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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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Contents

Electricity generated (produced) in South Africa: results for February 2023	2
Table A – Key growth rates in the volume of electricity generated	2
Figure 1 – Electricity generated in South Africa	2
Electricity distributed (consumed) in South Africa: results for February 2023	3
Table B – Key growth rates in the volume of electricity distributed.....	3
Figure 2 – Electricity distributed in South Africa: year-on-year percentage change	3
Tables	4
Table 1 – Index of the volume of electricity generated (Base: 2019=100).....	4
Table 2 – Year-on-year percentage change in the volume of electricity generated	4
Table 3 – Seasonally adjusted index of the volume of electricity generated	4
Table 4 – Volume of electricity distributed in South Africa (gigawatt-hours).....	5
Table 5 – Year-on-year percentage change in electricity distributed in South Africa	5
Table 6 – Seasonally adjusted volume of electricity distributed in South Africa	5
Table 7 – Volume of electricity by category (gigawatt-hours)	6
Table 8 – Year-to-date volume of electricity by category: year-on-year percentage change and difference	6
Table 9 – Volume of electricity delivered to provinces (gigawatt-hours).....	6
Survey information.....	7
Technical notes	8
Glossary	9
Technical enquiries.....	9
General information	10

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

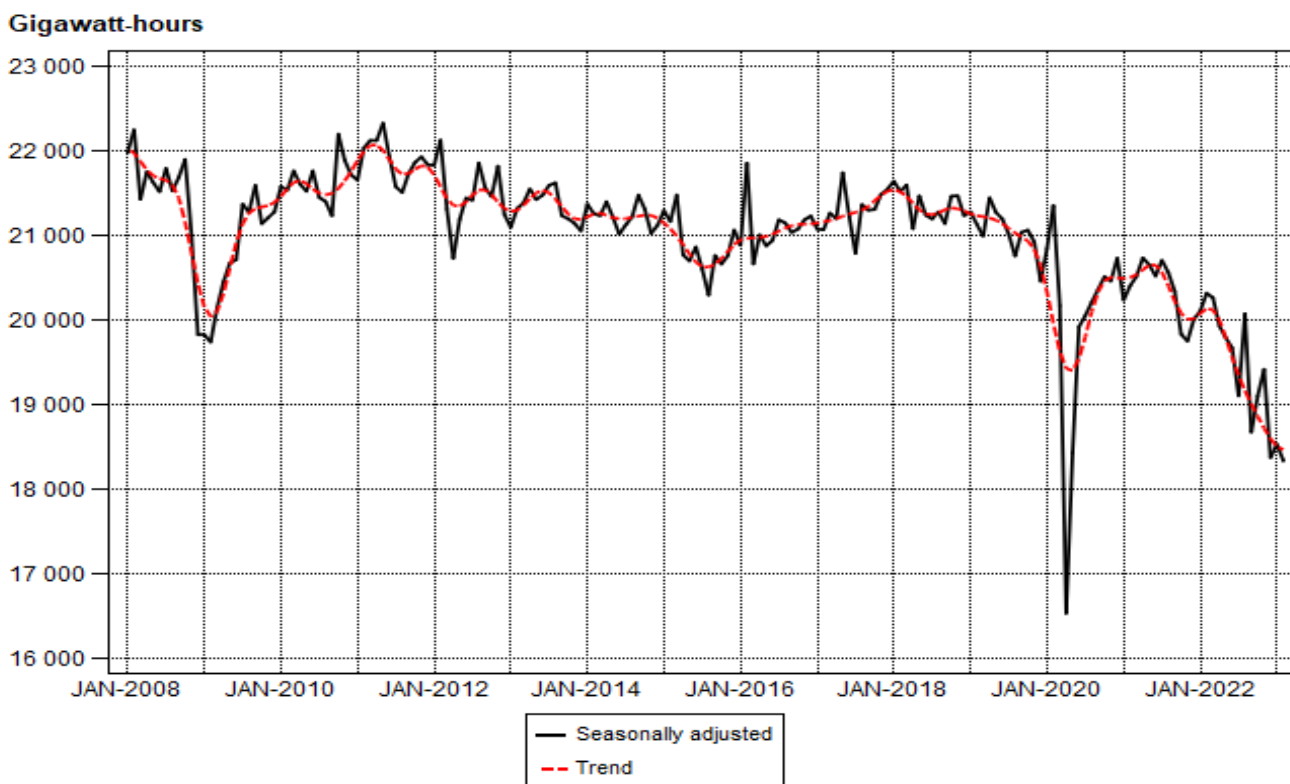
Table A – Key growth rates in the volume of electricity generated

