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Electricity generated and available for distribution (Preliminary)

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Electricity generated (produced) in South Africa: results for December 2021

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

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Year-on-year % change, unadjusted	3,4	2,0	0,0	-3,4	-3,7	-3,7
Month-on-month % change, seasonally adjusted	0,5	-0,4	-0,4	-3,8	-0,5	1,4
3-month % change, seasonally adjusted ¹	0,3	-0,7	-0,7	-2,1	-3,2	-4,1

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

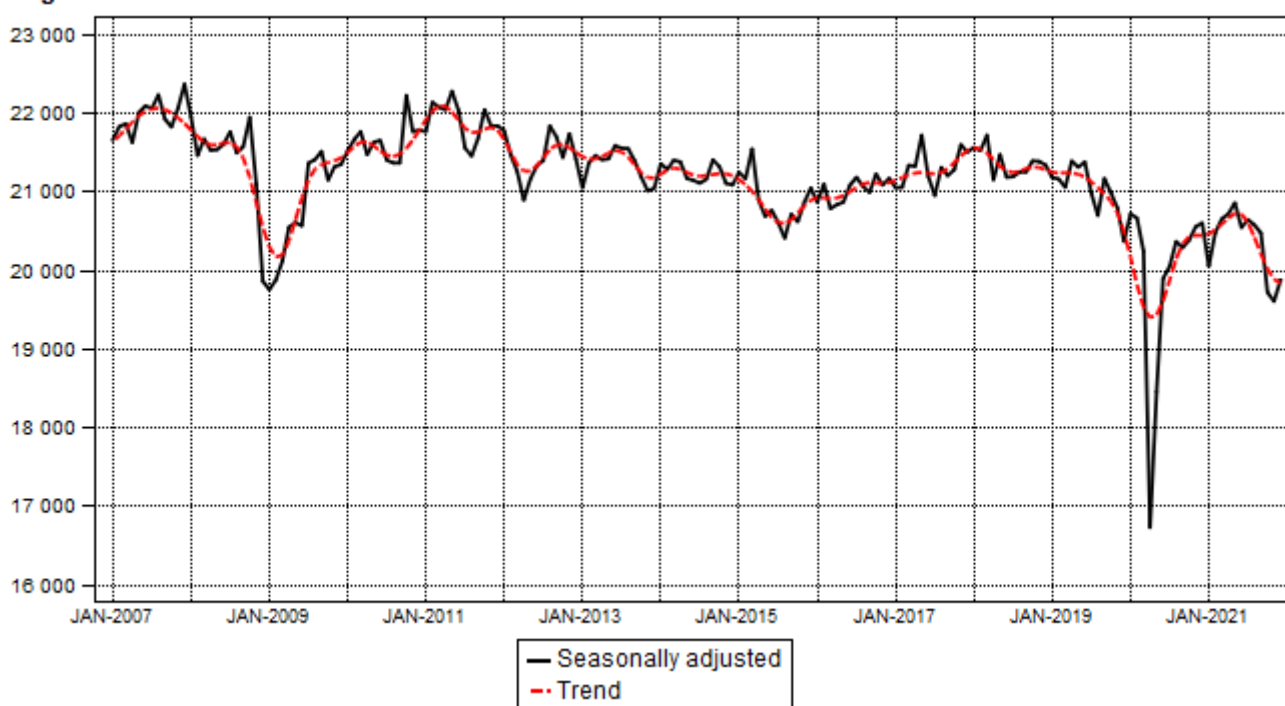
Electricity generation (production) decreased by 3,7% year-on-year in December 2021.

Total electricity generation was 2,1% higher in 2021 compared with 2020. The 2,1% increase in annual electricity production followed a decrease of 5,3% in 2020 and a decrease of 1,5% in 2019.

Seasonally adjusted electricity generation increased by 1,4% in December 2021 compared with November 2021. This followed month-on-month changes of -0,5% in November 2021 and -3,8% in October 2021. Seasonally adjusted electricity generation decreased by 4,1% in the fourth quarter of 2021 compared with the third quarter of 2021.

