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Electricity generated and available for distribution (Preliminary)

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Electricity generated (produced) in South Africa: results for December 2022

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

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

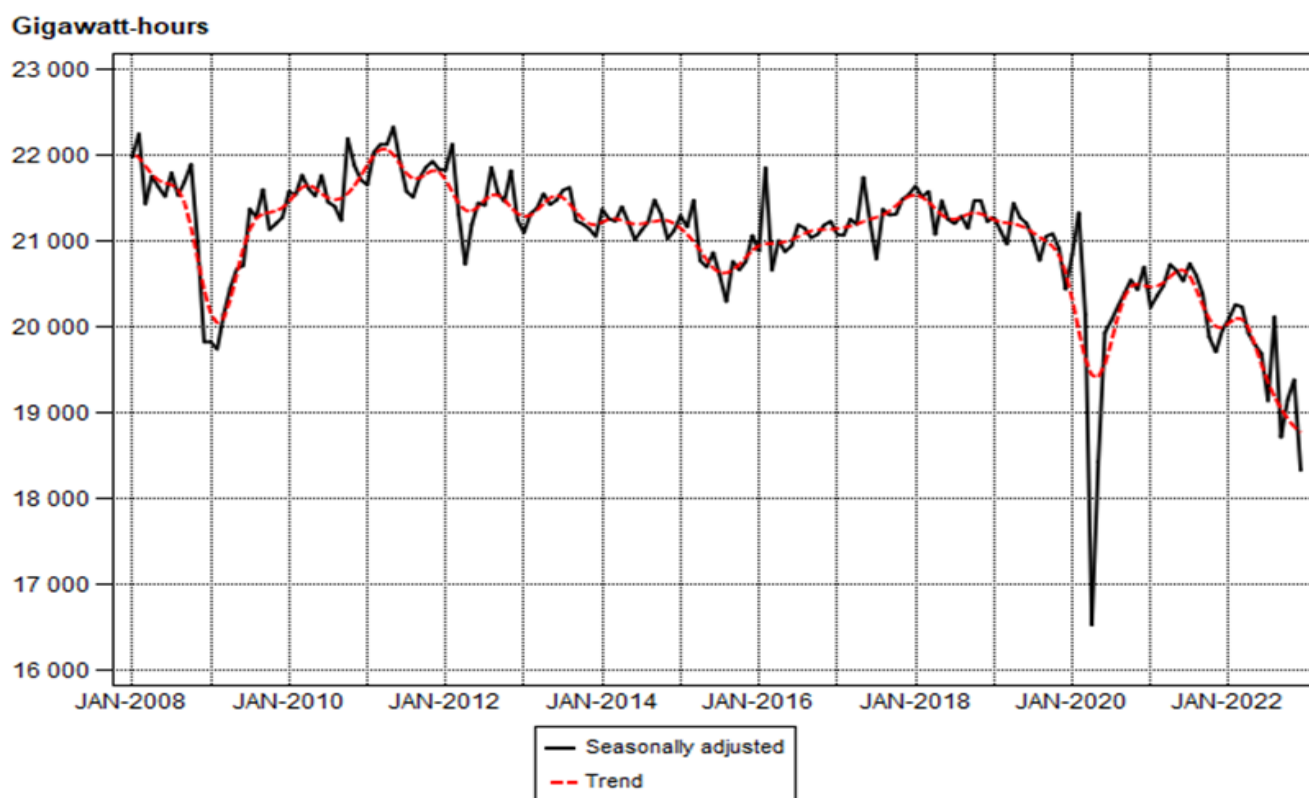
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity generation (production) decreased by 8,3% year-on-year in December 2022.

Total electricity generation was 3,9% lower in 2022 compared with 2021. The 3,9% decrease in annual electricity generation followed an increase of 2,0% in 2021 and a decrease of 5,2% in 2020.

Seasonally adjusted electricity generation decreased by 5,4% in December 2022 compared with November 2022. This followed month-on-month changes of 1,2% in November 2022 and 2,4% in October 2022. Seasonally adjusted electricity generation decreased by 1,9% in the fourth quarter of 2022 compared with the third quarter of 2022.