	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23
Year-on-year % change, unadjusted	-8,2	-3,8	-1,8	-8,3	-8,0	-9,7
Month-on-month % change, seasonally adjusted	-7,0	2,4	1,7	-5,4	0,9	-1,1
3-month % change, seasonally adjusted ¹	-2,6	-1,2	-2,8	-1,6	-2,6	-3,4

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

Electricity generation (production) decreased by 9,7% year-on-year in February 2023. Seasonally adjusted electricity generation decreased by 1,1% in February 2023 compared with January 2023. This followed month-on-month changes of 0,9% in January 2023 and -5,4% in December 2022. Seasonally adjusted electricity generation decreased by 3,4% in the three months ended February 2023 compared with the previous three months.

Figure 1 – Electricity generated in South Africa



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

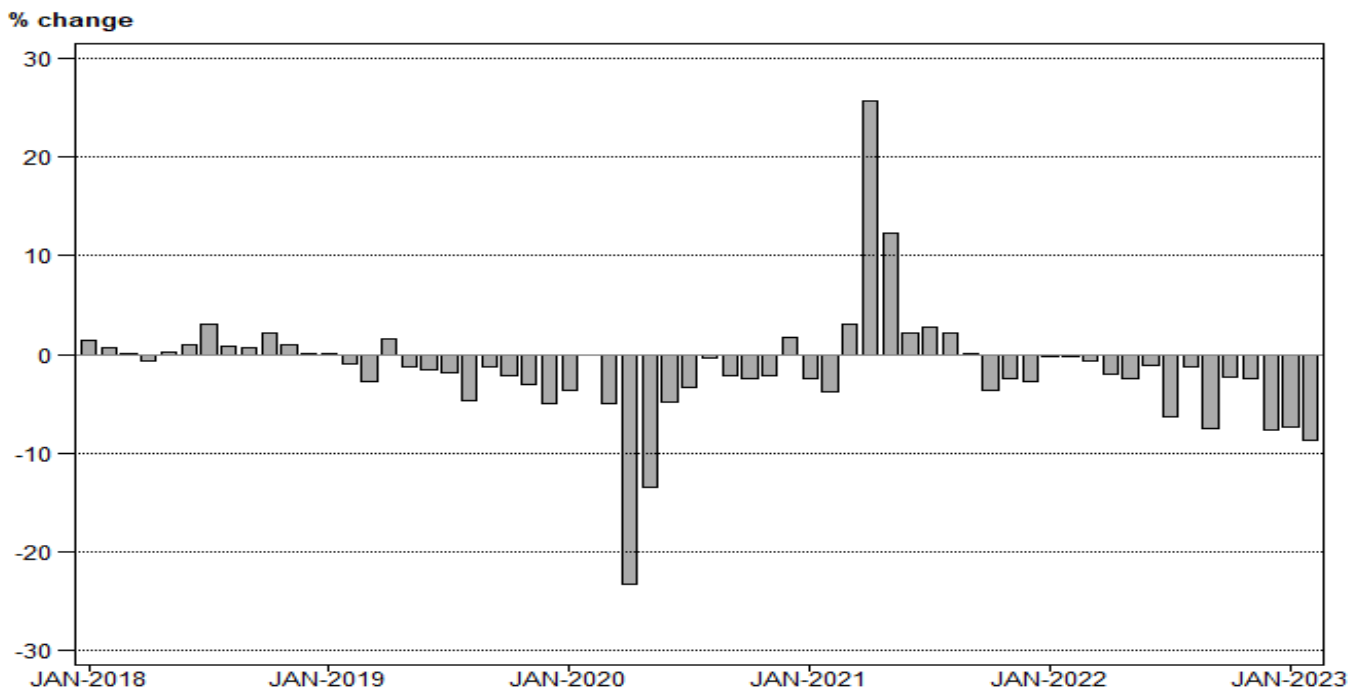
Table B – Key growth rates in the volume of electricity distributed

	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23
Year-on-year % change, unadjusted	-7,5	-2,3	-2,4	-7,6	-7,3	-8,7
Month-on-month % change, seasonally adjusted	-7,8	2,9	0,6	-3,9	0,9	-2,2
3-month % change, seasonally adjusted ¹	-2,5	-1,2	-3,4	-1,7	-2,5	-2,7