Figure 1 – Electricity generated in South Africa

Gigawatt-hours



Electricity distributed (consumed) in South Africa: results for December 2021

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

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Year-on-year % change, unadjusted	2,8	2,2	0,1	-3,6	-2,4	-2,7
Month-on-month % change, seasonally adjusted	1,7	0,8	-1,0	-4,1	0,5	1,6
3-month % change, seasonally adjusted ¹	0,0	-0,5	0,5	-1,0	-2,6	-3,7

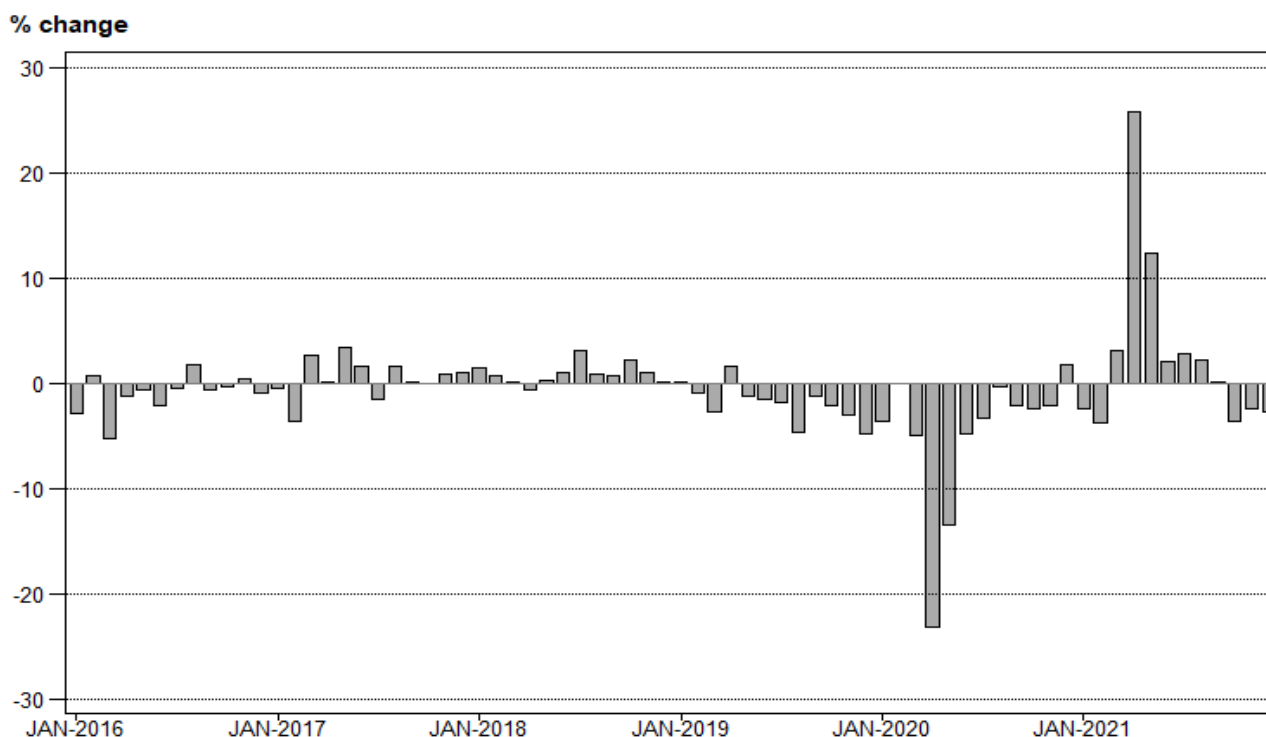
¹ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Electricity distribution (consumption) decreased by 2,7% year-on-year in December 2021.

Total electricity distribution was 2,3% higher in 2021 compared with 2020. The 2,3% increase in annual electricity distribution followed a decrease of 5,0% in 2020 and a decrease of 1,9% in 2019.

Seasonally adjusted electricity distribution increased by 1,6% month-on-month in December 2021, following month-on-month changes of 0,5% in November 2021 and -4,1% in October 2021. Seasonally adjusted electricity distribution decreased by 3,7% in the fourth quarter of 2021 compared with the third quarter of 2021.

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	2015	2016	2017	2018	2019	2020	2021 ¹
Jan	101,2	99,2	100,1	102,4	100,4	97,9	94,8
Feb	93,0	95,9	92,2	93,9	92,1	93,0	89,0
Mar	103,6	99,6	102,2	103,4	100,4	96,4	98,1
Apr	96,5	97,4	98,1	97,6	99,4	76,7	96,3
May	101,4	102,7	107,4	106,5	105,9	91,9	103,1
Jun	102,7	103,2	104,8	105,1	105,2	99,1	102,3
Jul	105,4	108,4	106,5	108,8	108,1	103,2	106,7
Aug	101,2	105,1	106,0	105,5	103,0	100,5	102,5
Sep	98,6	99,8	100,8	100,0	99,6	96,5	96,5
Oct	101,0	103,2	104,6	105,4	103,4	100,5	97,1
Nov	98,1	100,3	101,9	101,8	99,0	96,6	93,0
Dec	97,3	98,2	99,6	98,0	94,1	95,1	91,6
Total	100,0	101,1	102,0	102,4	100,9	95,6	97,6

¹ Latest month is preliminary.