Figure 1 – Electricity generated in South Africa



Electricity distributed (consumed) in South Africa: results for December 2022

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

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

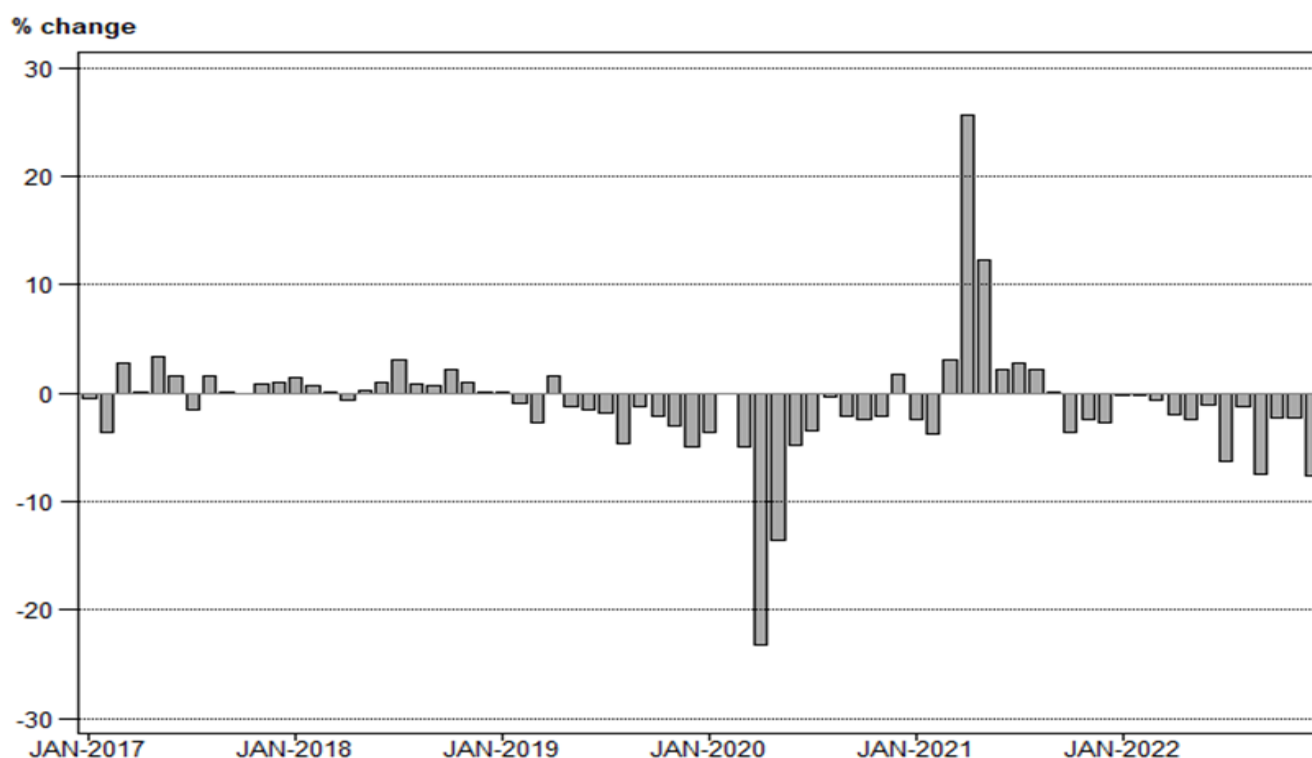
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity distribution (consumption) decreased by 7,6% year-on-year in December 2022.

Total electricity distribution was 2,8% lower in 2022 compared with 2021. The 2,8% decrease in annual electricity distribution followed an increase of 2,3% in 2021 and a decrease of 5,0% in 2020.

Seasonally adjusted electricity distribution decreased by 4,0% month-on-month in December 2022, following month-on-month changes of 0,1% in November 2022 and 2,9% in October 2022. Seasonally adjusted electricity distribution decreased by 2,0% in the fourth quarter of 2022 compared with the third quarter of 2022.