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

Electricity distribution (consumption) decreased by 8,7% year-on-year in February 2023. Seasonally adjusted electricity distribution decreased by 2,2% month-on-month in February 2023, following month-on-month changes of 0,9% in January 2023 and -3,9% in December 2022. Seasonally adjusted electricity distribution decreased by 2,7% in the three months ended February 2023 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: 2019=100)

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

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	-8,0	-8,0
Feb	1,9	-1,9	1,0	-4,3	-0,3	-9,7	-8,8
Mar	1,2	-2,9	-4,0	1,8	-1,0		
Apr	-0,5	1,8	-22,7	25,5	-3,8		
May	-0,8	-0,6	-13,2	12,2	-4,2		
Jun	0,3	0,1	-5,8	3,2	-4,0		
Jul	2,2	-0,7	-4,5	3,3	-7,7		
Aug	-0,4	-2,4	-2,4	2,0	-2,2		
Sep	-0,8	-0,5	-3,0	0,0	-8,2		
Oct	0,8	-1,9	-2,7	-3,5	-3,8		
Nov	-0,1	-2,7	-2,5	-3,7	-1,8		
Dec	-1,7	-3,9	1,1	-3,7	-8,3		
Total	0,4	-1,5	-5,2	2,0	-3,8		

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

Month	Base: 2019=100				Month-on-month % change			
	2020	2021	2022	2023	2020	2021	2022	2023
Jan	99,0	96,1	95,5	88,1	1,9	-2,4	0,4	0,9
Feb	101,5	96,9	96,5	87,1	2,5	0,8	1,0	-1,1
Mar	95,8	97,5	96,3		-5,6	0,6	-0,2	
Apr	78,6	98,5	94,7		-18,0	1,0	-1,7	
May	87,6	98,1	94,0		11,5	-0,4	-0,7	
Jun	94,6	97,5	93,5		8,0	-0,6	-0,5	
Jul	95,3	98,4	90,8		0,7	0,9	-2,9	
Aug	96,0	97,7	95,4		0,7	-0,7	5,1	
Sep	96,7	96,6	88,7		0,7	-1,1	-7,0	
Oct	97,5	94,2	90,8		0,8	-2,5	2,4	
Nov	97,2	93,8	92,3		-0,3	-0,4	1,7	
Dec	98,5	95,1	87,3		1,3	1,4	-5,4	

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	16 658
Feb	17 667	17 493	17 491	16 825	16 815	15 357
Mar	19 470	18 930	17 976	18 522	18 408	
Apr	18 421	18 711	14 379	18 078	17 709	
May	20 207	19 943	17 254	19 371	18 897	
Jun	19 926	19 609	18 664	19 049	18 838	
Jul	20 626	20 224	19 533	20 082	18 814	
Aug	20 053	19 105	19 038	19 459	19 220	
Sep	18 839	18 605	18 216	18 230	16 857	
Oct	19 785	19 367	18 883	18 203	17 784	
Nov	19 123	18 539	18 153	17 713	17 281	
Dec	18 582	17 678	17 979	17 496	16 169	
Total	231 805	227 336	216 010	221 030	214 766	

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	-8,7	-8,0
Mar	-2,8	-5,0	3,0	-0,6		
Apr	1,6	-23,2	25,7	-2,0		
May	-1,3	-13,5	12,3	-2,4		
Jun	-1,6	-4,8	2,1	-1,1		
Jul	-1,9	-3,4	2,8	-6,3		
Aug	-4,7	-0,4	2,2	-1,2		
Sep	-1,2	-2,1	0,1	-7,5		
Oct	-2,1	-2,5	-3,6	-2,3		
Nov	-3,1	-2,1	-2,4	-2,4		
Dec	-4,9	1,7	-2,7	-7,6		
Total	-1,9	-5,0	2,3	-2,8		