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

Month	2016	2017	2018	2019	2020	2021	2021 year-to-date
Jan	-2,0	0,9	2,3	-2,0	-2,5	-3,2	-3,2
Feb	3,1	-3,9	1,8	-1,9	1,0	-4,3	-3,7
Mar	-3,9	2,6	1,2	-2,9	-4,0	1,8	-1,9
Apr	0,9	0,7	-0,5	1,8	-22,8	25,6	3,9
May	1,3	4,6	-0,8	-0,6	-13,2	12,2	5,6
Jun	0,5	1,6	0,3	0,1	-5,8	3,2	5,2
Jul	2,8	-1,8	2,2	-0,6	-4,5	3,4	4,9
Aug	3,9	0,9	-0,5	-2,4	-2,4	2,0	4,5
Sep	1,2	1,0	-0,8	-0,4	-3,1	0,0	4,0
Oct	2,2	1,4	0,8	-1,9	-2,8	-3,4	3,2
Nov	2,2	1,6	-0,1	-2,8	-2,4	-3,7	2,6
Dec	0,9	1,4	-1,6	-4,0	1,1	-3,7	2,1
Total	1,1	0,9	0,4	-1,5	-5,3	2,1	

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

Month	Base: 2015=100				Month-on-month % change			
	2018	2019	2020	2021	2018	2019	2020	2021
Jan	103,3	101,4	99,2	96,0	0,3	-0,8	1,7	-2,7
Feb	103,1	101,3	99,0	98,1	-0,2	-0,1	-0,2	2,2
Mar	104,0	100,8	96,9	98,9	0,9	-0,5	-2,1	0,8
Apr	101,3	102,4	80,1	99,2	-2,6	1,6	-17,3	0,3
May	102,8	102,1	88,4	99,9	1,5	-0,3	10,4	0,7
Jun	101,5	102,4	95,3	98,4	-1,3	0,3	7,8	-1,5
Jul	101,5	100,5	96,0	98,9	0,0	-1,9	0,7	0,5
Aug	101,8	99,1	97,5	98,5	0,3	-1,4	1,6	-0,4
Sep	101,8	101,4	97,2	98,1	0,0	2,3	-0,3	-0,4
Oct	102,5	100,5	97,6	94,4	0,7	-0,9	0,4	-3,8
Nov	102,4	99,6	98,4	93,9	-0,1	-0,9	0,8	-0,5
Dec	102,2	97,5	98,7	95,2	-0,2	-2,1	0,3	1,4

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

Month	2016	2017	2018	2019	2020	2021 ¹
Jan	18 924	18 820	19 106	19 132	18 444	18 002
Feb	18 190	17 539	17 667	17 493	17 491	16 825
Mar	18 935	19 441	19 470	18 930	17 976	18 522
Apr	18 535	18 550	18 421	18 711	14 379	18 078
May	19 502	20 161	20 207	19 943	17 254	19 371
Jun	19 405	19 720	19 926	19 609	18 664	19 049
Jul	20 297	19 997	20 626	20 224	19 533	20 082
Aug	19 570	19 880	20 053	19 105	19 038	19 459
Sep	18 679	18 707	18 839	18 605	18 216	18 230
Oct	19 349	19 352	19 785	19 367	18 883	18 203
Nov	18 790	18 940	19 123	18 539	18 153	17 713
Dec	18 370	18 562	18 582	17 678	17 979	17 496
Total	228 546	229 669	231 805	227 336	216 010	221 030

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

Month	2017	2018	2019	2020	2021	2021 year-to-date
Jan	-0,5	1,5	0,1	-3,6	-2,4	-2,4
Feb	-3,6	0,7	-1,0	0,0	-3,8	-3,1
Mar	2,7	0,1	-2,8	-5,0	3,0	-1,0
Apr	0,1	-0,7	1,6	-23,2	25,7	4,6
May	3,4	0,2	-1,3	-13,5	12,3	6,1
Jun	1,6	1,0	-1,6	-4,8	2,1	5,4
Jul	-1,5	3,1	-1,9	-3,4	2,8	5,0
Aug	1,6	0,9	-4,7	-0,4	2,2	4,6
Sep	0,1	0,7	-1,2	-2,1	0,1	4,1
Oct	0,0	2,2	-2,1	-2,5	-3,6	3,3
Nov	0,8	1,0	-3,1	-2,1	-2,4	2,8
Dec	1,0	0,1	-4,9	1,7	-2,7	2,3
Total	0,5	0,9	-1,9	-5,0	2,3	

