**100,9**	

[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		
Jun	-0,8	0,5	1,6	0,3	0,1		
Jul	-2,3	2,8	-1,8	2,2	-0,6		
Aug	-4,4	3,9	0,9	-0,5	-2,4		
Sep	-3,4	1,2	1,0	-0,8	-0,4		
Oct	-3,0	2,2	1,4	0,8	-1,9		
Nov	-1,1	2,2	1,6	-0,1	-2,8		
Dec	-0,1	0,9	1,4	-1,6	-4,0		
Total	**-1,7**	**1,1**	**0,9**	**0,4**	**-1,5**		

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	101,1	98,7	-0,7	0,4	-1,0	1,3
Feb	100,8	102,8	101,0	98,5	0,1	-0,4	-0,1	-0,2
Mar	101,8	103,6	100,2	96,4	1,0	0,8	-0,8	-2,1
Apr	102,2	101,6	102,9	80,4	0,4	-1,9	2,7	-16,6
May	104,3	103,1	102,3		2,1	1,5	-0,6	
Jun	101,6	101,7	102,6		-2,6	-1,4	0,3	
Jul	100,6	102,0	101,3		-1,0	0,3	-1,3	
Aug	102,0	101,7	99,2		1,4	-0,3	-2,1	
Sep	101,7	101,8	101,5		-0,3	0,1	2,3	
Oct	101,9	102,5	100,4		0,2	0,7	-1,1	
Nov	103,2	102,1	99,1		1,3	-0,4	-1,3	
Dec	102,8	102,1	97,4		-0,4	0,0	-1,7	

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	14 356
May	19 636	19 502	20 161	20 207	19 943	
Jun	19 824	19 405	19 720	19 926	19 609	
Jul	20 391	20 297	19 997	20 626	20 224	
Aug	19 236	19 570	19 880	20 053	19 105	
Sep	18 788	18 679	18 707	18 839	18 605	
Oct	19 415	19 349	19 352	19 785	19 367	
Nov	18 720	18 790	18 940	19 123	18 539	
Dec	18 529	18 370	18 562	18 582	17 678	
Total	**230 857**	**228 546**	**229 669**	**231 805**	**227 336**	

[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	-23,3	*-8,1*
May	-0,7	3,4	0,2	-1,3		
Jun	-2,1	1,6	1,0	-1,6		
Jul	-0,5	-1,5	3,1	-1,9		
Aug	1,7	1,6	0,9	-4,7		
Sep	-0,6	0,1	0,7	-1,2		
Oct	-0,3	0,0	2,2	-2,1		
Nov	0,4	0,8	1,0	-3,1		
Dec	-0,9	1,0	0,1	-4,9		
Total	**-1,0**	**0,5**	**0,9**	**-1,9**		

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	18 941	19 247	19 260	18 576	-0,4	0,0	-0,8	1,3
Feb	19 052	19 240	19 042	18 367	0,6	0,0	-1,1	-1,1
Mar	19 358	19 459	18 881	17 946	1,6	1,1	-0,8	-2,3
Apr	19 265	19 101	19 323	14 968	-0,5	-1,8	2,3	-16,6
May	19 570	19 559	19 264		1,6	2,4	-0,3	
Jun	19 046	19 234	19 092		-2,7	-1,7	-0,9	
Jul	18 926	19 362	18 981		-0,6	0,7	-0,6	
Aug	19 184	19 399	18 463		1,4	0,2	-2,7	
Sep	18 959	19 283	19 063		-1,2	-0,6	3,2	
Oct	19 010	19 400	18 941		0,3	0,6	-0,6	
Nov	19 222	19 201	18 609		1,1	-1,0	-1,8	
Dec	19 238	19 425	18 340		0,1	1,2	-1,4	

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

	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20 [1]	Apr-20 year-on-year % change
Total - all producers						
Generated	19 640	20 434	19 414	20 110	16 013	-22,8
Inflow into South Africa	953	975	820	920	898	30,3
Consumed in power stations and auxiliary systems	1 587	1 627	1 534	1 660	1 506	-5,3
Outflow from South Africa	1 329	1 338	1 209	1 393	1 050	-6,3
Distributed in South Africa	17 678	18 444	17 491	17 976	14 356	-23,3
Eskom						
Generated	17 569	18 412	17 696	18 299	14 216	-24,6
Inflow into South Africa	953	975	820	920	898	30,3
Consumed in power stations and auxiliary systems	1 522	1 568	1 482	1 602	1 448	-4,7
Outflow from South Africa	1 329	1 338	1 209	1 393	1 050	-6,3
Distributed in South Africa	15 672	16 481	15 826	16 224	12 616	-25,4

[1] Preliminary.

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

	Jan – Apr 2019 (GWh)	Jan – Apr 2020 (GWh)	% change between Jan – Apr 2019 and Jan – Apr 2020	Difference between Jan – Apr 2019 and Jan – Apr 2020 (GWh)
Total - all producers				
Generated	81 835	75 971	-7,2	-5 864
Inflow into South Africa	3 060	3 613	18,1	553
Consumed in power stations and auxiliary systems	6 219	6 327	1,7	108
Outflow from South Africa	4 408	4 990	13,2	582
Distributed in South Africa	74 266	68 267	-8,1	-5 999
Eskom				
Generated	74 031	68 623	-7,3	-5 408
Inflow into South Africa	3 060	3 613	18,1	553
Consumed in power stations and auxiliary systems	5 945	6 100	2,6	155
Outflow from South Africa	4 408	4 990	13,2	582
Distributed in South Africa	66 737	61 147	-8,4	-5 590

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

Province	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20 [1]	Apr-20 year-on-year % change
Western Cape	1 719	1 874	1 781	1 834	1 464	-21,0
Eastern Cape	687	737	668	704	587	-19,4
Northern Cape	516	515	469	474	378	-23,3
Free State	771	803	763	784	748	-5,0
KwaZulu-Natal	3 338	3 468	3 236	3 445	2 854	-17,0
North West	2 236	2 326	2 244	2 113	824	-65,2
Gauteng	4 115	4 277	4 135	4 366	3 857	-16,0
Mpumalanga	2 755	2 894	2 699	2 785	2 221	-22,5
Limpopo	1 230	1 237	1 145	1 208	1 189	-2,9
Total	**17 366**	**18 131**	**17 139**	**17 710**	**14 121**	**-23,0**

[1] Preliminary.

Survey information

Introduction

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:

- 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.

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.

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

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.

Scope of the survey

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.

Classification

6 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 April 2020 was 96%. The improved collection rate for March 2020 was 96%.

Statistical unit

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).

Revised figures

9 Normally revised figures are due to:

- late submission of data to Stats SA; and
- revisions or corrections by respondents to previous reported data.

Data are edited at enterprise level.

Rounding-off of figures

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

Historical data

11 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

12 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.

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 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

5 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:
Click to download Electricity seasonal adjustment September 2017

Note: Owing to the impact of the COVID-19 lockdown, additive outlier adjustments were performed; the methodology will be reviewed as more data points are added to the time series.

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

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General information

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