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	2016	2017	2018	2019	2020	2021	2022 ¹
Jan	98,4	99,2	101,5	99,5	97,1	93,9	93,0
Feb	95,0	91,4	93,1	91,3	92,2	88,2	87,9
Mar	98,7	101,3	102,5	99,5	95,5	97,2	96,2
Apr	96,6	97,3	96,8	98,5	76,1	95,5	91,9
May	101,8	106,4	105,5	104,9	91,1	102,2	97,9
Jun	102,3	103,9	104,2	104,3	98,3	101,4	97,3
Jul	107,5	105,6	107,9	107,1	102,3	105,7	97,6
Aug	104,2	105,0	104,6	102,1	99,7	101,7	99,5
Sep	98,9	100,0	99,2	98,7	95,7	95,7	87,9
Oct	102,3	103,7	104,5	102,5	99,7	96,2	92,5
Nov	99,4	101,0	100,9	98,2	95,7	92,2	90,6
Dec	97,3	98,8	97,1	93,3	94,3	90,8	83,3
Total	100,2	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	2017	2018	2019	2020	2021	2022	2022 year-to-date
Jan	0,8	2,3	-2,0	-2,4	-3,3	-1,0	-1,0
Feb	-3,8	1,9	-1,9	1,0	-4,3	-0,3	-0,7
Mar	2,6	1,2	-2,9	-4,0	1,8	-1,0	-0,8
Apr	0,7	-0,5	1,8	-22,7	25,5	-3,8	-1,5
May	4,5	-0,8	-0,6	-13,2	12,2	-4,2	-2,1
Jun	1,6	0,3	0,1	-5,8	3,2	-4,0	-2,5
Jul	-1,8	2,2	-0,7	-4,5	3,3	-7,7	-3,3
Aug	0,8	-0,4	-2,4	-2,4	2,0	-2,2	-3,1
Sep	1,1	-0,8	-0,5	-3,0	0,0	-8,2	-3,7
Oct	1,4	0,8	-1,9	-2,7	-3,5	-3,8	-3,7
Nov	1,6	-0,1	-2,7	-2,5	-3,7	-1,7	-3,5
Dec	1,5	-1,7	-3,9	1,1	-3,7	-8,3	-3,9
Total	0,9	0,4	-1,5	-5,2	2,0	-3,9	

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

Month	Base: 2019=100				Month-on-month % change			
	2019	2020	2021	2022	2019	2020	2021	2022
Jan	101,1	99,0	96,1	95,5	0,3	2,0	-2,2	0,7
Feb	100,3	101,3	96,7	96,3	-0,8	2,3	0,6	0,8
Mar	99,6	95,7	97,3	96,1	-0,7	-5,5	0,6	-0,2
Apr	101,9	78,5	98,5	94,7	2,3	-18,0	1,2	-1,5
May	101,1	87,6	98,1	94,0	-0,8	11,6	-0,4	-0,7
Jun	100,8	94,7	97,6	93,6	-0,3	8,1	-0,5	-0,4
Jul	99,9	95,4	98,5	90,9	-0,9	0,7	0,9	-2,9
Aug	98,7	96,2	97,9	95,6	-1,2	0,8	-0,6	5,2
Sep	100,0	96,9	96,8	88,9	1,3	0,7	-1,1	-7,0
Oct	100,2	97,6	94,5	91,0	0,2	0,7	-2,4	2,4
Nov	99,3	97,1	93,6	92,1	-0,9	-0,5	-1,0	1,2
Dec	97,1	98,3	94,8	87,1	-2,2	1,2	1,3	-5,4

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

Month	2017	2018	2019	2020	2021	2022 ¹
Jan	18 820	19 106	19 132	18 444	18 002	17 974
Feb	17 539	17 667	17 493	17 491	16 825	16 815
Mar	19 441	19 470	18 930	17 976	18 522	18 408
Apr	18 550	18 421	18 711	14 379	18 078	17 709
May	20 161	20 207	19 943	17 254	19 371	18 897
Jun	19 720	19 926	19 609	18 664	19 049	18 838
Jul	19 997	20 626	20 224	19 533	20 082	18 814
Aug	19 880	20 053	19 105	19 038	19 459	19 220
Sep	18 707	18 839	18 605	18 216	18 230	16 857
Oct	19 352	19 785	19 367	18 883	18 203	17 778
Nov	18 940	19 123	18 539	18 153	17 713	17 297
Dec	18 562	18 582	17 678	17 979	17 496	16 166
Total	229 669	231 805	227 336	216 010	221 030	214 773

¹ Latest month is preliminary.**Table 5 – Year-on-year percentage change in electricity distributed in South Africa**