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

Month	Gigawatt-hours				Month-on-month % change			
	2018	2019	2020	2021	2018	2019	2020	2021
Jan	19 261	19 322	18 667	18 227	0,0	-0,6	1,7	-2,4
Feb	19 301	19 140	18 494	18 456	0,2	-0,9	-0,9	1,3
Mar	19 554	18 995	18 052	18 661	1,3	-0,8	-2,4	1,1
Apr	19 076	19 262	14 986	18 598	-2,4	1,4	-17,0	-0,3
May	19 493	19 192	16 578	18 759	2,2	-0,4	10,6	0,9
Jun	19 228	19 099	17 948	18 328	-1,4	-0,5	8,3	-2,3
Jul	19 256	18 815	18 205	18 632	0,1	-1,5	1,4	1,7
Aug	19 405	18 423	18 552	18 773	0,8	-2,1	1,9	0,8
Sep	19 255	19 013	18 399	18 581	-0,8	3,2	-0,8	-1,0
Oct	19 376	18 949	18 439	17 816	0,6	-0,3	0,2	-4,1
Nov	19 258	18 681	18 545	17 901	-0,6	-1,4	0,6	0,5
Dec	19 429	18 352	18 680	18 191	0,9	-1,8	0,7	1,6

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

	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21 ¹	Dec-21 year-on-year % change
Total - all producers						
Generated	21 397	20 137	20 253	19 412	19 111	-3,7
Inflow into South Africa	1 033	927	783	1 021	1 104	42,3
Consumed in power stations and auxiliary systems	1 762	1 637	1 607	1 518	1 493	-2,9
Outflow from South Africa	1 209	1 197	1 225	1 202	1 226	11,5
Distributed in South Africa	19 459	18 230	18 203	17 713	17 496	-2,7
Eskom						
Generated	19 066	17 775	17 886	17 082	16 852	-3,6
Inflow into South Africa	1 033	927	783	1 021	1 104	42,3
Consumed in power stations and auxiliary systems	1 652	1 542	1 521	1 428	1 413	-3,4
Outflow from South Africa	1 209	1 197	1 225	1 202	1 226	11,5
Distributed in South Africa	17 238	15 963	15 923	15 473	15 317	-2,4

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

	Jan – Dec 2020 (GWh)	Jan – Dec 2021 (GWh)	% change between Jan – Dec 2020 and Jan – Dec 2021	Difference between Jan – Dec 2020 and Jan – Dec 2021 (GWh)
Total - all producers				
Generated	239 459	244 322	2,0	4 863
Inflow into South Africa	9 829	10 137	3,1	308
Consumed in power stations and auxiliary systems	19 631	19 725	0,5	94
Outflow from South Africa	13 647	13 705	0,4	58
Distributed in South Africa	216 010	221 030	2,3	5 020
Eskom				
Generated	215 192	217 650	1,1	2 458
Inflow into South Africa	9 829	10 137	3,1	308
Consumed in power stations and auxiliary systems	18 783	18 705	-0,4	-78
Outflow from South Africa	13 647	13 705	0,4	58
Distributed in South Africa	192 593	195 379	1,4	2 786

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

Province	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21 ¹	Dec-21 year-on-year % change
Western Cape	* 1 749	1 646	1 582	1 539	1 582	-4,8
Eastern Cape	810	770	745	706	697	1,6
Northern Cape	513	501	473	472	466	-12,7
Free State	988	887	865	859	831	-8,8
KwaZulu-Natal	3 464	3 297	3 278	3 156	3 191	-4,0
North West	1 749	1 796	1 889	1 863	1 808	2,9
Gauteng	5 435	4 717	4 639	4 491	4 293	-1,3
Mpumalanga	* 2 634	2 497	2 634	2 532	2 538	-4,8
Limpopo	1 719	1 734	1 746	1 735	1 742	-0,2
Total	* 19 060	17 844	17 851	17 354	17 147	-2,8

¹ Preliminary.

* Revised.

Survey information

Introduction	1	<p>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>
	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 <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.
Collection rate	7	The collection rate for the survey on electricity generated and available for distribution for December 2021 was 96%. The collection rate for November 2021 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	<p>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	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 <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>
	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.
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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 <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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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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