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

Month	Gigawatt-hours				Month-on-month % change			
	2020	2021	2022	2023	2020	2021	2022	2023
Jan	18 805	18 412	18 444	17 112	1,9	-2,1	0,6	0,9
Feb	19 158	18 404	18 388	16 741	1,9	0,0	-0,3	-2,2
Mar	17 995	18 538	18 403		-6,1	0,7	0,1	
Apr	14 791	18 613	18 209		-17,8	0,4	-1,1	
May	16 541	18 555	18 123		11,8	-0,3	-0,5	
Jun	17 956	18 277	18 083		8,6	-1,5	-0,2	
Jul	18 193	18 676	17 510		1,3	2,2	-3,2	
Aug	18 397	18 752	18 479		1,1	0,4	5,5	
Sep	18 447	18 442	17 044		0,3	-1,7	-7,8	
Oct	18 564	17 915	17 539		0,6	-2,9	2,9	
Nov	18 473	18 060	17 648		-0,5	0,8	0,6	
Dec	18 812	18 327	16 951		1,8	1,5	-3,9	

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

	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23 ¹	Feb-23 year-on-year % change
Total - all producers						
Generated	19 470	19 053	17 524	18 024	16 709	-9,7
Inflow into South Africa	884	771	988	1 003	761	-8,9
Consumed in power stations and auxiliary systems	1 543	1 509	1 378	1 370	1 259	-13,1
Outflow from South Africa	1 026	1 034	965	999	855	-19,6
Distributed in South Africa	17 784	17 281	16 169	16 658	15 357	-8,7
Eskom						
Generated	17 146	16 608	14 935	15 422	14 420	-13,8
Inflow into South Africa	884	771	988	1 003	761	-8,9
Consumed in power stations and auxiliary systems	1 440	1 407	1 282	1 274	1 174	-14,6
Outflow from South Africa	1 026	1 034	965	999	855	-19,6
Distributed in South Africa	15 563	14 938	13 675	14 152	13 152	-13,0

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

	Jan – Feb 2022 (GWh)	Jan – Feb 2023 (GWh)	% change between Jan – Feb 2022 and Jan – Feb 2023	Difference between Jan – Feb 2022 and Jan – Feb 2023 (GWh)
Total - all producers				
Generated	38 076	34 733	-8,8	-3 343
Inflow into South Africa	1 934	1 764	-8,8	-170
Consumed in power stations and auxiliary systems	2 961	2 629	-11,2	-332
Outflow from South Africa	2 258	1 854	-17,9	-404
Distributed in South Africa	34 789	32 015	-8,0	-2 774
Eskom				
Generated	34 207	29 842	-12,8	-4 365
Inflow into South Africa	1 934	1 764	-8,8	-170
Consumed in power stations and auxiliary systems	2 823	2 448	-13,3	-375
Outflow from South Africa	2 258	1 854	-17,9	-404
Distributed in South Africa	31 060	27 304	-12,1	-3 756

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

Province	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23 ¹	Feb-23 year-on-year % change
Western Cape	1 545	1 530	1 392	1 448	1 389	-14,5
Eastern Cape	712	696	613	634	581	-17,2
Northern Cape	517	476	480	514	409	-10,7
Free State	866	825	805	839	767	-3,8
KwaZulu-Natal	3 269	3 157	3 049	3 068	2 826	-6,8
North West	1 945	1 853	1 745	1 818	1 659	-4,8
Gauteng	4 378	4 310	3 741	3 890	3 692	-9,6
Mpumalanga	2 525	2 401	2 449	2 536	2 247	-6,0
Limpopo	1 684	1 649	1 598	1 634	1 507	-8,4
Total	17 442	16 897	15 871	16 381	15 075	-8,5

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 2019.</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 February 2023 was 96%. The collection rate for January 2023 was 100%.</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 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	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 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:</p> <p>Click to download Electricity seasonal adjustment February 2022</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 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 <i>Standard Industrial Classification of All Economic Activities</i> (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	<table> <tr> <td>GDP</td> <td>Gross domestic product</td> </tr> <tr> <td>GWh</td> <td>Gigawatt-hour</td> </tr> <tr> <td>ISIC</td> <td>International Standard Industrial Classification</td> </tr> <tr> <td>SIC</td> <td>Standard Industrial Classification of All Economic Activities</td> </tr> <tr> <td>SA</td> <td>South Africa</td> </tr> <tr> <td>Stats SA</td> <td>Statistics South Africa</td> </tr> <tr> <td>*</td> <td>Revised figures</td> </tr> </table>	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
GDP	Gross domestic product														
GWh	Gigawatt-hour														
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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: 072 310 5351 Email: nicolaic@statssa.gov.za														

General information

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Orders/subscription services	Telephone number: (012) 310 8619 Email address: millies@statssa.gov.za
Postal address	Private Bag X44, Pretoria, 0001

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