Month	2018	2019	2020	2021	2022	2022 year-to-date
Jan	1,5	0,1	-3,6	-2,4	-0,2	-0,2
Feb	0,7	-1,0	0,0	-3,8	-0,1	-0,1
Mar	0,1	-2,8	-5,0	3,0	-0,6	-0,3
Apr	-0,7	1,6	-23,2	25,7	-2,0	-0,7
May	0,2	-1,3	-13,5	12,3	-2,4	-1,1
Jun	1,0	-1,6	-4,8	2,1	-1,1	-1,1
Jul	3,1	-1,9	-3,4	2,8	-6,3	-1,9
Aug	0,9	-4,7	-0,4	2,2	-1,2	-1,8
Sep	0,7	-1,2	-2,1	0,1	-7,5	-2,4
Oct	2,2	-2,1	-2,5	-3,6	-2,3	-2,4
Nov	1,0	-3,1	-2,1	-2,4	-2,3	-2,4
Dec	0,1	-4,9	1,7	-2,7	-7,6	-2,8
Total	0,9	-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			
	2019	2020	2021	2022	2019	2020	2021	2022
Jan	19 422	18 801	18 406	18 431	0,5	2,0	-2,0	0,8
Feb	19 120	19 140	18 372	18 343	-1,6	1,8	-0,2	-0,5
Mar	18 906	17 970	18 511	18 383	-1,1	-6,1	0,8	0,2
Apr	19 305	14 787	18 607	18 204	2,1	-17,7	0,5	-1,0
May	19 151	16 541	18 558	18 129	-0,8	11,9	-0,3	-0,4
Jun	18 925	17 977	18 297	18 101	-1,2	8,7	-1,4	-0,2
Jul	18 850	18 214	18 705	17 540	-0,4	1,3	2,2	-3,1
Aug	18 494	18 420	18 786	18 517	-1,9	1,1	0,4	5,6
Sep	18 896	18 470	18 476	17 079	2,2	0,3	-1,7	-7,8
Oct	19 041	18 593	17 957	17 579	0,8	0,7	-2,8	2,9
Nov	18 794	18 439	18 011	17 605	-1,3	-0,8	0,3	0,1
Dec	18 424	18 774	18 277	16 893	-2,0	1,8	1,5	-4,0

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

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22 ¹	Dec-22 year-on-year % change
Total - all producers						
Generated	20 948	18 496	19 464	19 069	17 536	-8,2
Inflow into South Africa	903	852	884	771	988	-10,5
Consumed in power stations and auxiliary systems	1 596	1 501	1 543	1 509	1 393	-6,7
Outflow from South Africa	1 036	990	1 026	1 034	965	-21,3
Distributed in South Africa	19 220	16 857	17 778	17 297	16 166	-7,6
Eskom						
Generated	18 452	16 243	17 146	16 608	14 935	-11,4
Inflow into South Africa	903	852	884	771	988	-10,5
Consumed in power stations and auxiliary systems	1 494	1 395	1 440	1 407	1 282	-9,3
Outflow from South Africa	1 036	990	1 026	1 034	965	-21,3
Distributed in South Africa	16 825	14 711	15 563	14 938	13 675	-10,7

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

	Jan – Dec 2021 (GWh)	Jan – Dec 2022 (GWh)	% change between Jan – Dec 2021 and Jan – Dec 2022	Difference between Jan – Dec 2021 and Jan – Dec 2022 (GWh)
Total - all producers				
Generated	244 322	234 807	-3,9	-9 515
Inflow into South Africa	10 137	10 761	6,2	624
Consumed in power stations and auxiliary systems	19 725	18 522	-6,1	-1 203
Outflow from South Africa	13 705	12 270	-10,5	-1 435
Distributed in South Africa	221 030	214 773	-2,8	-6 257
Eskom				
Generated	217 650	208 583	-4,2	-9 067
Inflow into South Africa	10 137	10 761	6,2	624
Consumed in power stations and auxiliary systems	18 705	17 444	-6,7	-1 261
Outflow from South Africa	13 705	12 270	-10,5	-1 435
Distributed in South Africa	195 379	189 627	-2,9	-5 752

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

Province	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22 ¹	Dec-22 year-on-year % change
Western Cape	1 771	1 489	1 545	1 530	1 392	-12,0
Eastern Cape	811	709	712	696	613	-12,1
Northern Cape	521	477	517	476	480	3,0
Free State	964	838	866	825	805	-3,1
KwaZulu-Natal	3 501	3 189	3 263	3 174	3 061	-4,1
North West	1 863	1 805	1 945	1 853	1 745	-3,5
Gauteng	5 222	4 232	4 378	4 310	3 741	-12,9
Mpumalanga	2 538	2 244	2 525	2 401	2 435	-4,1
Limpopo	1 672	1 579	1 684	1 649	1 598	-8,3
Total	18 863	16 562	17 436	16 914	15 869	-7,5

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 December 2022 was 88%. The collection rate for November 2022 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 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	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 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 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 February 2022
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	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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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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